

ROY COOPER
Governor

ELIZABETH S. BISER
Secretary

MICHAEL ABRACZINSKAS
Director



MM DD, 2023

Mr. Kurt Christian
Plant Manager
Electric Glass Fiber America, LLC
473 New Jersey Church Road
Lexington, NC 27292

SUBJECT: Air Quality Permit No. 02688T46
Facility ID: 2900109
Electric Glass Fiber America, LLC
Lexington
Davidson County
Fee Class: Title V
PSD Class: Major

Dear Mr. Christian:

In accordance with your completed Air Quality Permit Application for the renewal, administrative amendment, and modification of your Title V permit, we are forwarding herewith Air Quality Permit No. 02688T46 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 02Q .0503(8) have been identified as such in the permit. Please note the requirements for the annual compliance certification are contained in General Condition P in Section 4. The current owner is responsible for submitting a compliance certification for the entire year regardless of who owned the facility during the year.

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

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

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



North Carolina Department of Environmental Quality | Division of Air Quality
217 West Jones Street | 1641 Mail Service Center | Raleigh, North Carolina 27699-1641
919.707.8400

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

Davidson County has triggered increment tracking under PSD for PM_{2.5}, PM₁₀ and NO_x. However, this permit renewal/administrative amendment/modification does not consume or expand increments for any pollutants.

This Air Quality Permit shall be effective from MM DD, 2023 and shall expire on MM DD, YYYY. This Air Quality Permit 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 Joseph Voelker, P.E., at (919) 707-8730 or joseph.voelker@ncdenr.gov.

Sincerely yours,

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

Enclosure

c: Brad Akers, EPA Region 4 (Permit and Review)
Laserfische(2900109)
Connie Horne (cover letter only)

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

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

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

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

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

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

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

* * *

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

Summary of Changes to Permit

The following changes were made to Air Permit No. 02688T45:*

Page No.	Section	Description of Changes
NA	Cover Letter	<ul style="list-style-type: none"> ▪ Used current shell language, updated permit numbers, dates, etc. ▪ Removed minor modification language ▪ Added “right to contest” language
1	Permit cover letter	<ul style="list-style-type: none"> ▪ Revised dates, permit numbers, etc. using current shell standards
4	Section 1 – Permitted Equipment list	<ul style="list-style-type: none"> ▪ Removed minor modification footnote ▪ Removed 02Q .0501(b)(2) modification footnotes for the application nos. 2900109.21A and 22C ▪ Removed all “.1109 Case-by-Case MACT” identifiers as the rule is no longer applicable. ▪ Removed reference to the dry scrubber (ID No. CD-F509ECS-1) as it is no longer in service. Furnace No. 509 melter emissions have been rerouted. ▪ Removed reference to the following three sources and their associated control devices: ID Nos. ES118 and CD-DC-118, ES181 and CD-DC181 and ES182 and CD-DC 182. ▪ Revised descriptors for all furnaces to include heat input ratings ▪ Re-permitted all ovens as “single lane” ovens as follows: <ul style="list-style-type: none"> -ES01 is ES01A, ES01B, and ES01C -ES02 is ES02A, ES02B, ES02C, and ES02D -ES03 is ES03A, ES03B, and ES03C -Added MACT DDDDD descriptors ▪ For ESDG94, the brake horsepower value was corrected from 925 to 1,609 brake horsepower at the request of the Permittee on May 19, 2023 ▪ ESDG93 (formerly IESDG93) was moved to Section 1 of the Permit
GLOBAL	GLOBAL	<ul style="list-style-type: none"> ▪ Revised all conditions as necessary to bring to current shell standards and permitting policy. No changes in intent were made as a result of these changes. All changes in intent are noted elsewhere.
NA	Section 2.1 A.4 (existing permit)	<ul style="list-style-type: none"> ▪ Removed condition 2.1 A.4 from the existing permit as it addressed 15A NCAC 02D .1109 “Case-by-Case MACT”, which is no longer applicable as of May 20, 2019. These requirements have been superseded by the MACT DDDDD requirements pursuant to 15A NCAC 02D .1111.
8	Section 2.1 A.4	<ul style="list-style-type: none"> ▪ 15A NCAC 02D .1111 MACT condition ▪ Formerly Section 2.1 A.5 ▪ Memorialized initial tune up, energy assessment and initial notification.
11	Section 2.1 B	<ul style="list-style-type: none"> ▪ Added reference to ESDG93; formerly IESDG93, it is an existing stationary RICE under MACT ZZZZ. Thus, it has the same applicable requirements as the other two engines in this section. ▪ In Section 2.1 B.1.c, corrected the language to reflect that diesel fuel and not propane or natural gas is the fuel fired in the engines. ▪ In Section 2.1 B.2.c, corrected the language to reflect that diesel fuel and not propane or natural gas is the fuel fired in the engines. ▪
13	Section 2.1 C.1	<ul style="list-style-type: none"> ▪ Revised the 02D .0515 testing requirement to clarify that annual stack testing is to be conducted within 13 months of the previous stack test and that the five-year testing is to be conducted within 61 months of the previous stack test.

Page No.	Section	Description of Changes
15	Section 2.1 C.5	<ul style="list-style-type: none"> ▪ SOC (2002-002) imposed requirements ▪ Revised language to be consistent with current shell standards ▪ Revised applicable regulatory to 15A NCAC 02Q .0308(a)(1) ▪ Clarified the intent of the existing permit application requirement is to submit the application concurrently with the initial testing protocol submitted upon the restart of the furnace to establish the appropriate monitoring and recordkeeping requirements.
17	Section 2.1 D.1	<ul style="list-style-type: none"> ▪ 02D .0515 condition ▪ Removed existing section 2.1 D.1.c, an initial testing requirement, as it had been satisfied on May 14, 2015 ▪ Revised the 02D .0515 testing requirement to clarify that annual stack testing is to be conducted within 13 months of the previous stack test and that the five-year testing is to be conducted within 61 months of the previous stack test.
19	Section 2.1 D.4	<ul style="list-style-type: none"> ▪ SOC (2002-002) imposed requirements ▪ Revised language to be consistent with current shell standards ▪ Revised monitoring requirement for filterable PM to be met by compliance with the total PM monitoring requirements under 02D .0515
22	Section 2.1 F.1	<ul style="list-style-type: none"> ▪ Revised the 02D .0515 testing requirement to clarify that annual stack testing is to be conducted within 13 months of the previous stack test and that the five-year testing is to be conducted within 61 months of the previous stack test.
24	Section 2.1 F.4	<ul style="list-style-type: none"> ▪ Added record keeping for total NO_x, CO, SO₂ and lead to the existing PSD avoidance condition.
26	Section 2.1 F.5	<ul style="list-style-type: none"> ▪ NSPS Subpart CC condition for melter (ID No. ES-507-M) ▪ Condition was substantially revised to align with the NSPS Subpart CC condition for the melter (ID No. ES-509-M) at Section 2.1 G.5. See review for discussion. ▪ Revised reporting frequency from a quarterly to a semiannual basis as requested by Permittee. Calculations, however, will remain on a quarterly basis consistent with current DAQ policy.
30	Section 2.1 G	<ul style="list-style-type: none"> ▪ Removed reference to the dry scrubber (ID No. CD-F509ECS-1) as it is no longer in service. Furnace No. 509 melter emissions have been rerouted. ▪ Removed existing permit condition G.8 addressing the requirement to submit the “step two” Title V permit application. This requirement was satisfied with the receipt of permit application no. 2900109.22B ▪ Removed existing permit condition G.9 as it is no longer applicable. It has been superseded by conditions 2.1 G.3 and G.4 ▪ Removed existing permit condition G.10 as it is no longer applicable. It has been superseded by conditions 2.1 G.7 ▪ Removed sunrise and sunset language from permit conditions G.3, G.4, G.5 and G.6. Renumbered conditions as appropriate. Revised regulatory applicability from 02Q .0308 to 02Q .0508 to reflect TV applicability. Added TV noncompliance statements consistent with current DAQ permit policy. ▪ Removed existing permit condition G.12 addressing the requirement to submit the “step two” Title V permit application. This requirement was satisfied with the receipt of permit application no. 2900109.23A ▪ Existing condition G11 was renumbered to G.7. ▪ Existing condition G.7 was renumbered to G.8.

Page No.	Section	Description of Changes
30	Section 2.1 G.1	<ul style="list-style-type: none"> Revised the 02D .0515 testing requirement to clarify that annual stack testing is to be conducted within 13 months of the previous stack test and that the five-year testing is to be conducted within 61 months of the previous stack test.
33	Section 2.1 G.5	<ul style="list-style-type: none"> NSPS Subpart CC condition for melter (ID No. ES-509-M) Removed initial testing requirements as these requirements have been met (existing permit conditions 2.1 G.5 c.ii, iii and iv) Updated Table 2.1 G.5 with the parameters established during the initial performance testing on June 2, 2022 Removed application submittal requirement as this requirement has been met (existing permit condition Section 2.1 G.5 d.vi.) Relocated the definition of the “three-hour block average opacity limit” from the removed testing condition at existing Section 2.1 G.5.c.iv to current section 2.1 G.5.d.vi. Clarified the intent of Table 2.1 G.5 parameters during testing conducted to re-establish those parameters with the following <u>underlined</u> language at the current Section 2.1 G.5.d.ix. <p>The Permittee shall submit a permit application with the test reports for any testing conducted pursuant to Section 2.1 G.5 d.vii above to revise the associated parameters in Table 2.1 G.5. <u>The parameters in Table 2.1 G.5 do not apply during these performance tests.</u></p> <ul style="list-style-type: none"> Revised reporting frequency from a quarterly to a semiannual basis as requested by Permittee. Calculations, however, will remain on a quarterly basis consistent with current DAQ policy.
35	Section 2.1 G.6	<ul style="list-style-type: none"> 02D .0530(u) condition for application no. 2900109.21A Clarified that the report shall contain the emissions from the melter (ID No ES-509-M), refiner (ID No. ES-509-R) and forehearth (ID No. ES-509-F) of
36	Section 2.1 G.7	<ul style="list-style-type: none"> 02D .0530(u) condition for application no. 2900109.22C Revised description of project from “direct chop” to “wet chop.” “wet chop” better reflects the project as it is a commonly used term to describe fiber that is chopped with binder applied but is not sent to a dryer. Clarified that the report shall contain the emissions from the melter (ID No ES-509-M), refiner (ID No. ES-509-R) and forehearth (ID No. ES-509-F) of
38	Section 2.1 H	<ul style="list-style-type: none"> Removed reference to the following three sources and their associated control devices: ID Nos. ES118 and CD-DC-118, ES181 and CD-DC181 and ES182 and CD-DC 182.
39	Section 2.1 H.1	<ul style="list-style-type: none"> Revised the annual visual inspection to monthly to be consistent with current DAQ permitting policy for 02D .0515 monitoring
42	Section 2.1 I	<ul style="list-style-type: none"> Revised the affected source list to reflect the individual permitting of the single lane ovens that were previously considered to be multi-lane ovens.
42	Section 2.1 I.1	<ul style="list-style-type: none"> 02D .0503 condition Formerly Section 2.1 I.5 Revised allowable limit to 0.33 lb/MMBtu
43	Section 2.1 I.2	<ul style="list-style-type: none"> 02D .0515 condition Formerly Section 2.1 I.1
43	Section 2.1 I.3	<ul style="list-style-type: none"> 02D .0516 condition Formerly Section 2.1 I.2

Page No.	Section	Description of Changes
43	Section 2.1 I.4	<ul style="list-style-type: none"> ▪ 02D .0521 condition ▪ Formerly Section 2.1 I.3 ▪ Removed visible emissions M/R/R for the combustion stacks consistent with current DAQ permitting policy.
NA	Section 2.1 I.4 (existing)	<ul style="list-style-type: none"> ▪ Removed condition 2.1 I.4 from the existing permit as it addressed 15A NCAC 02D .1109 “Case-by-Case MACT”, which is no longer applicable as of May 20, 2019. These requirements have been superseded by the MACT DDDDD requirements pursuant to 15A NCAC 02D .1111.
44	Section 2.1 I.5	<ul style="list-style-type: none"> ▪ MACT DDDDD condition for “new” ovens ▪ Former Section 2.1 I.6 ▪ Memorialized initial notifications
46	Section 2.1 I.6	<ul style="list-style-type: none"> ▪ MACT DDDDD condition for “existing” ovens ▪ Former Section 2.1 I.7 ▪ Memorialized initial notifications, energy assessment, and tune-ups ▪ Revised tune up schedule for all ovens to once every five years.
54	Section 2.2 C.1	At the request of the Permittee and consistent with the notification letter dated January 16, 2015, the following statement was added to the 02D 0530(u) recordkeeping condition: The requirements in Section 2.2 C.1 b through e below apply through the end of the 2024 calendar year.
55	Section 2.2 D.1	At the request of the Permittee and consistent with the notification letter dated January 16, 2015, the following statement was added to the 02D 0530(u) recordkeeping condition: The requirements in Section 2.2 D.1 b through e below apply through the end of the 2024 calendar year.
56	Section 3 (insignificant activities list)	<ul style="list-style-type: none"> ▪ Removed the following sources from the permit. They were requested for removal in application no. 09B but were not removed inadvertently: IESWT183, IESWT184 and IESWE191 ▪ Revised descriptor for source (ID No. IESDP951) to read: Diesel-fired emergency process water supply pump for Furnace No. 509 (240 BHP) [MACT ZZZZ] ▪ Added source IESDP952 that was discovered during an internal TV compliance review. ▪ Added source IESWT194 that was added to ESM in 2011 but was inadvertently left off of the insignificant activities list ▪ Revised descriptor for IESPP150 to read: Propane flare for propane farm. ▪ Removed the following fire pump from the permit (ID No. IESDP151) ▪ For IESEB98 and IESEB99 revised BHP from 175 to 150 ▪ For IESEB100 revised BHP from 175 to 190 ▪ For IESDP95 revised BHP from 830 to 575 ▪ For IESDG93 revised BHP from 750 to 1676 and moved to Section 1 of the permit.
58	Section 4	<ul style="list-style-type: none"> ▪ Revised general conditions from version 6.0, 01/07/2022 to version 7.0, 08/21/2023) Changes include: -GC J – the emergency provisions were removed. See discussion in Section VI of permit review.

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



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

AIR QUALITY PERMIT

Permit No.	Replaces Permit No.	Effective Date	Expiration Date
02688T46	02688T45	MM DD, 2023	MM DD, YYYY

NOTE: Per General Condition K, a permit application for the renewal of this Title V permit shall be submitted no later than **[enter date six months prior to expiration date]**.

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

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

Permittee: **Electric Glass Fiber America, LLC**
Facility ID: 2900109
Primary NAICS: 327212
Primary SIC Code: 3229

Facility Site Location: 473 New Jersey Church Road
City, County, State, Zip: Lexington, Davidson County, North Carolina 27292
Mailing Address: 473 New Jersey Church Road
City, State, Zip: Lexington, North Carolina 27292

Application Number: 2900109.19A, .22A, .22B, .23A
Complete Application Date: November 20, 2019, July 25, 2022, August 02, 2022, and March 10, 2023

Division of Air Quality,
Regional Office Address: Winston-Salem Regional Office
450 West Hanes Mill Road, Suite 300
Winston-Salem, North Carolina 27105

Permit issued this the DDnd day of MM, 2023.

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

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- SECTION 4: GENERAL PERMIT CONDITIONS

List of Acronyms

AOS	Alternative Operating Scenario
BACT	Best Available Control Technology
BAE	Baseline Actual Emissions
Btu	British thermal unit
CAA	Clean Air Act
CAM	Compliance Assurance Monitoring
CEMS	Continuous Emission Monitoring System
CFR	Code of Federal Regulations
CO	Carbon Monoxide
COMS	Continuous Opacity Monitoring System
CSAPR	Cross-State Air Pollution Rule
DAQ	Division of Air Quality
DEQ	Department of Environmental Quality
EMC	Environmental Management Commission
EPA	Environmental Protection Agency
FR	Federal Register
GACT	Generally Available Control Technology
GHGs	Greenhouse Gases
HAP	Hazardous Air Pollutant
LAER	Lowest Achievable Emission Rate
MACT	Maximum Achievable Control Technology
NAA	Non-Attainment Area
NAAQS	National Ambient Air Quality Standards
NAICS	North American Industry Classification System
NCAC	North Carolina Administrative Code
NCGS	North Carolina General Statutes
NESHAP	National Emission Standards for Hazardous Air Pollutants
NO_x	Nitrogen Oxides
NSPS	New Source Performance Standard
NSR	New Source Review
OAH	Office of Administrative Hearings
PAE	Projected Actual Emissions
PAL	Plantwide Applicability Limitation
PM	Particulate Matter
PM_{2.5}	Particulate Matter with Nominal Aerodynamic Diameter of 2.5 Micrometers or Less
PM₁₀	Particulate Matter with Nominal Aerodynamic Diameter of 10 Micrometers or Less
POS	Primary Operating Scenario
PSD	Prevention of Significant Deterioration
PTE	Potential to Emit
RACT	Reasonably Available Control Technology
SIC	Standard Industrial Classification
SIP	State Implementation Plan
SO₂	Sulfur Dioxide
TAP	Toxic Air Pollutant
tpy	Tons Per Year
VOC	Volatile Organic Compound

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

The following 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
ESB67 and ESB68 MACT DDDDD	Two natural gas/propane/No. 2 fuel oil-fired boilers (21.0 million Btu per hour maximum heat input capacity each)	NA	NA
Single level fiberglass furnace No. 502, consisting of the following:			
ES-502-M	natural gas/propane direct-fired melter utilizing 100% oxygen firing (3,000 pounds per hour glass pull rate, 15,885 million Btu per hour maximum heat input rate)	CD153	One dry scrubber
ES-502-R	natural gas/propane-fired-refiner (1,694 million Btu per hour maximum heat input rate)	NA	NA
ES-502-F	natural gas/propane-fired forehearth (2,393 million Btu per hour maximum heat input rate)	NA	NA
Single level fiberglass furnace No. 503, consisting of the following:			
ES-503-M	natural gas/propane direct-fired melter utilizing 100% oxygen firing (3,500 pounds per hour glass pull rate, 15,885 million Btu per hour maximum heat input rate)	NA	NA
ES-503-R	natural gas/propane-fired-refiner (1,694 million Btu per hour maximum heat input rate)	NA	NA
ES-503-F	natural gas/propane-fired forehearth (2,393 million Btu per hour maximum heat input rate)	NA	NA
Double level fiberglass furnace No. 507, consisting of the following:			
ES-507-M NSPS CC	natural gas/propane direct-fired melter utilizing 100% oxygen firing (10,000 pounds per hour glass pull rate, 500 kilowatt maximum electric boost capacity, 33,888 million Btu per hour maximum heat input rate)	NA	NA
ES-507-R	natural gas/propane-fired-refiner (5,295 million Btu per hour maximum heat input rate)	NA	NA
ES-507-F	natural gas/propane-fired forehearth (16,564 million Btu per hour maximum heat input rate)	NA	NA
Double level fiberglass furnace No. 509 consisting of the following:			
ES-509-M NSPS CC	natural gas/propane direct-fired melter utilizing 100% oxygen firing (11,186 pounds per hour glass pull rate, 2,400 kilowatt maximum electric boost capacity, 37,065 million Btu per hour maximum heat input rate)	NA	NA
ES-509-R	natural gas/propane-fired-refiner (2,870 million Btu per hour maximum heat input rate)	NA	NA
ES-509-F	natural gas/propane-fired forehearth (14,519 million Btu per hour maximum heat input rate)	NA	NA
ESDC78, ESDC79, ESDC83, and ESDC84	Four raw material storage silos	CDDC78, CDDC79, CDDC83, and CDDC84	Four cartridge filters (886 square feet of filter media, each)
ESDC80, ESDC81, and ESDC82	Three raw material storage silos	CDDC81	One cartridge filter (886 square feet of filter media)

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
ESDC88	Scrap material storage silo	CDDC88	One bagfilter (256 square feet of filter media)
ESDC85 and ESDC86	Two raw material transfer systems	CDDC85 and CDDC86	Two cartridge filters (886 square feet of filter media, each)
ESDC89	Raw material storage silos	CDDC89	One cartridge filter (886 square feet of filter media)
ESDC90	Raw material storage silos	CDDC90	One bagfilter (184 square feet of filter media)
ESDC91	Lime storage silo associated with the wastewater treatment operation	CDDC91	One cartridge filter (250 square feet of filter media)
ESDC101 and ESDC102	Two blenders (Nos. A and B)	CDDC101 and CDDC102	Two cartridge filters (750 square feet of filter area, each)
ESDC103 through ESDC107	Five mixed batch storage bins (Nos. 1 through 5)	CDDC103 through CDDC107	Five cartridge filters (1,470 square feet of filter area, each)
ESDC108, ESDC109, ESDC110, ESDC111, ESDC178, and ESDC179	One Klug bin (No. 4) Three Klug bins (Nos. 5N, 5S, and 6) Three Klug bins (Nos. 7E, 7S, and 7N) Two Klug bins (Nos. 8E and 8W) One Klug bin (No. 3) One Klug bin (No. 9)	CDDC108, CDDC109, CDDC110, CDDC111, CDDC178, and CDDC179	Six cartridge filters (750 square feet of filter area, each)
ESDC114	One furnace batch storage bin (No. 503)	CDDC114	One cartridge filter (1,080 square feet of filter area, each)
ESDC-115	One furnace batch storage bin (No. 503)	CDDC-115	One cartridge filter (1,080 square feet of filter area, each)
ESDC-116	One furnace batch storage bin (No. 503)	CDDC-116	One cartridge filter (1,080 square feet of filter area, each)
ESDC117N, ESDC117S, ESDC119N, and ESDC119S	One furnace batch storage bin (No. 507N) One furnace batch storage bin (No. 507S) One furnace batch storage bin (No. 509N) One furnace batch storage bin (No. 509S)	CDDC117N, CDDC117S, CDDC119N, and CDDC119S	Four cartridge filters (1,080 square feet of filter area, each)
ESDC180	One large scale bin	CDDC180	One bagfilter (225 square feet of filter area)

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
ESDC183	One raw material bin (4 th floor)	CDDC183	One cartridge filter (750 square feet of filter area)
ES01A, ES01B, and ES 01C MACT DDDDD	Three single lane natural gas-fired fiberglass drying ovens (1,320 pounds per hour throughput capacity each, 1.5 million Btu per hour maximum heat input capacity each)	NA	NA
ES02A, ES02B, ES02C, and ES02D MACT DDDDD	Four single lane natural gas-fired fiberglass drying ovens (1,056 pounds per hour throughput capacity each, 1.2 million Btu per hour maximum heat input capacity each)	NA	NA
ES03A, ES03B, and ES03C MACT DDDDD	Three single lane natural gas-fired fiberglass drying ovens (1,320 pounds per hour throughput capacity each, 1.5 million Btu per hour maximum heat input capacity each)	NA	NA
ES04, ES05, ES06, and ES07 MACT DDDDD	Four single lane natural gas-fired fiberglass drying ovens (1,320 pounds per hour throughput capacity each, 1.5 million Btu per hour maximum heat input capacity each)	NA	NA
OSI-1 and OSI-2 MACT DDDDD	Two natural gas-fired fiberglass drying ovens #1 and #2 (0.8 million Btu per hour maximum heat input capacity each)	NA	NA
ESDO70	One single lane dielectric fiberglass drying oven (1,800 pounds per hour throughput capacity)	NA	NA
ESBR412	Binder Mix Room	NA	NA
ESDG93 MACT ZZZZ	Diesel Fuel-fired Emergency Generator No. 1 (1,676 brake horsepower)	NA	NA
ESDG94 MACT ZZZZ	Diesel Fuel-fired Emergency Generator No. 2 (1,609 brake horsepower)	NA	NA
ESDG97 MACT ZZZZ	Diesel Fuel-fired Emergency Generator, WWTP (1,095 brake horsepower)	NA	NA
EPWC1	Remote Wet Cut Line No. 1 (4,500 pounds per hr dry nominal production rate) including a natural gas-fired dryer (3.5 million Btu per hour maximum heat input rate)	CDWC1	Venturi scrubber (80 gallons per minute minimum liquid injection rate)
EPWC2	Remote Wet Cut Line No. 2 (4,500 pounds per hour dry nominal production rate) including a natural gas-fired dryer (3.5 million Btu per hour maximum heat input rate)	CDWC2	Venturi scrubber (80 gallons per minute minimum liquid injection rate)
EPWC3	Remote Wet Cut Line No. 3 (4,500 pounds per hour dry nominal production rate) including a natural gas-fired dryer (3.5 million Btu per hour maximum heat input rate)	CDWC3	Venturi scrubber (80 gallons per minute minimum liquid injection rate)

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. Two natural gas/propane/No. 2 fuel oil-fired boilers (ID Nos. ESB67and ESB68)

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

Pollutant	Limits/Standards	Applicable Regulation
Particulate Matter	0.33 pounds per million Btu heat input	15A NCAC 02D .0503
Sulfur Dioxide	2.3 pounds per million Btu heat input	15A NCAC 02D .0516
Visible Emissions	20 percent opacity	15A NCAC 02D .0521
Hazardous Air Pollutants	Work Practices, 5-year tune up	15A NCAC 02D .1111 40 CFR Part 63, Subpart DDDDD
Toxic Air Pollutants	State-enforceable only See Section 2.2 A.1	15A NCAC 02D .1100
Odors	State-enforceable only See Section 2.2 B	15A NCAC 02D .1806

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

- a. Emissions of particulate matter from the combustion of natural gas/propane/No. 2 fuel oil that are discharged from these sources (**ID Nos. ESB67and ESB68**) into the atmosphere shall not exceed 0.33 pounds per million Btu heat input.

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

- b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 A.1.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0503.

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

- c. No monitoring/recordkeeping/reporting is required for particulate emissions from the firing of natural gas/propane/No.2 fuel oil in these sources.

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

- a. Emissions of sulfur dioxide from these sources (**ID Nos. ESB67and ESB68**) shall not exceed 2.3 pounds per million Btu heat input. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard.

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

- b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 A.2.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0516.

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

- c. No monitoring/recordkeeping/reporting is required for sulfur dioxide emissions from the firing of natural gas/propane/No. 2 fuel oil in these sources.

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

- a. Visible emissions from these sources (**ID Nos. ESB67 and ESB68**) shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity.

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

- b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 A.3.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521.

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

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

4. 15A NCAC 02D .1111: MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY

Applicability [40 CFR 63.7485, 63.7490(d), 63.7499(l)]

- a. For these sources (**ID Nos. ESB67 and ESB68**) (i.e., *existing sources designed to burn gas 1 fuels, with oil during curtailment, with a heat input capacity equal to or greater than 10 million Btu per hour*), the Permittee shall comply with all applicable provisions, including the monitoring, recordkeeping, and reporting contained in Environmental Management Commission Standard 15A NCAC 02D .1111 "Maximum Achievable Control Technology" (MACT) as promulgated in 40 CFR 63, Subpart DDDDD, "National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters" and Subpart A "General Provisions."

Definitions and Nomenclature

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

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

- c. The Permittee shall only burn liquid fuel for periodic testing of liquid fuel, maintenance, or operator training, not to exceed a combined total of 48 hours during any calendar year, and during periods of gas curtailment or gas supply interruptions of any duration. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if these operating restrictions are not met.

40 CFR Part 63 Subpart A General Provisions

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

Compliance Date

- e. The Permittee shall complete the initial tune up and the one-time energy assessment no later than May 20, 2019. [40 CFR 63.7510(e), 63.56(b)] *These requirements have been met.*

Notifications

- f. The following notification requirements apply:
 - i. The Permittee shall submit a Notification of Compliance Status. The notification must be signed by a responsible official and submitted by July 19, 2019. [40 CFR 64.7545(e), 63.7530(e) and (f)] *This requirement has been met.*
 - ii. The Permittee shall submit a notification of intent to fire an alternative fuel (i.e., fuel oil) within 48 hours of the declaration of each period of natural gas curtailment or supply interruption. The notification must include the information in 40 CFR 63.7545(f). [40 CFR 63.7545(f)] The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if this notification requirement is not met.

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

- g. The following work practice standards apply:
- i. The Permittee shall conduct a tune-up annually while burning the type of fuel (or fuels in case of units that routinely burn a mixture) that provided the majority of the heat input to the boiler or process heater over the 12 months prior to the tune-up as specified below:
 - (A) As applicable, inspect the burner, and clean or replace any components of the burner as necessary. The Permittee may perform the burner inspection any time prior to the tune-up or delay the burner inspection until the next scheduled unit shutdown.
 - (B) Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available.
 - (C) Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly (the Permittee may delay the inspection until the next scheduled unit shutdown).
 - (D) Optimize total emissions of CO. This optimization should be consistent with the manufacturer's specifications, if available, and with any NO_x requirement to which the unit is subject.
 - (E) Measure the concentrations in the effluent stream of CO in parts per million, by volume, and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). Measurements may be taken using a portable CO analyzer.
[40 CFR 63.7500(a), 63.7540(a)(10)]
 - ii. Each annual tune-up shall be conducted no more than 13 months after the previous tune-up. [40 CFR 63.7515(d)]
 - iii. If the unit is not operating on the required date for a tune-up, the tune-up must be conducted within 30 calendar days of startup. [40 CFR 63.7540(a)(13), 63.7515(g)]
 - iv. At all times, the Permittee shall operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator that may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. [40 CFR 63.7500(a)(3)]

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

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

- h. The Permittee shall have a one-time energy assessment performed by a qualified energy assessor. [40 CFR 63.7500(a)(1), Table 3 to Subpart DDDDD] *This requirement has been met.*

Recordkeeping Requirements [15A NCAC 02Q .0508(f), 40 CFR 63.7555]

- i. The Permittee shall:
- i. keep a copy of each notification and report submitted to comply with this subpart, including all documentation supporting any Initial Notification or Notification of Compliance Status, or semiannual compliance report that has been submitted, according to the requirements in 40 CFR 63.10(b)(2)(xiv).
[40 CFR 63.7555(a)(1)]
 - ii. maintain on-site and submit, if requested by the DAQ, an annual report containing the information in Section 2.1 A.4.i.ii.(A) through (C) below:
 - (A) the concentrations of carbon monoxide in the effluent stream in parts per million by volume, and oxygen in volume percent, measured at high fire or typical operating load, before and after the tune-up of the source;
 - (B) a description of any corrective actions taken as a part of the tune-up; and
 - (C) the type and amount of fuel used over the 12 months prior to the tune-up, but only if the unit was physically and legally capable of using more than one type of fuel during that period. Units sharing a fuel meter may estimate the fuel use by each unit.
[40 CFR 63.7540(a)(10)(vi)]
 - iii. keep the associated records for Section 2.1 A.4.g and h.
 - iv. keep the following records, pursuant to 15A NCAC 02Q .0508(f) and 40 CFR 63.7555(h):
 - (A) types of fuels combusted during periods of gas curtailment, gas supply interruption, periodic testing maintenance and operator training;
 - (B) date and duration of periods of gas curtailment and gas supply interruption; and
 - (C) date and duration of periods of testing, maintenance and operator training while combusting liquid fuel.

- v. keep:
 - (A) records in a form suitable and readily available for expeditious review;
 - (B) each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record; and
 - (C) each record on site for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record. The Permittee can keep the records offsite for the remaining 3 years. [40 CFR 63.7560, 63.10(b)(1)]

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if these recordkeeping requirements are not met or if the records show an exceedance of the operating restriction given in Section 2.1 A.4.c above.

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

- j. The following reporting requirements shall apply:
 - i. The Permittee shall submit compliance reports to the DAQ on an annual basis. Annual reports shall cover the periods from January 1 to December 31. The Permittee shall submit the compliance report postmarked on or before January 30 of each calendar year for the preceding 12-month period. [40 CFR 63.7550(a) and (b)]
 - ii. The compliance report must also be submitted electronically via the Compliance and Emissions Data Reporting Interface (CEDRI). CEDRI can be accessed through the EPA's Central Data Exchange (CDX) (<https://cdx.epa.gov/>.) The Permittee shall use the appropriate electronic report in CEDRI for this subpart. Instead of using the electronic report in CEDRI for this subpart, the Permittee shall submit an alternate electronic file consistent with the XML schema listed on the CEDRI Web site (<http://www.epa.gov/ttn/chief/cedri/index.html>), once the XML schema is available. If the reporting form specific to this subpart is not available in CEDRI at the time that the report is due, the Permittee shall submit the report to the EPA Administrator at the appropriate address listed in 40 CFR 63.13. The Permittee shall begin submitting reports via CEDRI no later than 90 days after the form becomes available in CEDRI. [40 CFR 63.7550(h)(3)]
 - iii. The compliance report must contain the following information:
 - (A) company name and address;
 - (B) process unit information, emissions limitations, and operating parameter limitations;
 - (C) date of report and beginning and ending dates of the reporting period;
 - (D) date of the most recent tune-up for each unit required according to Section 2.1 A.4.h. Include the date of the most recent burner inspection; and
 - (E) statement by a responsible official with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report.[40 CFR 63.7550(a) and (c), Table 9]

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

B. The following emergency generators:

- **Diesel Fuel-fired Emergency Generator No. 1 (ID No. ESDG93)**
- **Diesel Fuel-fired Emergency Generator No. 2 (ID No. ESDG94)**
- **Diesel Fuel-fired Emergency Generator, WWTP (ID No. ESDG97)**

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

Pollutant	Limits/Standards	Applicable Regulation
Sulfur Dioxide	2.3 pounds per million Btu heat input	15A NCAC 02D .0516
Visible Emissions	20 percent opacity	15A NCAC 02D .0521
Toxic Air Pollutants	State-enforceable only See Section 2.2 A	15A NCAC 02D .1100
Hazardous Air Pollutants	No monitoring, recordkeeping, reporting or notification requirements.	15A NCAC 02D .1111 40 CFR Part 63, Subpart <i>ZZZZ</i>

1. 15A NCAC 02D .0516: SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES

- a. Emissions of sulfur dioxide from these sources (**ID Nos. ESDG93, ESDG94 and ESDG97**) shall not exceed 2.3 pounds per million Btu heat input. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard.

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

- b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 B.1.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0516.

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

- c. No monitoring/recordkeeping/reporting is required for sulfur dioxide emissions from the firing of diesel fuel in these sources.

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

- a. Visible emissions from these sources shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity. [15A NCAC 02D .0521 (d)]

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

- b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 B.2.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521.

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

- c. No monitoring/recordkeeping/reporting is required for sulfur dioxide emissions from the firing of diesel fuel in these sources.

3. 15A NCAC 02D .1111: MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY

Applicability [40 CFR 63.6585, 63.6590(a)(1)(i)]

- a. For these sources (**ID Nos. ESDG93, ESDG94 and ESDG97**) (*i.e., existing stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions*), the Permittee shall comply with all applicable provisions, including the monitoring, recordkeeping, and reporting contained in Environmental Management Commission Standard 15A NCAC 02D .1111 "Maximum Achievable Control Technology" (MACT)

as promulgated in 40 CFR 63, Subpart ZZZZ “National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines” and Subpart A “General Provisions.”

Stationary RICE subject to limited requirements [40 CFR 63.6590(b)]

- b. Pursuant to 40 CFR 63.6590(b)(3)(iii), these sources do not have to meet the requirements of 40 CFR 63 Subpart ZZZZ and Subpart A, including initial notification requirements.

C. One single level fiberglass furnace No. 502, consisting of the following:

- **One natural gas/propane direct-fired melter utilizing 100% oxygen firing (ID No. ES-502-M) controlled by one dry scrubber (ID No. CD153);**
- **One natural gas/propane-fired-refiner (ID no. ES-502-R); and**
- **One natural gas/propane-fired forehearth (ID No. ES-502-F)**

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

Pollutant	Limits/Standards	Applicable Regulation
Particulate Matter	$E=4.10 \times P^{0.67}$, for process rates ≤ 30 tons per hour, OR $E=55 \times P^{0.11} - 40$, for process rates > 30 tons per hour Where: E = allowable emission rate in pounds per hour P = process weight in tons per hour	15A NCAC 02D .0515
Sulfur Dioxide	2.3 pounds per million Btu heat input	15A NCAC 02D .0516
Visible Emissions	40 percent opacity	15A NCAC 02D .0521
Particulate Matter (PM ₁₀)	55.26 tons per year	15A NCAC 02Q .0317 Avoidance of 02D .0530
Particulate Matter	70.61 tons per year	
Fluorides	19.14 tons per year	
Particulate Matter (filterable only)	Melter only, State-enforceable only 0.5 pounds per ton of glass produced 1.0 pounds per ton of glass produced during control device maintenance	NCGS 143-215.108(c)
Fluorides	Melter only, State-enforceable only 0.45 pounds per ton of glass pulled (annual basis)	NCGS 143-215.108(c)
Toxic Air Pollutants	State-enforceable only See Section 2.2 A	15A NCAC 02D .1100
Odors	State-enforceable only See Section 2.2 B	15A NCAC 02D .1806

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

- a. Emissions of particulate matter from the melter, refiner, and forehearth combined (**ID Nos. ES-502-M, ES-502-R, and ES-502-F**) shall not exceed an allowable emission rate as calculated by the following equation:

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

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

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

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

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

- b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 C.1.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515.
- c. Under the provisions of NCGS 143-215.108, the Permittee shall demonstrate compliance with the emission limit in Section 2.1 C.1.a above by testing the melter (**ID No. ES-502-M**). Testing shall be completed within 180 days after the restart of the furnace, unless an alternate date is approved by the DAQ. The contributions of the refiner and forehearth shall be determined pursuant to Section 2.1 C.1.e below.
- d. Under the provisions of NCGS 143-215.108, the Permittee shall demonstrate compliance with the emission limit in Section 2.1 C.1.a above on an annual basis by testing the melter (**ID No. ES-502-M**) in accordance with a testing protocol approved by the DAQ. The contributions of the refiner and forehearth shall be determined pursuant to Section 2.1 C.1.e below. Each test shall be conducted within 13 months of the previous stack test. If the results of this test are less than 80 percent of the emission limit in Section 2.1 C.1.a above, the Permittee shall be required to

stack test within 61 months of the previous stack test. If these testing requirements are not met, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515.

- e. For the purposes of determination of compliance with Section 2.1 C.1.a, the contribution of particulate matter emissions from the refiner and forehearth are assumed to be:

PM (filterable)	To be determined
PM (condensable)	To be determined

These emission factors may be revised administratively pending final review and approval of new source test data submitted to the DAQ.

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

- f. The Permittee shall maintain production records such that the process rates “P” can be derived as specified in Section 2.1 C.1.a above, and shall make these records available to the DAQ upon request. The records shall include:
 - i. the date and approval status of the most recent source test conducted pursuant to Section 2.1 C.1.b or c above;
 - ii. the production rate at which the source test was conducted; and
 - iii. the maximum production rate achieved since the most recent source test conducted pursuant to Section 2.1 C.1.b or c above.

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

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

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

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

- a. Emissions of sulfur dioxide from these sources (**ID Nos. ES-502-M, ES-502-R, and ES-502-F**) shall not exceed 2.3 pounds per million Btu heat input. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard.

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

- b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 C.2.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0516.

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

- c. No monitoring/recordkeeping/reporting is required for sulfur dioxide emissions from the firing of natural gas/propane in these sources (**ID Nos. ES-502-M, ES-502-R, and ES-502-F**).

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

- a. Visible emissions from the melter, refiner, and forehearth (**ID Nos. ES-502-M, ES-502-R, and ES-502-F**) shall not be more than 40 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 40 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 90 percent opacity.

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

- b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 C.3.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521.

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

- c. To ensure compliance, once a week the Permittee shall observe the emission points of the melter, refiner, and forehearth (**ID Nos. ES-502-M, ES-502-R, and ES-502-F**) 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 this source are observed to be above normal, the Permittee shall either:

- i. take appropriate action to correct the above-normal emissions as soon as practicable and within the monitoring period and record the action taken as provided in the recordkeeping requirements in Section 2.1 C.3.d below, or
- ii. demonstrate that the percent opacity from the emission points of the emission source in accordance with 15A NCAC 02D .2601 (Method 9) for 12 minutes is below the limit given in Section 2.1 C.3.a above.

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

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

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

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

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

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

- a. To comply with this permit and avoid the applicability of 15A NCAC 02D .0530 "Prevention of Significant Deterioration," as requested by the Permittee, emissions from the melter, refiner, and forehearth (**ID Nos. ES-502-M, ES-502-R, and ES-502-F**) shall not exceed the following limitations:

Regulated Pollutant	Emissions Limitation
PM ₁₀	55.26 tons per consecutive 12-month period
PM	70.61 tons per consecutive 12-month period
Fluorides	19.14 tons per consecutive 12-month period

- i. Operating Restrictions - To ensure emissions do not exceed the limitations in Section 2.1 C.4.a above, the pull rate of furnace 502 shall not exceed 3,000 pounds of glass per hour.

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

- b. No testing/monitoring/recordkeeping is required from the firing of natural gas/propane in this source.

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

- c. The Permittee shall submit a summary report postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. The report shall clearly identify all instances of deviations with this permit, including the identification of any event during which the pull rate of the furnace exceeds 3,000 pounds of glass per hour.

State-enforceable only

- 5. Pursuant to 15A NCAC 02Q .0308(a)(1) and as required by the Special Order of Consent (SOC) (2002-002):
 - a. filterable particulate matter emissions from the melter section of furnace 502 (**ID No. ES-502-M**) shall be less than 0.5 pounds per ton of glass produced or 1.0 pound per ton of glass produced during periods of control device maintenance.
 - b. fluoride emissions from the from the melter section of furnace 502 (**ID No. ES-502-M**) shall be less than 0.45 pounds per ton (annual average) of glass pulled.

Testing

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

- d. Under the provisions of NCGS 143-215.108, the Permittee shall demonstrate compliance with the emission limit in Section 2.1 C.1.a and b above by testing the melter (**ID No. ES-502-M**). Testing shall be completed within 180 days after the restart of the furnace, unless an alternate date is approved by the DAQ. The test shall include the establishment of operating parameters for the dry scrubber.
- e. Under the provisions of NCGS 143-215.108, the Permittee shall demonstrate compliance with the emission limits in Section 2.1 C.5.a and b above on an annual basis by testing the melter (**ID No. ES-502-M**) in accordance with a testing protocol approved by the DAQ. If the results of these tests are less than 80 percent of the emission limits in Sections 2.1 C. 5 and b above, the Permittee shall be required to stack test within 61 months of the last stack test.
- f. If the Permittee chooses to operate during the melter (**ID No. ES-502-M**) during periods of control device maintenance (i.e., operation of the furnace without the dry scrubber operational), testing conducted pursuant to Sections 2.1 5.d or e above shall include a demonstration of compliance with the standards in Sections 2.1 C.5.a and b without the effect of the dry scrubber.

Operating Limitations

- g. Fluoride and filterable particulate matter emissions shall be controlled by the dry scrubber (**ID No. CD153**) except during periods of control device maintenance.

Reporting Requirement

- h. Concurrent with the testing protocol submitted as required by Section 2.1 C.5.d above, the Permittee shall submit a permit application to establish the monitoring and recordkeeping requirements for the emission control system (**ID No. CD153**).

D. One single level fiberglass furnace No. 503, consisting of the following:

- **natural gas/propane direct-fired melter utilizing 100% oxygen firing (ID No. ES-503-M);**
- **natural gas/propane-fired-refiner (ID No. ES-503-R); and**
- **natural gas/propane-fired forehearth (ID No. ES-503-F)**

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

Pollutant	Limits/Standards	Applicable Regulation
Particulate Matter	E=4.10 x P ^{0.67} , for process rates ≤ 30 tons per hour, OR E=55 x P ^{0.11} - 40, for process rates > 30 tons per hour Where: E = allowable emission rate in pounds per hour P = process weight in tons per hour	15A NCAC 02D .0515
Sulfur Dioxide	2.3 pounds per million Btu heat input	15A NCAC 02D .0516
Visible Emissions	40 percent opacity	15A NCAC 02D .0521
Particulate Matter (PM, PM ₁₀ , PM _{2.5}), Nitrogen Oxides, and Fluorides	Recordkeeping and reporting of actual emissions See Section 2.2 D	15A NCAC 02D .0530(u)
Particulate Matter (filterable only)	Melter only, State-enforceable only 1.0 pounds per ton of glass produced	NCGS 143-215.108(c)
Fluorides	Melter only, State-enforceable only 0.45 pounds per ton of glass pulled (annual basis)	NCGS 143-215.108(c)
Toxic Air Pollutants	State-enforceable only See Section 2.2 A	15A NCAC 02D .1100
Odors	State-enforceable only See Section 2.2 B	15A NCAC 02D .1806

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

- a. Emissions of particulate matter from the melter, refiner, and forehearth combined (**ID Nos. ES-503-M, ES-503-R, and ES-503-F**) shall not exceed an allowable emission rate as calculated by the following equation:

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

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

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

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

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

- b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 D.1.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515.
- c. Under the provisions of NCGS 143-215.108, the Permittee shall demonstrate compliance with the emission limit in Section 2.1 D.1.a above on an annual basis by testing the fiberglass furnace melter (**ID No. ES-503-M**) in accordance with a testing protocol approved by the DAQ. The contributions of the refiner and forehearth shall be determined pursuant to Section 2.1 D.1.d below. Each test shall be conducted within 13 months of the previous stack test. If the results of this test are less than 80 percent of the emission limit in Section 2.1 D.1.a above, the Permittee shall be required to stack test within 61 months of the previous stack test; If these testing requirements are not met, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515.
- d. For the purposes of determination of compliance with Section 2.1 D.1.a above, the contribution of particulate matter emissions from the refiner and forehearth are assumed to be:

PM (filterable)	0.62 lb/ton of glass pulled
PM (condensable)	0.07 lb/ton of glass pulled

These emission factors may be revised administratively pending final review and approval of new source test data submitted to the DAQ.

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

- e. The Permittee shall maintain production records such that the process rates “P” can be derived as specified in Section 2.1 D.1.a above, and shall make these records available to the DAQ upon request. The records shall include:
 - i. the date and approval status of the most recent source test conducted pursuant to Section 2.1 D.1.c above;
 - ii. the production rate at which the source test was conducted; and
 - iii. the maximum production rate achieved since the most recent source test conducted pursuant to Section 2.1 D.1.c above.

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

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

- f. The Permittee shall submit 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 02D .0516: SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES

- a. Emissions of sulfur dioxide from these sources (**ID Nos. ES-503-M, ES-503-R, and ES-503-F**) shall not exceed 2.3 pounds per million Btu heat input. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard.

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

- b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 D.2.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0516.

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

- c. No monitoring/recordkeeping/reporting is required for sulfur dioxide emissions from the firing of natural gas/propane in these sources (**ID Nos. ES-503-M, ES-503-R, and ES-503-F**).

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

- a. Visible emissions from the melter, refiner and forehearth (**ID Nos. ES-503-M, ES-503-R, and ES-503-F**) shall not be more than 40 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 40 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 90 percent opacity

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

- b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 D.3.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521.

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

- c. To ensure compliance, once a week the Permittee shall observe the emission points of the melter, refiner, and forehearth (**ID Nos. ES-503-M, ES-503-R, and ES-503-F**) 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 this source are observed to be above normal, the Permittee shall either:
 - i. take appropriate action to correct the above-normal emissions as soon as practicable and within the monitoring period and record the action taken as provided in the recordkeeping requirements in Section 2.1 D.3.d below, or
 - ii. demonstrate that the percent opacity from the emission points of the emission source in accordance with 15A NCAC 02D .2601 (Method 9) for 12 minutes is below the limit given in Section 2.1 D.3.a above.The Permittee shall be deemed to be in noncompliance with 15A NCAC 02D .0521 if the weekly observations are not conducted as required, if the above-normal emissions are not corrected within the monitoring period, or the

percent opacity demonstration cannot be made.

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

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

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

State-enforceable only

4. Pursuant to 15A NCAC 02Q .0308(a)(1) and as required by the Special Order of Consent (SOC) (2002-002):
 - a. filterable particulate matter emissions from the melter section of furnace 503 (**ID No. ES-503-M**) shall be less than 1.0 pounds per ton of glass produced.
 - b. fluoride emissions from the from the melter section of furnace 503 (**ID No. ES-503-M**) shall be less than 0.45 pounds per ton (annual average) of glass pulled.

Testing [15A NCAC 02Q .0308(a)(1)]

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

Operating Limitations [15A NCAC 02Q .0308(a)(1)]

- d. Fluoride emissions from the melter section of furnace 503 (**ID No. ES-503-M**) shall be controlled by the use of environmentally friendly batch (EFB). EFB is a modified raw material feed to the furnaces and is defined as batch material having an elemental fluorine (F) composition of no greater than 0.9 pounds per ton (batch material).

Monitoring/Recordkeeping [15A NCAC 02Q .0308(a)(1)]

- e. The Permittee shall determine the fluoride emissions on a monthly basis utilizing the mass balance approach as described in Section 2.1 F.4.c.iii for Furnace 507.
- f. Compliance with the filterable particulate matter emissions from the melter section of furnace 503 (**ID No. ES-503-M**) shall be determined by compliance with the testing and monitoring requirements in Sections 2.1 D.1.c and e.

Reporting [15A NCAC 02Q .0308(a)(1)]

- g. The Permittee shall submit a summary report of the monitoring and recordkeeping activities given in Sections 2.1 D.4.e and f above postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

E. Three Remote Wet Cut Lines each including a natural gas-fired dryer (ID Nos EPWC1, EPWC2, and EPWC3) each controlled by a single venturi scrubber (ID Nos. CDWC1, CDWC2, and CDWC3)

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

Pollutant	Limits/Standards	Applicable Regulation
Particulate Matter	$E=4.10 \times P^{0.67}$, for process rates ≤ 30 tons per hour, OR $E=55 \times P^{0.11} - 40$, for process rates > 30 tons per hour Where E = allowable emission rate in pounds per hour P = process weight in tons per hour	15A NCAC 02D .0515
Sulfur Dioxide	2.3 pounds per million Btu heat input each	15A NCAC 02D .0516
Visible Emissions	20 percent opacity	15A NCAC 02D .0521
Toxic Air Pollutants	State-enforceable only See Section 2.2 A.1	15A NCAC 02D .1100

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

- a. Emissions of particulate matter from these sources (ID Nos EPWC1, EPWC2, and EPWC3) above shall not exceed an allowable emission rate as calculated by the following equation:

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

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

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

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

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

- b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 E.1.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515.

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

- c. Particulate matter emissions from each of these sources (ID Nos EPWC1, EPWC2, and EPWC3) shall be controlled by their respective venturi scrubbers (ID Nos CDWC1, CDWC2, and CDWC3). To ensure compliance, the Permittee shall perform inspections and maintenance as recommended by the manufacturer. In addition to the manufacturer’s inspection and maintenance recommendations, or if there are no manufacturer’s inspection and maintenance recommendations, as a minimum, the inspection and maintenance requirement shall include the following:
 - i. a monthly visual inspection of the systems’ ductwork and scrubbers for leaks;
 - ii. an annual (for each 12 month period following the initial inspection) internal inspection of each scrubber’s structural integrity.
 - iii. an annual inspection of spray nozzles, and perform maintenance and repair when necessary to ensure proper operation of the scrubbers; and
 - iv. an annual inspection, cleaning, and calibration of all associated instrumentation.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515 if the ductwork and scrubbers are not inspected and maintained.
- d. The Permittee shall install, operate, and maintain a scrubbing liquid flowmeter on each scrubber. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515 if the scrubbing liquid flow rate for each scrubber is not maintained above the prescribed limits (80 gallons per minute) or the scrubbing liquid flow meter is not installed and operated.
- e. The results of inspection and maintenance shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:

- i. the date and time of each recorded action;
- ii. the scrubbing liquid flow rate for each scrubber once a week at a minimum;
- iii. the results of each inspection;
- iv. the results of any maintenance performed on the wet scrubbers; and
- v. any variance from manufacturer's recommendations, if any, and corrections made.

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

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

- f. The Permittee shall submit the results of any maintenance performed on the scrubbers within 30 days of a written request by the DAQ.
- g. The Permittee shall submit a summary report of the monitoring and recordkeeping activities in Sections 2.1 E.1.c through e above postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

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

- a. Emissions of sulfur dioxide from these sources (**ID Nos EPWC1, EPWC2, and EPWC3**) shall not exceed 2.3 pounds per million Btu heat input. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard.

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

- b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 E.2.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0516.

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

- c. No monitoring/recordkeeping/reporting is required for sulfur dioxide emissions when burning natural gas in these sources.

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

- a. Visible emissions from these sources (**ID Nos. EPWC1, EPWC2, and EPWC3**) shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity.

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

- b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 E.3.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521.

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

- c. No monitoring/recordkeeping/reporting is required for visible emissions from these sources.

F. One double level fiberglass furnace No. 507, consisting of the following:

- **natural gas/propane direct-fired melter utilizing 100% oxygen firing (ID No. ES-507-M);**
- **natural gas/propane-fired-refiner (ID No. ES-507-R); and**
- **natural gas/propane-fired forehearth (ID No. ES-507-F)**

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

Pollutant	Limits/Standards	Applicable Regulation
Particulate Matter	$E=4.10 \times P^{0.67}$, for process rates ≤ 30 tons per hour, OR $E=55 \times P^{0.11} - 40$, for process rates > 30 tons per hour Where: E = allowable emission rate in pounds per hour P = process weight in tons per hour	15A NCAC 02D .0515
Sulfur Dioxide	2.3 pounds per million Btu heat input	15A NCAC 02D .0516
Visible Emissions	40 percent opacity	15A NCAC 02D .0521
Particulate Matter (PM _{2.5})	59.58 tons per year	15A NCAC 02Q .0317 Avoidance of 02D .0531
Particulate Matter	70.70 tons per year	15A NCAC 02Q .0317 Avoidance of 02D .0530
Particulate Matter (PM ₁₀)	59.58 tons per year	
Fluorides	110 tons per year	
Nitrogen Oxides	164.64 tons per year	
Carbon Monoxide	106.30 tons per year	
Lead	0.6026 tons per year	
Sulfur Dioxide	94.26 tons per year	
Particulate Matter (filterable only)	Melter only (ID No. ES-507-M) 1.0 pounds per ton of glass produced	15A NCAC 02D .0524 40 CFR Part 60, Subpart CC
Toxic Air Pollutants	State-enforceable only See Section 2.2 A	15A NCAC 02D .1100
Odors	State-enforceable only See Section 2.2 B	15A NCAC 02D .1806
Particulate Matter (PM, PM ₁₀ , and PM _{2.5}), Nitrogen Oxides, Volatile Organic Compounds, and Fluorides	Recordkeeping and reporting of actual emissions See Section 2.2 C	15A NCAC 02D .0530(u)
Fluorides	Melter only (ID No. ES-507-M), State-enforceable only 0.45 pounds per ton of glass pulled (annual basis)	Pursuant to 15A NCAC 02Q .0308(a)(1) and as required by the Special Order of Consent (SOC) (2002-002):

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

- a. Emissions of particulate matter from the melter, refiner, and forehearth combined (**ID Nos. ES-507-M, ES-507-R, and ES-507-F**) shall not exceed an allowable emission rate as calculated by the following equation:

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

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

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

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

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

- b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in section 2.1 F.1.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515.
- c. Under the provisions of NCGS 143-215.108, the Permittee shall demonstrate compliance with the emission limit in Section 2.1 F.1.a above on an annual basis by testing the fiberglass furnace melter (**ID No. ES-507-M**) in accordance with a testing protocol approved by the DAQ. The contributions of the refiner and forehearth shall be determined pursuant to Section 2.1 F.1.d below. Each test shall be conducted within 13 months of the previous stack test. If the results of this test are less than 80 percent of the emission limit in Section 2.1 F.1.a above, the Permittee shall be required to stack test within 61 months of the previous stack test. If these testing requirements are not met, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515.
- d. For the purposes of determination of compliance with Section 2.1 F.1.a above, the contribution of particulate matter emissions from the refiner and forehearth are assumed to be:

PM (filterable)	0.46 lb/ton of glass pulled
PM (condensable)	0.05 lb/ton of glass pulled

These emission factors may be revised administratively pending final review and approval of new source test data submitted to the DAQ.

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

- e. The Permittee shall maintain production records such that the process rates “P” can be derived as specified in Section 2.1 F.1.a above, and shall make these records available to the DAQ upon request. The records shall include:
 - i. the date and approval status of the most recent source test conducted pursuant to Section 2.1 F.1.c above;
 - ii. the production rate at which the source test was conducted; and
 - iii. the maximum production rate achieved since the most recent source test conducted pursuant to Section 2.1 F.1.c above.

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

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

- f. The Permittee shall submit 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 02D .0516: SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES

- a. Emissions of sulfur dioxide from these sources (**ID Nos. ES-507-M, ES-507-R, and ES-507-F**) shall not exceed 2.3 pounds per million Btu heat input. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard.

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

- b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 F.2.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0516.

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

- c. No monitoring/recordkeeping/reporting is required for sulfur dioxide emissions from the firing of natural gas/propane in these sources (**ID Nos. ES-507-M, ES-507-R, and ES-507-F**).

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

- a. Visible emissions from the refiner (**ID No. ES-507-R**) and forehearth (**ID No. ES-507-F**) shall not be more than 40 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 40 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 90 percent opacity.

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

- b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 F.3.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521.

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

- c. To ensure compliance, once a week the Permittee shall observe the emission points of the refiner (**ID No. ES-507-R**) and forehearth (**ID No. ES-509-F**) 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 this source are observed to be above normal, the Permittee shall either:
 - i. take appropriate action to correct the above-normal emissions as soon as practicable and within the monitoring period and record the action taken as provided in the recordkeeping requirements in Section 2.1 F.3.d below, or
 - ii. demonstrate that the percent opacity from the emission points of the emission source in accordance with 15A NCAC 02D .2601 (Method 9) for 12 minutes is below the limit given in Section 2.1 F.3.a above.

The Permittee shall be deemed to be in noncompliance with 15A NCAC 02D .0521 if the weekly observations are not conducted as required, if the above-normal emissions are not corrected within the monitoring period, or the percent opacity demonstration cannot be made.
- d. The results of the monitoring shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:
 - i. the date and time of each recorded action;
 - ii. the results of each observation and/or test noting those sources with emissions that were observed to be in noncompliance along with any corrective actions taken to reduce visible emissions; and
 - iii. the results of any corrective actions performed.

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

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

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

**4. 15A NCAC 02Q .0317: AVOIDANCE CONDITIONS for
15A NCAC 02D .0530: PREVENTION OF SIGNIFICANT DETERIORATION and
15A NCAC 02D .0531: SOURCES IN NONATTAINMENT AREAS**

- a. In order to avoid the applicability of 15A NCAC 02D .0530, "Prevention of Significant Deterioration," and 15A NCAC 02D .0531 "Sources in Nonattainment Areas" as requested by the Permittee, emissions from Furnace No. 507, including the melter, refiner, and forehearth (**ID Nos. ES-507-M, ES-507-R, and ES-507-F**), shall not exceed the following limitations:

Regulated Pollutant	Emissions Limitation (tons per consecutive 12-month period)
PM	70.70
PM ₁₀	59.58
PM _{2.5}	59.58
Fluorides	110.00
NO _x	164.64
CO	106.30
Lead	0.6026

Regulated Pollutant	Emissions Limitation (tons per consecutive 12-month period)
SO ₂	94.26

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

- b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above a limit given in Section 2.1 F.4.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530.

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

- c. Each calendar month, the Permittee shall retain a record of the following data for Furnace 507 for the previous calendar month:
 - i. Type and quantity of each fuel combusted at the melter, refiner, and forehearth (in million cubic feet per month);
 - ii. Quantity of glass pulled (in tons per month); and
 - iii. Fluoride mass balance (i.e., difference in fluoride concentration in glass batch prior to being pulled through the furnace and glass product) (in pounds per ton glass).

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530, or 15A NCAC 02D .0531 in the case of PM_{2.5}, if these records are not retained.

- d. **Monthly PM, PM₁₀, and PM_{2.5} Compliance Demonstration:** Each calendar month, the Permittee shall calculate and record the monthly and 12-month rolling total PM, PM₁₀, and PM_{2.5} emissions from Furnace 507 (melter, refiner, and forehearth) as follows:
 - i. Calculate the monthly emissions using the following equation:

$$E_{PM_x} = \frac{Q_{EFB} * F_{PM_x,EFB}}{2,000 \text{ lb/ton}}$$

Where: E_{PM_x} = Particulate matter (i.e., PM, PM₁₀, or PM_{2.5}) emissions (in tons per month);
 Q_{EFB} = EFB pulled for the previous calendar month (in tons per month); and
 F_{PM_x,EFB} = Particulate matter (i.e., PM, PM₁₀, or PM_{2.5}) emission factor for EFB as provided in Section 2.1 F.4.d.iii (in pounds per ton glass).

- ii. Sum the emissions for the previous 12-month period for PM, PM₁₀, and PM_{2.5} to determine the 12-month rolling emission totals for each pollutant.
- iii. The following emission factors shall be used in the calculations listed above:

Pollutant	F _{PM_x,EFB}
PM	1.55
PM ₁₀	1.16
PM _{2.5}	1.00

- iv. If any testing conducted pursuant to Section 2.1 F.1.c above indicates emission factors greater than those listed in Section 2.1 F.4.d.iii above, the Permittee shall submit a request to revise the values in Section 2.1 F.4.d.iii above at the same time as the test report is submitted. The permit revision will be processed pursuant to 15A NCAC 02Q .0514.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530, or 15A NCAC 02D .0531 in the case of PM_{2.5}, if records of the monthly calculations listed above are not retained or if the 12-month rolling emission totals are greater than the emission limit provided in Section 2.1 F.4.a above.

- e. **Monthly Fluoride Compliance Demonstration:** Each calendar month, the Permittee shall calculate and record the monthly and 12-month rolling total fluoride emissions from Furnace 507 (melter, refiner, and forehearth) as follows:
 - i. Calculate the monthly emissions using the following equation:

$$E_{Fl} = \frac{Q_{EFB} * MB_{Fl,EFB}}{2,000 \text{ lb/ton}}$$

Where: E_{Fl} = Fluoride emissions (in tons per month);
 Q_{EFB} = EFB pulled for the previous calendar month (in tons per month); and
 $MB_{Fl,EFB}$ = Fluoride mass balance of EFB as described in Section 2.1 F.4.c.iii (in pounds per ton).

ii. Sum the fluoride emissions for the previous 12-month period to determine the 12-month rolling emission total. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530 if records of the monthly calculations listed above are not retained or if the 12-month rolling emission totals are greater than the emission limit provided in Section 2.1 F.4.a above.

f. All other pollutants listed in Section 2.1 F.4 a above: Each calendar month, the Permittee shall calculate and record the monthly and 12-month rolling total NOx, CO, SO₂ and lead emissions from Furnace 507 (melter, refiner, and forehearth).

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

- g. The Permittee shall submit a summary report, acceptable to the Regional Air Quality Supervisor, of monitoring and recordkeeping activities given in Section 2.1 F.4.c through f above on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. The report shall contain the following:
- the monthly PM, PM₁₀, PM_{2.5}, fluoride, NOx, CO, SO₂ and lead emissions for the previous 17 months. The emissions must be calculated for each of the 12-month periods over the previous 17 months;
 - the monthly fuel usage (including type and quantity) for the previous 17 months; and
 - all instances of deviations from the requirements of this permit must be clearly identified.

5. 15A NCAC 02D .0524: NEW SOURCE PERFORMANCE STANDARDS

- a. The Permittee shall comply with all applicable provisions, including the notification, testing, recordkeeping, and monitoring requirements contained in Environmental Management Commission Standard 15A NCAC 02D .0524 "New Source Performance Standards (NSPS) as promulgated in 40 CFR Part 60, Subpart CC "Standards of Performance for Glass Manufacturing Plants" including Subpart A "General Provisions."

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

- b. The filterable particulate matter emissions from the melter (**ID No. ES-507-M**) shall not exceed 1.0 pound per ton of glass produced. [40 CFR 60.293(b)(3)]

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

- c. The following testing requirements apply:
- If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of the test are above the limit given in Section 2.1 F.5.b above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524.
 - The Permittee shall demonstrate compliance with the emission limit in Section 2.1 F.5.b above on an annual basis by testing the melter (**ID No. ES-507-M**). Each test shall be conducted within 13 months of the previous stack test. If the results of this test are less than 80 percent of the emission limit in Section 2.1 F.5.b above, the Permittee shall be required to stack test within 61 months of the previous stack test. If these testing requirements are not met, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524.

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

- d. The following monitoring requirements apply:
- The Permittee shall install, calibrate, maintain, and operate a continuous monitoring system for the measurement of the opacity of emissions (COMS) discharged into the atmosphere from the melter (**ID No. ES-507-M**). [40 CFR 60.293(c)]

- ii. The COMS shall be calibrated, maintained, tested, and operated in accordance with 40 CFR 60.13 and 15A NCAC 02D .0613.
- iii. Valid six-minute averages shall be calculated pursuant to 40 CFR 60.13.
- iv. Three-hour block average opacity values shall be calculated as the arithmetic average of any and all valid six-minute averages within a three-hour period. A three-hour period means a 180-minute period commencing at 12am, 3am, 6am, 9am, 12pm, 3pm, 6pm, and 9pm each day.
- v. Excluding periods of startup, shut down and malfunction of the melter (**ID No. ES-507-M**), no three-hour block average opacity value shall exceed the value in Table 2.1 F.5 below.

Table 2.1 F.5

Six-minute average 99% UCL opacity value, %*	Three-hour block average opacity limit, %*
3.0	5.0

*These values were established by performance testing conducted on October 1, 2014.

- vi. The three-hour block average opacity limit in Table 2.1 F.5 above was established by using the three 1-hour average opacity values from the initial performance test on October 1, 2014 and determining the 99% Upper Confidence Limit (UCL) of the three 1-hour averages. The resultant three-hour opacity UCL value was then pro-rated to the NSPS particulate limit (1.0 pounds of PM per ton of glass pulled), by using the average PM emission value determined during that performance test.
 - vii. The Permittee may, consistent with the provisions of 40 CFR 60.293(e), reestablish the UCL value contained in Table 2.1 F.5 above during subsequent performance tests.
 - (A) The Permittee shall reestablish the three-hour block average opacity limit value contained in Table 2.1 F.5 above concurrently with the testing conducted pursuant to Section 2.1 F.5.d.vii above.
 - (B) The Permittee shall submit a permit application with the test reports for any testing conducted pursuant to Section 2.1 F.5.d.vii above to revise the associated parameters in Table 2.1 F.5. The parameters in Table 2.1 F.5 do not apply during these performance tests.
- The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524 if these monitoring requirements are not met.
- e. For the purposes of 40 CFR 60.293(c)(5) and 60.7, Excess Emissions are defined as all of the 6-minute periods during which the average opacity of the emissions from the melter (**ID No. ES-507-M**) exceed the 99% UCL value shown in Table 2.1 F.5 above.
 - f. The Permittee shall calculate the Percent Excess Emissions During Normal Operation using the following equation:

Percent Excess Emissions During Normal Operation (%EE):

$$\%EE = \frac{\text{Duration of Excess Emissions} - \text{Duration of Excess Emissions During Startup, Shutdown and Malfunction}}{\text{Furnace Operating Time} - \text{Duration of Startup, Shutdown and Malfunction}} * 100\%$$

Where:

- Excess Emissions = Defined in Section 2.1 F.5.e.
- Duration of Excess Emissions = Summation of the excess emissions in hours during the given calendar three-month period
- Duration of Excess Emissions During Startup, Shutdown and Malfunction = Summation of the excess emissions in hours occurring during all periods of startup/shutdown/malfunction during the given calendar three-month period
- Furnace Operating Time* = Summation of the operation time of the source in hours during the given calendar three-month period
- Duration of Startup, Shutdown/ and Malfunction = Summation of the operation time of the source in hours occurring during all periods of startup/shutdown/malfunction during the given calendar three-month period

* If the furnace operates less than 500 hours during any calendar three-month period, the Permittee may perform the calculations in Section 2.1 F.5.f above using all of the operating data for the current calendar three-month period and the most recent data for the proceeding calendar three-month period until 500 hours of data are obtained. [N.C.G.S. 143-215.110]

Acceptable Operation and Maintenance During Normal Operation [15A NCAC 02Q .0508(f)]

- g. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524 if the Percent Excess Emissions During Normal Operation from the melter (**ID No. ES-507-M**) exceeds 3 percent in any calendar three-month period (January through March, April through June, July through September October through December).

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

- h. The following recordkeeping requirements apply:
- i. The Permittee shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of an affected facility; any malfunction of the air pollution control equipment; or any periods during which a continuous monitoring system or monitoring device is inoperative. [40 CFR 60.7(b)]
 - ii. The Permittee shall maintain records of all measurements, including continuous monitoring system, monitoring device, and performance testing measurements; all continuous monitoring system performance evaluations; all continuous monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems or devices; recorded in a permanent form suitable for inspection. The records shall be retained for at least two years following the date of such measurements, maintenance, reports, and records. [40 CFR 60.7(f)]
 - iii. The Permittee shall record and maintain records of:
 - (A) furnace operating time; and
 - (B) three-hour block average opacity values.

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

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

- i. The Permittee shall submit a summary report of the monitoring and recordkeeping activities given in Sections 2.1 F.5.d through h above postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified. The report shall include:
- i. an excess emissions and monitoring systems performance report. The report shall contain the information required pursuant 40 CFR 60.7(c) and (d). The emissions and monitoring system performance results shall be calculated on a quarterly basis. [40 CFR 60.293(c)(5) and 60.7(c)] The format for the report will be provided by the DAQ. If this reporting requirement is not met, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524.
 - ii. a report containing Percent Excess Emissions During Normal Operation and Furnace Operating Time, as defined in Section 2.1 F.5.f above; and
 - iii. a report of the three-hour block average opacity values that exceed the value in Table 2.1 F.5 above.

6. 15A NCAC 02D .0521: CONTROL OF VISIBLE EMISSIONS

- a. Visible emissions from the melter (**ID No. ES-507-M**) shall not be more than 40 percent opacity when averaged over a six-minute period. [15A NCAC 02D .0521(c)]
- b. For sources required to install, operate, and maintain continuous opacity monitoring systems (COMS), compliance with the 40 percent opacity limit shall be determined as follows:
 - i. no more than four six-minute periods shall exceed the opacity standard in any one day; and
 - ii. the percent of excess emissions (defined as the percentage of monitored operating time in a calendar quarter above the opacity limit) shall not exceed 0.8 percent of the total operating hours. If a source operates less than 500 hours during a calendar quarter, the percent of excess emissions shall be calculated by including hours operated immediately previous to this quarter until 500 operational hours are obtained.[15A NCAC 02D .0521(g)]
- c. Excess emissions during startup and shutdown shall be excluded from the determinations in Sections 2.1 F.6.b.i and ii above if the excess emissions are exempted according to the procedures set out in 02D .0535(g). Excess emissions during malfunctions shall be excluded from the determinations in Sections 2.1 F.6.b.i and ii above if the excess emissions are exempted according to the procedures set out in 02D .0535(c). All periods of excess emissions shall be included in the determinations in Sections 2.1 F.6.b.i and ii above until such time that the excess emissions are exempted according to the procedures in 02D .0535. [15A NCAC 02D .0535]

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

- d. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 F.6.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521.

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

- e. The following monitoring and recordkeeping requirements apply:
 - i. The Permittee shall use a continuous opacity monitor system (COMS) to monitor and record opacity from the melter (**ID No. ES-507-M**). The COMS shall be calibrated, maintained, tested, and operated in accordance with 40 CFR Part 60 Appendix B "Performance Specifications" and 15A NCAC 02D .0613.
 - ii. The Permittee shall meet the recordkeeping requirements at Section 2.1 F.5.h.ii. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521 if the monitoring is not performed, if the monitored values exceed the limitations given in Sections 2.1 F.6.a or b above, or if the records are not maintained.

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

- f. The Permittee shall submit the COMS data in accordance with the reporting requirements given in Section 2.1 F.5.i. (Subpart CC reporting requirements). All instances of excess emissions with respect to 15A NCAC 02D .0521 must be clearly identified.

State-enforceable only

7. Pursuant to 15A NCAC 02Q .0308(a)(1) and as required by the Special Order of Consent (SOC) (2002-002):
 - a. Fluoride emissions from the from the melter section of furnace 507 (ID No. ES-507-M) shall be less than 0.45 pounds per ton (annual average) of glass pulled.

Testing [15A NCAC 02Q .0308(a)(1)]

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

Operating Limitations [15A NCAC 02Q .0308(a)(1)]

- c. Fluoride emissions from the melter section of furnace 507 (ID No. ES-507-M) shall be controlled by the use of environmentally friendly batch (EFB). EFB is a modified raw material feed to the furnaces and is defined as batch material having an elemental fluorine (F) composition of no greater than 0.9 pounds per ton (batch material).

Monitoring/Recordkeeping [15A NCAC 02Q .0308(a)(1)]

- d. The Permittee shall determine the fluoride emissions on a monthly basis utilizing the mass balance approach as described in Section 2.1 F.4.c.iii.

Reporting [15A NCAC 02Q .0308(a)(1)]

- e. The Permittee shall submit a summary report of the monitoring and recordkeeping activities given in Section 2.1 F.7.d above postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

G. One double level fiberglass furnace No. 509, consisting of the following:

- **natural gas/propane direct-fired melter utilizing 100% oxygen firing (ID No. ES-509-M);**
- **natural gas/propane-fired-refiner (ID No. ES-509-R); and**
- **natural gas/propane-fired forehearth (ID No. ES-509-F)**

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

Pollutant	Limits/Standards	Applicable Regulation
Particulate Matter	$E=4.10 \times P^{0.67}$, for process rates ≤ 30 tons per hour, OR $E=55 \times P^{0.11} - 40$, for process rates > 30 tons per hour Where: E = allowable emission rate in pounds per hour P = process weight in tons per hour	15A NCAC 02D .0515
Sulfur Dioxide	2.3 pounds per million Btu heat input	15A NCAC 02D .0516
Visible Emissions	20 percent opacity	15A NCAC 02D .0521
Particulate Matter (filterable only)	Melter only (ID No. ES-509-M) 1.0 pounds per ton of glass produced	15A NCAC 02D .0524 40 CFR Part 60, Subpart CC
Particulate Matter (PM, PM ₁₀ , PM _{2.5} ,) and Fluorides	Recordkeeping and reporting of actual emissions	15A NCAC 02D .0530(u)
Toxic Air Pollutants	State-enforceable only See Section 2.2 A	15A NCAC 02D .1100
Odors	State-enforceable only See Section 2.2 B	15A NCAC 02D .1806
Fluorides	Melter only (ID No. ES-509-M), State-enforceable only 0.45 pounds per ton of glass pulled (annual basis)	Pursuant to 15A NCAC 02Q .0308(a)(1) and as required by the Special Order of Consent (SOC) (2012-01)

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

- a. Emissions of particulate matter from the melter, refiner, and forehearth combined (**ID Nos. ES-509-M, ES-509-R, and ES-509-F**) shall not exceed an allowable emission rate as calculated by the following equation:

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

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

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

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

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

- b. If emissions testing is required, the testing shall be performed in accordance with 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 02D .0515.
- c. Under the provisions of NCGS 143-215.108, the Permittee shall demonstrate compliance with the emission limit in Section 2.1 G.1.a above on an annual basis by testing the fiberglass furnace melter (**ID No. ES-509-M**) in accordance with a testing protocol approved by the DAQ. The contributions of the refiner and forehearth shall be determined pursuant to Section 2.1 G.1.d below. Each test shall be conducted within 13 months of the previous stack test. If the results of this test, in conjunction with Section 2.1 G.1.d below, are less than 80 percent of the emission limit in Section 2.1 G.1.a above, the Permittee shall be required to stack test within 61 months of the previous stack test. If these testing requirements are not met, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515.

- d. For purposes of determination of compliance with Section 2.1 G.1.a above, the contribution of particulate matter emissions from the refiner and forehearth are assumed to be:

PM (filterable)	0.46 lb/ton of glass pulled
PM (condensable)	0.05 lb/ton of glass pulled

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

- e. The Permittee shall maintain production records such that the process rates “P” can be derived as specified in Section 2.1 G.1.a above, and shall make these records available to the DAQ upon request. The records shall include:
- the date and approval status of the most recent source test conducted pursuant to Section 2.1 G.1.c above;
 - the production rate at which the source test was conducted; and
 - the maximum production rate achieved since the most recent source test conducted pursuant to Section 2.1 G.1.c above.
- The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515 if these records are not maintained.

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

- f. The Permittee shall submit a summary report of monitoring and recordkeeping activities in Section 2.1 G.1.e above postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

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

- a. Emissions of sulfur dioxide from these sources (**ID Nos. ES-509-M, ES-509-R, and ES-509-F**) shall not exceed 2.3 pounds per million Btu heat input. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard.

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

- b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 G.2.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0516.

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

- c. No monitoring/recordkeeping/reporting is required for sulfur dioxide emissions from the firing of natural gas/propane in these sources (**ID Nos. ES-509-M, ES-509-R, and ES-509-F**).

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

- a. Visible emissions from the refiner (**ID No. ES-509-R**) and forehearth (**ID No. ES-509-F**) shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity.

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

- b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 G.3.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521.

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

- c. To ensure compliance, once per week the Permittee shall observe the emission points of the refiner (**ID No. ES-509-R**) and forehearth (**ID No. ES-509-F**) 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 in Section 2.1 G.3.d below, or
 - demonstrate that the percent opacity from the emission points of the emission sources in accordance with 15A NCAC 02D .2610 (Method 9) for 12 minutes is below the limit given in Section 2.1 G.3.a above.

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

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

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

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

- e. The Permittee shall submit a summary report of the monitoring and recordkeeping activities given in Sections 2.1 G.3.c and d above postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

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

- a. Visible emissions from the melter (**ID No. ES-509-M**) shall not be more than 20 percent opacity when averaged over a six-minute period.
- b. For sources required to install, operate, and maintain continuous opacity monitoring systems (COMS), compliance with the 20 percent opacity limit shall be determined as follows: [15A NCAC 02D .0521(g)]
- i. No more than four six-minute periods shall exceed the opacity standard in any one day; and
 - ii. The percent of excess emissions (defined as the percentage of monitored operating time in a calendar quarter above the opacity limit) shall not exceed 0.8 percent of the total operating hours. If a source operates less than 500 hours during a calendar quarter, the percent of excess emissions shall be calculated by including hours operated immediately previous to this quarter until 500 operational hours are obtained.
- c. Excess emissions during startup and shutdown shall be excluded from the determinations in Sections 2.1 G.4.b.i and ii above if the excess emissions are exempted according to the procedures set out in 02D .0535(g). Excess emissions during malfunctions shall be excluded from the determinations in Sections 2.1 G.4.b.i and ii above if the excess emissions are exempted according to the procedures set out in 02D .0535(c). All periods of excess emissions shall be included in the determinations in Sections 2.1 G.4.b.i and ii above until such time that the excess emissions are exempted according to the procedures in 02D .0535. [15A NCAC 02D .0535]

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

- d. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 G.4.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521.

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

- e. The following monitoring and recordkeeping requirements apply:
- i. The Permittee shall use a continuous opacity monitor system (COMS) to monitor and record opacity from the melter (**ID No. ES-509-M**). The COMS shall be calibrated, maintained, tested, and operated in accordance with 40 CFR Part 60 Appendix B "Performance Specifications" and 15A NCAC 02D .0613.
 - ii. The Permittee shall meet the recordkeeping requirements at Section 2.1 G.5.h.ii.
- The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521 if the monitoring is not performed, if the monitored values exceed the limitations given in Sections 2.1 G.4.a or b above, or if the records are not maintained.

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

- f. The Permittee shall submit the COMS data in accordance with the reporting requirements given in Section 2.1 G.5.i. (Subpart CC reporting requirements). All instances of excess emissions with respect to 15A NCAC 02D .0521 must be clearly identified.

5. 15A NCAC 02D .0524: NEW SOURCE PERFORMANCE STANDARDS

- a. The Permittee shall comply with all applicable provisions, including the notification, testing, recordkeeping, and monitoring requirements contained in Environmental Management Commission Standard 15A NCAC 02D .0524 "New Source Performance Standards (NSPS) as promulgated in 40 CFR Part 60 Subpart CC "Standards of Performance for Glass Manufacturing Plants" including Subpart A "General Provisions."

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

- b. The filterable particulate matter emissions from the melter (**ID No. ES-509-M**) shall not exceed 1.0 pound per ton of glass produced. [40 CFR 60.293(b)(3)]

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

- c. The following testing requirements apply:
 - i. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of the test are above the limit given in Section 2.1 G.5.b above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524.
 - ii. The Permittee shall demonstrate compliance with the emission limit in Section 2.1 G.5.b above on an annual basis by testing the melter (**ID No. ES-509-M**). Each test shall be conducted within 13 months of the previous stack test. If the results of this test are less than 80 percent of the emission limit in Section 2.1 G.5.b above, the Permittee shall be required to stack test within 61 months of the previous stack test. If these testing requirements are not met, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524.

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

- d. The following monitoring requirements apply:
 - i. The Permittee shall install, calibrate, maintain, and operate a continuous monitoring system for the measurement of the opacity of emissions (COMS) discharged into the atmosphere from the melter (**ID No. ES-509-M**). [40 CFR 60.293(c)]
 - ii. The COMS shall be calibrated, maintained, tested, and operated in accordance with 40 CFR 60.13 and 15A NCAC 02D .0613.
 - iii. Valid six-minute averages shall be calculated pursuant to 40 CFR 60.13.
 - iv. Three-hour block average opacity values shall be calculated as the arithmetic average of any and all valid six-minute averages within a three-hour period. A three-hour period means a 180-minute period commencing at 12am, 3am, 6am, 9am, 12pm, 3pm, 6pm, and 9pm each day.
 - v. Excluding periods of startup, shut down and malfunction of the melter (**ID No. ES-509-M**), no three-hour block average opacity value shall exceed the value in Table 2.1 G.5 below.

Table 2.1 G.5

Six-minute average 99% UCL opacity value, %*	Three-hour block average opacity limit, %*
3.14	3.7

*These values were established by performance testing conducted on June 02, 2022.

- vi. The three-hour block average opacity limit in Table 2.1 G.5 above was established by using the three 1-hour average opacity values from the initial performance test on June 02, 2022, and determining the 99% Upper Confidence Limit (UCL) of the three 1-hour averages. The resultant three-hour opacity UCL value was then pro-rated to the NSPS particulate limit (1.0 pounds of PM per ton of glass pulled), by using the average PM emission value determined during that performance test.
- vii. The Permittee may, consistent with the provisions of 40 CFR 60.293(e), reestablish the UCL value contained in Table 2.1 G.5 above during subsequent performance tests.
 - (A) The Permittee shall reestablish the three-hour block average opacity limit value contained in Table 2.1 G.5 above concurrently with the testing conducted pursuant to Section 2.1 G.5.d.vii above.
 - (B) The Permittee shall submit a permit application with the test reports for any testing conducted pursuant to Section 2.1 G.5 d.vii above to revise the associated parameters in Table 2.1 G.5. The parameters in Table 2.1 G.5 do not apply during these performance tests.

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

- e. For the purposes of 40 CFR 60.293(c)(5) and 60.7, Excess Emissions are defined as all of the 6-minute periods during which the average opacity of the emissions from the melter (**ID No. ES-509-M**) exceed the 99% UCL value shown in Table 2.1 G.5 above.
- f. The Permittee shall calculate the Percent Excess Emissions During Normal Operation using the following equation:

Percent Excess Emissions During Normal Operation (%EE):

$$\%EE = \frac{\text{Duration of Excess Emissions} - \text{Duration of Excess Emissions During Startup, Shutdown and Malfunction}}{\text{Furnace Operating Time} - \text{Duration of Startup, Shutdown and Malfunction}} * 100\%$$

Where:

- Excess Emissions = Defined in Section 2.1 G.5.e.
- Duration of Excess Emissions = Summation of the excess emissions in hours during the given calendar three-month period
- Duration of Excess Emissions During Startup, Shutdown and Malfunction = Summation of the excess emissions in hours occurring during all periods of startup/shutdown/malfunction during the given calendar three-month period
- Furnace Operating Time* = Summation of the operation time of the source in hours during the given calendar three-month period
- Duration of Startup, Shutdown/ and Malfunction = Summation of the operation time of the source in hours occurring during all periods of startup/shutdown/malfunction during the given calendar three-month period

* If the furnace operates less than 500 hours during any calendar three-month period, the Permittee may perform the calculations in Section 2.1 G.5.f above using all of the operating data for the current calendar three-month period and the most recent data for the preceding calendar three-month period until 500 hours of data are obtained. [N.C.G.S. 143-215.110]

Acceptable Operation and Maintenance During Normal Operation [15A NCAC 02Q .0508(f)]

- g. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524 if the Percent Excess Emissions During Normal Operation from the melter (**ID No. ES-509-M**) exceeds 3 percent in any calendar three-month period (January through March, April through June, July through September October through December).

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

- h. The following recordkeeping requirements apply:
 - i. The Permittee shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of an affected facility; any malfunction of the air pollution control equipment; or any periods during which a continuous monitoring system or monitoring device is inoperative. [40 CFR 60.7(b)]
 - ii. The Permittee shall maintain records of all measurements, including continuous monitoring system, monitoring device, and performance testing measurements; all continuous monitoring system performance evaluations; all continuous monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems or devices; recorded in a permanent form suitable for inspection. The records shall be retained for at least two years following the date of such measurements, maintenance, reports, and records. [40 CFR 60.7(f)]
 - iii. The Permittee shall record and maintain records of:
 - (A) furnace operating time; and
 - (B) three-hour block average opacity values.

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

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

- i. The Permittee shall submit a summary report of the monitoring and recordkeeping activities given in Sections 2.1 G.5.d through h above postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified. The report shall include:
 - i. an excess emissions and monitoring systems performance report. The report shall contain the information required pursuant 40 CFR 60.7(c) and (d). The emissions and monitoring system performance results shall be

calculated on a quarterly basis. [40 CFR 60.293(c)(5) and 60.7(c)] The format for the report will be provided by the DAQ. If this reporting requirement is not met, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524.

- ii. a report containing Percent Excess Emissions During Normal Operation and Furnace Operating Time, as defined in Section 2.1 G.5.f above; and
- iii. a report of the three-hour block average opacity values that exceed the value in Table 2.1 G.5 above.

6. 15A NCAC 02D. 0530(u): USE OF PROJECTED ACTUAL EMISSIONS TO AVOID APPLICABILITY OF PREVENTION OF SIGNIFICANT DETERIORATION REQUIREMENTS

- a. The Permittee has used projected actual emissions to avoid applicability of Prevention of Significant Deterioration requirements for a project including the rerouting of the emissions of the melter (**ID No. ES-509-M**) from the stack controlled by the emissions control system (ECS) (**ID No. CD-509ECS-1**) to the uncontrolled stack. This project is fully described in permit application no. 2900109.21A. In order to verify the assumptions used in the projected actual emissions calculations, the Permittee shall comply with the testing, record keeping and reporting requirements in Sections 2.1 G.6.b through f below.

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

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

Recordkeeping [15A NCAC 02D .0530(u), 02Q .0508(f)]

- c. The Permittee shall maintain records of the actual emissions of the pollutants listed in Table 2.1 G.6 below from the melter (**ID No ES-509-M**), refiner (**ID No. ES-509-R**) and forehearth (**ID No. ES-509-F**). Records shall start and continue for five years following the rerouting of the emissions of the melter from the stack controlled by the ECS (**ID No. CD-509ECS-1**) to the uncontrolled stack as described in Application No. 2900109.21A. The first year shall start on the first day of the first full calendar month after rerouting of the emissions of the melter from the stack controlled by the ECS to the uncontrolled stack as described in Application No. 2900109.21A. Each subsequent year shall include the same 12-month period.
- d. The following recordkeeping requirements apply:
 - i. The reported actual emissions (post-construction emissions) of the melter, refiner and forehearth for each of the years will be compared to the projected actual emissions (pre-construction projection) in Table 2.1 G.6 below:

Table 2.1 G.6

Pollutant	Projected Actual Emissions (tons per year)
PM	37
PM ₁₀	21
PM _{2.5}	20
Fluorides	1.9

- ii. The projections in Table 2.1 G.6 are not enforceable limitations. If projected emissions are exceeded, consistent with 15A NCAC 02D .0530, the Permittee shall include in its annual report an explanation as to why the actual rates exceeded the projection.
- iii. The Permittee shall make the information, documented and maintained in this condition available to the Director or the general public pursuant to the requirements in 40 CFR 70.4(b)(3)(viii).
- e. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524 if the recordkeeping requirements in Sections 2.1 G.6.c and d not met.

Reporting [15A NCAC 02D .0530(u), 02Q .0508(f)]

- f. The Permittee shall submit a report of the actual emissions from the melter (**ID No ES-509-M**), refiner (**ID No. ES-509-R**) and forehearth (**ID No. ES-509-F**) of the pollutants identified in Table 2.1 G.6 to the Director within 60 days after the end of each year (as defined in Section 2.1 G.6.c) during which the records in Section 2.1 G.6.c must be generated. The report shall contain the items listed in 40 CFR 51.166(r)(6)(v)(a) through (c).

7. 15A NCAC 02D. 0530(u): USE OF PROJECTED ACTUAL EMISSIONS TO AVOID APPLICABILITY OF PREVENTION OF SIGNIFICANT DETERIORATION REQUIREMENTS

- a. The Permittee has used projected actual emissions to avoid applicability of Prevention of Significant Deterioration requirements for a project including the construction of a wet chop operation that will allow the increased utilization of Furnace No. 509. This project is fully described in permit application no. 2900109.22C. In order to verify the assumptions used in the projected actual emissions calculations, the Permittee shall comply with the testing, record keeping and reporting requirements in Sections 2.1 G.7.b through e below.

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

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

Recordkeeping [15A NCAC 02D .0530(u), 02Q .0508(f)]

- c. The Permittee shall maintain records of the actual emissions of the pollutants listed in Table 2.1 G.7 below from the melter (**ID No ES-509-M**), refiner (**ID No. ES-509-R**) and forehearth (**ID No. ES-509-F**). Records shall start and continue for five years following the start-up of the wet chop operation as described in Application No. 2900109.22C. The first year shall start on the first day of the first full calendar month after the startup of the direct chop operation as described in Application No. 2900109.22C. Each subsequent year shall include the same 12-month period.
- d. The following recordkeeping requirements apply:
 - i. The reported actual emissions (post-construction emissions) of the melter, refiner and forehearth for each of the years will be compared to the projected actual emissions (pre-construction projection) included below:

Table 2.1 G.7

Pollutant	Projected Actual Emissions (tons per year)
PM	37
PM ₁₀	21
PM _{2.5}	20
Fluorides	1.9

- ii. The projections in Table 2.1 G.7 are not enforceable limitations. If projected emissions are exceeded, consistent with 15A NCAC 02D .0530, the Permittee shall include in its annual report an explanation as to why the actual rates exceeded the projection.
- iii. The Permittee shall make the information, documented and maintained in this condition available to the Director or the general public pursuant to the requirements in 40 CFR 70.4(b)(3)(viii).

Reporting [15A NCAC 02D .0530(u), 02Q .0508(f)]

- e. The Permittee shall submit a report of the actual emissions from the melter (**ID No ES-509-M**), refiner (**ID No. ES-509-R**) and forehearth (**ID No. ES-509-F**) of the pollutants identified in Table 2.1 G.7 to the Director within 60 days after the end of each year (as defined in Section 2.1 G.7.c) during which the records in Section 2.1 G.7.c must be generated. The report shall contain the items listed in 40 CFR 51.166(r)(6)(v)(a) through (c).

State-enforceable only

8. Pursuant to 15A NCAC 02Q .0308(a)(1) and as required by the Special Order of Consent (SOC) (2012-01):

- a. Fluoride emissions from the melter (**ID No. ES-509-M**) shall be less than 0.45 pounds per ton (annual average) of glass pulled.

Testing [15A NCAC 02Q .0308(a)(1)]

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

Operating Limitations [15A NCAC 02Q .0308(a)(1)]

- c. Fluoride emissions from the melter (**ID No. ES-509-M**) shall be controlled by the use of environmentally friendly batch (EFB). EFB is a modified raw material feed to the furnaces and is defined as batch material having an elemental fluorine (F) composition of no greater than 0.9 pounds per ton (batch material).

Monitoring/Recordkeeping [15A NCAC 02Q .0308(a)(1)]

- d. The Permittee shall determine the fluoride emissions on a monthly basis utilizing the mass balance approach as described in Section 2.1 F.4.c.iii for Furnace No. 507.

Reporting [15A NCAC 02Q .0308(a)(1)]

- e. The Permittee shall submit a summary report of the monitoring and recordkeeping activities given in Section 2.1 G.7.d above postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

H. The following material handling sources:

Table 2.1. H

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
ESDC78, ESDC79, ESDC83, and ESDC84	Four raw material storage silos	CDDC78, CDDC79, CDDC83, and CDDC84	Four cartridge filters (886 square feet of filter media, each)
ESDC80, ESDC81, and ESDC82	Three raw material storage silos	CDDC81	One cartridge filter (886 square feet of filter media)
ESDC88	Scrap material storage silo	CDDC88	One bagfilter (256 square feet of filter media)
ESDC85 and ESDC86	Two raw material transfer systems	CDDC85 and CDDC86	Two cartridge filters (886 square feet of filter media, each)
ESDC89	raw material storage silo	CDDC89	One cartridge filter (886 square feet of filter media)
ESDC90	raw material storage silo	CDDC90	One bagfilter (184 square feet of filter media)
ESDC91	Lime storage silo associated with the wastewater treatment operation	CDDC91	One cartridge filter (250 square feet of filter media)
ESDC101	One blender (No. A)	CDDC101	One cartridge filter (750 square feet of filter area)
ESDC102	One blender (No. B)	CDDC102	One cartridge filter (750 square feet of filter area)
ESDC103 through ESDC107	Five mixed batch storage bins (Nos. 1 through 5)	CDDC103 through CDDC107	Five cartridge filters (1,470 square feet of filter area, each)
ESDC111	Two Klug bins (Nos. 8E and 8W)	CDDC111	One cartridge filter (750 square feet of filter area)
ESDC110	Three Klug bins (Nos. 7E, 7S, and 7N)	CDDC110	One cartridge filter (750 square feet of filter area)
ESDC109	Three Klug bins (Nos. 5N, 5S, and 6)	CDDC109	One cartridge filter (750 square feet of filter area)
ESDC108, ESDC178, and ESDC179	One Klug bin (No. 4) One Klug bin (No. 3) One Klug bin (No. 9)	CDDC108, CDDC178, and CDDC179	Three cartridge filters (750 square feet of filter area, each)
ESDC114	One furnace batch storage bin (No. 503)	CDDC114	One cartridge filter (1,080 square feet of filter area)
ESDC-115	One furnace batch storage bin (No. 503)	CDDC-115	One cartridge filter (1,080 square feet of filter area, each)
ESDC-116	One furnace batch storage bin (No. 503)	CDDC-116	One cartridge filter (1,080 square feet of filter area, each)
ESDC117N	One furnace batch storage bin (No. 507N)	CDDC117N	One cartridge filter (1,080 square feet of filter area)
ESDC117S	One furnace batch storage bin (No. 507S)	CDDC117S	One cartridge filter (1,080 square feet of filter area)

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
ESDC119	One furnace batch storage bin (No. 509N)	CDDC119N	One cartridge filter (1,080 square feet of filter area)
ESDC119S	One furnace batch storage bin (No. 509S)	CDDC119S	One cartridge filter (1,080 square feet of filter area)
ESDC180	One large scale bin	CDDC180	One bagfilter (225 square feet of filter area)
ESDC183	One raw material bin (4 th floor)	CDDC183	One cartridge filter (750 square feet of filter area)

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

Pollutant	Limits/Standards	Applicable Regulation
Particulate Matter	$E=4.10 \times P^{0.67}$, for process rates ≤ 30 tons per hour, OR $E=55 \times P^{0.11} - 40$, for process rates > 30 tons per hour Where: E = allowable emission rate in pounds per hour P = process weight in tons per hour	15A NCAC 02D .0515
Visible Emissions	20 percent opacity 40 percent opacity (ID Nos. ESDC108 through ESDC111, ESDC178, and ESDC179 only)	15A NCAC 02D .0521
Particulate Matter (PM, PM ₁₀ , and PM _{2.5}), and Fluorides	Recordkeeping and reporting of actual emissions (ID Nos. ESDC115 and ESDC116 only) See Section 2.2 D	15A NCAC 02D .0530(u)

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

- a. Emissions of particulate matter from the sources in Table 2.1 H above shall not exceed an allowable emission rate as calculated by the following equation:

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

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

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

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

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

- b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 H.1.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515.

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

- c. Particulate matter emissions from the sources in Table 2.1 H above shall be controlled as described in Table 2.1 H. To ensure compliance, the Permittee shall perform inspections and maintenance as recommended by the manufacturer. In addition to the manufacturer’s inspection and maintenance recommendations, or if there are no manufacturer’s inspection and maintenance recommendations, as a minimum, the inspection and maintenance requirement shall include the following:
 - i. a monthly visual inspection of the system ductwork and material collection unit for leaks; and
 - ii. an annual (for each 12-month period following the initial inspection) internal inspection of the bagfilter’s/cartridge’s structural integrity.

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

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

- d. The results of inspection and maintenance shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:
- i. the date and time of each recorded action;
 - ii. the results of each inspection;
 - iii. the results of any maintenance performed on the control systems; and
 - iv. any variance from manufacturer's recommendations, if any, and corrections made.
- The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515 if these records are not maintained.

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

- e. The Permittee shall submit the results of any maintenance performed on the control systems within 30 days of a written request by the DAQ.
- f. The Permittee shall submit a summary report of monitoring and recordkeeping activities given in Sections 2.1 H.1.c and d above postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

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

- a. Visible emissions from the sources in Table 2.1 H above, excluding those identified in Section 2.1 H.2 b below, shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity.
- b. Visible emissions from the sources (**ID Nos. ESDC108 through ESDC111, ESDC178, and ESDC179**) shall not be more than 40 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 40 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 90 percent opacity.

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

- c. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Sections 2.1 H.2.a or b above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521.

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

- d. To ensure compliance, once a month the Permittee shall observe the emission point of the sources in Table 2.1 H for any visible emissions above normal. The monthly observation must be made for each month of the calendar year period to ensure compliance with this requirement. If visible emissions from these sources are observed to be above normal, the Permittee shall either:
- i. take appropriate action to correct the above-normal emissions as soon as practicable and within the monitoring period and record the action taken as provided in the recordkeeping requirements in Section 2.1 H.2.e below, or
 - ii. demonstrate that the percent opacity from the emission points of the emission source in accordance with 15A NCAC 02D .2610 (Method 9) for 12 minutes is below the limit given in Section 2.1 H.2.a or b above, as applicable.

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

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

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

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

- f. The Permittee shall submit a summary report of the monitoring and recordkeeping activities given in Sections 2.1 H.2.d and e above postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

I. The following ovens

Table 2.1 I

Emission Source ID No.	Emission Source Description
ESDO70	One single lane dielectric fiberglass drying oven (1,800 pounds per hour throughput capacity)
OSI-1, OSI-2	Two natural gas-fired fiberglass drying ovens #1 and #2 (0.8 million Btu per hour maximum heat input capacity each)
ES01A, ES01B and ES01C	Three single lane natural gas-fired fiberglass drying ovens (1,320 pounds per hour throughput capacity each, 1.5 million Btu per hour maximum heat input capacity each)
ES02A, ES02B, ES02C and ES02D	Four single lane natural gas-fired fiberglass drying oven ((1,056 pounds per hour throughput capacity each, 1.2 million Btu per hour maximum heat input capacity each)
ES03A, ES03B and ES03C	Three single lane natural gas-fired fiberglass drying ovens (1,320 pounds per hour throughput capacity each, 1.5 million Btu per hour maximum heat input capacity each)
ES04, ES05, ES06, ES07	Four single lane natural gas-fired fiberglass drying ovens (1,320 pounds per hour throughput capacity each, 1.5 million Btu per hour maximum heat input capacity each)

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

Pollutant	Limits/Standards	Applicable Regulation
Particulate Matter	0.33 pounds per million Btu heat input (excluding ESDO70) combustion stacks only	15A NCAC 02D .0503
Particulate Matter	$E=4.10 \times P^{0.67}$, for process rates ≤ 30 tons per hour, OR $E=55 \times P^{0.11} - 40$, for process rates > 30 tons per hour Where: E = allowable emission rate in pounds per hour P = process weight in tons per hour (process stacks only)	15A NCAC 02D .0515
Sulfur Dioxide	2.3 pounds per million Btu heat input (excluding ESDO70)	15A NCAC 02D .0516
Visible Emissions	20 percent opacity	15A NCAC 02D .0521
Hazardous Air Pollutants	Work Practices, tune ups (excluding ESDO70)	15A NCAC 02D .1111 40 CFR Part 63, Subpart DDDDD
Particulate Matter (PM, PM ₁₀ , and PM _{2.5}) Nitrogen Oxides, and Volatile Organic Compounds	Recordkeeping and reporting of actual emissions See Section 2.2 C (ID Nos. ES04, ES05, ES06, ES07 only)	15A NCAC 02D .0530(u)
Toxic Air Pollutants	State-enforceable only See Section 2.2 A	15A NCAC 02D .1100
Odors	State-enforceable only See Section 2.2 B	15A NCAC 02D .1806

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

- a. Emissions of particulate matter from the combustion of natural gas that are discharged from the sources in Table 2.1 I above, excluding the dielectric oven (**ID No. ESDO70**), into the atmosphere shall not exceed 0.33 pounds per million Btu heat input.

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

- b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 I.1.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0503.

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

- c. No monitoring/recordkeeping/reporting is required for particulate emissions from the firing of natural gas in the sources in Table 2.1 I above.

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

- a. Emissions of particulate matter from the process stacks of the sources in Table 2.1 I above shall not exceed an allowable emission rate as calculated by the following equation:

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

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

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

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

- b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 I.2.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515.

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

- c. The Permittee shall maintain production records such that the process rates "P" in tons per hour, as specified by the formulas contained in Section 2.1 I.2.a 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 02D .0515 if the production records are not maintained or the types of materials and finishes are not monitored.

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

- d. The Permittee shall submit a summary report for the recordkeeping activities in Section 2.1 I.2.c above postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

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

- a. Emissions of sulfur dioxide from the combustion stacks of the sources in Table 2.1 I above, excluding **ID No. ESDO70**, shall not exceed 2.3 pounds per million Btu heat input. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard.

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

- b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 I.3.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0516.

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

- c. No monitoring/recordkeeping/reporting is required for sulfur dioxide emissions from the firing of natural gas in the sources in Table 2.1 I above.

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

- a. Visible emissions from the sources in Table 2.1 I above 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 90 percent opacity.

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

- b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 I.4.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521.

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

- c. To ensure compliance, once a month the Permittee shall observe the emission points of the oven stacks from the sources in Table 2.1 I above for any visible emissions above normal. The monthly observation must be made for each month of the calendar year period to ensure compliance with this requirement. If visible emissions from these sources are observed to be above normal, the Permittee shall either:
 - i. take appropriate action to correct the above-normal emissions as soon as practicable and within the monitoring period and record the action taken as provided in the recordkeeping requirements in Section 2.1 I.4.d below, or
 - ii. demonstrate that the percent opacity from the emission points of the emission source in accordance with 15A NCAC 02D .2601 (Method 9) for 12 minutes is below the limit given in Section 2.1 I.4.a above.The Permittee shall be deemed to be in noncompliance with 15A NCAC 02D .0521 if the required monthly observations are not conducted as required; if the above-normal emissions are not corrected within the monitoring period or the percent opacity demonstration cannot be made.

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

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

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

- e. The Permittee shall submit a summary report of the monitoring and recordkeeping activities given in Section(s) 2.1 I.4.c and d above postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

5. 15A NCAC 02D .1111: MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY

Applicability [40 CFR 63.7485, 63.7490(b), 63.7499(l)]

- a. For these ovens (**ID Nos. ES04 through ES07**) (*new sources designed to burn gas 1 fuels with a heat input capacity less than 5MMBtu/hr, with no oxygen trim*), the Permittee shall comply with all applicable provisions, including the monitoring, recordkeeping, and reporting contained in Environmental Management Commission Standard 15A NCAC 02D .1111 "Maximum Achievable Control Technology" (MACT) as promulgated in 40 CFR 63, Subpart DDDDD "National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters" and Subpart A "General Provisions."

Definitions and Nomenclature

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

40 CFR Part 63 Subpart A General Provisions

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

Compliance Date

- d. The Permittee shall comply with the applicable requirements upon startup of these ovens. [40 CFR 63.7495(a)]

Notifications

- e. *The initial startup and initial Notification of Compliance Status notification requirements pursuant to 40 CFR 63.7545(c) and (e) have been met.*

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

- f. The following work practice requirements apply.
- i. The Permittee shall conduct a tune-up every five years while burning the type of fuel (or fuels in case of units that routinely burn a mixture) that provided the majority of the heat input to the boiler or process heater over the 12 months prior to the tune-up as specified below:
- (A) As applicable, inspect the burner, and clean or replace any components of the burner as necessary. The Permittee may perform the burner inspection any time prior to the tune-up or delay the burner inspection until the next scheduled or unscheduled shutdown but the burner must be inspected at least once every 72 months.
- (B) Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available;
- (C) Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly (the Permittee may delay the inspection until the next scheduled unit shutdown).
- (D) Optimize total emissions of CO. This optimization should be consistent with the manufacturer's specifications, if available, and with any NOx requirement to which the unit is subject.
- (E) Measure the concentrations in the effluent stream of CO in parts per million, by volume, and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). Measurements may be taken using a portable CO analyzer.
- [40 CFR 63.7500(a), 63.7540(a)(10) and (12)]
- ii. Each 5-year tune-up shall be conducted no more than 61 months after the previous tune-up. The initial tune-up shall be conducted no later than 61 months after the initial startup of the source. [40 CFR 63.7515(d)]
- iii. If the unit is not operating on the required date for a tune-up, the tune-up must be conducted within 30 calendar days of startup. [40 CFR 63.7540(a)(13), 63.7515(g)]
- iv. At all times, the Permittee shall operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator that may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. [40 CFR 63.7500(a)(3)]

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

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

- g. The following recordkeeping requirements apply. The Permittee shall:
- i. keep a copy of each notification and report submitted to comply with this subpart, including all documentation supporting any Initial Notification or Notification of Compliance Status or compliance report that has been submitted, according to the requirements in 40 CFR 63.10(b)(2)(xiv). [40 CFR 63.7555(a)(1)]
- ii. maintain on-site and submit, if requested by the Administrator, a report containing the information in Section 2.1 I.5.g.ii.(A) through (C) below:
- (A) the concentrations of CO in the effluent stream in parts per million by volume, and oxygen in volume percent, measured at high fire or typical operating load, before and after the tune-up of the boiler or process heater;
- (B) a description of any corrective actions taken as a part of the tune-up; and
- (C) the type and amount of fuel used over the 12 months prior to the tune-up, but only if the unit was physically and legally capable of using more than one type of fuel during that period. Units sharing a fuel meter may estimate the fuel use by each unit.
- [40 CFR 63.7540(a)(10)(vi)]
- iii. keep the associated records for Section 2.1 I.5.f above.
- iv. keep:
- (A) records in a form suitable and readily available for expeditious review;
- (B) each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record; and

- (C) each record on site for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record. The Permittee can keep the records offsite for the remaining 3 years. [40 CFR 63.7560, 63.10(b)(1)]

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

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

- h. The following reporting requirements apply:
- i. The Permittee shall submit compliance reports to the DAQ on a five-year basis. The first report shall cover the period beginning on start-up and ending on the earliest December 31st less than five years from the start-up. Subsequent 5-year reports shall cover the periods from January 1 to December 31. The Permittee shall submit the compliance reports postmarked on or before January 30 for the previous compliance period. [40 CFR 63.7550(a), (b)]
 - ii. The compliance report shall also be submitted electronically via the Compliance and Emissions Data Reporting Interface (CEDRI). CEDRI can be accessed through the EPA's Central Data Exchange (CDX) (<https://cdx.epa.gov/>). The Permittee shall use the appropriate electronic report in CEDRI for this subpart. Instead of using the electronic report in CEDRI for this subpart, the Permittee shall submit an alternate electronic file consistent with the XML schema listed on the CEDRI Web site (<http://www.epa.gov/ttn/chief/cedri/index.html>), once the XML schema is available. If the reporting form specific to this subpart is not available in CEDRI at the time that the report is due, the Permittee shall submit the report to the Administrator at the appropriate address listed in 40 CFR 63.13. The Permittee shall begin submitting reports via CEDRI no later than 90 days after the form becomes available in CEDRI. [40 CFR 63.7550(h)(3)]
 - iii. The compliance report must contain the following information:
 - (A) company name and address;
 - (B) process unit information, emissions limitations, and operating parameter limitations;
 - (C) date of report and beginning and ending dates of the reporting period;
 - (D) date of the most recent tune-up for each unit required according to Section 2.1 I.5.f above. Include the date of the most recent burner inspection if it was not done annually and was delayed until the next scheduled or unscheduled unit shutdown.
 - (E) statement by a responsible official with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report.[40 CFR 63.7550(a) and (c), Table 9 to Subpart DDDDD]
- The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if these reporting requirements are not met.

6. 15A NCAC 02D .1111: MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY

Applicability [40 CFR 63.7485, 63.7490(d), 63.7499(l)]

- a. For these ovens (**ID Nos. ES01, ES02, ES03, OSI-1, OSI-2**) (*existing sources designed to burn gas 1 fuels with a heat input capacity of less than or equal to 5 million Btu per hour*), the Permittee shall comply with all applicable provisions, including the monitoring, recordkeeping, and reporting contained in Environmental Management Commission Standard 15A NCAC 02D .1111 "Maximum Achievable Control Technology" (MACT) as promulgated in 40 CFR 63, Subpart DDDDD "National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters" and Subpart A "General Provisions."

Definitions and Nomenclature

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

40 CFR Part 63 Subpart A General Provisions

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

Compliance Date

- d. The Permittee shall complete the initial tune up and the one-time energy assessment no later than May 20, 2019. [40 CFR 63.7510(e), 63.56(b)] *These requirements have been met.*

Notifications

- e. The Permittee shall submit a Notification of Compliance Status. The notification must be signed by a responsible official and submitted by July 19, 2019. [40 CFR 63.7545(e), 63.7530(e)] *This requirement has been met.*

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

- f. The following work practice standards apply:
- i. The Permittee shall conduct a tune-up every five years while burning the type of fuel (or fuels in case of units that routinely burn a mixture) that provided the majority of the heat input to the boiler or process heater over the 12 months prior to the tune-up as specified below:
 - (A) As applicable, inspect the burner, and clean or replace any components of the burner as necessary (the Permittee may delay the burner inspection until the next scheduled or unscheduled unit shutdown, but the burner must be inspected at least once every 72 months.
 - (B) Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available.
 - (C) Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly (The Permittee may delay the inspection until the next scheduled unit shutdown).
 - (D) Optimize total emissions of CO. This optimization should be consistent with the manufacturer's specifications, if available, and with any NO_x requirement to which the unit is subject.
 - (E) Measure the concentrations in the effluent stream of CO in parts per million, by volume, and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). Measurements may be taken using a portable CO analyzer.
- [40 CFR 63.7500(a), (e), 63.7540(a)(10 and (12))]
- ii. Each 5-year tune-up shall be conducted no more than 61 months after the previous tune-up. [40 CFR 63.7515(d)]
 - iii. If the unit is not operating on the required date for a tune-up, the tune-up must be conducted within 30 calendar days of startup. [40 CFR 63.7540(a)(13), 63.7515(g)]
 - iv. At all times, the Permittee shall operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator that may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.[40 CFR 63.7500(a)(3)]

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

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

- g. The Permittee shall have a one-time energy assessment performed by a qualified energy assessor. [40 CFR 63.7500(a)(1), Table 3 to 40 CFR 63 Subpart DDDDD] *This requirement has been met.*

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

- h. The following recordkeeping requirements apply. The Permittee shall:
- i. keep a copy of each notification and report submitted to comply with this subpart, including all documentation supporting any Initial Notification or Notification of Compliance Status, or 5-year compliance report that has been submitted, according to the requirements in 40 CFR 63.10(b)(2)(xiv). [40 CFR 63.7555(a)(1)]
 - ii. maintain on-site and submit, if requested by the Administrator, a report containing the information in Section 2.1 I.6.h.ii.(A) through (C) below:
 - (A) the concentrations of CO in the effluent stream in parts per million by volume, and oxygen in volume percent, measured at high fire or typical operating load, before and after tune-up of the source;
 - (B) a description of any corrective actions taken as a part of the tune-up; and
 - (C) the type and amount of fuel used over the 12 months prior to the tune-up, but only if the unit was physically and legally capable of using more than one type of fuel during that period. Units sharing a fuel meter may estimate the fuel use by each unit.

- [40 CFR 63.7540(a)(10)(vi)]
- iii. keep the associated records for Sections 2.1 I.6.f through g above.
 - iv. keep:
 - (A) records in a form suitable and readily available for expeditious review;
 - (B) keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record; and
 - (C) keep each record on site for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record. The Permittee can keep the records offsite for the remaining 3 years.
- [40 CFR 63.7560, 63.10(b)(1)]

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

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

- i. The following reporting requirements apply:
 - i. The Permittee shall submit compliance reports to the DAQ on a 5-year basis. The first report shall cover the period beginning on May 20, 2019 and ending on December 31, 2023. Subsequent 5-year reports shall cover the periods from January 1 to December 31. The Permittee shall submit the compliance reports postmarked on or before January 30 for the preceding reporting period.[40 CFR 63.7550(a), (b)]
 - ii. The compliance report must also be submitted electronically via the Compliance and Emissions Data Reporting Interface (CEDRI). CEDRI can be accessed through the EPA's Central Data Exchange (CDX) (<https://cdx.epa.gov/>.) The Permittee shall use the appropriate electronic report in CEDRI for this subpart. Instead of using the electronic report in CEDRI for this subpart, The Permittee shall submit an alternate electronic file consistent with the XML schema listed on the CEDRI Web site (<http://www.epa.gov/ttn/chief/cedri/index.html>), once the XML schema is available. If the reporting form specific to this subpart is not available in CEDRI at the time that the report is due, The Permittee shall submit the report to the Administrator at the appropriate address listed in 40 CFR 63.13. The Permittee shall begin submitting reports via CEDRI no later than 90 days after the form becomes available in CEDRI. [40 CFR 63.7550(h)(3)]
 - iii. The compliance report must contain the following information:
 - (A) company name and address;
 - (B) process unit information, emissions limitations, and operating parameter limitations;
 - (C) date of report and beginning and ending dates of the reporting period;
 - (D) date of the most recent tune-up for each unit required according to Section 2.1 I.6.f above. Include the date of the most recent burner inspection if it was not done on a 5-year basis and was delayed until the next scheduled or unscheduled unit shutdown; and
 - (E) statement by a responsible official with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report.
- [40 CFR 63.7550(a) and (c), Table 9 to Subpart DDDDD]

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

J. Binder Mix Room (ID No. ESB412)

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

Pollutant	Limits/Standards	Applicable Regulation
Visible Emissions	20 percent opacity	15A NCAC 02D .0521
Toxic Air Pollutants	State-enforceable only See Section 2.2 A.	15A NCAC 02D .1100
Odors	State-enforceable only See Section 2.2 B.	15A NCAC 02D .1806

1. 15A NCAC 02D .0521: CONTROL OF VISIBLE EMISSIONS

- a. Visible emissions from this source (**ID No. ESB412**) shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity.

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

- b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 J.1.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521.

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

- c. No monitoring/recordkeeping/reporting is required for visible emissions from this source.

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

A. Facility-wide emission sources

State-enforceable only

1. 15A NCAC 02D .1100: CONTROL OF TOXIC AIR POLLUTANTS

- a. Pursuant to 15A NCAC 02D .1100, the emission limits in Table 2.2 A.1 below shall not be exceeded.
- b. The Permittee has submitted a toxic air pollutant dispersion modeling analyses dated February 17, 2022, for the facility's toxic air pollutant emissions as listed in the Table 2.2 A.1 below. The modeling analysis was reviewed and approved by the Air Quality Analysis Branch (AQAB) on March 21, 2022. Placement of the emission sources, configuration of the emission points, and operation of the sources shall be in accordance with the submitted dispersion modeling analyses and should reflect any changes from the original analyses submittal as outlined in the AQAB review memo.

Monitoring/Recordkeeping [15A NCAC 02Q .0308(a)(1)]

- c. The Permittee shall record, retain on site (in written or electronic format) and make available to an authorized representative upon request records sufficient to show that the permitted emission rates in Table 2.2 A.1 are not exceeded.

Reporting [15A NCAC 02Q .0308(a)(1)]

- d. The Permittee shall submit a summary report, acceptable to the Regional Air Quality Supervisor, of the monitoring and recordkeeping activities postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

Table 2.2. A.1

Stack ID No.	Stack Description	Emission Limits (pounds per hour)								
		Acetic acid	Acrolein	Arsenic	Benzene	Beryllium	Cadmium	Chromium	Fluoride	Formaldehyde
ES01	Three Lane Oven - Combined Stack	2.12E+00	NA	1.61E-06	4.59E-05	3.06E-06	1.55E-04	2.26E-03	NA	2.52E-03
ES02	Four Lane Oven - Combined Stack	2.12E+00	NA	2.00E-06	5.71E-05	3.81E-06	1.93E-04	2.82E-03	NA	3.13E-03
ES03	Three Lane Oven - Combined Stack	2.12E+00	NA	1.61E-06	4.59E-05	3.06E-06	1.55E-04	2.26E-03	NA	2.52E-03
ES04	Single Lane Oven - Combined Stack	2.12E+00	NA	5.36E-07	1.53E-05	1.02E-06	5.16E-05	7.55E-04	NA	8.39E-04
ES05	Single Lane Oven - Combined Stack	2.12E+00	NA	5.36E-07	1.53E-05	1.02E-06	5.16E-05	7.55E-04	NA	8.39E-04
ES06	Single Lane Oven - Combined Stack	2.12E+00	NA	5.36E-07	1.53E-05	1.02E-06	5.16E-05	7.55E-04	NA	8.39E-04
ES07	Single Lane Oven - Combined Stack	2.12E+00	NA	5.36E-07	1.53E-05	1.02E-06	5.16E-05	7.55E-04	NA	8.39E-04
OSI1	OSI Oven 1 - Combined Stack	2.12E+00	NA	2.86E-07	8.16E-06	5.44E-07	2.75E-05	4.02E-04	NA	4.47E-04
OSI2	OSI Oven 2 - Combined Stack	2.12E+00	NA	2.86E-07	8.16E-06	5.44E-07	2.75E-05	4.02E-04	NA	4.47E-04
ESDO70	Dielectric Oven	2.12E+00	NA	NA	NA	NA	NA	NA	NA	NA
VO149	Vacuum Ovens	1.17E+00	NA	NA	NA	NA	NA	NA	NA	NA
ESB67	Boiler #4 (67)	NA	NA	7.64E-06	2.18E-04	1.46E-05	7.36E-04	1.08E-02	NA	5.84E-02
ESB68	Boiler #5 (68)	NA	NA	7.64E-06	2.18E-04	1.46E-05	7.36E-04	1.08E-02	NA	5.84E-02
ESPP150	Propane Fare	NA	NA	NA	1.04E-05	NA	NA	NA	NA	4.79E-04
ESTE167	TEC Boiler	NA	NA	NA	1.04E-05	NA	NA	NA	NA	4.79E-04
ESTE170	S&TC Lab Hood	NA	NA	NA	NA	NA	NA	NA	NA	NA
ESV123	S&T Lab Hood	NA	NA	NA	NA	NA	NA	NA	NA	NA
ESDG93	Diesel Generator #1	NA	4.06E-02	3.94E-05	2.08E-02	9.37E-04	5.17E-04	5.94E-03	NA	3.24E-03
ESDG94	Diesel Generator #2	NA	5.01E-02	4.85E-05	2.56E-02	1.16E-03	6.38E-04	7.33E-03	NA	4.00E-03
ESDP95	Process Water Diesel	NA	4.49E-02	4.36E-05	2.30E-02	1.04E-03	5.72E-04	6.58E-03	NA	3.59E-03
ESDG97	WWTP Diesel Generator West	NA	5.93E-02	5.75E-05	3.03E-02	1.37E-03	7.55E-04	8.68E-03	NA	4.73E-03
ESEB98	Natural Gas Emergency Air Blower	NA	9.36E+00	NA	1.21E-02	NA	NA	NA	NA	5.29E-01
ESEB99	Natural Gas Emergency Air Blower	NA	9.36E+00	NA	1.21E-02	NA	NA	NA	NA	5.29E-01
ESEB100	Natural Gas Emergency Air Blower	NA	9.36E+00	NA	1.21E-02	NA	NA	NA	NA	5.29E-01
ESDP951	Process Water Pump	NA	1.53E-01	1.26E-05	7.99E-03	3.00E-04	1.65E-04	1.90E-03	NA	1.55E-02
ESDP151	Diesel Fire Pump	NA	1.37E-01	1.13E-05	7.16E-03	2.69E-04	1.48E-04	1.70E-03	NA	1.39E-02
ESDP152	Diesel Fire Pump	NA	9.09E-02	7.51E-06	4.76E-03	1.79E-04	9.86E-05	1.13E-03	NA	9.24E-03
ESEP175	Propane Emergency Pump	NA	1.28E+00	NA	1.66E-03	NA	NA	NA	NA	7.26E-02
ESB133	Hot Water Boiler for Propane Farm	NA	NA	NA	8.74E-06	NA	NA	NA	NA	4.79E-04

B. Facility-wide emission sources

State-enforceable only

1. 15A NCAC 02D .1806: CONTROL AND PROHIBITION OF ODOROUS EMISSIONS

- a. The Permittee shall not operate the facility without implementing management practices or installing and operating odor control equipment sufficient to prevent odorous emissions from the facility from causing or contributing to objectionable odors beyond the facility's boundary.

C. The following emission sources:

- **One double level fiberglass furnace No. 507 consisting of the following:**
 - **natural gas/propane direct-fired melter (ID No. ES-507-M);**
 - **natural gas/propane-fired-refiner (ID No. ES-507-R); and**
 - **natural gas/propane-fired (ID No. ES-507-F)**
- **Four single lane natural gas-fired fiberglass drying ovens (ID Nos.ES04, ES05, ES06, ES07)**

1. 15A NCAC 02D. 0530(u): USE OF PROJECTED ACTUAL EMISSIONS TO AVOID APPLICABILITY OF PREVENTION OF SIGNIFICANT DETERIORATION REQUIREMENTS

a. The Permittee has used projected actual emissions to avoid applicability of Prevention of Significant Deterioration requirements for a project consisting of modifications to Furnace 507 and the addition of four drying ovens and is fully described in application no. 2900109.13D and a project consisting of modifications to the forehearth of Furnace 507 and is fully described in application no. 2900109.15B. In order to verify the assumptions used in the projected actual emissions calculations, the Permittee shall comply with the testing, record keeping and reporting requirements in Sections 2.2 C.1.b through e below. The requirements in Section 2.2 C.1 b through e below apply through the end of the 2024 calendar year.

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

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

Recordkeeping [15A NCAC 02D .0530(u), 02Q .0508(f)]

- c. The Permittee shall maintain records of actual emissions for total PM, PM₁₀, PM_{2.5}, nitrogen oxides, fluorides, and VOCs in tons per year on a calendar year basis for ten years following the resumption of regular operations upon commencement of the modifications described in application no. 2900109.13D.
- d. The reported actual emissions (post-construction emissions) of the Furnace No. 507 melter, refiner and forehearth (ID Nos. ES-507-M, ES-507-R, and ES-507-F) and the four ovens (ID Nos. ES04 through ES07) for each of the ten calendar years will be compared to the projected actual emissions (pre-construction projection) for these sources as included below:

Pollutant	Projected Actual Emissions* (tons per year)
PM	56.48
PM ₁₀	49.47
PM _{2.5}	41.15
NOx	102.69
VOC	27.78
Fluorides	4.93

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

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

Reporting [15A NCAC 02D .0530(u), 02Q .0508(f)]

e. The Permittee shall submit a report of the total PM, PM₁₀, PM_{2.5}, nitrogen oxide, fluoride and VOC emissions to the Director within 60 days after the end of each calendar year during which the records in Section 2.2 C.1.c and d above must be generated. The report shall contain the items listed in 40 CFR 51.166(r)(6)(v)(a) through (c).

D. The following emission sources:

- **One single level fiberglass furnace No. 503, consisting of the following:**
 - **natural gas/propane direct-fired melter (ID No. ES-503-M);**
 - **natural gas/propane-fired-refiner (ID No. ES-503-R); and**
 - **natural gas/propane-fired forehearth (ID No. ES-503-F)**
- **One furnace batch storage bin (No. 503) (ID No. ESDC-115) controlled by one cartridge filter (ID No. CDDC-115)**
- **One furnace batch storage bin (No. 503) (ID No. ESDC-116) controlled by one cartridge filter (ID No. CDDC-116)**

1. 15A NCAC 02D. 0530(u): USE OF PROJECTED ACTUAL EMISSIONS TO AVOID APPLICABILITY OF PREVENTION OF SIGNIFICANT DETERIORATION REQUIREMENTS

- a. The Permittee has used projected actual emissions to avoid applicability of Prevention of Significant Deterioration requirements for a project consisting of modifications to Furnace 503 and the addition of two batch bins and is fully described in application no. 2900109.14B. In order to verify the assumptions used in the projected actual emissions calculations, the Permittee shall comply with the testing, record keeping and reporting requirements in Sections 2.2 D.1.b through e below. The requirements in Section 2.2 D.1.b through e below apply through the end of the 2024 calendar year.

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

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

Recordkeeping [15A NCAC 02D .0530(u), 02Q .0508(f)]

- c. The Permittee shall maintain records of actual emissions for total PM, PM₁₀, PM_{2.5}, nitrogen oxides, and fluorides in tons per year on a calendar year basis for ten years following the resumption of regular operations upon commencement of the modifications described in application no. 2900109.14B.
- d. The reported actual emissions (post-modification emissions) of Furnace 503 (including the melter, refiner and forehearth) for each of the ten calendar years will be compared to the projected actual emissions (pre-construction projection) for Furnace 503 (including the melter, refiner and forehearth) as included below:

Pollutant	Projected Actual Emissions* (tons per year)
PM	20.3
PM ₁₀	16.7
PM _{2.5}	15.0
NO _x	38.5
Fluorides	1.73

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

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

Reporting [15A NCAC 02D .0530(u), 02Q .0508(f)]

- e. The Permittee shall submit a report for total PM, PM₁₀, PM_{2.5}, nitrogen oxides, and fluorides from these sources to the Director within 60 days after the end of each calendar year during which the records in Section 2.2 D.1.d above must be generated. The report shall contain the items listed in 40 CFR 51.166(r)(6)(v)(a) through (c).

SECTION 3 - Insignificant Activities per 15A NCAC 02Q .0503(8)

Emission Source ID No.	Emission Source Description ^{1,2}
IESEB98 and IESEB99 MACT ZZZZ	Natural gas-fired combustion air emergency blowers (150 BHP, each)
IESEB100 MACT ZZZZ	Natural gas-fired combustion air emergency blower (190 BHP)
IESDP152 MACT ZZZZ	Diesel-fired fire pump (143 BHP)
IESB133 and IESB134	Hot water boilers for propane farm
IESEP175 MACT ZZZZ	Propane-fired emergency pump at WWTP (24 BHP)
IESDP95 MACT ZZZZ	Diesel-fired Emergency process water pump (575 BHP)
IESDC177	Dolomite Lime Storage Silo
IESDG93 MACT ZZZZ	Diesel-fired emergency generator, No.1 (750 BHP)
IESST96	NH ₃ Storage Tank
IESV123	S&T Laboratory Hood
IESV124	S&T Laboratory Muffle Furnace Hood
IESV125	S&T Binder Room Hood
IESV130	Buff Shop
IESV132	Maintenance Welding
IESQV134	Glass Lab
IESQV135	Glass Lab Chem Hood
IESQV136	Glass Lab Muffle Furnace
IESMV137	NDT Dip Tanks
IESMV138	NDT Wash Station
IESMV139	NDT Test Booth
IESWT187	NDT Wash Booth
IESWT188	NDT Dye Penetrant Tank
IESWT189	NDT Electric Dryer
IESWT141 and IESWT143	WWTP Aeration Tanks
IESWT144	Chlorine Contact Tank
IESWT171 through IESWT173	Three Equalization Tanks
IESWT174 and IESWT175	Reaction Tanks

Emission Source ID No.	Emission Source Description ^{1,2}
IESWT176	Primary Clarifier
IESWT177	Primary Surge Tank
IESWT178, IESWT179, and IESWT180	Final Clarifiers
IESWT181	Sludge Thickener
IESWT182	Sludge Holding/Lime Stabilization Tank
IESWT185	Treated Water Storage Tank
IESWT186	Ammonia Day Tank
IESWT193	Effluent Surge Tank
IESST155, IESST156, and IESST157	Oil Storage Tanks
IESPP150	Propane flare for propane farm
IESDP951 MACT ZZZZ	Diesel-fired emergency process water supply pump for Furnace No. 509 (240 BHP)
IESDP952 MACT ZZZZ	Diesel-fired emergency process water return pump for Furnace No. 509 (208 BHP)
IESDC184	One minor ingredient bin with associated cartridge filter (ID No. IDC184)
IESDC-Super-Sak	One batch Supersak unloading operation with associated cartridge filter (ID No. IDC-Supersak)
IBR-STEXH	Binder Storage Room
IES-VS	Housekeeping vacuum system exhausting indoors
IESWT194	Primary Clarifier

¹ Because an activity is insignificant does not mean that the activity is exempted from an applicable requirement (only or State) or that the Permittee is exempted from demonstrating compliance with any applicable requirement.

² When applicable, emissions from stationary source activities identified above shall be included in determining compliance with the permit requirements for toxic air pollutants under 15A NCAC 02D .1100 "Control of Toxic Air Pollutants" or 02Q .0711 "Emission Rates Requiring a Permit."

SECTION 4 - GENERAL CONDITIONS (version 7.0, 08/21/2023)

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

A. **General Provisions** [NCGS 143-215 and 15A NCAC 02Q .0508(i)(16)]

1. Terms not otherwise defined in this permit shall have the meaning assigned to such terms as defined in 15A NCAC 02D and 02Q.
2. The terms, conditions, requirements, limitations, and restrictions set forth in this permit are binding and enforceable pursuant to NCGS 143-215.114A and 143-215.114B, including assessment of civil and/or criminal penalties. Any unauthorized deviation from the conditions of this permit may constitute grounds for revocation and/or enforcement action by the DAQ.
3. This permit is not a waiver of or approval of any other Department permits that may be required for other aspects of the facility which are not addressed in this permit.
4. This permit does not relieve the Permittee from liability for harm or injury to human health or welfare, animal or plant life, or property caused by the construction or operation of this permitted facility, or from penalties therefore, nor does it allow the Permittee to cause pollution in contravention of state laws or rules, unless specifically authorized by an order from the North Carolina Environmental Management Commission.
5. Except as identified as state-only requirements in this permit, all terms and conditions contained herein shall be enforceable by the DAQ, the EPA, and citizens of the United States as defined in the Federal Clean Air Act.
6. Any stationary source of air pollution shall not be operated, maintained, or modified without the appropriate and valid permits issued by the DAQ, unless the source is exempted by rule. The DAQ may issue a permit only after it receives reasonable assurance that the installation will not cause air pollution in violation of any of the applicable requirements. A permitted installation may only be operated, maintained, constructed, expanded, or modified in a manner that is consistent with the terms of this permit.

B. **Permit Availability** [15A NCAC 02Q .0507(k) and .0508(i)(9)(B)]

The Permittee shall have available at the facility a copy of this permit and shall retain for the duration of the permit term one complete copy of the application(s) and any information submitted in support of the application package. The permit and application shall be made available to an authorized representative of Department of Environmental Quality upon request.

C. **Severability Clause** [15A NCAC 02Q .0508(i)(2)]

In the event of an administrative challenge to a final and binding permit in which a condition is held to be invalid, the provisions in this permit are severable so that all requirements contained in the permit, except those held to be invalid, shall remain valid and must be complied with.

D. **Submissions** [15A NCAC 02Q .0507(e) and 02Q .0508(i)(16)]

Except as otherwise specified herein, two copies of all documents, reports, test data, monitoring data, notifications, request for renewal, and any other information required by this permit shall be submitted to the appropriate Regional Office. Refer to the Regional Office address on the cover page of this permit. For continuous emissions monitoring systems (CEMS) reports, continuous opacity monitoring systems (COMS) reports, quality assurance (QA)/quality control (QC) reports, acid rain CEM certification reports, and NOx budget CEM certification reports, one copy shall be sent to the appropriate Regional Office and one copy shall be sent to:

Supervisor, Stationary Source Compliance
North Carolina Division of Air Quality
1641 Mail Service Center
Raleigh, NC 27699-1641

All submittals shall include the facility name and Facility ID number (refer to the cover page of this permit).

E. **Duty to Comply** [15A NCAC 02Q .0508(i)(3)]

The Permittee shall comply with all terms, conditions, requirements, limitations and restrictions set forth in this permit. Noncompliance with any permit condition except conditions identified as state-only requirements constitutes a violation of the Federal Clean Air Act. Noncompliance with any permit condition is grounds for enforcement action, for permit termination, revocation and reissuance, or modification, or for denial of a permit renewal application.

F. **Circumvention** - STATE ENFORCEABLE ONLY

The facility shall be properly operated and maintained at all times in a manner that will effect an overall reduction in air pollution. Unless otherwise specified by this permit, no emission source may be operated without the concurrent operation of its associated air pollution control device(s) and appurtenances.

G. **Title V Permit Modifications**

1. Administrative Permit Amendments [15A NCAC 02Q .0514]
The Permittee shall submit an application for an administrative permit amendment in accordance with 15A NCAC 02Q .0514.
2. Transfer in Ownership or Operation and Application Submittal Content [15A NCAC 02Q .0524 and 02Q .0505]
The Permittee shall submit an application for an ownership change in accordance with 15A NCAC 02Q.0524 and 02Q .0505.
3. Minor Permit Modifications [15A NCAC 02Q .0515]
The Permittee shall submit an application for a minor permit modification in accordance with 15A NCAC 02Q .0515.
4. Significant Permit Modifications [15A NCAC 02Q .0516]
The Permittee shall submit an application for a significant permit modification in accordance with 15A NCAC 02Q .0516.
5. Reopening for Cause [15A NCAC 02Q .0517]
The Permittee shall submit an application for reopening for cause in accordance with 15A NCAC 02Q .0517.

H. **Changes Not Requiring Permit Modifications**

1. Reporting Requirements [15A NCAC 02Q .0508(f)]
Any of the following that would result in new or increased emissions from the emission source(s) listed in Section 1 must be reported to the Regional Supervisor, DAQ:
 - a. changes in the information submitted in the application;
 - b. changes that modify equipment or processes; or
 - c. changes in the quantity or quality of materials processed.

If appropriate, modifications to the permit may then be made by the DAQ to reflect any necessary changes in the permit conditions. In no case are any new or increased emissions allowed that will cause a violation of the emission limitations specified herein.

2. Section 502(b)(10) Changes [15A NCAC 02Q .0523(a)]
 - a. "Section 502(b)(10) changes" means changes that contravene an express permit term or condition. Such changes do not include changes that would violate applicable requirements or contravene federally enforceable permit terms and conditions that are monitoring (including test methods), recordkeeping, reporting, or compliance certification requirements.
 - b. The Permittee may make Section 502(b)(10) changes without having the permit revised if:
 - i. the changes are not a modification under Title I of the Federal Clean Air Act;
 - ii. the changes do not cause the allowable emissions under the permit to be exceeded;
 - iii. the Permittee notifies the Director and EPA with written notification at least seven days before the change is made; and
 - iv. the Permittee shall attach the notice to the relevant permit.
 - c. The written notification shall include:
 - i. a description of the change;
 - ii. the date on which the change will occur;
 - iii. any change in emissions; and
 - iv. any permit term or condition that is no longer applicable as a result of the change.
 - d. Section 502(b)(10) changes shall be made in the permit the next time that the permit is revised or renewed, whichever comes first.
3. Off Permit Changes [15A NCAC 02Q .0523(b)]
The Permittee may make changes in the operation or emissions without revising the permit if:
 - a. the change affects only insignificant activities and the activities remain insignificant after the change; or
 - b. the change is not covered under any applicable requirement.
4. Emissions Trading [15A NCAC 02Q .0523(c)]
To the extent that emissions trading is allowed under 15A NCAC 02D, including subsequently adopted maximum achievable control technology standards, emissions trading shall be allowed without permit revision pursuant to 15A NCAC 02Q .0523(c).

I.A. Reporting Requirements for Excess Emissions [15A NCAC 02D .0535(f) and 02Q .0508(f)(2)]

1. **"Excess Emissions"** - means an emission rate that exceeds any applicable emission limitation or standard allowed by any rule in Sections .0500, .0900, .1200, or .1400 of Subchapter 02D; or by a permit condition; or that exceeds an emission limit established in a permit issued under 15A NCAC 02Q .0700. (*Note: Definitions of excess emissions under 02D .1110 and 02D .1111 shall apply where defined by rule.*)
2. If a source is required to report excess emissions under NSPS (15A NCAC 02D .0524), NESHAPS (15A NCAC 02D .1110 or .1111), or the operating permit provides for periodic (e.g., quarterly) reporting of excess emissions, reporting shall be performed as prescribed therein.
3. If the source is not subject to NSPS (15A NCAC 02D .0524), NESHAPS (15A NCAC 02D .1110 or .1111), or these rules do NOT define "excess emissions," the Permittee shall report excess emissions in accordance with 15A NCAC 02D .0535 as follows:
 - a. Pursuant to 15A NCAC 02D .0535, if excess emissions last for more than four hours resulting from a malfunction, a breakdown of process or control equipment, or any other abnormal condition, the owner or operator shall:
 - i. notify the Regional Supervisor or Director of any such occurrence by 9:00 a.m. Eastern Time of the Division's next business day of becoming aware of the occurrence and provide:
 - name and location of the facility;
 - nature and cause of the malfunction or breakdown;
 - time when the malfunction or breakdown is first observed;
 - expected duration; and
 - estimated rate of emissions;
 - ii. notify the Regional Supervisor or Director immediately when corrective measures have been accomplished; and
 - iii. submit to the Regional Supervisor or Director within 15 days a written report as described in 15A NCAC 02D .0535(f)(3).

I.B. Reporting Requirements for Permit Deviations [15A NCAC 02D .0535(f) and 02Q .0508(f)(2)]

1. **"Permit Deviations"** - for the purposes of this condition, any action or condition not in accordance with the terms and conditions of this permit including those attributable to upset conditions as well as excess emissions as defined above lasting less than four hours.
2. Pursuant to 15A NCAC 02Q .0508(f)(2), the Permittee shall report deviations from permit requirements (terms and conditions) quarterly by notifying the Regional Supervisor or Director of all other deviations from permit requirements not covered under 15A NCAC 02D .0535. A written report to the Regional Supervisor shall include the probable cause of such deviation and any corrective actions or preventative actions taken. The responsible official shall certify all deviations from permit requirements.

I.C. Other Requirements under 15A NCAC 02D .0535

The Permittee shall comply with all other applicable requirements contained in 15A NCAC 02D .0535, including 15A NCAC 02D .0535(c) as follows:

1. Any excess emissions that do not occur during start-up and shut-down shall be considered a violation of the appropriate rule unless the owner or operator of the sources demonstrates to the Director that the excess emissions are a result of a malfunction. The Director shall consider, along with any other pertinent information, the criteria contained in 15A NCAC 02D .0535(c)(1) through (7).
2. 15A NCAC 02D .0535(g). Excess emissions during start-up and shut-down shall be considered a violation of the appropriate rule if the owner or operator cannot demonstrate that excess emissions are unavoidable.

J. RESERVED [

K. Permit Renewal [15A NCAC 02Q .0508(e) and 02Q .0513(b)]

This 15A NCAC 02Q .0500 permit is issued for a fixed term not to exceed five years and shall expire at the end of its term. Permit expiration terminates the facility's right to operate unless a complete 15A NCAC 02Q .0500 renewal application is submitted at least six months before the date of permit expiration. If the Permittee or applicant has complied with 15A NCAC 02Q .0512(b)(1), this 15A NCAC 02Q .0500 permit shall not expire until the renewal permit has been issued or denied. Permit expiration under 15A NCAC 02Q .0400 terminates the facility's right to operate unless a complete 15A NCAC 02Q .0400 renewal application is submitted at least six months before the date of permit expiration for facilities subject to 15A NCAC 02Q .0400 requirements. In either of these events, all terms and conditions of these permits shall remain in effect until the renewal permits have been issued or denied.

L. **Need to Halt or Reduce Activity Not a Defense** [15A NCAC 02Q .0508(i)(4)]

It shall not be a defense for a Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

M. **Duty to Provide Information (submittal of information)** [15A NCAC 02Q .0508(i)(9)]

1. The Permittee shall furnish to the DAQ, in a timely manner, any reasonable information that the Director may request in **writing** to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit.
2. The Permittee shall furnish the DAQ copies of records required to be kept by the permit when such copies are requested by the Director. For information claimed to be confidential, the Permittee may furnish such records directly to the EPA upon request along with a claim of confidentiality.

N. **Duty to Supplement** [15A NCAC 02Q .0507(f)]

The Permittee, upon becoming aware that any relevant facts were omitted or incorrect information was submitted in the permit application, shall promptly submit such supplementary facts or corrected information to the DAQ. The Permittee shall also provide additional information as necessary to address any requirement that becomes applicable to the facility after the date a complete permit application was submitted but prior to the release of the draft permit.

O. **Retention of Records** [15A NCAC 02Q .0508(f) and 02Q .0508 (l)]

The Permittee shall retain records of all required monitoring data and supporting information for a period of at least five years from the date of the monitoring sample, measurement, report, or application. Supporting information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring information, and copies of all reports required by the permit. These records shall be maintained in a form suitable and readily available for expeditious inspection and review. Any records required by the conditions of this permit shall be kept on site and made available to DAQ personnel for inspection upon request.

P. **Compliance Certification** [15A NCAC 02Q .0508(n)]

The Permittee shall submit to the DAQ and the EPA (Air Enforcement Branch, EPA, Region 4, 61 Forsyth Street SW, Atlanta, GA 30303 or through the EPA CEDRI) postmarked on or before March 1 a compliance certification (for the preceding calendar year) by a responsible official with all terms and conditions in the permit, (including emissions limitations, standards, or work practices), except for conditions identified as being State-enforceable only. It shall be the responsibility of the current owner to submit a compliance certification for the entire year regardless of who owned the facility during the year. The compliance certification shall comply with additional requirements as may be specified under Sections 114(a)(3) or 504(b) of the Federal Clean Air Act. The compliance certification shall specify:

1. the identification of each term or condition of the permit that is the basis of the certification;
2. the compliance status (with the terms and conditions of the permit for the period covered by the certification);
3. whether compliance was continuous or intermittent;
4. the method(s) used for determining the compliance status of the source during the certification period;
5. each deviation and take it into account in the compliance certification; and
6. as possible exceptions to compliance, any periods during which compliance is required and in which an excursion or exceedance as defined under 40 CFR Part 64 (CAM) occurred.

Q. **Certification by Responsible Official** [15A NCAC 02Q .0520]

A responsible official shall certify the truth, accuracy, and completeness of any application form, report, or compliance certification required by this permit. All certifications shall state that based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

R. **Permit Shield for Applicable Requirements** [15A NCAC 02Q .0512]

1. Compliance with the terms and conditions of this permit shall be deemed compliance with applicable requirements, where such applicable requirements are included and specifically identified in the permit as of the date of permit issuance.
2. A permit shield shall not alter or affect:
 - a. the power of the Commission, Secretary of the Department, or Governor under NCGS 143-215.3(a)(12), or EPA under Section 303 of the Federal Clean Air Act;
 - b. the liability of an owner or operator of a facility for any violation of applicable requirements prior to the effective date of the permit or at the time of permit issuance;
 - c. the applicable requirements under Title IV; or

- d. the ability of the Director or the EPA under Section 114 of the Federal Clean Air Act to obtain information to determine compliance of the facility with its permit.
3. A permit shield does not apply to any change made at a facility that does not require a permit or permit revision made under 15A NCAC 02Q .0523.
4. A permit shield does not extend to minor permit modifications made under 15A NCAC 02Q .0515.

S. **Termination, Modification, and Revocation of the Permit** [15A NCAC 02Q .0519]

The Director may terminate, modify, or revoke and reissue this permit if:

1. the information contained in the application or presented in support thereof is determined to be incorrect;
2. the conditions under which the permit or permit renewal was granted have changed;
3. violations of conditions contained in the permit have occurred;
4. the EPA requests that the permit be revoked under 40 CFR 70.7(g) or 70.8(d); or
5. the Director finds that termination, modification, or revocation and reissuance of the permit is necessary to carry out the purpose of NCGS Chapter 143, Article 21B.

T. **Insignificant Activities** [15A NCAC 02Q .0503]

Because an emission source or activity is insignificant does not mean that the emission source or activity is exempted from any applicable requirement or that the owner or operator of the source is exempted from demonstrating compliance with any applicable requirement. The Permittee shall have available at the facility at all times and made available to an authorized representative upon request, documentation, including calculations, if necessary, to demonstrate that an emission source or activity is insignificant.

U. **Property Rights** [15A NCAC 02Q .0508(i)(8)]

This permit does not convey any property rights in either real or personal property or any exclusive privileges.

V. **Inspection and Entry** [15A NCAC 02Q .0508(l) and NCGS 143-215.3(a)(2)]

1. Upon presentation of credentials and other documents as may be required by law, the Permittee shall allow the DAQ, or an authorized representative, to perform the following:
 - a. enter the Permittee's premises where the permitted facility is located or emissions-related activity is conducted, or where records are kept under the conditions of the permit;
 - b. have access to and copy, at reasonable times, any records that are required to be kept under the conditions of the permit;
 - c. inspect at reasonable times and using reasonable safety practices any source, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit; and
 - d. sample or monitor substances or parameters, using reasonable safety practices, for the purpose of assuring compliance with the permit or applicable requirements at reasonable times.

Nothing in this condition shall limit the ability of the EPA to inspect or enter the premises of the Permittee under Section 114 or other provisions of the Federal Clean Air Act.

2. No person shall refuse entry or access to any authorized representative of the DAQ who requests entry for purposes of inspection, and who presents appropriate credentials, nor shall any person obstruct, hamper, or interfere with any such authorized representative while in the process of carrying out his official duties. Refusal of entry or access may constitute grounds for permit revocation and assessment of civil penalties.

W. **Annual Fee Payment** [15A NCAC 02Q .0508(i)(10)]

1. The Permittee shall pay all fees in accordance with 15A NCAC 02Q .0200.
2. Payment of fees may be by check or money order made payable to the N.C. Department of Environmental Quality. Annual permit fee payments shall refer to the permit number.
3. If, within 30 days after being billed, the Permittee fails to pay an annual fee, the Director may initiate action to terminate the permit under 15A NCAC 02Q .0519.

X. **Annual Emission Inventory Requirements** [15A NCAC 02Q .0207]

The Permittee shall report by **June 30 of each year** the actual emissions of each air pollutant listed in 15A NCAC 02Q .0207(a) from each emission source within the facility during the previous calendar year. The report shall be in or on such form as may be established by the Director. The accuracy of the report shall be certified by a responsible official of the facility.

- Y. **Confidential Information** [15A NCAC 02Q .0107 and 02Q .0508(i)(9)]
Whenever the Permittee submits information under a claim of confidentiality pursuant to 15A NCAC 02Q .0107, the Permittee may also submit a copy of all such information and claim directly to the EPA upon request. All requests for confidentiality must be in accordance with 15A NCAC 02Q .0107.
- Z. **Construction and Operation Permits** [15A NCAC 02Q .0100 and .0300]
A construction and operating permit shall be obtained by the Permittee for any proposed new or modified facility or emission source which is not exempted from having a permit prior to the beginning of construction or modification, in accordance with all applicable provisions of 15A NCAC 02Q .0100 and .0300.
- AA. **Standard Application Form and Required Information** [15A NCAC 02Q .0505 and .0507]
The Permittee shall submit applications and required information in accordance with the provisions of 15A NCAC 02Q .0505 and .0507.
- BB. **Financial Responsibility and Compliance History** [15A NCAC 02Q .0507(d)(3)]
The DAQ may require an applicant to submit a statement of financial qualifications and/or a statement of substantial compliance history.
- CC. **Refrigerant Requirements (Stratospheric Ozone and Climate Protection)** [15A NCAC 02Q .0501(d)]
 1. If the Permittee has appliances or refrigeration equipment, including air conditioning equipment, which use Class I or II ozone-depleting substances such as chlorofluorocarbons and hydrochlorofluorocarbons listed as refrigerants in 40 CFR Part 82 Subpart A Appendices A and B, the Permittee shall service, repair, and maintain such equipment according to the work practices, personnel certification requirements, and certified recycling and recovery equipment specified in 40 CFR Part 82 Subpart F.
 2. The Permittee shall not knowingly vent or otherwise release any Class I or II substance into the environment during the repair, servicing, maintenance, or disposal of any such device except as provided in 40 CFR Part 82 Subpart F.
 3. The Permittee shall comply with all reporting and recordkeeping requirements of 40 CFR 82.166. Reports shall be submitted to the EPA or its designee as required.
- DD. **Prevention of Accidental Releases - Section 112(r)** [15A NCAC 02Q .0508(h)]
If the Permittee is required to develop and register a Risk Management Plan with EPA pursuant to Section 112(r) of the Clean Air Act, then the Permittee is required to register this plan in accordance with 40 CFR Part 68.
- EE. **National Emission Standards Asbestos – 40 CFR Part 61, Subpart M** [15A NCAC 02D .1110]
The Permittee shall comply with all applicable standards for demolition and renovation activities pursuant to the requirements of 40 CFR Part 61, Subpart M. The permittee shall not be required to obtain a modification of this permit in order to perform the referenced activities.
- FF. **Title IV Allowances** [15A NCAC 02Q .0508(i)(1)]
This permit does not limit the number of Title IV allowances held by the Permittee, but the Permittee may not use allowances as a defense to noncompliance with any other applicable requirement. The Permittee's emissions may not exceed any allowances that the facility lawfully holds under Title IV of the Federal Clean Air Act.
- GG. **Air Pollution Emergency Episode** [15A NCAC 02D .0300]
Should the Director of the DAQ declare an Air Pollution Emergency Episode, the Permittee will be required to operate in accordance with the Permittee's previously approved Emission Reduction Plan or, in the absence of an approved plan, with the appropriate requirements specified in 15A NCAC 02D .0300.
- HH. **Registration of Air Pollution Sources** [15A NCAC 02D .0202]
The Director of the DAQ may require the Permittee to register a source of air pollution. If the Permittee is required to register a source of air pollution, this registration and required information will be in accordance with 15A NCAC 02D .0202(b).
- II. **Ambient Air Quality Standards** [15A NCAC 02D .0501(c)]
In addition to any control or manner of operation necessary to meet emission standards specified in this permit, any source of air pollution shall be operated with such control or in such manner that the source shall not cause the ambient air quality standards in 15A NCAC 02D .0400 to be exceeded at any point beyond the premises on which the source is located. When controls more stringent than named in the applicable emission standards in this permit are required to prevent violation of

the ambient air quality standards or are required to create an offset, the permit shall contain a condition requiring these controls.

JJ. General Emissions Testing and Reporting Requirements [15A NCAC 02Q .0508(i)(16)]

Emission compliance testing shall be by the procedures of Section .2600, except as may be otherwise required in Rules .0524, .1110, or .1111 of Subchapter 02D. If emissions testing is required by this permit or the DAQ or if the Permittee submits emissions testing to the DAQ to demonstrate compliance for emission sources subject to Rules .0524, .1110 or .1111, the Permittee shall provide and submit all notifications, conduct all testing, and submit all test reports in accordance with the requirements of 15A NCAC 02D .0524, .1110 or .1111, as applicable. Otherwise, if emissions testing is required by this permit or the DAQ or if the Permittee submits emissions testing to the DAQ to demonstrate compliance, the Permittee shall perform such testing in accordance with 15A NCAC 02D .2600 and follow the procedures outlined below:

1. The owner or operator of the source shall arrange for air emission testing protocols to be provided to the Director prior to air pollution testing. Testing protocols are not required to be pre-approved by the Director prior to air pollution testing. The Director shall review air emission testing protocols for pre-approval prior to testing if requested by the owner or operator at least **45 days** before conducting the test.
2. Any person proposing to conduct an emissions test to demonstrate compliance with an applicable standard shall notify the Director at least **15 days** before beginning the test so that the Director may at his option observe the test.
3. The owner or operator of the source shall arrange for controlling and measuring the production rates during the period of air testing. The owner or operator of the source shall ensure that the equipment or process being tested is operated at the production rate that best fulfills the purpose of the test. The individual conducting the emission test shall describe the procedures used to obtain accurate process data and include in the test report the average production rates determined during each testing period.
4. Two copies of the final air emission test report shall be submitted to the Director not later than **30 days** after sample collection unless otherwise specified in the specific conditions. The owner or operator may request an extension to submit the final test report. The Director shall approve an extension request if he finds that the extension request is a result of actions beyond the control of the owner or operator.
 - a. The Director shall make the final determination regarding any testing procedure deviation and the validity of the compliance test. The Director may:
 - i. Allow deviations from a method specified under a rule in this Section if the owner or operator of the source being tested demonstrates to the satisfaction of the Director that the specified method is inappropriate for the source being tested.
 - ii. Prescribe alternate test procedures on an individual basis when he finds that the alternative method is necessary to secure more reliable test data.
 - iii. Prescribe or approve methods on an individual basis for sources or pollutants for which no test method is specified in 15A NCAC 02D .2600 if the methods can be demonstrated to determine compliance of permitted emission sources or pollutants.
 - b. The Director may authorize the DAQ to conduct independent tests of any source subject to a rule in 15A NCAC 02D to determine the compliance status of that source or to verify any test data submitted relating to that source. Any test conducted by the Division of Air Quality using the appropriate testing procedures described in 15A NCAC 02D .2600 has precedence over all other tests.

KK. Reopening for Cause [15A NCAC 02Q .0517]

1. A permit shall be reopened and revised under the following circumstances:
 - a. additional applicable requirements become applicable to a facility with remaining permit term of three or more years;
 - b. additional requirements (including excess emission requirements) become applicable to a source covered by Title IV;
 - c. the Director or EPA finds that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit; or
 - d. the Director or EPA determines that the permit must be revised or revoked to assure compliance with the applicable requirements.
2. Any permit reopening shall be completed or a revised permit issued within 18 months after the applicable requirement is promulgated. No reopening is required if the effective date of the requirement is after the expiration of the permit term unless the term of the permit was extended pursuant to 15A NCAC 02Q .0513(c).
3. Except for the State-enforceable only portion of the permit, the procedures set out in 15A NCAC 02Q .0507, .0521, or .0522 shall be followed to reissue the permit. If the State-enforceable only portion of the permit is reopened, the procedures in 15A NCAC 02Q .0300 shall be followed. The proceedings shall affect only those parts of the permit for which cause to reopen exists.

4. The Director shall notify the Permittee at least 60 days in advance of the date that the permit is to be reopened, except in cases of imminent threat to public health or safety the notification period may be less than 60 days.
5. Within 90 days, or 180 days if the EPA extends the response period, after receiving notification from the EPA that a permit needs to be terminated, modified, or revoked and reissued, the Director shall send to the EPA a proposed determination of termination, modification, or revocation and reissuance, as appropriate.

LL. Reporting Requirements for Non-Operating Equipment [15A NCAC 02Q .0508(i)(16)]

The Permittee shall maintain a record of operation for permitted equipment noting whenever the equipment is taken from and placed into operation. When permitted equipment is not in operation, the requirements for testing, monitoring, and recordkeeping are suspended until operation resumes.

MM. Fugitive Dust Control Requirement [15A NCAC 02D .0540]

As required by 15A NCAC 02D .0540 "Particulates from Fugitive Dust Emission Sources," the Permittee shall not cause or allow fugitive dust emissions to cause or contribute to substantive complaints or excess visible emissions beyond the property boundary. If substantive complaints or excessive fugitive dust emissions from the facility are observed beyond the property boundaries for six minutes in any one hour (using Reference Method 22 in 40 CFR, Appendix A), the owner or operator may be required to submit a fugitive dust plan as described in 02D .0540(f).

"Fugitive dust emissions" means particulate matter from process operations that does not pass through a process stack or vent and that is generated within plant property boundaries from activities such as: unloading and loading areas, process areas, stockpiles, stock pile working, plant parking lots, and plant roads (including access roads and haul roads).

NN. Specific Permit Modifications [15A NCAC 02Q.0501 and .0523]

1. For modifications made pursuant to 15A NCAC 02Q .0501(b)(2), the Permittee shall file a Title V Air Quality Permit Application for the air emission source(s) and associated air pollution control device(s) on or before 12 months after commencing operation.
2. For modifications made pursuant to 15A NCAC 02Q .0501(c)(2), the Permittee shall not begin operation of the air emission source(s) and associated air pollution control device(s) until a Title V Air Quality Permit Application is filed and a construction and operation permit following the procedures of Section .0500 (except for Rule .0504 of this Section) is obtained.
3. For modifications made pursuant to 502(b)(10), in accordance with 15A NCAC 02Q .0523(a)(1)(C), the Permittee shall notify the Director and EPA (Air Permitting Branch, EPA, Region 4, 61 Forsyth Street SW, Atlanta, GA 30303 or through the EPA CEDRI in writing at least seven days before the change is made.
 - a. The written notification shall include:
 - i. a description of the change at the facility;
 - ii. the date on which the change will occur;
 - iii. any change in emissions; and
 - iv. any permit term or condition that is no longer applicable as a result of the change.
 - b. In addition to this notification requirement, with the next significant modification or Air Quality Permit renewal, the Permittee shall submit a page "E5" of the application forms signed by the responsible official verifying that the application for the 502(b)(10) change/modification, is true, accurate, and complete. Further note that modifications made pursuant to 502(b)(10) do not relieve the Permittee from satisfying preconstruction requirements.

OO. Third Party Participation and EPA Review [15A NCAC 02Q .0521, .0522 and .0525(7)]

For permits modifications subject to 45-day review by the federal EPA, EPA's decision to not object to the proposed permit is considered final and binding on the EPA and absent a third party petition, the failure to object is the end of EPA's decision-making process with respect to the revisions to the permit. The time period available to submit a public petition pursuant to 15A NCAC 02Q .0518 begins at the end of the 45-day EPA review period.