ROY COOPER
Governor
ELIZABETH S. BISER
Secretary
MICHAEL ABRACZINSKAS
Director

NORTH CAROLINA
Environmental Quality

MM DD, 2024

Christopher Markotich
Plant Manager
Pilkington, North America, Inc.
13121 South Rocky Ford Road
Laurinburg, NC 28352

SUBJECT: Air Quality Permit No. 03873T37
Facility ID: 8300027
Pilkington, North America, Inc.
Laurinburg
Scotland County
Fee Class: Title V
PSD Class: Major

Dear Mr. Markotich:

In accordance with your completed Air Quality Permit Application for the modification of your Title V permit, we are forwarding herewith Air Quality Permit No. 03873T37 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

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

Scotland County has triggered PSD Increment Tracking for PM_{10} and SO_2. Emission increases associated with this project were addressed in Permit No. 03873T35.

This Air Quality Permit shall be effective from MM DD, 2024 and shall expire on the earlier of MM DD, 2029 or the renewal of Permit No. 03873T35 has been issued or denied., 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@deq.nc.gov.

Sincerely yours,

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

Enclosure

c: Brad Akers, EPA Region 4 (Permit and Review)
Laserfiche (8300027)
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 the existing Air Permit No. 03873T36:*

Page No.	Section	Description of Changes
NA	Cover letter	• Updated to current responsible official, dates, permit revisions ,etc.
1	Permit Page 1	• Updated revision numbers, dates, etc.
4	Section 1	• Restored to the equipment list the following: Batch charging operation (Doghouse; ID No. ES-06) with fabric filter (ID No. CD-06). This source and control device was inadvertently removed from Section 1 during the issuance of revision no. T36. All other references to ES-06 and CD-06 had remained in the permit and were unaffected.
9	2.1 B	• Revised all permit conditions as necessary to make consistent with current permitting shell standards. No changes in intent were made unless addressed specifically below.
9	2.1 B.1	• 02D .0515 condition • Removed testing requirement at existing permit Section no. 2.1 B.1.b.ii.(A) as it has already been satisfied • Revised and renumbered remaining testing requirements. See permit review.
10	2.1 B.2	• 02D .0516 condition • Revised and renumbered testing requirements to reflect that 180 days since startup have elapsed. See permit review.
10	2.1 B.3	• 02D .0521 condition • Removed initial testing condition at existing permit Section no. 2.1 B.3.b.ii as it has already been satisfied. • Removed the establishment of "normal" visible emissions from the monitoring requirement at existing permit Section no. 2.1 B.3.c as it has already been satisfied.
11	2.1 B.5	• 02D .0530(u) condition • Revised and renumbered testing requirements to reflect that 180 days since startup have elapsed. See permit review.
12	2.1 B.6	• 02Q .0317 condition • Removed the following language at existing section no. 2.1 B.6.a.ii as it no longer applies: *"A consecutive 12-month period does not include any operation prior to the issuance of Permit No. 03873T35."* • Removed the following language at existing section no. 2.1 B.6.c.iv(B) as it no longer applies since the furnace has started up as of June 29, 2021. *For purposes of (iv)(A), monitoring and recordkeeping shall begin upon startup of the furnace after the issuance of Permit No. 03873T35. The 12-month rolling total periods will not include any month of operation prior to the issuance of Permit No. 03873T35.*
NA	2.1 B.7 (existing permit)	• This NSPS modification determination testing requirement has been satisfied. No NSPS modification was determined to have occurred. See permit review. This testing requirement was removed.
14	2. B.7 (revised permit)	• 02D .0501(c) condition • No substantial changes; just simple renumbering

51	Section 4	• 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 IV 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.(s)	Effective Date	Expiration Date
03873T37	NA	MM DD, 2024	MM DD, 2028*

*This permit shall expire on the earlier of XXXX, XX, XXXX or the renewal of Permit No. 03873T35 has been issued or denied.

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: **Pilkington, North America, Inc.**
Facility ID: **8300027**
Primary SIC Code: **3211 / Flat Glass**
NAICS Code: **327211 / Flat Glass Manufacturing**

Facility Site Location: **13121 South Rocky Ford Road**
City, County, State, Zip: **Laurinburg, Scotland County, North Carolina 28352**
Mailing Address: **13121 South Rocky Ford Road**
City, State, Zip: **Laurinburg, North Carolina 28352**

Application Number(s): **8300027.22A**
Complete Application Date: **May 23, 2022**

Division of Air Quality: **Fayetteville Regional Office**
Regional Office Address: **225 Green Street, Suite 714**
Fayetteville, North Carolina 28301-5043

Permit issued this the DD st day of MM, 2024

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

Table of Contents

List of Acronyms

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

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

The following 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
ES-01*	Natural gas-fired float glass melting furnace (39.0 tons per hour maximum draw rate and 300 million Btu per hour maximum heat input) with oxygen enrichment and water spray consisting of a melter, glass refiner, and annealing lehr	CD-01*	Pollution control system consisting of a catalyst embedded ceramic filter system with ammonia and dry hydrated lime injection
ES-02 **PSD**	Natural gas-fired float glass melting furnace (45.8 tons per hour maximum raw material input rate and 300 million Btu per hour maximum heat input), with oxygen enrichment, supplemental oxygen burners and water spray consisting of a melter, glass refiner, and annealing lehr	CD-02-3R	"3R" process for NOx control (on demand)
RAW MATERIAL UNLOADING, STORAGE, AND TRANSFER			
ES-03a[1]	Choke-fed truck/rail dump pit with a roof and two-sided enclosure	CD-03a	fabric filter with 678 square feet of filter area
ES-03c[1]	Raw material storage silo	CD-03ca	baghouse with at least 3,360 square feet of filter area
ES-03g[1]	Raw material storage silo	CD-03g	baghouse with at least 200 square feet of filter area
ES-04.c1[1]	Raw material and cullet mixing operations including: lower mixing section with batch material and cullet feeding	CD-05	fabric filter with 13,516 square feet of filter area
ES-04c.2[1]	Raw material and cullet mixing operations including: upper mixing section with batch cullet cross-over belts and turnouts	CD-19	fabric filter with 9,600 square feet of filter area
ES-06[1]	Batch charging operation (Doghouse)	CD-06	fabric filter with 5,385 square feet of filter area
ES-08[1]	Cold end cullet handling operation	CD-08	fabric filter with 24,384 square feet of filter area
ES-21[2] **CAM**	Float #1 cullet yard transfer and bin operation	CD-22[5]	fabric filter with 7,232 square feet of filter area
ES-17 **CAM**	Hot end cullet handling/ return operation	CD-17	fabric filter with 2,856 square feet of filter area
BATCH AND CULLET HANDLING OPERATIONS FOR FLOAT GLASS PRODUCTION LINE #2			
ES-04d.1[1] **PSD**	Raw material and cullet mixing operations including: a lower mixing section with batch material and cullet feeding and	CD-05	fabric filter with 13,516 square feet of filter area
ES-04d.2[1] **PSD**	Raw material and cullet mixing operations including: upper mixing section with batch cullet cross-over belts and turnouts	CD-19	fabric filter with 9,600 square feet of filter area
ES-07[1] **PSD**	Batch charging operation (Flopper)	CD-07	fabric filter with 13,516 square feet of filter area
ES-18[1] **PSD**	Cold end cullet handling operation	CD-18	fabric filter with 24,480 square feet of filter area
ES-22[3] **PSD, CAM**	Float #2 cullet yard transfer and bin operation	CD-22[5]	fabric filter with 7,232 square feet of filter area
ES-23[4] **PSD, CAM**	Hot end cullet handling/return operation	CD-23[5]	fabric filter with 7,450 square feet of filter area

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
COATING OPERATIONS			
ES-06b **CAM**	Low E glass coating operation	CD-06d CD-06e CD-06f	thermal oxidizer (9 million Btu per hour heat input capacity) lime neutralization process (minimum of 20 pounds of lime injection per hour) fabric filter with 3,876 square feet of filter area
CUTTING OPERATIONS			
ES-CL1	Line #1 Cutting Process	N/A	N/A
ES-CL2	Line #2 Cutting Process	N/A	N/A
BOILERS			
ES-B1 **MACT DDDDD**	Line #1 image automation natural gas-fired boiler (0.8 million Btu per hour maximum heat input; Teldyn HLM2933)	N/A	N/A
ES-B3 **MACT DDDDD**	Line #2 Low E process natural gas-fired boiler (3.35 million Btu per hour maximum heat input; Cleaver Brooks MN CB-700-80)	N/A	N/A
ES-B4 **MACT DDDDD**	Line #2 Image automation natural gas-fired boiler (0.6 million Btu per hour maximum heat input); Precision Boilers C00L13442	N/A	N/A
EMERGENCY GENERATORS			
EG-11 **NSPS IIII, MACT ZZZZ**	One diesel fuel-fired emergency generator (2922 brake horsepower)	N/A	N/A
EG-12 **NSPS IIII, MACT ZZZZ**	One diesel fuel-fired emergency generator (2922 brake horsepower)	N/A	N/A
EG-13* **NSPS IIII, MACT ZZZZ**	One diesel fuel-fired emergency generator (2,220 brake horsepower)	N/A	N/A
OTHER			
ES-12*	Liquified petroleum gas-fired back-up fuel system maintenance flare (25 million Btu per hour heat input)	N/A	N/A

[1] This equipment may operate while venting indoors during bagfilter maintenance.
[2] Emissions unit that was part of the original facility and subject to the 1979 PSD modification.
[3] Emissions unit that was part of the 1979 PSD addition of Float #2.
[4] Previously permitted as ID No. ES19
[5] Control device additions of the T24 permit revision to comply with BACT requirements of 1979 Float #2 source additions

* Pursuant to application no. 8300027.22B, these emission sources and control device (**ID No(s). ES-01, CD-01, ES-12, EG-13)** are listed as a 15A NCAC 02Q .0501(b)(2) modification. The Permittee shall file a Title V Air Quality Permit Application on or before 12 months after commencing operation of any of these sources or control devices in accordance with General Condition NN.1. The permit shield described in General Condition R does not apply and compliance certification as described in General Condition P is not required.

SECTION 2- SPECIFIC LIMITATIONS AND CONDITIONS

2.1- Emission Sources and Control Devices Specific Limitations and Conditions

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

A. Natural gas fired float glass melting furnace (with oxygen enrichment and water spray) consisting of a melter, glass refiner, and annealing lehr (ID No. ES-01) controlled by a pollution control system consisting of a catalyst embedded ceramic filter system with ammonia and dry hydrated lime injection (ID No. CD-01)

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

Pollutant	Limits/Standards	Applicable Regulation
Particulate Matter	$E=4.10 \times P^{0.67}$, for process rates $\leq$ 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	15A NCAC 02D .0516
Visible Emissions	20 percent opacity	15A NCAC 02D .0521
Toxic Air Pollutants	**State-enforceable only** **See Sections 2.2 A.1 and 2.2 A.2**	15A NCAC 02D .1100
Odors	**State-enforceable only** Odorous emissions must be controlled/prevented. **See Section 2.2 B.1**	15A NCAC 02D .1806
NA	Title V application required within one year of beginning operation. **See Section 2.2 E.1**	15A NCAC 02Q .0501(b)(2) 15A NCAC 02Q .0504
Ethyl Acetate, Ammonia	**State-enforceable only** **See Section 2.2 B.2**	15A NCAC 02Q .0711
Sulfur Dioxide, Nitrogen Oxides, Particulate Matter (filterable)	Emission limitations pursuant to the Consent Decree in the matter of *United States v. Pilkington North America, Inc.* (Civil Action No. 21CV40). **See Section 2.3**	15A NCAC 02Q .0308(a)(1)

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

a. Emissions of particulate matter from the float glass melting furnace (**ID No. ES-01**) shall not exceed an allowable emission rate as calculated by the following equations:

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

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

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

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

b. 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 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 .0515.

ii. Under the provisions of NCGS 143-215.108, the Permittee shall demonstrate compliance with the emission limit in Section 2.1 A.1.a above concurrently with the testing imposed at Section 2.3. If this testing requirement is not met, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515.

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

c. The following monitoring and recordkeeping requirements apply:
   i. 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. A.1.a above, can be derived and shall make these records available to a DAQ authorized representative upon request. .
   ii. The records shall include:
      (A) the date and approval status of the most recent source test conducted pursuant to Section 2.1 A.1.b above;
      (B) the production rate and product recipe name for the source test that was conducted; and
      (C) the maximum production rate achieved since the most recent source test conducted pursuant to Section 2.1 A.1.b 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)]

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

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

a. Emissions of sulfur dioxide from this furnace (**ID No. ES-01**) 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 emission 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 in this source.

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

a. Visible emissions from the float glass melting furnace (**ID No. ES-01**) 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 emission 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 [15A NCAC 02Q .0508(f)]

c. To ensure compliance, once a day the Permittee shall observe the emission points of the float glass melting furnace (**ID No. ES-01**) for any visible emissions above normal. The daily observation must be made for each day of the calendar year period to ensure compliance with this requirement. The Permittee shall be allowed three (3) days of absent observations per semi-annual period. The Permittee shall establish “normal” for this source in the first 30 days following startup after the completion of the Cold Repair Project as described in application no. 8300027.22B. If visible emissions from this source are observed to be above normal, the Permittee shall either:
   i. take appropriate action to correct the above-normal emissions as soon as practicable and within the monitoring period and record the action taken as provided in the recordkeeping requirements below, or
   ii. demonstrate that the percent opacity from the emission points of the emission source in accordance with 15A NCAC 02D .2610 (Method 9) for 12 minutes is below the limit given in Section 2.1 A.3.a above.

The Permittee shall be deemed to be in noncompliance with 15A NCAC 02D .0521 if the required daily observations are not conducted as required; if the above-normal emissions are not corrected within the monitoring period or the percent opacity demonstration cannot be made; or if "normal" is not established for this source in the first 30 days following startup after the completion of the Cold Repair Project as described in application no. 8300027.22B.

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 A.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.

B. Natural gas fired float glass melting furnace (with oxygen enrichment supplemental oxygen burners and water spray) consisting of a melter, glass refiner, and annealing lehr (ID No. ES-02) with 3R process for optional NOx control (ID No. CD-02-3R)

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

Pollutant	Limits/Standards	Applicable Regulation
Nitrogen Oxides	NOx emission limitations	15A NCAC 02D .0501(c)
Particulate Matter	$E=4.10 \times P^{0.67}$, for process rates $\leq$ 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	42.9 pounds per hour	15A NCAC 02D .0530
Sulfur Dioxide	0.5 pounds per million Btu heat input when firing natural gas	15A NCAC 02D .0530
Particulate Matter (PM, PM10, PM2.5), Sulfur Dioxide Sulfuric Acid Mist, Fluorides	testing, monitoring, recordkeeping and reporting to avoid PSD **See Section 2.2 B.1.**	15A NCAC 02D .0530(u)
Toxic Air Pollutants	**See Sections 2.2 A.1 and 2.** **State-enforceable only**	15A NCAC 02D .1100
Odors	Odorous emissions must be controlled/prevented. **See Section 2.2 B.1** **State-enforceable only**	15A NCAC 02D .1806
Nitrogen Oxides, Carbon Monoxide	**When producing LI glass:** NOx: 2039 tpy NOx and 121 tpy CO per 12-month period	15A NCAC 02Q .0317 (PSD Avoidance) for 15A NCAC 02D .0530
Ethyl Acetate	Facility-wide emission limit; **See Section 2.2 B.2** **State-enforceable only**	15A NCAC 02Q .0711

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

a. Emissions of particulate matter from the furnace (**ID No. ES-02**) shall not exceed an allowable emission rate as calculated by the following equations:

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

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

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

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

b. The following testing requirements apply:
   i. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ.
   ii. The Permittee shall demonstrate compliance with the emission limit in Section 2.1 B.1.a above by testing furnace melter (**ID No. ES-02**) when producing LI glass within 30 days of starting production of LI glass, unless an alternate date is approved by the DAQ.

iii. The Permittee shall demonstrate compliance with the emission limit in Section 2.1 B.1.a above on an annual basis by testing the furnace melter **(ID No. ES-02**). The testing shall be conducted within 13 months of the previous source test. If the results of this test are less than 80 percent of the emission limit in Section 2.1 B.1.a above, the Permittee shall only be required to test once every five years (within 61 months) following the previous source test. The testing requirement in ii above supersedes this requirement.

If the results of a test are above the limit given in Section 2.1 B.1.a above, or are not conducted as described above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515.

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

c. The following monitoring and recordkeeping requirements apply
   i. The Permittee shall maintain production records such that the process rates "P" in tons per hour, as specified by the formulas contained above, can be derived and shall make these records available to a DAQ authorized representative upon request.
   ii. The records shall include:
      (A). the date and approval status of the most recent source test conducted pursuant to Section 2.1 B.1.b above;
      (B) the production rate and product recipe name for the source test that was conducted; and
      (C) the maximum production rate achieved since the most recent source test conducted pursuant to Section 2.1 B.1.b 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)]

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

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

a. Emissions of sulfur dioxide from this furnace (**ID No. ES-02**) 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. The following testing requirements apply:
   i. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ.
   ii. The Permittee shall demonstrate compliance with the emission limit in Section 2.1 B.2.a above by testing the furnace melter (**ID No. ES-02**). The Permittee shall conduct the source test within 30 days of starting production of LI glass, unless an alternate date is approved by the DAQ.

If the results of a test are above the limit given in Section 2.1 B.2.a above, or are not conducted as described 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 is required for sulfur dioxide emissions from the firing of natural gas in this source.

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

a. Visible emissions from the furnace (**ID No. ES-02**) 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 B.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 a day the Permittee shall observe the emission points of the float glass melting furnace (**ID No. ES-02**) for any visible emissions above normal. The daily observation must be made for each day of the calendar year period to ensure compliance with this requirement. The Permittee shall be allowed three (3) days of

absent observations per semi-annual period. If visible emissions from this source are observed to be above normal, the Permittee shall either:

i. take appropriate action to correct the above-normal emissions as soon as practicable and within the monitoring period and record the action taken as provided in the recordkeeping requirements below, or
ii. demonstrate that the percent opacity from the emission points of the emission source in accordance with 15A NCAC 02D .2610 (Method 9) for 12 minutes is below the limit given in Section 2.1 B.3.a above.

The Permittee shall be deemed to be in noncompliance with 15A NCAC 02D .0521 if the required daily 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 B.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 .0530: PREVENTION OF SIGNIFICANT DETERIORATION

a. The Permittee shall not exceed the particulate and sulfur dioxide emissions limits listed below:

Emission Source	Pollutant	BACT Limits
float glass melting furnace **(ID No. ES-02)**	particulate matter	42.9 pounds per hour
	sulfur dioxide	0.5 pounds per million Btu heat input from the firing of natural gas

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.4.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530.

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

c. No monitoring/recordkeeping/reporting is required for sulfur dioxide or particulate matter emissions from the burning of natural gas in this source.

5. 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 modifications to the furnace (**ID No. ES-02**). This project is fully described in permit application no. 8300027.20A. 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 B.5.b through d below.

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

b. The following testing requirements apply:
   i. If emissions testing is required, the testing shall be performed in accordance General Condition JJ.
   ii. The Permittee shall test the furnace (**ID No. ES-02**) within 30 days of starting production of LI glass, unless an alternate date is approved by the DAQ. The testing shall be used to establish post-project emission factors for PM, PM10, PM2.5, and SO2 for LI glass.

The Permittee shall be deemed in noncompliance with 02D .0530 if these testing requirements are not met.

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

c. The following recordkeeping requirements apply:
   i. The Permittee shall maintain records of the actual emissions the pollutants listed in Table 2.1 B.5 below from the furnace (**ID No ES-02**). Records shall start and continue for five years following the resumption of operations after the modifications described in application no. 8300027.20A. The first year shall start on the first day of the first full calendar month after commencing regular operations after the modification described in permit application no. 8300027.20A. Each subsequent year shall include the same 12-month period.
   ii. The reported actual emissions (post-construction emissions) of the melter for each of the years (as defined in Section 2.1 B.5.c) shall be compared to the values in Table 2.1 B.5. The values in the table are the sum of the baseline emissions as reported in application no. 8300027.20A plus the PSD significance threshold for each pollutant.

Table 2.1 B.5

Pollutant	Projected Actual Emissions (tons per year)
NOx	2039
CO	121
PM	163
PM10	148
PM2.5	138
SO2	260
H2SO4	41

   iii. The projections in Table 2.1 B.5 are not enforceable limitations. If actual 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 these values.
   iv. 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).

The Permittee shall be deemed in noncompliance with 02D .0530 if these recordkeeping requirements are not met.

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

d. The following reporting requirements apply:
   i. The Permittee shall submit a report of the actual emissions from the furnace (ID No ES-02) of the pollutants identified in Table 2.1 B.5 to the Director within 60 days after the end of each year (as defined in Section 2.1 B.5.c) during which the records in Section 2.1 B.5.c must be generated. The report shall contain the items listed in 40 CFR 51.166(r)(6)(v)(a) through (c).
   ii. If the emissions of any pollutant exceed a value in Table 2.1 B.5, the Permittee shall also submit a revised applicability analysis for the project directly to the DAQ Permitting Section.

6. 15A NCAC 02Q .0317: AVOIDANCE CONDITIONS for 15A NCAC 02D. 0530: PREVENTION OF SIGNIFICANT DETERIORATION

a. The following apply:
   i. In order to avoid applicability of 15A NCAC 02D .0530(g) for major sources and major modifications for the furnace project described in application no. 8300027.20A, emissions from the furnace (**ID No. ES-02**) shall be less than the values in Table 2.1 B.6 in any consecutive 12-month period in which LI glass is produced.

Table 2.1 B.6

Pollutant	Emission Limitation (tons per year)
NOx	2039
CO	121

   ii. For any given month in which LI glass is produced, that given month is in 12 consecutive 12-month periods; starting with that month plus the preceding 11 months of furnace operation and ending with that month and the following 11 months of furnace operation.

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.6.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530.

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

c. The following monitoring and recordkeeping requirements apply:
   i. The Permittee shall install continuous emissions rate monitoring systems (CERMs) for nitrogen oxides and carbon monoxide. The CERMs shall be installed, calibrated, maintained, tested, and operated in accordance with 15A NCAC 02D .0613.
   ii. *Monitor downtime:*
   For each CEMS required in (i) above, the monitor downtime:
   (A) shall not exceed 5.0 percent of the operating time in a calendar quarter;
   (B) shall be calculated using the following equation:

$$\%MD = \left(\frac{\text{Total Monitor Downtime}}{\text{Total Source Operating Time}}\right) \times 100$$

   Where:

   - "Total Monitor Downtime" is the number of hours in a calendar quarter where an emission source was operating but data from the associated CEMS are invalid, not available, and/or or filled with missing data procedure.
   - "Total Source Operating Time" is the number of hours in a calendar quarter where the emission source associated with the CEMS was operating.
   - “Calendar Quarter”, is the three-month period between January and March, April and June, July and September, and September and December

   iii. *Missing Data Procedure:*
   The following procedure shall be followed during monitor downtime as defined in (ii) above. The Permittee shall substitute for each hour of data missing the greater of either (A) or (B):
   (A) the average of the hourly pollutant emission rates recorded by the appropriate CERMS of the hour before and the hour after the missing data period; or
   (B) the maximum hourly pollutant emission rate of the past 720 operating hours while operating under an “identical operating scenario”. For purposes of (B), an identical operating scenario is defined as the operating status of the 3R process (on or off) and the production status of glass (LI glass or non-LI glass) in a given hour as compared to the missing hour.
   The data substitution procedure shall be used whenever the emission unit is operating.
   iv. The Permittee shall monitor and maintain records for the NOx and CO emissions on an hourly, monthly and 12-month rolling total basis. Monthly emissions shall be determined by summing the hourly emissions for each calendar month utilizing the missing data procedure in (iii) above as necessary.
   v. The permittee shall maintain records that indicate:
   (A) types of glass produced per month;
   (B) monitor downtime per month and calendar year quarter;
   (C) furnace operating time per month and calendar year quarter;
   (D) in which of the 12-month rolling total periods the limits in Section 2.1 B.6.a apply.
   (E) the hourly operating status of the 3R process.
   vi. All records shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request.
   The Permittee shall be deemed in noncompliance with 02D .0530 if these requirements are not met or the NOx or CO emissions exceed the limits in Table 2.1 B.6.

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

d. The following reporting requirements apply:
   i. The Permittee shall submit a semi-annual summary report, acceptable to the Regional Air Quality Supervisor, of monitoring and recordkeeping activities postmarked on or before January 30 of each calendar year for the

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

ii. The report shall contain the following:
(A) the monthly NOx and CO emissions;
(B) the 12-month totals of the NOx and CO emissions for each of the six twelve-month periods over the previous seventeen months;
(C). the months in which LI glass was produced;
(D) the 12-month rolling total periods for which the limits in Section 2.1 B.6.a apply.
(E) Records of each CERMS monitoring system performance in the format approved by the DAQ Technical Services Section.

7. 15A NCAC 02D .0501(c): COMPLIANCE WITH NATIONAL AMBIENT AIR QUALITY STANDARDS

a. Pursuant to 15A NCAC 02D .0501(c), when controls more stringent than named in the applicable emission standards in Section .0500 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. To this end, the Permittee submitted permit application no 8300027.20A, which included a modeling demonstration showing compliance with the 1-hour and annual NO2 NAAQS using the allowable emission rates included in Table 2.1 B.7 below.

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

b. The Permittee shall be subject to the emission limitations for NO_x in Table 2.1 B.7 below.

Table 2.1 B.7

Source ID No.	Description	Estimated Maximum 1-hour Emission Rate, lb/hr	Allowable Emission Rate, lb/hr
ES01	Natural gas-fired float glass melting furnace	628	2009.6
ES02	Natural gas-fired float glass melting furnace	634	2028.8
B1	Line #1 image automation natural gas-fired boiler	0.08	0.08
B3	Line #2 Low E process natural gas-fired boiler	0.32	0.32
B4	Line #2 Image automation natural gas-fired boiler	0.06	0.06
IK1	Natural gas-fired glass heat soak oven	0.12	0.12
IEG8	Emergency use diesel fuel-fired compressor	0.62	0.62
IEG9	Emergency-use gasoline-fired generator	0.09	0.09
CD06d	thermal oxidizer	0.87	0.87
EG-11	Diesel fuel-fired emergency generator	2.41	2.41
EG-12	Diesel fuel-fired emergency generator	2.41	2.41
FS01a	Natural gas Lehr burners	0.04	0.04
FS01b	Natural gas Lehr burners	0.04	0.04

*IEG1 through IEG7 were not modeled based on less than 100 hrs per year historical operation

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

c. If emission 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.7.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0501.

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

d. The following monitoring and recordkeeping requirements apply:
   i. Given the margin of compliance of the modeling demonstration and the emission rates modeled, no monitoring or recordkeeping is required except as follows: For the furnace (**ID No. ES-02**), the Permittee shall meet the NOx monitoring and recordkeeping requirements for the PSD avoidance condition at Section 2.1 B.6.c above.

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

e. The following reporting requirements apply:
   i. The Permittee shall meet the NOx reporting requirements for the PSD avoidance condition at Section 2.1 B.6.d above.
   ii. The report shall also contain for each month the highest 1-hour NOx emission rate.

C. The following sources:

- **Float #1 cullet yard transfer and bin operation (ID No. ES-21) with fabric filter (ID No. CD-22)**
- **Raw material and cullet mixing operations (ID No. ES-04d) including:**
  - **a lower mixing section with batch material and cullet feeding with fabric filter (ID No. CD-05); and**
  - **upper mixing section with batch cullet cross-over belts and turnouts (ID No. CD-19)**
- **Batch charging operation (ID No. ES-07) with fabric filter (ID No. CD-07)**
- **Cold end cullet handling operation (ID No. ES-18) with fabric filter (ID No. CD-18)**
- **Float #2 cullet yard transfer and bin operation (ID No. ES-22) with fabric filter (ID No. CD-22)**
- **Hot end cullet handling/return operation (ID No. ES-23) with fabric filter (ID No. CD-23)**

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

Pollutant	Limits/Standards	Applicable Regulation
visible emissions	20 percent opacity	15A NCAC 02D .0521
particulate matter	0.8 pounds per hour total	15A NCAC 02D .0530
odors	Odorous emissions must be controlled/prevented. **See Section 2.2 B.2** **State-enforceable only**	15A NCAC 02D .1806
ethyl acetate	Facility-wide emission limit **See Section 2.2 B.1** **State-enforceable only**	15A NCAC 02Q .0711
PM10	Continuous Assurance Monitoring 40 CFR 64. **See Section 2.2 C.1**	15A NCAC 02D .0614

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

a. Visible emissions from these batch and cullet handling operations (**ID Nos. ES-04d, ES-07, ES-18, ES-21, ES-22, and ES-23**) 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 C.1. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521.

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

c. i. To ensure compliance, once a week the Permittee shall observe the emission points of the batch and cullet handling operations (**ID Nos. ES-04d, ES-07, ES-18, ES-21, ES-22, and ES-23**) 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:
   (A) take appropriate action to correct the above-normal emissions as soon as practicable and within the monitoring period and record the action taken as provided in the recordkeeping requirements below, or
   (B) demonstrate that the percent opacity from the emission points of the emission source in accordance with 15A NCAC 02D .2610 (Method 9) for 12 minutes is below the limit given in Section 2.1 C.2.a above.

ii. The Permittee shall be deemed to be in noncompliance with 15A NCAC 02D .0521 if:
   (A) the above-normal emissions are not corrected per c.i.(A) above;
   (B) the demonstration in c.i.(B) above cannot be made; or
   (C) the weekly observations are not conducted per c.i above.

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 B.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.

2. 15A NCAC 02D .0530: PREVENTION OF SIGNIFICANT DETERIORATION

a. In accordance with the Best Available Control Technology determination, the sum of particulate emissions from the following sources shall not exceed 0.8 pounds per hour.

   Batch and Cullet Handling Operations for Float Glass Production Line #2 including:
   i. raw material and cullet lower mixing section with batch material and cullet feeding and raw material and cullet upper mixing section with batch cullet cross-over belts and turnouts (**ID No. ES-04d**)
   ii. batch charging operation (**ID No. ES07, Flopper**)
   iii. cold end cullet handling operation (**ID No. ES18**)
   iv. Float #1 cullet yard transfer and bin operation (**ID No. ES21**),
   v. cullet yard transfer and bin operation (**ID No. ES22**), and
   vi. hot end cullet handling/return operation (**ID No. ES23**).

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 .0530.

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

c. Particulate matter emissions from the batch and cullet handling operations (**ID Nos. ES-04d, ES-07, ES-18, ES-21, ES-22, and ES-23**) shall be controlled by fabric filters **(ID Nos. CD-22, CD-05, CD-19, CD-07, CD-18, CD-22, and CD-23)** as described in Section 1. To ensure compliance, the Permittee shall perform inspections and maintenance as outlined in a site-specific maintenance and inspection plan. The plan shall consider operating experience, manufacturer's guidance and at a minimum shall include the following:
   i. weekly monitoring of the pressure drop indicator on each fabric filter during operation. The pressure drop across each bagfilter shall be maintained within the range that is determined to be acceptable for each bagfilter application taking into account operating conditions and manufacturer's recommendations;
   ii. a monthly visual inspection of the system ductwork and material collection unit for leaks; and
   iii. an annual (for each 12-month period following the initial inspection) internal inspection of the baghouse structural integrity and fabric filter condition.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530 if the ductwork and fabric filters are not inspected and maintained.

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

d. The results of inspections 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 including the weekly pressure drop;
   ii. the results of each bagfilter inspection;
   iii. the results of any maintenance performed on the bagfilters; and
   iv. any variance from manufacturer's recommendations, if any, and corrections made.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530 if these records are not maintained.

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

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

f. The Permittee shall submit a summary report of monitoring and recordkeeping activities given in Sections 2.1 C.2.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.

D. Low E glass coating operation (ID No. ES-06b) with thermal oxidizer (ID No. CD-06d) in series with lime neutralization process (ID No. CD-06e) in series with fabric filter (ID No. CD-06f)

The following table provides a summary of limits and standards for the emission source 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	15A NCAC 02D .0521
fluorides	less than 3 tons per year	15A NCAC 02Q .0317 (PSD Avoidance)
TAPs	**See Sections 2.2 A.1 and 2** **State-enforceable only**	15A NCAC 02D .1100
odors	Odorous emissions must be controlled/prevented. **See Section 2.2 B.1** **State-enforceable only**	15A NCAC 02D .1806
ethyl acetate	Facility-wide emission limit **See Section 2.2 B.2** **State-enforceable only**	15A NCAC 02Q .0711
PM10	Continuous Assurance Monitoring 40 CFR 64 **See Section 2.2 D.1**	15A NCAC 02D .0614

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

a. Emissions of particulate matter from the Low-E glass coating operation (**ID No. ES-06b**) shall not exceed an allowable emission rate as calculated by the following equations:

For P ≤ 30, **$E = 4.10 \times P^{0.67}$**

For P > 30, **$E = 55.0 \times P^{0.11} - 40$**

Where
E = allowable emissions 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 D.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 Low-E glass coating operation (**ID No. ES-06b**) following the lime neutralization process shall be controlled by one bagfilter **(ID Nos. CD-06f)** as described in Section 1. To ensure compliance, the Permittee shall perform inspections and maintenance as outlined in a site-specific maintenance and inspection plan. The plan shall consider operating experience, manufacturer's guidance and at a minimum shall include the following:
   i. Daily (for each day where the coating line is in operation) monitoring of the pressure drop indicator on each bagfilter during operation. The pressure drop across the bagfilter shall be maintained within the range that is determined to be acceptable for the bagfilter application taking into account operating conditions and manufacturer's recommendations;
   ii. A monthly visual inspection of the system ductwork and material collection unit for leaks; and
   iii. An annual (for each 12-month period following the initial inspection) internal inspection of the bagfilters' structural integrity.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515 if the ductwork and bagfilters 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 any control device; and
iv. any variance from manufacturer's recommendations, if any, and corrections made.

The Permittee shall be deemed in noncompliance with 15A NCAC 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 any control device within 30 days of a written request by the DAQ.
f. The Permittee shall submit a summary report of the monitoring and recordkeeping activities given in Sections 2.1 D.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 Low-E glass coating operation (**ID No. ES-06b**) 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 emission 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 .0521.

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

c. i. To ensure compliance, once a month, the Permittee shall observe the emission points of the Low-E glass coating operation (**ID No. ES-06b**) for any visible emissions above normal. The monthly observation must be made for each month of the calendar year period to ensure compliance with this requirement. If visible emissions from this source are observed to be above normal, the Permittee shall either:
(A) take appropriate action to correct the above-normal emissions as soon as practicable and within the monitoring period and record the action taken as provided in the recordkeeping requirements below, or
(B) demonstrate that the percent opacity from the emission points of the emission source in accordance with 15A NCAC 02D .2610 (Method 9) for 12 minutes is below the limit given in Section 2.1 D.2.a (or b) above.

ii. The Permittee shall be deemed to be in noncompliance with 15A NCAC 02D .0521 if:
(A) the above-normal emissions are not corrected per c.i.(A) above;
(B) the demonstration in c.i.(B) above cannot be made;
(C) the monthly observations are not conducted per c.i above.

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 D.2.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.

3. 15A NCAC 02Q .0317: AVOIDANCE CONDITIONS for 15A NCAC 02D. 0530: PREVENTION OF SIGNIFICANT DETERIORATION

a. In order to avoid applicability of 15A NCAC 02D .0530(g) for major sources and major modifications, the Low-E glass coating operation (**ID No. ES-06b**) shall discharge into the atmosphere less than 3 tons of fluorides (as fluorine, excluding hydrogen fluoride), per consecutive 12-month period.

b. To ensure fluoride emissions do not exceed 3 tons for any consecutive 12-month period, the following restrictions shall apply:
   i. The maximum fluoride input into the coating operations shall not exceed 172 pounds per hour and 1,000,000 pounds per consecutive 12-month period.
   ii. Emissions from coating operations (**ID No. ES-06b**) shall each be controlled by a thermal oxidizer **(ID No. CD-06d)** in series with a lime neutralization process **(ID No. CD-06e)** and bagfilter **(ID No. CD-06f)**.

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

c. If emissions testing is required, the Permittee shall perform such testing in accordance and General Condition JJ. If the results of this test are above the limit given in Section 2.1 D.3.a., the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530.

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

d. Fluoride emissions from the Low-E glass coating operation (**ID No. ES-06b**) shall be controlled by a thermal oxidizer, a lime neutralization system, and a bagfilter **(ID Nos. CD-06d, CD-06e, and CD-06f)** as described in Section 1. 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 reading of the lime feed rate of each lime neutralization system once every 24 hours when the associated coating line is in operation to ensure the five-minute average injection rate is a minimum of 20 pounds per hour;
   ii. A reading of the temperature gauge in the second half of the thermal oxidizer once every 24 hours when the associated coating line is in operation to ensure the combustion temperature remains above 1400 °F;
   iii. Monitoring of the pressure drop indicator on each bagfilter once every 24 hours when the associated coating line is in operation. The pressure drop across each bagfilter shall be maintained within the range established and documented by the bagfilter manufacturer;
   iv. A monthly visual inspection of the system ductwork and material collection units for leaks when the associated coating line is in operation; and
   v. An annual (for each 12-month period following the initial inspection) internal inspection of the structural integrity of the thermal oxidizers, the heat exchangers and dry reactors associated with the lime neutralization system, and the bagfilters.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530 if the ductwork, thermal oxidizers, lime neutralization systems, and bagfilters are not inspected and maintained.

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

e. The results of inspections 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 thermal oxidizers, lime neutralization systems, and bagfilters; and
   iv. any variance from manufacturer's recommendations, if any, and corrections made.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530 if these records are not maintained.

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

f. The Permittee shall submit the results of any maintenance performed on the thermal oxidizers, lime neutralization equipment, and bagfilters within 30 days of a written request by the DAQ.

g. The Permittee shall submit a summary report of the monitoring and recordkeeping activities given in Section 2.1 D.3.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. The report shall contain the following:
   i. The monthly fluoride emissions from the coating operations (**ID No. ES-06b**) for the previous 17 months. The emissions must be calculated for each of the 12-month periods over the previous 17 months;

ii. The monthly quantities of fluoride used in the coating operations (**ID No. ES-06b**) for the previous 17 months. The quantities must be calculated for each of the 12-month periods over the previous 17 months.
iii. All instances of deviations from the requirements of this permit must be clearly identified.

E. The following sources:

- **Choke-fed truck/rail dump pit with a roof and two-sided enclosure (ID No. ES-03a) with fabric filter (ID No. CD-03a)**
- **Raw material storage silo (ID No. ES-03c) with fabric filter (ID No. CD-03ca)**
- **Raw material storage silo (ID No. ES-03g) with fabric filter (ID No. CD-03g)**
- **Raw material and cullet mixing operations (ID No. ES-04c) including:**
  - **lower mixing section with batch material and cullet feeding with fabric filter (ID No. CD-05) and**
  - **upper mixing section with batch cullet cross-over belts and turnouts with fabric filter (ID No. CD-19)**
- **Batch charging operation (Doghouse; ID No. ES-06) with fabric filter (ID No. CD-06)**
- **Cold end cullet handling operation (ID No. ES-08) with fabric filter (ID No. CD-08)**
- **Hot end cullet handling/ return operation (ID No. ES-17) with fabric filter (ID No. CD-17)**

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

Pollutant	Limits/Standards	Applicable Regulation
particulate matter	$E=4.10 \times P^{0.67}$, for process rates $\leq$ 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	15A NCAC 02D .0521
odors	Odorous emissions must be controlled/prevented. **See Section 2.2 B.1** **State-enforceable only**	15A NCAC 02D .1806
ethyl acetate	Facility-wide emission limit **See Section 2.2 B.2** **State-enforceable only**	15A NCAC 02Q .0711
PM10	**(ID No. ES-17 only)** Continuous Assurance Monitoring 40 CFR 64 **See Section 2.2 D.1**	15A NCAC 02D .0614

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

a. Emissions of particulate matter from the raw material unloading, storage, and transfer operations **(ID Nos. ES-03a, ES-03c, and ES-03g**), and the batch and cullet handling operations (**ID Nos. ES-04c, ES-06, ES-08, and ES-17**) shall not exceed an allowable emission rate as calculated by the following equations:

For P ≤ 30, **$E = 4.10 \times P^{0.67}$**

For P > 30, **$E = 55.0 \times P^{0.11} - 40$**

Where
E = allowable emissions 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 [15A NCAC 02Q .0508(f)]

c. Particulate matter emissions from these sources (**ID Nos. ES-03a, ES-03c, ES-03g, ES-04c, ES-06, ES-08, and ES-17)** are controlled by eight bagfilters **(ID Nos. CD-03a, CD-03ca, CD-03g, CD-05, CD-19, CD-06, CD-08, CD-17)** as described in Section 1. To ensure compliance, the Permittee shall perform inspections and maintenance as

outlined in a site-specific maintenance and inspection plan. The plan shall consider operating experience, manufacturer's guidance and at a minimum shall include the following:

i. Weekly monitoring of the pressure drop indicator on each bagfilter during operation. The pressure drop across each bagfilter shall be maintained within the range that is determined to be acceptable for each bagfilter application taking into account operating conditions and manufacturer's recommendations;
ii. A monthly visual inspection of the system ductwork and material collection unit for leaks; and
iii. An annual (for each 12-month period following the initial inspection) internal inspection of the bagfilters' structural integrity.

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

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

d. The results of inspections and maintenance shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:
   i. The date and time of each recorded action;
   ii. The results of each inspection;
   iii. The results of any maintenance performed on the bagfilters; and
   iv. Any variance from manufacturer's recommendations, if any, and corrections made.
e. The Permittee shall keep a record of the total filter area of the bagfilters **CD-03ca and CD-03g**.
   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 bagfilters within 30 days of a written request by the DAQ.
g. The Permittee shall submit a summary report of monitoring and recordkeeping activities given in Sections 2.1 E.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 raw material unloading, storage, and transfer operations **(ID Nos. ES-03a, ES-03c, and ES-03g)** and the batch and cullet handling operations (**ID Nos. ES-04c, ES-06, ES-08, and ES-17**) 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 emission 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 .0521.

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

c. i. To ensure compliance, once a week, the Permittee shall observe the emission points of the raw material unloading, storage, and transfer operations **(ID Nos. ES-03a, ES-03c, and ES-03g)** and the batch and cullet handling operations (**ID Nos. ES-04c, ES-06, ES-08, and ES-17**) 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:
   (A) take appropriate action to correct the above-normal emissions as soon as practicable and within the monitoring period and record the action taken as provided in the recordkeeping requirements below, or
   (B) demonstrate that the percent opacity from the emission points of the emission source in accordance with 15A NCAC 02D .2610 (Method 9) for 12 minutes is below the limit given in Section 2.1 E.2.a above.

   ii. The Permittee shall be deemed to be in noncompliance with 15A NCAC 02D .0521 if:
   (A) the above-normal emissions are not corrected per c.i.(A) above;
   (B) the demonstration in c.i.(B) above cannot be made; or
   (C) the weekly observations are not conducted per c.i above.

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 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.

F. Lines #1 and #2 Cutting Processes (ID No. ES-CL1 and ES-CL2):

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

Pollutant	Limits/Standards	Applicable Regulation
odors	Odorous emissions must be controlled/prevented. See Section 2.2 B.2. **STATE ENFORCEABLE ONLY**	15A NCAC 02D .1806
ethyl acetate	Facility-wide emission limit; see Section 2.2 B.1. **STATE ENFORCEABLE ONLY**	15A NCAC 02Q .0711

G. The following boilers:

- **Line #1 natural gas-fired boiler (ID No. ES-B1)**
- **Line #2 Low E natural gas-fired boiler (ID No. ES-B3)**
- **Line #2 Image Automation natural gas-fired boiler (ID No. ES-B4)**

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

Pollutant	Limits/Standards	Applicable Regulation
Particulate Matter	0.60 pounds per million Btu	15A NCAC 02D .0503
Sulfur Dioxide	2.3 pounds per million Btu	15A NCAC 02D .0516
Visible Emissions	20% opacity	15A NCAC 02D .0521
Hazardous Air Pollutants	**(ID No. ES-B3 only)** MACT emission standards **See Section 2.1 G.4**	15A NCAC 02D .1111 (40 CFR Part 63 Subpart DDDDD)
Odors	Odorous emissions must be controlled/prevented. **See Section 2.2 B.1** **State-enforceable only**	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 affected boilers **(ID Nos. ES-B1, ES-B3, and ES-B4)** into the atmosphere shall not exceed 0.60 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 General Condition JJ. If the results of this test are above the limits given in Section 2.1 G.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 these sources.

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

a. Emissions of sulfur dioxide from the affected boilers **(ID Nos. ES-B1, ES-B3, and ES-B4)** 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 02DGeneral 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 natural gas from the firing of natural gas in these sources.

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

a. Visible emissions from the affected boilers **(ID Nos. ES-B1, ES-B3, and ES-B4)** 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/Recordkeeping/Reporting [15A NCAC 02Q .0508(f)]

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

4. 15A NCAC 02D .1111: MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY (40 CFR Part 63, Subpart DDDDD) (ID No. ES-B3 only)

Applicability [40 CFR 63.7485, .7490(d), .7499(l)]

a. i. For the boiler **ID Nos. ES-B3** (*existing units 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 [§63.7575]

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

40 CFR Part 63 Subpart A General Provisions [§63.7565]

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.

Compliance Date [§63.7510(e), 63.56(b)]

d. The Permittee shall complete the initial tune up and the one-time energy assessment no later than May 20, 2019. *This requirement has been met.*

Notifications [§63.7545(e)(8), §63.7530(e),(f)]

e. The Permittee shall submit a Notification of Compliance Status. *This requirement has been met*.

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

f. i. The Permittee shall conduct a tune-up of the boiler every five years 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 (you may delay the inspection until the next scheduled unit shutdown)'
   (D) Optimize total emissions of carbon monoxide. 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 carbon monoxide in parts per million, by volume, and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). Measurements may be taken using a portable CO analyzer.

   [40CFR 63.7500(a), (e), 63.7540(a)(12)]

ii. Each 5-year tune-up shall be conducted no more than 61 months after the previous tune-up. [40CFR 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. [§63.7540(a)(13), 63.7515(g)]
iv. At all times, you must 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.[§63.7500(a)(3)]
v. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the requirements in Section 2.1 G.4.f are not met.

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

g. The Permittee shall have a one-time energy assessment performed by a qualified energy assessor. *This requirement has been met.*

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

h. 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 §63.10(b)(2)(xiv). [§63.7555(a)(1)]
ii. maintain on-site and submit, if requested by the Administrator, a report containing the information in paragraphs (A) through (C) below:
(A) The concentrations of carbon monoxide in the effluent stream in parts per million by volume, and oxygen in volume percent, measured at high fire or typical operating load, before and after 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.
[§63.7540(a)(10)(vi)]
iii. the associated records for Section 2.1 G.4.f.
iv. keep:
(A) maintain records in a form suitable and readily available for expeditious review;
(B) keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record; and
(C) keep each record on site for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record. The Permittee can keep the records offsite for the remaining 3 years.
[§63.7560, 63.10(b)(1)]
v. be deemed in noncompliance with 15A NCAC 02D .1111 if records are not maintained as described in Section 2.1 G.4.h.

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

i. 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.[§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/).) You must use the appropriate electronic report in CEDRI for this subpart. Instead of using the electronic report in CEDRI for this subpart, you may 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, you must submit the report to the Administrator at the appropriate address listed in §63.13. You must begin submitting reports via CEDRI no later than 90 days after the form becomes available in CEDRI. [§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) Include the date of the most recent tune-up for each unit required according to Section 2.1 G.4.f. Include the date of the most recent burner inspection if it was not done as scheduled 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.

[§63.7550(a) and (c), Table 9]

iv. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the reporting requirements in Section 2.1 G.4.i are not met.

H. The following emergency generators:

- **One diesel fuel-fired emergency generator (2,922 brake horsepower) (ID No.EG-11)**
- **One diesel fuel-fired emergency generator (2,922 brake horsepower) (ID No.EG-12)**
- **One diesel fuel-fired emergency generator (2,220 brake horsepower) (ID No.EG-13)**

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

Pollutant	Limits/Standards	Applicable Regulation
Visible Emissions	20% opacity	15A NCAC 02D .0521
Various	NSPS Subpart IIII	15A NCAC 02D .0524
Hazardous Air Pollutants	Meet the requirements of NSPS Subpart IIII	15A NCAC 02D .1111 (40 CFR Part 63 Subpart ZZZZ)
Odors	Odorous emissions must be controlled/prevented. **See Section 2.2 B.1** **State-enforceable only**	15A NCAC 02D .1806
NA	**(ID No. EG-13 only)** Title V application required within one year of beginning operation. **See Section 2.2 E.1**	15A NCAC 02Q .0501(b)(2) 15A NCAC 02Q .0504

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

a. Visible emissions from these engines 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.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 visible emissions from the firing of diesel fuel in these sources.

2. 15A NCAC 02D .0524: NEW SOURCE PERFORMANCE STANDARDS

Applicability [40 CFR 60.4200(a)(2)(i)]

a. For these engine(s), the Permittee shall comply with all applicable provisions, including the requirements for emission standards, notification, testing, reporting, record keeping, and monitoring, contained in Environmental Management Commission Standard 15A NCAC 02D .0524 "New Source Performance Standards (NSPS)" as promulgated in 40 CFR Part 60 Subpart III “Standards of Performance for Stationary Compression Ignition Internal Combustion Engines” including Subpart A "General Provisions."

Definitions and Nomenclature

b. For the purposes of this permit condition, the definitions and nomenclature contained in 40 CFR 60.4219 shall apply.

General Provisions

c. The Permittee shall comply with the General Provisions of 40 CFR 60 Subpart A as presented in Table 8 of 40 CFR 60 Subpart IIII. [40 CFR 60.4218]

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

d. The Permittee shall comply with the emission standards 40 CFR 60.4202 for all pollutants, for the same model year and maximum engine power for this engine. [40 CFR 60.4205(b)]

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

e. The Permittee shall use diesel fuel in the engine that meets the requirements of 40 CFR 1090.305 including:
   i. a maximum sulfur content of 15 ppm; and
   ii. a minimum cetane index of 40 or a maximum aromatic content of 35 volume percent.
   [40 CFR 60.4207(b)]

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

f. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limits given in Section 2.1 H.2.d and e above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524.

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

g. The engine has the following monitoring requirements:
   i. The engines shall be equipped with a non-resettable hour meter prior to startup. [40 CFR 60.4209(a)]
   ii. The engine, if equipped with a diesel particulate filter, must be installed with a backpressure monitor that notifies the owner or operator when the high backpressure limit of the engine is approached. [40 CFR 60.4209(b)]

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

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

h. The Permittee shall:
   i. operate and maintain the engines and control devices according to the manufacturer's emission related-written instructions over the entire life of the engine;
   ii. change only those emission-related settings that are permitted by the manufacturer; and
   iii. meet the requirements of 40 CFR 89, 94 and/or 1068 as applicable.
   [40 CFR 60.4206 and 60.4211(a)]

i. The Permittee shall comply with the emission standards in Section 2.1 H.2.d by purchasing an engine certified to the emission standards in Section 2.1 H.2.d for the same model year and maximum engine power. The engine shall be installed and configured according to the manufacturer's emission-related specifications. [40 CFR 60.4211(c)]

j. In order for the engine to be considered an emergency stationary internal combustion engine (ICE) as defined in Section 2.1 H.2.b, any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year, as described below, is prohibited.
   i. There is no time limit on the use of emergency stationary ICE in emergency situations.
   ii. The Permittee may operate the emergency stationary ICE for any combination of the purposes specified in paragraph (A) below for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by paragraph (iii) below counts as part of the 100 hours per calendar year allowed by this paragraph (ii).
      (A) Emergency stationary ICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency ICE beyond 100 hours per calendar year.
   iii. Emergency stationary ICE may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing provided in paragraph (ii) above. Except as provided in paragraph (A) below, the 50 hours per calendar year for non- emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity.
      (A) The 50 hours per year for non-emergency situations can be used to supply power as part of a financial arrangement with another entity if all of the following conditions are met:

(1) The engine is dispatched by the local balancing authority or local transmission and distribution system operator;
(2) The dispatch is intended to mitigate local transmission and/or distribution limitations so as to avert potential voltage collapse or line overloads that could lead to the interruption of power supply in a local area or region.
(3) The dispatch follows reliability, emergency operation or similar protocols that follow specific NERC, regional, state, public utility commission or local standards or guidelines.
(4) The power is provided only to the facility itself or to support the local transmission and distribution system.
(5) The owner or operator identifies and records the entity that dispatches the engine and the specific NERC, regional, state, public utility commission or local standards or guidelines that are being followed for dispatching the engine. The local balancing authority or local transmission and distribution system operator may keep these records on behalf of the engine owner or operator.

[40 CFR 60.4211(f)]

k. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524 if the compliance requirements in Section 2.1 H.2.h through j are not met.

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

l. The following records shall be maintained:
   i. The results of inspection and maintenance made pursuant to Section 2.1 H.2.h 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:
      (A) the date and time of each recorded action;
      (B) the results of each inspection;
      (C) the results of any maintenance performed on the engine;
      (D) any variance from manufacturer's recommendations, if any, and corrections made;
      (E) the hours of operation of the engine in emergency and non-emergency service that are recorded through the non-resettable hour meter. The owner must record the time of operation of the engine and the reason the engine was in operation during that time [40 CFR 60.4214(b)]; and
      (F) if a PM filter is used, records of any corrective action taken after the backpressure monitor has notified the owner or operator that the high backpressure limit of the engine is approached [40 CFR 60.4214(c)];
   ii. documentation from the manufacturer that the engine is certified to meet the emission standards in Section 2.1 H.2.d; and
   iii. records showing the fuel combusted meets the requirements in Section 2.1 H.2.e.

   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)]

m. The Permittee shall meet the following reporting requirements:
   i. The Permittee shall submit a summary report of monitoring and recordkeeping activities postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of noncompliance with the requirements of this permit shall be clearly identified.
   ii. If the Permittee owns or operates an emergency stationary CI ICE with a maximum engine power more than 100 HP that operates for the purposes specified in Section 2.1 H.2.j.iii.(A), the Permittee shall submit an annual report according to the requirements at 40 CFR 60.4214(d). This report must be submitted to the Regional Supervisor and directly to the EPA pursuant to 40 CFR 60.4214(d)(3). [40 CFR 60.4214(d)] The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524 if this reporting requirement is not met.

3. 15A NCAC 2D .1111: MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY

Applicability [40 CFR 63.6585, 63.6590(a)(2)(i)]

a. For these emission sources (*new 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

b. Pursuant to §63.6590(b)(1)(i), these emergency RICE do not have to meet the requirements of 40 CFR 63 Subpart ZZZZ and Subpart A except for the initial notification requirements of 40 CFR 63.6645(f).

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

c. Pursuant to 40 CFR 63.6645(c) and (f), the Permittee shall submit an initial notification for each source in accordance with 40 CFR 63.6590(b), no later than 120 calendar days after construction of each source and include the information in 40 CFR 63.9(b)(2)(i) through (iv) and a statement that the stationary RICE has no additional requirements and explain the basis of the exclusion. *The notification requirements were met in the submittal of permit application no. 8300027.20A for ID Nos. EG-11 and EG-12 and application no. 8300027.22B for ID No. EG-13.*

I. Liquified petroleum gas (LPG)-fired back-up fuel system maintenance flare (25 million Btu per hour heat input) (ID No. ES-12)

The following table provides a summary of limits and standards for the emission sources 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	20% opacity	15A NCAC 02D .0521
Odors	Odorous emissions must be controlled/prevented. **See Section 2.2 B.1** **State-enforceable only**	15A NCAC 02D .1806
NA	Title V application required within one year of beginning operation. **See Section 2.2 E.1**	15A NCAC 02Q .0501(b)(2) 15A NCAC 02Q .0504

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

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

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

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

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

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

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

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

c. The Permittee shall maintain production records such that the process rates "P" in tons per hour, as specified by the formulas contained above, can be derived and shall make these records available to a DAQ authorized representative upon request.

d. No reporting is required for particulate emissions from this source.

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

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

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

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

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

c. No monitoring/recordkeeping/reporting is required for sulfur dioxide emissions from the firing of LPG in this source.

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

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

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

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

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

c. No monitoring/recordkeeping/reporting is required for visible emissions from the firing of LPG in these sources.

2.2 Multiple Emission Sources Specific Limitations and Conditions

A. The following sources:

- **Two natural gas-fired float glass furnaces (ID Nos. ES-01 and ES-02)**
- **Low E glass coating operation (ID No. ES-06b) with thermal oxidizer (ID No. CD-06d) in series with lime neutralization process (ID No. CD-06e) in series with fabric filter (ID No. CD-06f)**

State-enforceable only

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

a. In accordance with the approved application for an air toxic compliance demonstration (approved September 26, 2006), the following permit limits shall not be exceeded:

EMISSION SOURCE	TOXIC AIR POLLUTANTS	EMISSION LIMITS	
Furnace 75F1 **(ID No. ES-01)**	Benzene	26,017	pounds per year
	Sulfuric Acid	152	pounds per hour
		1,077	pounds per day
	n-Hexane	6,768	pounds per day
	Soluble Chromate Compounds, as Chromium (VI) Equivalent	72	pounds per day
Furnace 75F2 **(ID No. ES-02)**	Benzene	26,017	pounds per year
	Sulfuric Acid	229	pounds per hour
		1,617	pounds per day
	n-Hexane	6,768	pounds per day
	Soluble Chromate Compounds, as Chromium (VI) Equivalent	72	pounds per day
Low E Glass Coating Operation **(ID No. ES-06b)**	n-Hexane	432	pounds per day

Testing [15A NCAC 02D .0611]

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

Monitoring/Recordkeeping/Reporting [15A NCAC 02D .0611]

c. In all cases the potential TAP emission rates for this facility during normal operations are significantly less than the permitting emission limits provided above. No monitoring/recordkeeping/reporting is required to demonstrate compliance with the TAP emissions limitations provided above.

State-enforceable only

2. 15A NCAC 02D .1100: CONTROL OF TOXIC AIR POLLUTANTS

a. In accordance with the application for an air toxic compliance demonstration (approved on September 30, 2011), the following permit limits shall not be exceeded:

ID No.	Emission Source	Pollutant (CAS No.)	Allowable Emission Rates
ES-01	Furnace No.1	Hydrogen chloride (7641-01-0)	9.49 pounds per hour
		Hydrogen fluoride (7664-39-3)	6.81 pounds per hour
			45.7 pounds per 24 hours
		Fluorides (NA)	4.8 pounds per hour
			17.1 pounds per 24 hours

ID No.	Emission Source	Pollutant (CAS No.)	Allowable Emission Rates
ES-02	Furnace No. 2	Hydrogen chloride (7641-01-0)	9.61 pounds per hour
		Hydrogen fluoride (7664-39-3)	6.81 pounds per hour
			45.7 pounds per 24 hours
		Fluorides (NA)	4.8 pounds per hour
			17.1 pounds per 24 hours
ES-06b	Low E glass coating operation	Hydrogen chloride (7641-01-0)	5.53 pounds per hour
		Hydrogen fluoride (7664-39-3)	2.04 pounds per hour
			13.3 pounds per 24 hours
		Fluorides (NA)	2.16 pounds per hour
			7.6 pounds per 24 hours

Testing [15A NCAC 02D .0611]

b. i. The Permittee has demonstrated initial compliance with the emission limits listed in Section 2.2 A.2.a. (test reference number 2014-059ST).
ii. If additional emissions testing is required, the testing shall be performed in accordance General Condition JJ.

Monitoring [15A NCAC 02D .0611]

c. To ensure toxic air pollutant emissions do not exceed the emissions limits in Section 2.2.A.2.a. above, the following restrictions shall apply:
i. The maximum fluoride input into the coating operation (**ID No. ES-06b**) shall not exceed 172 pounds per hour and 1,000,000 pounds per consecutive 12-month period.
ii. Emissions from the coating operation (**ID No. ES-06b**) shall be controlled as described in Table 2.2.A. above.

d. The Permittee shall perform inspections, maintenance and recordkeeping in accordance with the monitoring requirements given in Section 2.1. D.3.d. above.

Recordkeeping [15A NCAC 02D .0611]

e. The Permittee shall maintain chemical usage records in a logbook (written or electronic format) as necessary to determine compliance with the limits given in 2.2.A.2.a. above. The Permittee shall maintain these records for a period of five years from the date of recording.

Reporting [15A NCAC 02D .0611]

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

g. The Permittee shall submit a summary report of monitoring and recordkeeping activities given in Sections 2.2 A.2.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.

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.

State-enforceable only

2. 15A NCAC 02Q. 0711: EMISSION RATES REQUIRING A PERMIT

a. The facility shall be operated and maintained in such a manner that emissions of toxic air pollutants (TAPs), excluding those TAPs permitted pursuant to 15A NCAC 02D .1100, do not exceed the toxic pollutant emission rates (TPERs) listed in 15A NCAC 02Q .0711. Regulated TAPs and associated TPERs include the following:

Emission Sources	Toxic Air Pollutants	TPER
facility-wide sources	ethyl acetate	36 pounds per day
	ammonia	2.84 pounds per hour

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

b. 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.

C. Sources affected by Section 112(r) of the Clean Air Act

1. 15A NCAC 02D .2100: RISK MANAGEMENT PROGRAM

a. The Permittee is subject to Section 112(r) of the Clean Air Act and shall comply with all applicable requirements in 15A NCAC 02D .2100, "Risk Management Program," as promulgated in 40 CFR Part 68.

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

b. The Permittee submitted an update to the Risk Management Plan (RMP) to EPA pursuant to 40 CFR 68.150 on September 3, 2014.

c. The Permittee shall revise and update the RMP submitted under 40 CFR 68.150 no later than September 1, 2019, and at least every five years after that date or most recent update as required by 40 CFR 68.190(b)(2) through (b)(7), whichever is later.

d. When the Permittee submits the Annual Compliance Certification required by General Condition P, the Permittee shall include a statement that the facility is in compliance with all requirements of 15A NCAC 02D .2100, including the registration and submission of the risk management plan.

D. The following CAM-affected sources

- **Float #1 cullet yard transfer and bin operation (ID No. ES-21) with fabric filter (ID No. CD-22)**
- **Float #2 cullet yard transfer and bin operation (ID No. ES-22) with fabric filter (ID No.CD-22)**
- **Hot end cullet handling/ return operation (ID No. ES-17) with fabric filter (ID No. CD-17)**
- **Hot end cullet handling/return operation (ID No. ES-23) with fabric filter (ID No. CD-23)**
- **Low E glass coating operation (ID No. ES-06b) with thermal oxidizer (ID No. CD-06d) in series with lime neutralization process (ID No. CD-06e) in series with fabric filter (ID No. CD-06f)**

1. 15A NCAC 02D .0614: COMPLIANCE ASSURANCE MONITORING

a. In order to assure compliance with 15A NCAC 02D .0515 and .0530, the Permittee shall operate the emission sources with the associated control devices listed in Section 2.3 B.

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

b. The Permittee shall comply with the monitoring approach as included in the following Table:

A. General Criteria		
1. Indicators	1. Pressure drop (ΔP) across bagfilters	2. Visible emissions
2. Measurement Approach	ΔP across the filters is continuously measured with differential pressure gauges	Visible emissions from the control equipment will be monitored daily using EPA Reference Method 22-like procedures
3. Indicator Range	Excursions trigger an inspection and corrective action. An excursion is defined as:	
	any operating condition where ΔP is less than 0.5" H_2O or greater than 10" H_2O.	the presence of visible emissions
4. Quality Improvement Plan (QIP) Threshold	Six excursions within a 6-month period.	Visible emissions for more than 30 minutes 3 times within a 6-month period
B. Performance Criteria		
1. Data Representativeness	Pressure taps are located at the control device inlet and outlet. The gauges have a minimum accuracy of 0.5" H_2O.	VE measurements are made at the emission points of the control devices
2. QA/QC Practices and Criteria	The pressure gauges are checked daily for operation according to manufacturer's criteria for operation and maintenance.	The observer will be familiar with Reference Method 22 and follow Method 22-like procedures.
3. Monitoring Frequency	Daily	
4. Data Averaging Period	n/a	
5. Data Collection	All readings are recorded daily	

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

d. The Permittee shall submit a summary report of all monitoring activities postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified. The report shall also include the following information, as applicable:

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

E. The following sources:

- **Natural gas-fired float glass melting furnace (ID No. ES-01)**
- **Diesel fuel-fired emergency generator (ID No. EG-13)**
- **Liquified petroleum gas-fired fired back-up fuel system maintenance flare (ID No. ES-12)**

1. 15A NCAC 02Q .0504: OPTION FOR OBTAINING CONSTRUCTION AND OPERATION PERMIT

Permitting [15A NCAC 02Q .0504(d)]

a. Pursuant to 15A NCAC 02Q .0501(b)(2), for completion of the two-step significant modification process initiated by application No. 8300027.22B, the Permittee shall file an amended application following the procedures of Section 15A NCAC 02Q .0500 within one year from the date of commencing operation of any of these sources.

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

c. The Permittee shall notify the Regional Office in writing of the date of beginning operation of any of the sources listed above postmarked no later than 30 days after such date.

2.3- Other Applicable Requirements

A. Float Glass Melting Furnace 1 (ID No. ES-01)

1. 15A NCAC 02Q .0308(a)(1)

a. The conditions in this Section are incorporated into the Title V permit as required pursuant to paragraphs 36 and 37 of the Consent Decree in the matter of *United States v. Pilkington North America, Inc.* (Civil Action No. 21CV40). The Date of Entry of this Consent Decree is April 26, 2021. A copy of the Consent Decree is included as an Attachment to this Title V permit.

i. Terms used in this Section 2.3 A.1 that are defined in the Clean Air Act (CAA) or in regulations promulgated pursuant to or authorized by the Act shall have the meanings assigned to them in the Act or such regulations, unless otherwise provided in Section III, *Definitions,* of the Consent Decree (Attachment). The definitions in Section III of the Consent Decree as used in this Section 2.3 A.1 shall survive the termination of the Consent Decree.

ii. All obligations contained in this Section 2.3 A.1 are subject to the following Sections of the Consent Decree until the termination of the Consent Decree: Section X, *Force Majeure*, Section XI, *Dispute Resolution*, Section XII, *Information*, *Collection and Retention*, Section XVIII, *Retention of Jurisdiction*, Section XIX, *Modification*, and Section XX, *Termination*. When the requirements of these Sections in the Consent Decree conflict with the requirements of Section 4, *General Conditions,* of the Title V permit, the requirements in the Consent Decree shall control until the termination of the Consent Decree.

iii. References to the Consent Decree with respect to the origin of the requirements below will be shown as follows: [CD Paragraph.Subparagraph]

NOx: Operating Restrictions and Emission Limitations [15A NCAC 02Q .0308(a)(1)]

Final NO_x Emission Controls for Furnace 1

b. Each Operating Day after March 31, 2023, or after Furnace 1 undergoes a Cold Tank Repair, whichever is earlier, Pilkington shall not Operate Furnace 1 without passing all stack gases through an SCR or a Ceramic Filter System except as set forth in **Sections 2.3 A.1.e through g** below in compliance with the following:

i. the SCR or Ceramic Filter System must be designed for a removal efficiency of at least 90%; and

ii. Pilkington shall operate the SCR or Ceramic Filter System in accordance with the vendor recommendations in order to minimize emissions to the extent practicable, including consideration of Ammonia Slip.

[CD 8.a]

Final NOx Emission Limits for Furnace 1

c. The Day after re-certification of the CEMS under Section IV.E following the next Cold Tank Repair or March 31, 2023, whichever first occurs, Pilkington shall comply with an 80% 30-day Rolling Average NO_x Removal Efficiency Limit at Furnace 1, except as provided in **Sections 2.3 A.1.e through g** below. No demonstration of compliance is required until Pilkington has Operated for thirty Operating Days after the compliance date in Table 3.

Table 3: Furnace 1 Final NO_x Emission Limit and Compliance Date

Emission Control	Final NO_x Emission Limit	Compliance Date	Compliance Demonstration
SCR or Ceramic Filter System	30-day Rolling Average NO_x Removal Efficiency Limit of 80 percent	The Day after re- certification of the CEMS under Section IV.E [*of the Consent Decree*] following the next Cold Tank Repair or March 31, 2023,whichever is earlier	On and after the 30th Operating Dayafter the Compliance Date

[CD 8.b]

d. Except as provided otherwise herein, Pilkington shall monitor NO_x emissions from Furnace 1 continuously using a NO_x CEMS and shall calculate a new 30- day Rolling Average NO_x Removal Efficiency Rate for each new Operating Day using a NO_x CEMS. [CD 8.c]

NO_x Limit during Furnace Startup

e. For no more than the forty-five Days allowed for Furnace Startup, the Furnace 1 exhaust may bypass the SCR or Ceramic Filter System to avoid having the operating inlet temperature of the SCR or Ceramic Filter System fall below its operational range. During these bypass Days, Pilkington shall burn no more than five million standard cubic feet of natural gas in Furnace 1 per Day. When technically feasible and available, Pilkington shall operate the SCR or Ceramic Filter System on the Furnace 1 exhaust. [CD 8.d]

NO_x Limit during Control Device Startup or Control Device Malfunction

f. For any Operating Day that the SCR or Ceramic Filter System does not operate or is not operating normally because of the Control Device Startup or Malfunction of the Control Devices for any period of time, Pilkington may exclude that Day's Removal Efficiency from the 30-day Rolling Average NO_x Removal Efficiency Rate. During the Day(s) excluded from the 30-day Rolling Average NO_x Removal Efficiency Rate, the 24-hour Block Emission Rate from Furnace 1 shall not exceed the 24-hour Block limit listed in Table 4 below, as demonstrated using a CEMS.

Table 4:
Furnace 1 NO_x Emission Limits During Days Where the SCR or Ceramic Filter System Is Not Operating Pursuant to Section 2.3 A.1.f

Type of Glass Being Produced	$NO_{x\ W/o\ SCR}$ (lb/Day)
Non-Low-Iron Glass Batch Production Day	15,538 lbs/Day
Low-Iron Glass Batch Production Day	21,154 lbs/Day

[CD 8.e]

NO_x Limit during Maintenance of Control Devices

g. For any Operating Day where Maintenance activities on a Control Device are performed, Pilkington may exclude the Maintenance Day from the 30-day Rolling Average NO Removal Efficiency Rate. For any Day that is excluded from the 30-day Rolling Average NO_x Removal Efficiency Rate, the 24-hour Block Emission Rate from Furnace 1 shall not exceed the following 24-hour Block limit, as demonstrated using a CEMS:

$$NO_{x\ Control\ Device\ Maint} = \frac{MH \times NO_{x\ w/o\ SCR}}{24} + \frac{NH \times NO_{x\ w/o\ SCR} \times 0.2}{24}$$

Where:
$NO_{x\ Control\ Device\ Maint}$ = NO_x emission limit for a Furnace during Maintenance of the Control Device, in pounds per Day
$NO_{x\ w/o\ SCR}$ = NO_x limit from Table 4 during Days where the SCR or Ceramic Filter System is not operating
MH = Hours of Maintenance
NH = Normal Hours = 24 – MH

[CD 8.f]

SO2: Operating Restrictions and Emission Limitations [15A NCAC 02Q .0308(a)(1)]

Final SO_2 Emission Controls for Furnace 1

h. Each Operating Day after March 31, 2023 or after Furnace 1 undergoes a Cold Tank Repair, whichever is earlier, Pilkington shall not Operate Furnace 1 without passing all stack gases through a DS or a Ceramic Filter System, except as provided in **Section 2.3 A.1.k through l**. [CD 10.a]

Final SO_2 Emission Limits for Furnace 1

i. The Day after re-certification of the CEMS under Section IV.E following the next Cold Tank Repair or March 31, 2023, whichever first occurs, Pilkington shall not exceed a 30-day Rolling Average Emission Limit of 1.2 lbs of SO_2 per Ton of glass produced, except as provided in **Section 2.3 A.1.k through n**. No demonstration of compliance is required until Pilkington has operated for thirty Operating Days after the compliance date in Table 6 below.

Table 6: Furnace 1 Final SO_2 Emission Limit and Compliance Date

Emission Control	Emission Limit	Compliance Date	Compliance Demonstration
DS or Ceramic Filter System	1.2 lbs of SO_2 per Ton of glass produced	The Day after certification of the CEMS under Section IV.E [*of the Consent Decree*] following the next major Cold Tank Repair or March 31, 2023, whichever is earlier	On and after the 30th Operating Day after the Compliance Date

[CD 10.b]

j. Except as provided otherwise herein, Pilkington shall monitor SO_2 emissions from Furnace 1 continuously using an SO_2 CEMS and shall calculate a new 30-day Rolling Average Emission Rate for each new Operating Day using an SO_2 CEMS. [CD 10.c]

SO_2 Limit during Furnace Startup

k. For the forty-five Days allowed for Furnace Startup, Furnace 1 exhaust may bypass the DS or the Ceramic Filter System to avoid having the operating inlet temperature of the DS or the Ceramic Filter System fall below its operational range during Furnace Startup. During these bypass Days, Pilkington shall burn no more than five million standard cubic feet of natural gas in Furnace 1 per Day. When technically feasible and available, Pilkington shall operate the DS or Ceramic Filter System on the Furnace 1 exhaust. [CD 10.d]

SO_2 Limit during Control Device Startup or Malfunction of the DS, PD, or the Ceramic Filter System

l. For any Operating Day that the DS or Ceramic Filter System does not operate or is not operating normally because of Control Device Startup or Malfunction of the DS, PD, or the Ceramic Filter System for any period of time, Pilkington may exclude the emissions generated during that Operating Day (or Days) from Furnace 1 from the 30-day Rolling Average Emission Rate for SO2. During the Day(s) excluded from the 30-day Rolling Average Emission Rate, the 24-hour Block Emission Rate from Furnace 1 shall not exceed the following 24-hour Block limit, as demonstrated using a CEMS: 2,500 lbs of SO_2 per Day. During Malfunction of an SCR installed on Furnace 1, Pilkington shall pass all stack gases through the Furnace 1 DS.

Table 7: Furnace 1 SO_2 Emission Limits During Days Where the DS or Ceramic Filter System Is Not Operating Pursuant to Section 2.3 A.1.l

Furnace	$SO_{2\ w/o\ DS}$ (lb/Day)
Furnace 1	2,500 lbs/Day

[CD 10.e]

SO_2 Limit during Maintenance of the DS or PD, or the Ceramic Filter System

m. For any Operating Day when Maintenance is performed on the DS or PD, or the Ceramic Filter System for Furnace 1, Pilkington may exclude the emissions generated during that Operating Day (or Days) from Furnace 1 from the 30-day Rolling Average Emission Rate for SO_2. During the Day(s) excluded from the 30- day Rolling Average Emission Rate, the 24-hour Block Emission Rate from Furnace 1 shall not exceed the following 24-hour Block limit, as demonstrated using a CEMS:

$$SO_{2\ Scrub\ Maint} = \frac{MH \times 2{,}500}{24} + \frac{NH \times \left[\frac{P}{0.35}\right]}{24}$$

Where:
- $SO_{2\ Scrub\ Maint}$ = SO_2 emission limit (in pounds per Day) for Furnace 1 during Maintenance of the DS or PD, or the Ceramic Filter System.
- 2,500 = As defined in Table 7, SO_2 emission limit for Furnace 1 (with DS or Ceramic Filter System) during an event where the DS or Ceramic Filter System is not operating, in pounds per Day
- P = Furnace-specific production threshold as defined in Table 11, in Tons of glass produced per Day
- MH = Hours of Maintenance
- NH = Normal Hours = 24 – MH

[CD 10.f]

SO_2 Limit during Abnormally Low Production Rate Days

n. When Furnace 1 is Operating at an Abnormally Low Production Rate, Pilkington may exclude the SO_2 emissions generated during that Operating Day (or Days) from the 30-day Rolling Average Emissions Rate. During the Days excluded from the 30-day Rolling Average Emissions Rate, the 24-hour Block Emission Rate from Furnace 1 shall not exceed the following 24-hour Block limit, as demonstrated using a CEMS:

$$SO_{2\ Abn} = 1.2 \frac{lb\ SO_2}{ton} \times \left[\frac{P}{0.35}\right]$$

Where: $SO_{2\ Abn}$= SO_2 emission limit (in pounds per Day) for Furnace 1, during an Abnormally Low Production Rate Day.
P = Furnace 1 specific production threshold as defined in Table 11, in Tons of glass produced per Day.

[CD 10.g]

PM: Operating Restrictions and Emission Limitations [15A NCAC 02Q .0308(a)(1)]

Final PM Emission Controls for Furnace 1

o. On and after March 31, 2023, or after Furnace 1 undergoes a Cold Tank Repair, whichever is earlier, Pilkington shall not Operate Furnace 1 without passing all stack gases through a PD or Ceramic Filter System, except during Furnace Startup; Control Device Startup; Malfunction of the PD or Ceramic Filter System; or Maintenance of the PD or Ceramic Filter System. During Malfunction or Maintenance of the SCR or DS installed on Furnace 1, Pilkington shall pass all stack gases through the PD. [CD 12.a]

Final PM Emission Limit for Furnace 1

p. Except as provided otherwise herein, on and after March 31, 2023, or after Furnace 1 undergoes a Cold Tank Repair, whichever is earlier, Pilkington shall comply with the emission limit of 0.45 lb of PM per Ton of glass produced during the Operation of Furnace 1.

Table 9: Furnace 1 Final PM Emission Limit and Compliance Date

Emission Control	Emission Limit	Compliance Date
PD or Ceramic Filter System	0.45 lb of PM per Ton of glass produced	March 31, 2023, or after Furnace 1 undergoes a Cold Tank Repair, whichever is earlier.

[CD 12.b]

PM Testing Requirements

q. Compliance with the final PM emission limits at Furnace 1 shall be demonstrated through stack tests using EPA Test Method 5 (40 C.F.R. Part 60, Appendix A-3). Pilkington shall conduct an initial stack test on Furnace 1 by no later than July 1, 2023, and subsequent stack tests on an annual basis (between eleven and thirteen calendar months following the prior stack test) unless two consecutive annual stack tests show that Furnace 1's PM emissions are at or below 50% of the emission limit, in which case Pilkington shall not be required to conduct a stack test for the next year, but Pilkington must conduct a stack test within the second year. At no time may the interval between stack tests exceed twenty-five months. If a stack test shows that Furnace 1's PM emissions exceed 50% of the emission limit, Pilkington must resume annual stack tests until it again has two consecutive annual stack tests with emissions at or below 50% of the emission limit. [CD 12.b]

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

r. Pilkington shall install, calibrate, certify, maintain, and operate NOx CEMS and SO_2 CEMS on Furnace 1 in accordance with the requirements found under **Section 2.3 A.1.s** and by no later than the dates listed in Table 10.

Table 10: CEMS Compliance Deadlines for Furnace 1

NOx CEMS Outlet Deadline	NOx CEMS Inlet Deadline	SO_2 CEMS Deadline
180 Days from the Effective Date	Upon startup of Furnace 1 after the rebuild or March 31, 2023, whichever is earlier.	180 Days from the Effective Date

[CD 15]

s. Except as provided otherwise herein, Pilkington shall install, calibrate, certify, maintain, and operate all NOx and SO_2 CEMS in accordance with the following requirements:
   i. NOx and SO_2 CEMS shall continuously monitor and record the hourly NOx and SO_2 emission concentrations (in parts per million (ppm)) during each Operating Day at the Furnace.
   ii. NOx and SO_2 CEMS shall be installed, calibrated, certified, maintained, and operated in accordance with 40 C.F.R. § 60.13, 40 C.F.R. Part 60, Appendix B (Performance Specification 2), and 40 C.F.R. Part 60, Appendix F (Quality Assurance Procedures).
   iii. Events that will trigger subsequent CEMS Certification include any Furnace Startup or Control Device Startup. Pilkington shall commence such subsequent CEMS Certification no later than forty-five Days after Furnace Startup commences or the Day after a Control Device Startup period concludes. If a Furnace Startup and a Control Device Startup happen at the same time, then the subsequent CEMS Certification shall not be conducted until the first Operating Day after the conclusion of the Furnace Startup period or the Control Device Startup period, whichever is later.

   [CD 16]

t. Where the Consent Decree requires the use of CEMS to determine an emission rate or compliance with an emission rate (i.e., pounds per Ton, or pounds per Day), the data acquisition and handling system for the CEMS shall convert the ppm values into pounds per hour values using an O_2 CEMS or a flow monitor installed, calibrated, certified, maintained, and operated in accordance with 40 C.F.R. § 60.13, 40 C.F.R. Part 60, Appendix B (Performance Specification 2 or 6, as applicable) and 40 C.F.R. Part 60, Appendix F (Quality Assurance Procedures). At the end of each Operating Day, the data acquisition and handling system shall divide the 24-hour Block Emission Rate by the total Tons of glass produced during the Operating Day to describe the pound per Ton emission rate for the Operating Day. The resulting number shall be recorded in units of pounds of pollutant per Ton of glass produced for the applicable Operating Day. [CD 17]

CEMS Certification and CEMS Certification Events

u. Pilkington shall not perform any CEMS Certification (initial or subsequent) during Abnormally Low Production Rate Days, Furnace Startup, Control Device Startup, Malfunction of any Control Device, or Maintenance of any Control Device. By no later than the first Operating Day after any CEMS Certification Event concludes at a Furnace, a new CEMS Certification or subsequent CEMS Certification shall be initiated for that Furnace. If a CEMS Certification Event occurs at either Furnace, the requirement to demonstrate compliance continuously with the applicable final NOx or SO_2 emission limit for that Furnace will be suspended until CEMS Certification or subsequent CEMS Certification is complete (provided that the seven-day test required for CEMS Certification is commenced on the first Operating Day following the conclusion of the CEMS Certification Event). [CD 18]

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

Good Air Pollution Control Practices.

v. At all times, including during Abnormally Low Production Rate Days, Furnace Startup, Control Device Startup, Malfunction, and Maintenance, Pilkington shall maintain and operate Furnace 1, all Control Devices, and any other associated air pollution control equipment in accordance with 40 C.F.R. § 60.11(d). [CD 19]

Scheduled or Preventive Furnace Maintenance

w. Scheduled and preventive Maintenance on Furnace 1, including checker-raking and burning, shall not exceed ninety-six hours annually. Only scheduled or preventive Maintenance hours that occur during an Operating Day covered by the 24-hour Block Emission Rate for Maintenance (rather than the 30-day Rolling Average Emission Rate) count towards the ninety-six hour annual limit. Scheduled and preventative Maintenance on Furnace 1 shall be

conducted only when Pilkington is operating downstream Control Devices required by this Consent Decree. [CD 20.a]

Scheduled or Preventive Maintenance on Control Devices

x. Any Operating Day that is exempted from the applicable 30-day Rolling Average Emission Rate, or the 30-Day Rolling Average NOx Removal Efficiency Rate because of scheduled or preventive Maintenance being performed on a Control Device is subject to the following restrictions and must comply with the following requirements: scheduled or preventive Maintenance of Control Devices shall occur and shall be completed while the Furnace connected to the Control Device(s) is not Operating, unless the Furnace connected to the Control Device(s) is scheduled to have a Continuous Operating Year. During a Continuous Operating Year, scheduled or preventive Maintenance on the Control Device(s) may be conducted while the Furnace connected to the Control Device(s) is Operating. All Control Device Maintenance occurring during a Continuous Operating Year must also be performed in accordance with the following requirement:
   i. Bypass of any Control Device for the purpose of scheduled or preventive Maintenance shall not exceed 144 total hours per Calendar Year, per Control Device.
   ii. Bypass of the SCR required as a result of bypassing the PD or DS shall count towards the 144 hour limit for the SCR.
   iii. Bypass of the DS required as a result of bypassing the PD shall count towards the 144 hour limit for the DS.
   iv. Bypass of the PD required as a result of bypassing the DS shall count towards the 144 hour limit.

   [CD 20.b]

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

y. The following testing requirements apply:
   i. All source/stack tests required by the Consent Decree shall be conducted in accordance with the requirements of the specified Test Method and shall be performed under representative Operating conditions or applicable state requirements for Furnace 1. Each test shall be comprised of at least three valid one- hour stack test runs. Pilkington shall discard any invalid test runs, such as those that are compromised because of sample contamination. If a test run is discarded, Pilkington shall report the results of the discarded test runs to EPA and shall provide all information necessary to document why the test run was not valid. Pilkington shall replace the discarded test run with an additional valid test run unless EPA, in its discretion, approves a written request from Pilkington to determine Consent Decree compliance based on the two other test runs that were not discarded. Source/stack testing shall not be conducted during Abnormally Low Production Rate Days, a Furnace Startup, a Control Device Startup, a Malfunction of the Furnace or relevant Control Device, or Maintenance of the Furnace or relevant Control Device. [CD 21]
   ii. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ.

Emission Credit Generation Requirements [15A NCAC 02Q .0308(a)(1)]

Prohibitions

z. Pilkington shall neither generate nor use any CD Emissions Reductions: as netting reductions; as emissions offsets; or to apply for, obtain, trade, or sell any emission reduction credits. For projects achieving CD Emissions Reductions, and projects implemented concurrently with or after either projects, controls, or actions achieving CD Emissions Reductions or the deadline for implementing such projects, controls, or actions achieving CD Emissions Reductions, whichever comes first, baseline actual emissions during any 24-month period selected by Pilkington shall be adjusted downward to exclude any portion of the baseline emissions that would have been eliminated as CD Emissions Reductions had Pilkington been complying with this Consent Decree during that 24-month period. Any plant-wide applicability limits (PALs) or PAL-like limits that apply to Furnace 1 must be adjusted downward to exclude any portion of the baseline emissions used in establishing such limit(s) that would have been eliminated as CD Emissions Reductions had Pilkington been complying with this Consent Decree during such baseline period. [CD 40]

Glass Manufacturing Exception to the Prohibition

aa. Notwithstanding the general prohibition set forth in **Section 2.3 A.1.z** above, Pilkington may use past actual emissions from Furnace 1, without the downward adjustment required by **Section 2.3 A.1.z**, as baseline actual emissions for Furnace 1 in the actual–to-projected-actual applicability test for the following projects: First, for an increase in production rate achieved in conjunction with the first Cold Tank Repair at Furnace 1 following entry of this Decree; second, for an increase in production rate achieved in conjunction with the installation of a Control Device pursuant to this Decree. Utilization of this exception is subject to each of the following conditions:

i. If use of past actual emissions from Furnace 1 as baseline actual emissions in the actual-to-projected-actual applicability test leads to the calculation of a negative (below zero) emissions increase at that emissions unit, the emissions increase at that emissions unit shall be considered equal to zero in determining whether the project will result in a significant emissions increase;
ii. Use of past actual emissions under this Exception to the Prohibition does not extend to any use of past actual emissions in determining the net emissions increase from the major stationary source. However, if past actual emissions are used under this Exception to the Prohibition, then baseline actual emissions for Furnace 1 in any subsequent netting analysis shall be based upon a rate no greater than the projected actual emissions determined as a result of the use of this Exception to the Prohibition;
iii. Pilkington shall still be subject to all federal and state regulations applicable to the PSD, Non-attainment NSR, and/or Minor NSR permitting process; and,
iv. Pilkington shall provide notice of such project(s) to EPA (including copies of all permit applications and other relevant documentation submitted to the permitting authority) upon submission of a permit application for the project(s) to the permitting authority, or thirty (30) days prior to implementing a project, control, or action using this Exception to the Prohibition, whichever comes first.

[CD 41]

Outside the Scope of the Prohibition

bb. Nothing in **Section 2.3 A.1.z through bb** [Section VII [*of the Consent Decree*]} is intended to prohibit Pilkington from seeking to:
i. Use or generate emission reductions from emissions units that are covered by this Consent Decree to the extent that the proposed emission reductions represent the difference between CD Emissions Reductions and more stringent control requirements that Pilkington may elect to accept for Furnace 1 in a permitting process, so long as Pilkington: (1) timely reports any such use of emission reductions in accordance with Section VIII (Reporting Requirements) and (2) accepts the more stringent emission rate(s) in a federally enforceable Permit for Furnace 1;
ii. Use or generate emission reductions from emissions units that are not subject to an emission limitation or control requirement pursuant to this Consent Decree; or
iii. Use CD Emissions Reductions for compliance with any rules or regulations designed to address regional haze or the non-attainment status of any area (excluding PSD and non-attainment NSR rules, but including, for example, RACT rules) that apply to the facility; provided, however, that Pilkington shall not be allowed to trade or sell any CD Emissions Reductions.

[CD 42]

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

cc. The following recordkeeping requirements apply:
i. As otherwise provided herein, Pilkington shall record:
(A) the hourly Inlet and Outlet NOx concentrations (emissions in ppm) before and after the SCR or Ceramic Filter System using CEMS data;
(B) the hourly SO_2 and NO_x emissions rate (lbs per hour) as calculated using CEMS data;
(C) the Daily Glass Production;
(D) the daily calculation of the 30-day Rolling Average NOx Removal Efficiency Rate, and
(E) the daily calculation of the 30-day Rolling Average NO_x and SO_2 Emission Rates, as applicable. [CD 25]
ii. For any Operating Day(s) that Pilkington excludes from the relevant 30-day Rolling Average NOx Removal Efficiency Rate, or the 30-day Rolling Average NO_x or SO_2 Emission Rate, it shall record:
(A) the date;
(B) the relevant exception pursuant to which Pilkington is excluding the emissions generated during that Operating Day (or Days) (i.e., Abnormally Low Production Rate Day, Furnace Startup, Control Device Startup, Malfunction of Control Device, or Maintenance of Control Device);
(C) a calculation of the applicable 24-hour Block Emission Rate (in pounds of NO_x and/or SO_2 per Day;
(D) the emissions recorded by the CEMS (in pounds of NO_x and/or SO_2 per Day); and
(E) if it was a Malfunction, an explanation and any corrective actions taken. For any Operating Day(s) excluded for Maintenance of a Control Device or Furnace, Pilkington shall also record the total number of hours during which Maintenance occurred.

[CD 26]
iii. In addition to the recordkeeping requirements listed above, Pilkington must also keep the following records during Furnace Startup.

(A) The amount of salt cake added to the batch materials in pounds per 1,000 pounds of sand;
(B) The total natural gas usage in Furnace 1 (in million standard cubic feet); and
(C) A description of NO_x reduction techniques used during this period (if any).
[CD 27]

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

dd. The following reporting requirements apply:
i. Until termination of this Consent Decree pursuant to Section XX [*of the Consent Decree*], Pilkington shall submit to the United States and EPA a written, annual progress report by no later than March 1 of each succeeding Calendar Year. [CD 43]
ii. Each annual report shall include the following information for the preceding Calendar Year:
(A) the status of Pilkington's progress toward implementing Section IV (Compliance Requirements);
(B) a description of any Section IV Compliance Requirements completed;
(C) any problems encountered or anticipated in implementing Section IV (Compliance Requirements), together with implemented or proposed solutions;
(D) a summary of all permitting activity pertaining to compliance with the Consent Decree including the status of any necessary Permit applications;
(E) a record of Furnace 1's daily 30-day Rolling Average Emission Rate for NO_x and SO_2, as applicable;
(F) a record of Furnace 1's daily 30-day Rolling Average NO_x Removal Efficiency Rate, as applicable;
(G) the actual monthly emissions of NO_x and SO_2, from Furnace 1 measured using CEMS, and for PM emissions as estimated based on the most recent source/stack test(s);
(H) the results of any source/stack testing performed at Furnace 1;
(I) Daily Glass Production rates at Furnace 1;
(J) monthly production of glass at Furnace 1;
(K) a list of Days excluded from the 30-day Rolling Average Emission Rates for NO_x and SO_2, and the 30-day Rolling Average NO_x Removal Efficiency Rate due to an Abnormally Low Production Rate Day, Furnace Startup, Control Device Startup, Malfunction, or Maintenance;
(L) the pounds of NO_x or SO_2 emitted from Furnace 1 for each Day excluded from the 30-day Rolling Averages;
(M) for Day(s) excluded because of Furnace Startup, the amount of cubic feet of natural gas burned on such Day(s); and
(N) status of payment of any stipulated penalties due or demanded; and
(O) any other information required to be recorded in **Section 2.3 A.1.bb or cc**.
[CD 44]
iii. Each annual report shall also include a description of any non-compliance with the requirements of this Consent Decree and an explanation of the violation's likely cause and of the remedial steps taken, or to be taken, to prevent or minimize the violation. If Pilkington violates, or has reason to believe that it may have violated, any requirement of this Consent Decree, Pilkington shall notify the United States and EPA of the violation and its likely duration, in writing and by telephone, fax, or email, within ten Days of the Day Pilkington first became aware of the violation or potential violation. This notice shall provide an explanation of the violation's likely cause and of the remedial steps taken, or to be taken, to prevent or minimize such violation. If the cause of a violation cannot be fully explained at the time the report is due, Pilkington shall explain this in the report. Pilkington shall investigate the cause of the violation and shall then submit an amendment to the report, including a full explanation of the cause of the violation, within thirty Days of the Day Pilkington first becomes aware of the cause of the violation. Nothing in this Paragraph or the following Paragraph relieves Pilkington of its obligation to provide the notice required by Section X (Force Majeure) of this Consent Decree. [CD 45]
iv. Whenever any violation of this Consent Decree or any other event affecting Pilkington's performance under this Consent Decree, or affecting the performance of Furnace 1, may pose an immediate threat to the public health or welfare or the environment, Pilkington shall notify EPA orally or by electronic email transmission as soon as possible, but in no case no later than twenty-four hours after Pilkington first knew of the violation or event. This procedure is in addition to the requirements set forth in the preceding Paragraph. [CD 46]
v. Pilkington shall notify EPA in writing of a proposed permanent shutdown of Furnace 1 prior to permanently shutting down Furnace 1. [CD 47]
vi. All reports and notifications required under this Section shall be submitted in accordance with Section XV of this Consent Decree (Notices). [CD 48]
vii. Each report or notification submitted by Pilkington under this Section shall be signed by an official of the submitting party and shall include the following certification:

> I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.

This certification requirement does not apply to emergency or similar notifications where compliance would be impractical. [CD 49]

viii. The reporting requirements of this Consent Decree do not relieve Pilkington of any reporting obligations required by the Clean Air Act or its implementing regulations, or by any other federal, state, or local law, regulation, Permit, or other requirement. [CD 50]

ix. Any information provided pursuant to the terms and implementation of this Consent Decree may be used by the United States in any proceeding to enforce the provisions of this Consent Decree and as otherwise permitted by law. [CD 51]

x. Until termination of this Consent Decree pursuant to Section XX [*of the Consent Decree*], the Permittee shall submit, directly to the DAQ, the annual report as described in **Section 2.3 A.1.dd.i through ix** above.

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

SECTION 3 - INSIGNIFICANT ACTIVITIES PER 15A NCAC 02Q .0503(8)

Emission Source ID No.	Emission Source Description[1,2]
IES06e	Lime storage silo with bagfilter
IF1	cullet pile
IK1	one direct-fired natural gas-fired glass heat soak oven
IPW1 through IPW3	three parts washing systems
IMS-1	Intec ink marking system
ICLOL	Off-Line Cutting Process
IG	Hydrogen generation process
IT1 through IT3	three vehicular diesel fuel tanks
ICT1	Water Cooling Tower
IES-Silo24	Sodium bicarbonate silo with bin vent filter
IEG1, IEG2, IEG3, IEG4 **MACT ZZZZ**	Four emergency-use diesel-fired generators (436 horsepower, each)
IEG8 **MACT ZZZZ**	One emergency-use diesel-fired compressor (350 horsepower)
IEG5, IEG6, IEG7 **MACT ZZZZ**	Three emergency-use natural gas-fired generators (132 horsepower, each)
IEG9 **MACT ZZZZ**	One emergency-use natural gas-fired generator (132 horsepower)
IES-01a	Hydrated lime reagent storage silo with bin vent filter
IES-01b	Pollution control system dust silo with bin vent filter
IES-01c	19 percent ammonia solution reagent tank for the pollution control system (36,000 gallon capacity)
IES-01d **MACT DDDDD**	Liquified petroleum gas-fired back-up fuel system vaporizer burner (2.5 million Btu per hour heat input)
I-LPG-1	Liquified petroleum gas storage tank (60,000 gallon capacity)
I-LPG-2	Liquified petroleum gas storage tank (60,000 gallon capacity)

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

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

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.

Attachment

Consent Decree in the matter of *United States v. Pilkington North America, Inc.* (Civil Action No. 21CV40). The Date of Entry of this Consent Decree is April 26, 2021.

IN THE UNITED STATES DISTRICT COURT
FOR THE MIDDLE DISTRICT OF NORTH CAROLINA

UNITED STATES OF AMERICA Plaintiff, v. PILKINGTON NORTH AMERICA, INC. Defendant.	)	CIVIL ACTION NO. 21CV40 **CONSENT DECREE**

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WHEREAS, the United States Environmental Protection Agency ("EPA"), has selected the glass manufacturing industry, including float glass manufacturing facilities, as a national enforcement priority under the Clean Air Act's ("CAA" or "Act"), 42 U.S.C. § 7401 *et seq*., New Source Review program;

WHEREAS, Pilkington North America, Inc. ("Pilkington") owns and operates a float glass manufacturing facility located at U.S. Highway 74 East Laurinburg, Scotland County, North Carolina (the "Laurinburg Facility");

WHEREAS, concurrently with the lodging of this Consent Decree, the United States of America, on behalf of the EPA, filed a Complaint in this action seeking injunctive relief against Pilkington for alleged violations of the CAA with respect to emissions of nitrogen oxides ("NO_x"), sulfur dioxide ("SO_2"), and particulate matter (including PM, PM_{10}, and $PM_{2.5}$) ("PM") at the Laurinburg Facility;

WHEREAS, the Complaint alleges that Pilkington violated and/or continues to violate the Prevention of Significant Deterioration ("PSD") provisions in Part C of Subchapter I of the CAA, 42 U.S.C. §§ 7470–7492, the permitting requirements of CAA Subchapter V ("Title V"), 42 U.S.C. §§ 7661–7661f, regulations implementing those CAA provisions, and the federally-enforceable state implementation plan ("SIP") developed by North Carolina;

WHEREAS, the Complaint alleges that Pilkington made major modifications to its Laurinburg Facility without obtaining the required CAA permits and without complying with the CAA's PSD requirements regarding installing pollution control technology, emission limits, monitoring, record-keeping, and reporting;

WHEREAS, the United States and Pilkington anticipate that the installation and operation of pollution control technology and other measures required pursuant to this Consent Decree will achieve significant reductions of emissions from the Laurinburg Facility, thereby significantly improving air quality;

WHEREAS, the objectives of the Parties in entering into this Consent Decree are to further the purposes of the CAA as described in CAA Section 101, 42 U.S.C. § 7401, to protect public health, public welfare, and the environment, and to have Pilkington perform the actions described below, and to ensure that Pilkington achieves and maintains compliance with the CAA, applicable state and local laws, and the terms and conditions of applicable CAA permits;

WHEREAS, EPA issued a notice of violation ("NOV") to Pilkington with respect to such allegations on August 28, 2020;

WHEREAS, EPA provided Pilkington and the State of North Carolina with actual notice of the alleged violations, in accordance with Sections 113(a)(1) and (b) of the CAA, 42 U.S.C. §7413(a)(1), (b);

WHEREAS, for purposes of this Consent Decree only, Pilkington has waived any applicable federal or state requirements of notice of the alleged violations;

WHEREAS, the Parties recognize and the Court by entering this Consent Decree finds: (1) that this Consent Decree has been negotiated in good faith and will avoid litigation between the Parties; and (2) that this Consent Decree is fair, reasonable, and in the public interest;

WHEREAS, Pilkington consents to the simultaneous filing of the Complaint and lodging of this Consent Decree against Pilkington without any adjudication of any issue of fact or law;

WHEREAS, Pilkington has denied and continues to deny the allegations in the Complaint and NOV;

WHEREAS, the resolution of liability provided by this Consent Decree is conditioned upon specified Consent Decree requirements, including emission limits and standards, being incorporated into and remaining in Pilkington's Title V permit; and

NOW, THEREFORE, before the taking of any testimony, without the adjudication or admission of any issue of fact or law, except as provided in Section I, and with the consent of the Parties, IT IS HEREBY ADJUDGED, ORDERED, AND DECREED as follows:

I. JURISDICTION AND VENUE

1. This Court has jurisdiction over the subject matter of this action pursuant to 28 U.S.C. §§ 1331, 1345, and 1355, and Section 113(b) of the Act, 42 U.S.C. § 7413(b), and it has jurisdiction over the Parties. Venue lies in this judicial district pursuant to Section 113(b) of the Act, 42 U.S.C. § 7413(b), and 28 U.S.C. §§ 1391(b) and (c) and 1395(a), because the Laurinburg Facility is located in and the events giving rise to the allegations in the Complaint occurred in this district. For purposes of this Consent Decree or any action to enforce this Consent Decree, the Parties consent to venue in this judicial district and to the Court's jurisdiction over this Consent Decree, over any action to enforce this Consent Decree, and over the Parties.

2. Solely for purposes of this Consent Decree, and without admission of liability, Pilkington agrees that the Complaint states claims upon which relief may be granted pursuant to the Clean Air Act, its implementing regulations, and the cited provisions of state law.

II. APPLICABILITY

3. The obligations of this Consent Decree apply to and are binding upon the United States and upon Pilkington and any successors, assigns, or other entities or persons otherwise bound by law.

4. For work performed after the Effective Date, Pilkington shall provide a copy of this Consent Decree to all vendors, suppliers, consultants, contractors, agents, and any other company or organization retained to perform any of the work required by this Consent Decree. Notwithstanding any retention of contractors, subcontractors, or agents to perform any work required under this Consent Decree, Pilkington shall be responsible for ensuring that all work is performed in accordance with the requirements of this Consent Decree.

5. In any action to enforce this Consent Decree, Pilkington shall not raise as a defense the failure by any of its officers, directors, employees, agents, or contractors to take any action necessary to comply with the provisions of this Consent Decree, unless Pilkington establishes that such failure resulted from a Force Majeure event and Pilkington has complied with all the requirements of Section X of this Consent Decree.

III. DEFINITIONS

6. Terms used in this Consent Decree that are defined in the CAA or in regulations promulgated pursuant to or authorized by the CAA shall have the meanings assigned to them in the CAA or such regulations, unless otherwise provided in this Decree. Whenever the terms set forth below are used in this Consent Decree, the following definitions shall apply:

a. "Abnormally Low Production Rate" shall mean a glass production rate for a Furnace that is at or below the production rate set forth in Table 11, which reflects roughly 35% of the permitted production rate divided by twenty-four hours.

b. "Abnormally Low Production Rate Day" shall mean any Operating Day where glass production at a Furnace occurs at or below the applicable Abnormally Low Production Rate for at least one continuous hour.

c. "Ammonia Slip" shall mean emissions of unreacted ammonia that result from incomplete reaction of NO_x and the reagent.

d. "Calendar Year" shall mean the period commencing on January 1 and ending on December 31 of the same year.

e. "CD Emission Reductions" shall mean any emission reductions that are generated or result from any projects, controls, or any other actions utilized to comply with this Consent Decree.

f. "CEMS" shall mean Continuous Emission Monitoring System.

g. "CEMS Certification" shall mean the certification of a CEMS as required by 40 C.F.R. § 60.13, 40 C.F.R. Part 60 Appendix B (Performance Specification 2), and 40 C.F.R. Part 60 Appendix F (Quality Assurance Procedures).

h. "CEMS Certification Event" shall mean any event that triggers the requirement to complete a first CEMS Certification or subsequent CEMS Certification.

i. "Ceramic Filter System" shall mean a catalyst-embedded filter system which, in combination with ammonia injection, and a dry scrubber reactant, is designed to remove NO_x, SO_2, and PM. The Ceramic Filter System includes the following ancillary support equipment: quench systems, heat exchangers, fans, chemical reactant storage and feed systems.

j. "Cold Tank Repair" shall refer to the process of stopping glass production, stopping the flow of fuel, fully cooling down the Furnace, replacing some or all of the refractory in the Furnace, including the crown, and/or the regenerators (if applicable), and beginning a new campaign (*i.e.*, restarting the Furnace by firing fuel and producing glass). Cold Tank Repair, for the purposes of this Consent Decree, does not include any refractory repairs conducted when the Furnace is still hot or repairs solely required for restart of a Furnace which has temporarily ceased Operation for economic reasons.

k. "Complaint" shall mean the complaint filed by the United States in this action.

l. "Consent Decree" and "Decree" shall mean this Consent Decree and all Appendices attached hereto (as listed in Section XXIV). In the event of any conflict

between the text of this Consent Decree and any Appendix, the text of this Consent Decree shall control.

m. "Continuous Operating Year" shall mean a Calendar Year during which a Furnace that is connected to a Control Device Operates on every Day of that Calendar Year.

n. "Control Device" shall mean Selective Catalytic Reduction, a Ceramic Filter System, a Dry Scrubber, or a Particulate Device.

o. "Control Device Startup" shall mean the period of time from the initial commencement of operation of a Control Device until operation of the device is stable and the device has achieved normal operating conditions. A Control Device Startup shall not exceed thirty Days. Control Device Startup does not include subsequent startups of the Control Device, unless the subsequent startup of the Control Device occurs following a Cold Tank Repair.

p. "Daily Glass Production" shall mean the Tons of glass produced per Day from the Furnace (commonly known as "pulled"), as recorded each shift by set lehr speed, an average of glass width and thickness measurements, and glass density for the type of glass manufactured.

q. "Date of Lodging" shall mean the date this Consent Decree is lodged with the Clerk of Court for the United States District Court for the Middle District of North Carolina pending public comment and Court action.

r. "Day" shall mean a calendar day unless expressly stated to be a business day. In computing any period of time under this Consent Decree, where the last

day would fall on a Saturday, Sunday, or federal holiday, the period shall run until the close of business the next business day. A Day starts at 12:00 a.m. and ends at 11:59 p.m.

s. "Defendant" shall mean Pilkington.

t. "Dry Scrubber" and "DS" shall mean a pollution control system, sometimes referred to as a sorbent injection system, which involves the addition of an alkaline material into the gas stream to react with the acid gases. The acid gases react with the alkaline sorbents to form solid salts. There is no moisture added in the reaction chamber or reaction area.

u. "Effective Date" shall have the definition provided in Section XVII;

v. "Emission Credit(s)" shall mean an authorization or credit to emit a specified amount of the pollutants NO_x, SO_2, PM, PM_{10}, and $PM_{2.5}$ that is authorized by, allocated by, or issued under an emissions trading or marketable permit program of any kind established under the CAA or the North Carolina SIP.

w. "EPA" shall mean the United States Environmental Protection Agency and any of its successor departments or agencies.

x. "Furnace" shall mean a unit comprised of a refractory-lined vessel in which raw materials are charged and melted at high temperature to produce molten glass, including the regenerators and burners.

y. "Furnace 1" shall mean the natural gas-fired glass melting float furnace with a 39.0 tons per hour maximum draw rate, also known in the Title V permit as emission source ES-01 at the Laurinburg Facility.

z. "Furnace Startup" shall mean the period of time from the initial heat-up of the Furnace refractory with portable burners until the commencement of production launch, and includes the initial filling of the Furnace with cullet and/or raw materials. A Furnace Startup shall last no more than forty-five Days.

aa. "Inlet" shall mean the concentration of NO_x (in ppmv corrected to 7% O_2) measured by the CEMS prior to Selective Catalytic Reduction or Ceramic Filter System.

bb. "Installation of Controls" shall, solely for the purposes of this Consent Decree, include:

i. the installation of Selective Catalytic Reduction, Dry Scrubber, or Particulate Device;

ii. the installation of a Ceramic Filter System; or

iii. the installation of any alternative controls or alternative control technology approved under Paragraph 22.

cc. "Interim Low-Iron 30-day Rolling Average Emission Limit" shall mean the 30-day Rolling Average Emission Limit during Low-Iron Glass Batch Production Days. This limit applies only until the compliance deadline specified in Paragraph 8 and Table 3 for operating SCR or a Ceramic Filter System on Furnace 1. Compliance with the Interim Low-Iron 30-day Rolling Average Emission Limit for NOx shall be determined by calculating the Low-Iron 30-day Rolling Average Emission Rate for NOx and comparing that with the Interim Low-Iron 30-day Rolling Average Emission Limit for NO_x.

dd. "Low-Iron 30-day Rolling Average Emission Rate for NOx" shall mean the 30-day Rolling Average Emission Rate recorded for NOx on Low-Iron Glass Batch Production Days.

ee. "Low-Iron Glass Batch Production Day" shall mean any Operating Day that Pilkington makes low-iron glass of salable quality and shall include the Operating Days, not to exceed ten days, that Pilkington transitions its glass manufacturing process from making non-low iron glass to making low-iron glass. Low-Iron Glass Batch Production Day does not include any other Operating Days, including Operating Days during which Pilkington transitions from low-iron glass production to non-low-iron glass production.

ff. "Maintenance" shall mean activities necessary to keep the equipment (e.g., the Furnace or Control Devices) working in its normal operating condition, as described in Paragraph 20.

gg. "Malfunction" shall mean, consistent with 40 C.F.R. § 60.2, any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, or a process (e.g., the Furnace or Control Devices) to operate in a normal or usual manner. Malfunction shall not include failures that are caused in part or in whole by poor maintenance or careless operation.

hh. "NO_x" shall mean the sum of oxides of nitrogen in the flue gas, collectively expressed as NO_2.

ii. "New Source Review" and "NSR" shall mean the PSD provisions in Part C of Subchapter I of the CAA, 42 U.S.C. §§ 7470–7492, the NNSR provisions in

Part D of Subchapter I of the CAA, 42 U.S.C. §§ 7501–7515, implementing regulations, and analogous provisions of the federally enforceable North Carolina SIP.

jj. "Interim Non-Low-Iron 30-day Rolling Average Emission Limit" shall mean the 30-day Rolling Average Emission Limit of NO_x emitted from Furnace 1 during Operating Days that are not Low-Iron Glass Batch Production Days. This limit applies only until the compliance deadline specified in Paragraph 8 and Table 3 for operating SCR or Ceramic Filter System on Furnace 1. Compliance with the Interim Non-Low-Iron 30-day Rolling Average Emission Limit for NOx shall be determined by calculating the Non-Low-Iron 30-day Rolling Average Emission Rate for NOx and comparing that with the Interim Non-Low-Iron Low-Iron 30-day Rolling Average Emission Limit for NO_x.

kk. "Non-Low-Iron 30-day Rolling Average Emission Rate for NO_x" shall mean the 30-day Rolling Average Emission Rate recorded for NOx on Operating Days that are not Low-Iron Glass Batch Production Days.

ll. "Nonattainment New Source Review" or "NNSR" shall mean the nonattainment new source review program within the meaning of Part D of Subchapter I of the CAA, 42 U.S.C. §§ 7501–7515, implementing regulations, and analogous provisions of the federally enforceable North Carolina SIP.

mm. "Operate," "Operation," "Operating," and "Operated" shall mean any time when fuel is fired in the Furnace.

nn. "Operating Day" shall mean any Day when any fuel is fired in Furnace 1.

oo. "Outlet" shall mean the NO_x concentration (in ppmv corrected to 7% O_2) measured by the CEMS after Selective Catalytic Reduction or a Ceramic Filter System.

pp. "Paragraph" shall mean a portion of this Consent Decree identified by an Arabic numeral.

qq. "Particulate Device" and "PD" shall mean a control device that uses add-on technology to reduce Particulate Matter emissions, including, but not limited to, electrostatic precipitators and baghouses.

rr. "Particulate Matter" and "PM" shall mean any finely divided solid or liquid filterable material, other than uncombined water, as measured using EPA Test Method 5 (40 C.F.R. Part 60 Appendix A-3) (filterable only).

ss. "Party" and "Parties" shall mean the United States and Pilkington.

tt. "Permit" shall include any and all interim and final authorizations issued pursuant to federal, state, or local law that are necessary: (1) to construct, modify, or operate a Furnace, or (2) to construct, install, and operate a Control Device or monitoring device required by this Consent Decree or other applicable law.

uu. "Pilkington" shall mean Pilkington North America, Inc.

vv. "Prevention of Significant Deterioration" and "PSD" shall mean the attainment area New Source Review program within the meaning of Part C of Subchapter I of the CAA, 42 U.S.C. §§ 7470–7492, implementing regulations, and analogous provisions of the federally enforceable North Carolina SIP.

ww. "Project Dollars" shall mean Pilkington's expenditures in carrying out the Environmental Mitigation Project identified in Section V and Appendix A (Mitigation Project) of this Consent Decree to the extent that the expenditures or payments: (1) comply with the requirements set forth in Section V and Appendix A of this Consent Decree; and (2) constitute Pilkington's direct expenditures for the Mitigation Project or Pilkington's external costs for contractors, vendors, and equipment. Pilkington shall not include its own personnel costs in overseeing the implementation of the Mitigation Project as Project Dollars

xx. "Removal Efficiency for NO_x" shall mean the percent reduction in concentration of NO_x achieved by Furnace 1's Control Device. This percent reduction shall be calculated by subtracting the Outlet concentration of NO_x (corrected to 7% O_2) from the Inlet concentration of NO_x (corrected to 7% O_2), dividing the difference by the Inlet concentration, and then multiplying the result by 100. Pilkington shall complete this calculation on an hourly basis, each Operating Day, using all valid one-hour emissions data outputs (inlet and outlet concentrations) from the NO_x CEMS.

yy. "Removal Efficiency 24-hour Block Average for NO_x" shall mean the average of all Removal Efficiency for NOx for a given Operating Day.

zz. "Section" shall mean a portion of this Consent Decree identified by a Roman numeral.

aaa. "Selective Catalytic Reduction" and "SCR" shall mean a pollution control device that reacts ammonia (NH_3) or urea with NO_x to form nitrogen (N_2) and water (H_2O) using a catalyst to speed the reaction.

bbb. "SO_2" shall mean the pollutant sulfur dioxide.

ccc. "Surrender of Air Permits or Air Permit Conditions" shall mean that Pilkington has asked the permitting authority, in writing, to terminate all air Permits for a particular Furnace or air Permit conditions for a particular Furnace, and the permitting authority has done so.

ddd. "Title V Permit" shall mean a Permit required by or issued pursuant to the requirements of 42 U.S.C. § 7661–7661f, implementing regulations, and analogous provisions of North Carolina's title V program.

eee. "Ton" and "Tons" shall mean short ton (equal to 2,000 pounds) or short tons.

fff. "United States" shall mean the United States of America, acting on behalf of EPA.

ggg. "24-hour Block Emission Rate" is a pound per day figure that shall be calculated by averaging all valid one-hour emissions data outputs from the applicable CEMS (pounds per hour) for a given Operating Day, multiplying that average by the number of minutes the relevant furnace Operated that Operating Day, and then dividing by sixty.

hhh. "30-day Rolling Average Emission Rate" shall be expressed as pounds of pollutant emitted per Ton of glass produced and calculated at Furnace 1 in accordance with the following formula and subparagraphs i and ii below:

$$30-day\ average\ \frac{lb\ E}{Ton} = \frac{COD_E(lbs) + P29D_E(lbs)}{COD_{Prod}(Tons) + P29D_{Prod}(Tons)}$$

Where: 30-day average (lb E/Ton) = The 30-day Rolling Average Emission Rate

E = emissions of NO_x or SO_2.

COD = Current Operating Day where a 30-day Rolling Average Emission Limit is the applicable limit and the CEMS measures at least one full hour of emissions data.

COD_E = The daily emissions as measured by a CEMS on the COD, in pounds.

COD_{Prod} = Daily Glass Production on the COD in Tons of glass.

P29D = The previous twenty-nine Operating Days where a 30-day Rolling Average Emission Limit is the applicable limit and the CEMS measures at least one full hour of emissions data.

$P29D_E$ = The sum of the daily NO_x or SO_2 emissions as measured by a CEMS during the P29D, in pounds.

$P29D_{Prod}$ = The sum of the Daily Glass Production during the P29D, in Tons of glass.

i. A new 30-day Rolling Average Emission Rate shall be calculated for each new Operating Day where a 30-day Rolling Average Emission Limit is the applicable limit and the CEMS measures at least one full hour of emissions data. Any Operating Day where the newly calculated 30-day Rolling Average Emission Rate exceeds the 30-day Rolling Average Emission Limit is a separate one Day violation; and

ii. As specified in Paragraphs 7.f, 9.f., and 10.d–e, of this Consent Decree, certain Abnormally Low Production Rate Days, Furnace and/or Control Device Startup Days, Malfunction Days, and Maintenance Days may be excluded from the 30-day Rolling Average Emission Rate.

iii. "30-day Rolling Average NO_x Removal Efficiency Rate" shall be expressed as the percent reduction in concentration of NO_x achieved by Furnace 1's

Control Device. It shall be calculated by summing the "Removal Efficiency 24-hour Block Averages for NOx" from the Furnace for the current Operating Day and previous twenty-nine Operating Days when a 30-day Rolling Average NO_x Removal Efficiency Limit is the applicable limit, and then dividing by thirty.

i. A new 30-day Rolling Average NO_x Removal Efficiency Rate shall be calculated for each new Operating Day where a 30-day Rolling Average NO_x Removal Efficiency Limit is an applicable limit and the CEMS measures at least one full hour of emissions data. Any Operating Day where the newly calculated 30-day Rolling Average NO_x Removal Efficiency Rate is less than the 30-day Rolling Average NO_x Removal Efficiency Limit is a separate one-day violation.

ii. As specified in Paragraph 8.d–f of this Consent Decree, certain emissions associated with Furnace and/or Control Device Startup, Malfunction, and Maintenance Days may be excluded from the 30-day Rolling Average NOx Removal Efficiency Rate.

jjj. "30-day Rolling Average Emission Limit" shall mean the maximum allowable rate of emission of a specified air pollutant and shall be expressed as pounds of pollutant emitted per Ton of glass produced. Compliance with the 30-day Rolling Average Emission Limit shall be determined by calculating the 30-day Rolling Average Emission Rate and comparing that with the 30-day Rolling Average Emission Limit.

kkk. "30-day Rolling Average NO_x Removal Efficiency Limit" shall mean the percent reduction in concentration of NO_x that must be achieved by Furnace 1's Control Device. Compliance with the 30-day Rolling Average NO_x Removal Efficiency

Limit shall be determined by calculating the 30-day Rolling Average NO_x Removal Efficiency Rate and comparing that with the 30-day Rolling Average NO_x Removal Efficiency Limit.

IV. COMPLIANCE REQUIREMENTS

A. NO_x Emission Controls, Limits, and Compliance Schedule

7. Interim NOx Emission Controls and Limits for Furnace 1

a. The requirements of this Paragraph 7 shall apply until the compliance deadline specified in Paragraph 8 and Table 3 for operating a SCR or Ceramic Filter System on Furnace 1.

b. Except as provided in Paragraph 7.f, by no later than 180 days after the Effective Date, Pilkington shall monitor NO_x formation during all times of Furnace 1 Operation.

c. Except as provided otherwise herein, by no later than 180 days after the Effective Date, Pilkington shall comply with the following applicable 30-day Rolling Average Emission Limits for NO_x at Furnace 1:

i. For any Low-Iron Glass Batch Production Day, Pilkington shall comply with an Interim Low-Iron 30-day Rolling Average Emission Limit of 22.6 lbs of NOx per Ton of glass produced at Furnace 1.

ii. For any Operating Day that is not a Low-Iron Glass Batch Production Day, Pilkington shall comply with an Interim Non-Low-Iron 30-day Rolling Average Emission Limit of 16.6 lbs of NOx per Ton of glass produced at Furnace 1.

d. No demonstration of compliance with the emission limits in this Paragraph is required until Pilkington has operated for thirty Operating Days following the compliance date in Table 1.

Table 1: Furnace 1 Interim NO_x Emission Limit and Compliance Date

Emission Control	Operating Day Type	Emission Limit	Compliance Date	Compliance Demonstration
Process controls	Low-Iron Glass Batch Production Day	22.6 lbs of NO_x per Ton of glass produced	180 days after the Effective Date	On and after the 30th Operating Day after the Compliance Date
	Operating Day that is not a Low-Iron Glass Batch Production Day	16.6 lbs of NO_x per Ton of glass produced		

e. Except as provided otherwise herein, Pilkington shall monitor NOx emissions from Furnace 1 continuously using a NO_x CEMS and shall calculate a new 30-day Rolling Average Emission Rate for each new Operating Day.

f. Interim NO_x Limit during Furnace 1 Maintenance, Malfunction, and Abnormally Low Production Rate Days:

i. Maintenance of the Furnace

For any Operating Day where Maintenance of Furnace 1 is performed, Pilkington may exclude the emissions generated during that Operating Day (or Days) from the Interim 30-day Rolling Average Emission Rate for NO_x for Furnace 1. During the Day(s) excluded from the 30-day Rolling Average Emission Rate, the 24-hour Block

Emission Rate from Furnace 1 shall not exceed the following 24-hour Block limit, as demonstrated using a CEMS:

$$NO_{X\ \text{interim}\ Maint} = \frac{MH\ \times 3\ X\ NO_{\text{X interim}}}{24} + \frac{NH\ \times\ NOx\ interim}{24}$$

Where: $NO_{x\ \text{Interim Maint}}$ = NO_x emission limit for Furnace 1 during Maintenance of the Furnace in pounds per Day

$NO_{x\ \text{interim}}$ = NO_x emission limit in lbs/day as shown in Table 2.

MH = Hours of Maintenance

NH = Normal Hours = 24 – MH

ii. Malfunction of the Furnace

For any Operating Day on which a Malfunction of Furnace 1 occurs, Pilkington may exclude the emissions generated during that Operating Day (or Days) from Furnace 1 from the Interim 30-day Rolling Average Emission Rate for NO_x for Furnace 1. During the Day(s) excluded from the 30-day Rolling Average Emission Rate, the 24-hour Block Emission Rate from Furnace 1 shall not exceed the following 24-hour Block limit, as demonstrated using a CEMS:

Table 2: Interim Furnace 1 NO_x Emission Limits during Days when there is a Malfunction of the Furnace

Type of Glass Being Produced	**NO_X Limit (Lbs/day)**
Non-Low-Iron Glass Batch Production Day	15,538 lbs/day
Low-Iron Glass Batch Production Day	21,154 lbs/day

iii. Abnormally Low Production Rate Days

Pilkington may exclude the NO_x emissions generated during an Abnormally Low Production Rate Day (or Days) from the 30-day Rolling Average Emission Rate. During the Day(s) excluded from the 30-day Rolling Average Emissions Rate, the 24-hour Block Emission Rate from Furnace 1 shall not exceed the following 24-hour Block limit, as demonstrated using a CEMS:

$$\overset{\text{(Add)}}{NO_{x\ abn\ interim}} = \mathrm{E}\frac{lb\ \mathrm{NOx}}{ton} \times \left[\frac{P}{0.35}\right]$$

Where: $NO_{x\ abn\ interim}$ = NO_x emission limit (in pounds per Day) for Furnace 1 during Abnormally Low Production Rate Days

E = The applicable NO_x emission limit for Furnace 1 from Paragraph 7.c

P = Furnace 1 specific production threshold as defined in Table 11, in Tons of glass produced per Day

8. Final NO_x Emission Controls and Emission Limits for Furnace 1

a. Final NO_x Emission Controls for Furnace 1

Each Operating Day after March 31, 2023, or after Furnace 1 undergoes a Cold Tank Repair, whichever is earlier, Pilkington shall not Operate Furnace 1 without passing all stack gases through an SCR or a Ceramic Filter System (except as set forth in Paragraph 8.d–f) in compliance with the following:

i. the SCR or Ceramic Filter System must be designed for a removal efficiency of at least 90%; and

ii. Pilkington shall operate the SCR or Ceramic Filter System in accordance with the vendor recommendations in order to minimize emissions to the extent practicable, including consideration of Ammonia Slip.

b. Final NO_x Emission Limits for Furnace 1

The Day after re-certification of the CEMS under Section IV.E following the next Cold Tank Repair or March 31, 2023, whichever first occurs, Pilkington shall comply with an 80% 30-day Rolling Average NO_X Removal Efficiency Limit at Furnace 1, except as provided in Paragraph 8.d–f. No demonstration of compliance is required until Pilkington has Operated for thirty Operating Days after the compliance date in Table 3.

Table 3: Furnace 1 Final NO_x Emission Limit and Compliance Date

Emission Control	Final NOx Emission Limit	Compliance Date	Compliance Demonstration
SCR or Ceramic Filter System	30-day Rolling Average NO_x Removal Efficiency Limit of 80 percent	The Day after re-certification of the CEMS under Section IV.E following the next Cold Tank Repair or March 31, 2023, whichever is earlier	On and after the 30th Operating Day after the Compliance Date

c. Except as provided otherwise herein, Pilkington shall monitor NO_x emissions from Furnace 1 continuously using a NO_x CEMS and shall calculate a new 30-day Rolling Average NO_x Removal Efficiency Rate for each new Operating Day using a NO_x CEMS.

d. Furnace 1 NO_X Limit during Furnace Startup. For no more than the forty-five Days allowed for Furnace Startup, the Furnace 1 exhaust may bypass the SCR

or Ceramic Filter System to avoid having the operating inlet temperature of the SCR or Ceramic Filter System fall below its operational range. During these bypass Days, Pilkington shall burn no more than five million standard cubic feet of natural gas in Furnace 1 per Day. When technically feasible and available, Pilkington shall operate the SCR or Ceramic Filter System on the Furnace 1 exhaust.

e. Furnace 1 NO_x Limit during Control Device Startup or Control Device Malfunction. For any Operating Day that the SCR or Ceramic Filter System does not operate or is not operating normally because of the Control Device Startup or Malfunction of the Control Devices for any period of time, Pilkington may exclude that Day's Removal Efficiency from the 30-day Rolling Average NO_x Removal Efficiency Rate. During the Day(s) excluded from the 30-day Rolling Average NO_x Removal Efficiency Rate, the 24-hour Block Emission Rate from Furnace 1 shall not exceed the 24-hour Block limit listed in Table 4 below, as demonstrated using a CEMS.

Table 4: Furnace 1 NO_X Emission Limits During Days Where the SCR or Ceramic Filter System Is Not Operating Pursuant to Paragraph 8.e

Type of Glass Being Produced	**$NO_{X\ W/o\ SCR}$ (lb/Day)**
Non-Low-Iron Glass Batch Production Day	15,538 lbs/Day
Low-Iron Glass Batch Production Day	21,154 lbs/Day

f. Furnace 1 NO_x Limit during Maintenance of Control Devices. For any Operating Day where Maintenance activities on a Control Device are performed, Pilkington may exclude the Maintenance Day from the 30-day Rolling Average NO_x Removal Efficiency Rate. For any Day that is excluded from the 30-day Rolling Average

NO_X Removal Efficiency Rate, the 24-hour Block Emission Rate from Furnace 1 shall not exceed the following 24-hour Block limit, as demonstrated using a CEMS:

$$NO_{X\ Control\ Device\ Maint} = \frac{MH \times NO_{X\ w/o\ SCR}}{24} + \frac{NH \times NO_{X\ w/o\ SCR} \times 0.2}{24}$$

Where: $NO_{X\ Control\ Device\ Maint}$ = NO_X emission limit for a Furnace during Maintenance of the Control Device, in pounds per Day

$NO_{x\ w/o\ SCR}$ = NOx limit from Table 4 during Days where the SCR or Ceramic Filter System is not operating

MH = Hours of Maintenance

NH = Normal Hours = 24 – MH

B. SO_2 Emission Controls, Limits, and Compliance Schedule

9. Interim SO_2 Emission Controls and Limits for Furnace 1

a. The requirements of this Paragraph 9 shall apply until the compliance deadline specified in Paragraph 10 and Table 6 for operating a DS or Ceramic Filter System on Furnace 1.

b. Except as provided otherwise herein, by no later than 180 days after the Effective Date, Pilkington shall continuously monitor SO_2 formation during all times of Furnace 1 Operation.

c. Except as provided otherwise herein, by no later than 180 days after the Effective Date, Pilkington shall comply with an Interim 30-day Rolling Average Emission Limit of 2.5 lbs of SO_2 per Ton of glass produced at Furnace 1, except as provided in Paragraph 9.f.

d. No demonstration of compliance with the emission limits in this Paragraph is required until Pilkington has operated for thirty Operating Days following the compliance date in Table 5.

Table 5: Furnace 1 Interim SO_2 Emission Limit and Compliance Date

Emission Control	Emission Limit	Compliance Date	Compliance Demonstration
Batch formulation/ Process controls	2.5 lbs of SO_2 per Ton of glass produced	180 days after the Effective Date	On and after the 30th Operating Day after the Compliance Date

e. Except as provided otherwise herein, Pilkington shall monitor SO_2 emissions continuously using an SO_2 CEMS and shall calculate a new 30-day Rolling Average Emission Rate for each new Operating Day.

f. SO_2 Limit during Furnace 1 Maintenance, Malfunction, and Abnormally Low Production Rate Days.

i. Maintenance of the Furnace

For any Operating Day where Maintenance of Furnace 1 is performed, Pilkington may exclude the emissions generated during that Operating Day (or Days) from the 30-day Rolling Average Emission Rate for SO_2 for Furnace 1. During the Day(s) excluded from the 30-day Rolling Average Emission Rate, the 24-hour Block Emission Rate from Furnace 1 shall not exceed the following 24-hour Block limit, as demonstrated using a CEMS:

$$SO_{2\,\text{Maint}} = \frac{MH \times [3 \times SO_{2\,Abn}]}{24} + \frac{NH \times SO_{2\,Abn}}{24}$$

Where: $SO_{2\ Maint}$ = SO_2 emission limit for Furnace 1 during Maintenance of the Furnace in pounds per Day

$SO_{2\ Abn}$ = SO_2 emission limit (in pounds per Day) for Furnace 1 during Days when an Abnormally Low Production Rate is occurring

MH = Hours of Maintenance

NH = Normal Hours = 24 – MH

ii. Malfunction of the Furnace

For any Operating Day on which a Malfunction of the Furnace occurs, Pilkington may exclude the emissions generated during that Operating Day (or Days) from Furnace 1 from the 30-day Rolling Average Emission Rate for SO_2 for Furnace 1. During the Day(s) excluded from the 30-day Rolling Average Emission Rate, the 24-hour Block Emission Rate from Furnace 1 shall not exceed the following 24-hour Block limit, as demonstrated using a CEMS:

$$SO_{2\ Malf} = 3\ \times 2.5\frac{lb\ SO_2}{ton} \times \left[\frac{P}{0.35}\right]$$

Where: $SO_{2\ Malf}$ = SO_2 emission limit for Furnace 1 during Malfunction of the Furnace in pounds per Day

P = Furnace 1 specific production threshold as defined in Table 11, in Tons of glass produced per Day

iii. Abnormally Low Production Rate Days

Pilkington may exclude the SO_2 emissions generated during an Abnormally Low Production Rate Day (or Days) from the 30-day Rolling Average Emission Rate. During the Day(s) excluded from the 30-day Rolling Average Emissions Rate, the 24-hour Block

Emission Rate from Furnace 1 shall not exceed the following 24-hour Block limit, as demonstrated using a CEMS:

$$SO_{2\ Abn} = 2.5\frac{lb\ SO_2}{ton} \times \left[\frac{P}{0.35}\right]$$

Where: $SO_{2\ Abn}$ = SO_2 emission limit (in pounds per Day) for Furnace 1 during Days when an Abnormally Low Production Rate is occurring

P = Furnace 1 specific production threshold as defined in Table 11, in Tons of glass produced per Day

10. Final SO_2 Emission Controls Operation and Emission Limits for Furnace 1

a. Final SO_2 Emission Controls for Furnace 1

Each Operating Day after March 31, 2023 or after Furnace 1 undergoes a Cold Tank Repair, whichever is earlier, Pilkington shall not Operate Furnace 1 without passing all stack gases through a DS or a Ceramic Filter System (except as provided in Paragraph 10.d–e).

b. Final SO_2 Emission Limits for Furnace 1

The Day after re-certification of the CEMS under Section IV.E following the next Cold Tank Repair or March 31, 2023, whichever first occurs, Pilkington shall not exceed a 30-day Rolling Average Emission Limit of 1.2 lbs of SO_2 per Ton of glass produced, except as provided in Paragraph 10.d–g. No demonstration of compliance is required until Pilkington has operated for thirty Operating Days after the compliance date in Table 6.

Table 6: Furnace 1 Final SO_2 Emission Limit and Compliance Date

Emission Control	Emission Limit	Compliance Date	Compliance Demonstration
DS or Ceramic Filter System	1.2 lbs of SO2 per Ton of glass produced	The Day after certification of the CEMS under Section IV.E following the next major Cold Tank Repair or March 31, 2023, whichever is earlier	On and after the 30th Operating Day after the Compliance Date

c. Except as provided otherwise herein, Pilkington shall monitor SO_2 emissions from Furnace 1 continuously using an SO_2 CEMS and shall calculate a new 30-day Rolling Average Emission Rate for each new Operating Day using an SO_2 CEMS.

d. Furnace 1 SO_2 Limit during Furnace Startup. For the forty-five Days allowed for Furnace Startup, Furnace 1 exhaust may bypass the DS or the Ceramic Filter System to avoid having the operating inlet temperature of the DS or the Ceramic Filter System fall below its operational range during Furnace Startup. During these bypass Days, Pilkington shall burn no more than five million standard cubic feet of natural gas in Furnace 1 per Day. When technically feasible and available, Pilkington shall operate the DS or Ceramic Filter System on the Furnace 1 exhaust.

e. Furnace 1 SO_2 Limit during Control Device Startup or Malfunction of the DS, PD, or the Ceramic Filter System. For any Operating Day that the DS or

Ceramic Filter System does not operate or is not operating normally because of Control Device Startup or Malfunction of the DS, PD, or the Ceramic Filter System for any period of time, Pilkington may exclude the emissions generated during that Operating Day (or Days) from Furnace 1 from the 30-day Rolling Average Emission Rate for SO_2. During the Day(s) excluded from the 30-day Rolling Average Emission Rate, the 24-hour Block Emission Rate from Furnace 1 shall not exceed the following 24-hour Block limit, as demonstrated using a CEMS: 2,500 lbs of SO_2 per Day. During Malfunction of an SCR installed on Furnace 1, Pilkington shall pass all stack gases through the Furnace 1 DS.

Table 7: Furnace 1 SO_2 Emission Limits During Days Where the DS or Ceramic Filter System Is Not Operating Pursuant to Paragraph 10.e.

Furnace	**$SO_{2\ W/o\ DS}$ (lb/Day)**
Furnace 1	2,500 lbs/Day

f. Furnace 1 SO_2 Limit during Maintenance of the DS or PD, or the Ceramic Filter System. For any Operating Day when Maintenance is performed on the DS or PD, or the Ceramic Filter System for Furnace 1, Pilkington may exclude the emissions generated during that Operating Day (or Days) from Furnace 1 from the 30-day Rolling Average Emission Rate for SO_2. During the Day(s) excluded from the 30-day Rolling Average Emission Rate, the 24-hour Block Emission Rate from Furnace 1 shall not exceed the following 24-hour Block limit, as demonstrated using a CEMS:

$$SO_{2\ Scrub\ \ Maint} = \frac{MH \times 2{,}500}{24} + \frac{NH \times [1.2\ \times \left[\frac{P}{0.35}\right]]}{24}$$

Where: $SO_{2\ Scrub\ Maint}$ = SO_2 emission limit (in pounds per Day) for Furnace 1 during Maintenance of the DS or PD, or the Ceramic Filter System.

2,500 = As defined in Table 7, SO_2 emission limit for Furnace 1 (with DS or Ceramic Filter System) during an event where the DS or Ceramic Filter System is not operating, in pounds per Day

P = Furnace-specific production threshold as defined in Table 11, in Tons of glass produced per Day

MH = Hours of Maintenance

NH = Normal Hours = 24 – MH

g. SO_2 Limit during Abnormally Low Production Rate Days. When Furnace 1 is Operating at an Abnormally Low Production Rate, Pilkington may exclude the SO_2 emissions generated during that Operating Day (or Days) from the 30-day Rolling Average Emissions Rate. During the Days excluded from the 30-day Rolling Average Emissions Rate, the 24-hour Block Emission Rate from Furnace 1 shall not exceed the following 24-hour Block limit, as demonstrated using a CEMS:

$$SO_{2\ Abn} = 1.2\frac{lb\ SO_2}{ton} \times \left[\frac{P}{0.35}\right]$$

Where: $SO_{2\ Abn}$= SO_2 emission limit (in pounds per Day) for Furnace 1, during an Abnormally Low Production Rate Day.

P = Furnace 1 specific production threshold as defined in Table 11, in Tons of glass produced per Day.

C. PM Emission Controls, Limits, and Compliance Schedules

11. Interim PM Emission Controls and Limits for Furnace 1.

a. Except as provided otherwise herein, by no later than 180 days after the Effective Date, Pilkington shall comply with the emission limit of 1.1 lb of PM per Ton of glass produced during the Operation of Furnace 1.

Table 8: Furnace 1 Interim PM Emission Limit and Compliance Date

Emission Control	Emission Limit	Compliance Date
Process Controls	1.1 lb of PM per Ton of glass produced	180 Days after the Effective Date

b. Compliance with the interim PM Emission Limit for Furnace 1 in Table 8 shall be demonstrated by annual stack tests. PM shall be determined using Method 5 (40 CFR Part 60 Appendix A-3). Pilkington shall conduct a stack test demonstrating compliance no later than the required compliance date in Table 8 and once annually (between eleven and thirteen calendar months following the prior performance test) thereafter.

12. Final PM Emission Controls Operation and Emission Limits for Furnace 1.

a. Final PM Emission Controls for Furnace 1. On and after March 31, 2023, or after Furnace 1 undergoes a Cold Tank Repair, whichever is earlier, Pilkington shall not Operate Furnace 1 without passing all stack gases through a PD or Ceramic Filter System, except during Furnace Startup; Control Device Startup; Malfunction of the PD or Ceramic Filter System; or Maintenance of the PD or Ceramic Filter System. During Malfunction or Maintenance of the SCR or DS installed on Furnace 1, Pilkington shall pass all stack gases through the PD.

b. Final PM Emission Limit for Furnace 1. Except as provided otherwise herein, on and after March 31, 2023, or after Furnace 1 undergoes a Cold Tank Repair, whichever is earlier, Pilkington shall comply with the emission limit of 0.45 lb of PM per Ton of glass produced during the Operation of Furnace 1.

Table 9: Furnace 1 Final PM Emission Limit and Compliance Date

Emission Control	Emission Limit	Compliance Date
PD or Ceramic Filter System	0.45 lb of PM per Ton of glass produced	March 31, 2023, or after Furnace 1 undergoes a Cold Tank Repair, whichever is earlier.

c. Compliance with the final PM emission limits at Furnace 1 shall be demonstrated through stack tests using EPA Test Method 5 (40 C.F.R. Part 60, Appendix A-3). Pilkington shall conduct an initial stack test on Furnace 1 by no later than July 1, 2023, and subsequent stack tests on an annual basis (between eleven and thirteen calendar months following the prior stack test) unless two consecutive annual stack tests show that Furnace 1's PM emissions are at or below 50% of the emission limit, in which case Pilkington shall not be required to conduct a stack test for the next year, but Pilkington must conduct a stack test within the second year. At no time may the interval between stack tests exceed twenty-five months. If a stack test shows that Furnace 1's PM emissions exceed 50% of the emission limit, Pilkington must resume annual stack tests until it again has two consecutive annual stack tests with emissions at or below 50% of the emission limit.

D. Shutdown of Furnace

13. The permanent shutdown of Furnace 1, and the Surrender of Air Permits or Air Permit Conditions for that Furnace will be deemed to satisfy all requirements of Section IV of this Consent Decree on and after the later of: (1) the date of the permanent shutdown of Furnace 1; or (2) the date of the Surrender of Air Permits or Air Permit Conditions.

14. If Pilkington elects to permanently shut down Furnace 1, Pilkington must provide written notice of the proposed permanent shutdown to the United States and EPA in the manner set forth in Section XV of this Decree (Notices). The notice shall include any written correspondence to the permitting authority related to the Surrender of Air Permits or Air Conditions for the Furnace(s).

a. Permanent Shutdown before the Effective Date. If Pilkington permanently shuts down Furnace 1 prior to the Effective Date, Pilkington shall provide written notice of the permanent shutdown by no later than the Effective Date.

b. Permanent Shutdown after the Effective Date. If Pilkington permanently shuts down or decides to permanently shut down Furnace 1 after the Effective Date, Pilkington shall provide written notice of the permanent Furnace shutdown (1) in the annual report prior to permanently shutting down the Furnace; or (2) within thirty days after the date Pilkington makes the decision to permanently shut down the Furnace, but before the shutdown occurs.

E. CEMS Installation, Calibration, Certification, Maintenance, and Operation

15. Pilkington shall install, calibrate, certify, maintain, and operate NO_x CEMS and SO_2 CEMS on Furnace 1 in accordance with the requirements found under Paragraph 16 and by no later than the dates listed in Table 10.

Table 10: CEMS Compliance Deadlines for Furnace 1

NO_x CEMS Outlet Deadline	NO_x CEMS Inlet Deadline	SO_2 CEMS Deadline
180 Days from the Effective Date	Upon startup of Furnace 1 after the rebuild or March 31, 2023, whichever is earlier.	180 Days from the Effective Date

16. Except as provided otherwise herein, Pilkington shall install, calibrate, certify, maintain, and operate all NO_x and SO_2 CEMS in accordance with the following requirements:

a. NO_x and SO_2 CEMS shall continuously monitor and record the hourly NO_x and SO_2 emission concentrations (in parts per million (ppm)) during each Operating Day at the Furnace.

b. NO_x and SO_2 CEMS shall be installed, calibrated, certified, maintained, and operated in accordance with 40 C.F.R. § 60.13, 40 C.F.R. Part 60, Appendix B (Performance Specification 2), and 40 C.F.R. Part 60, Appendix F (Quality Assurance Procedures).

c. Events that will trigger subsequent CEMS Certification include any Furnace Startup or Control Device Startup. Pilkington shall commence such subsequent CEMS Certification no later than forty-five Days after Furnace Startup commences or the Day after a Control Device Startup period concludes. If a Furnace Startup and a Control Device Startup happen at the same time, then the subsequent CEMS Certification shall not be conducted until the first Operating Day after the conclusion of the Furnace Startup period or the Control Device Startup period, whichever is later.

17. Where the Consent Decree requires the use of CEMS to determine an emission rate or compliance with an emission rate (*i.e.*, pounds per Ton, or pounds per Day), the data acquisition and handling system for the CEMS shall convert the ppm values into pounds per hour values using an O_2 CEMS or a flow monitor installed, calibrated, certified, maintained, and operated in accordance with 40 C.F.R. § 60.13, 40 C.F.R. Part 60, Appendix B (Performance Specification 2 or 6, as applicable) and 40 C.F.R. Part 60, Appendix F (Quality Assurance Procedures). At the end of each Operating Day, the data acquisition and handling system shall divide the 24-hour Block Emission Rate by the total Tons of glass produced during the Operating Day to describe the pound per Ton emission rate for the Operating Day. The resulting number shall be recorded in units of pounds of pollutant per Ton of glass produced for the applicable Operating Day.

18. CEMS Certification and CEMS Certification Events. Pilkington shall not perform any CEMS Certification (initial or subsequent) during Abnormally Low Production Rate Days, Furnace Startup, Control Device Startup, Malfunction of any Control Device, or Maintenance of any Control Device. By no later than the first Operating Day after any CEMS Certification Event concludes at a Furnace, a new CEMS Certification or subsequent CEMS Certification shall be initiated for that Furnace. If a CEMS Certification Event occurs at either Furnace, the requirement to demonstrate compliance continuously with the applicable final NO_x or SO_2 emission limit for that Furnace will be suspended until CEMS Certification or subsequent CEMS Certification is complete (provided that the seven-day test required for CEMS Certification is

commenced on the first Operating Day following the conclusion of the CEMS Certification Event).

19. Good Air Pollution Control Practices. At all times, including during Abnormally Low Production Rate Days, Furnace Startup, Control Device Startup, Malfunction, and Maintenance, Pilkington shall maintain and operate Furnace 1, all Control Devices, and any other associated air pollution control equipment in accordance with 40 C.F.R. § 60.11(d).

20. Maintenance.

a. Scheduled or Preventive Furnace Maintenance. Scheduled and preventive Maintenance on Furnace 1, including checker-raking and burning, shall not exceed ninety-six hours annually. Only scheduled or preventive Maintenance hours that occur during an Operating Day covered by the 24-hour Block Emission Rate for Maintenance (rather than the 30-day Rolling Average Emission Rate) count towards the ninety-six hour annual limit. Scheduled and preventative Maintenance on Furnace 1 shall be conducted only when Pilkington is operating downstream Control Devices required by this Consent Decree.

b. Scheduled or Preventive Maintenance on Control Devices. Any Operating Day that is exempted from the applicable 30-day Rolling Average Emission Rate, or the 30-Day Rolling Average NO_x Removal Efficiency Rate because of scheduled or preventive Maintenance being performed on a Control Device is subject to the following restrictions and must comply with the following requirements: scheduled or preventive Maintenance of Control Devices shall occur and shall be completed while the

Furnace connected to the Control Device(s) is not Operating, unless the Furnace connected to the Control Device(s) is scheduled to have a Continuous Operating Year. During a Continuous Operating Year, scheduled or preventive Maintenance on the Control Device(s) may be conducted while the Furnace connected to the Control Device(s) is Operating. All Control Device Maintenance occurring during a Continuous Operating Year must also be performed in accordance with the following requirement:

i. Bypass of any Control Device for the purpose of scheduled or preventive Maintenance shall not exceed 144 total hours per Calendar Year, per Control Device.

ii. Bypass of the SCR required as a result of bypassing the PD or DS shall count towards the 144 hour limit for the SCR.

iii. Bypass of the DS required as a result of bypassing the PD shall count towards the 144 hour limit for the DS.

iv. Bypass of the PD required as a result of bypassing the DS shall count towards the 144 hour limit.

21. Source/Stack Testing. All source/stack tests required by the Consent Decree shall be conducted in accordance with the requirements of the specified Test Method and shall be performed under representative Operating conditions or applicable state requirements for Furnace 1. Each test shall be comprised of at least three valid one-hour stack test runs. Pilkington shall discard any invalid test runs, such as those that are compromised because of sample contamination. If a test run is discarded, Pilkington shall report the results of the discarded test runs to EPA and shall provide all information

necessary to document why the test run was not valid. Pilkington shall replace the discarded test run with an additional valid test run unless EPA, in its discretion, approves a written request from Pilkington to determine Consent Decree compliance based on the two other test runs that were not discarded. Source/stack testing shall not be conducted during Abnormally Low Production Rate Days, a Furnace Startup, a Control Device Startup, a Malfunction of the Furnace or relevant Control Device, or Maintenance of the Furnace or relevant Control Device.

F. Alternative Control Technology

22. At any time before termination of the Consent Decree, Pilkington may request approval from EPA to implement other control technology (including process controls or methods) for controlling NO_x, SO_2, or PM emissions from Furnace 1 in addition to or in lieu of the Control Devices, process controls, or methods required in the Consent Decree. In seeking such approval, Pilkington must demonstrate that the proposed alternative control technology, process control, or method is capable of achieving and maintaining compliance with the final emissions limits required by Section IV of the Consent Decree. Pilkington must also demonstrate that it can achieve monitoring equal to or better than what is required in this Consent Decree. Approval or denial of such request shall be made by EPA and Pilkington may invoke dispute resolution.

G. Abnormally Low Production Rate Days

23. Table 11 lists the threshold values for an Abnormally Low Production Rate Day for Furnace 1.

Table 11: Furnace 1 Abnormally Low Production Rate Day Threshold

Abnormally Low Production Rate Day Threshold (tons/day)	Abnormally Low Production Rate (tons/hour)
328	13.7

24. If increased production capacity at Furnace 1 is authorized by a revised Permit limit, the Abnormally Low Production Rate Day Threshold will be 35% of the new permitted production (or design production, where there is no permitted production) as determined on a daily basis.

H. Recordkeeping

25. As otherwise provided herein, Pilkington shall record: (1) the hourly Inlet and Outlet NO_x concentrations (emissions in ppm) before and after the SCR or Ceramic Filter System using CEMS data; (2) the hourly SO_2 and NO_x emissions rate (lbs per hour) as calculated using CEMS data; (3) the Daily Glass Production; and (3) the daily calculation of the 30-day Rolling Average NO_x Removal Efficiency Rate, and 4) the daily calculation of the 30-day Rolling Average NO_x and SO_2 Emission Rates, as applicable.

26. For any Operating Day(s) that Pilkington excludes from the relevant 30-day Rolling Average NO_x Removal Efficiency Rate, or the 30-day Rolling Average NO_x or SO_2 Emission Rate, it shall record: (1) the date; (2) the relevant exception pursuant to which Pilkington is excluding the emissions generated during that Operating Day (or Days) (*i.e.*, Abnormally Low Production Rate Day, Furnace Startup, Control Device Startup, Malfunction of Control Device, or Maintenance of Control Device); (3) a calculation of the applicable 24-hour Block Emission Rate (in pounds of NO_x and/or SO_2

per Day; (4) the emissions recorded by the CEMS (in pounds of NO_x and/or SO_2 per Day); and (5) if it was a Malfunction, an explanation and any corrective actions taken. For any Operating Day(s) excluded for Maintenance of a Control Device or Furnace, Pilkington shall also record the total number of hours during which Maintenance occurred.

27. Recordkeeping during Furnace Startup. In addition to the recordkeeping requirements listed above, Pilkington must also keep the following records during Furnace Startup.

a. The amount of salt cake added to the batch materials in pounds per 1,000 pounds of sand;

b. The total natural gas usage in Furnace 1 (in million standard cubic feet); and

c. A description of NO_x reduction techniques used during this period (if any).

V. ENVIRONMENTAL MITIGATION

28. Pilkington shall implement the Environmental Mitigation Project (Mitigation Project) described in Appendix A to this Consent Decree. The Mitigation Project shall be completed within twelve months after the Effective Date.

29. Pilkington shall maintain, and within thirty Days upon EPA's request, provide to EPA, all documents that substantiate the funds expended and work completed to implement the Mitigation Project described in this Section and Appendix A.

30. Pilkington certifies the truth and accuracy of the following:

a. That, as of the date of executing this Decree, Pilkington is not required to perform or develop the Mitigation Project by any federal, state, or local law or regulation and is not required to perform or develop the Mitigation Project by agreement, grant, or as injunctive relief awarded in any other action in any forum;

b. That the Mitigation Project is not a Mitigation Project that Pilkington was planning or intending to construct, perform or implement other than in settlement of the claims resolved in this Decree;

c. That Pilkington has not received and will not receive credit for the Mitigation Project in any other enforcement action; and

d. That Pilkington shall neither generate nor use any pollutant reductions from the Mitigation Project as netting reductions, pollutant offsets, or to apply for, obtain, trade, or sell any pollutant reduction credits.

31. Beginning with the first annual report required in Section VIII (Reporting Requirements) and continuing until completion of the Mitigation Project, Pilkington shall provide EPA with updates concerning the progress of the Mitigation Project in the annual reports required in Section VIII (Reporting Requirements) of this Consent Decree.

32. Within ninety Days following the completion of the Mitigation Project, Pilkington shall submit a report to the United States and EPA in accordance with Section XV (Notices) that documents that the Mitigation Project was completed and the following:

a. the anticipated annual emission reductions or other environmental benefits achieved (including the emission reductions achieved for PM); and

b. the Project Dollars incurred by Pilkington in implementing the Mitigation Project.

33. Pilkington acknowledges that it will receive credit for completion of the Mitigation Project only if Pilkington demonstrates that the Mitigation Project has been fully implemented as described in Appendix A; the required funds have been spent by Pilkington in implementing the Mitigation Project to meet all requirements of this Section of the Consent Decree and Appendix A.

VI. PERMITS

34. Where any compliance obligation under this Consent Decree requires Pilkington to obtain a federal, state, or local Permit, Pilkington shall submit timely and complete applications and take all other actions necessary or required to obtain all such Permits. Pilkington may seek relief under the provisions of Section X (Force Majeure) of this Consent Decree for any delay in the performance of any such obligation resulting from a failure to obtain, or a delay in obtaining, any Permit required to fulfill such obligation, if Pilkington has submitted timely and complete applications and has taken all other actions necessary to obtain all such Permits. If Pilkington fails to submit a timely Permit application, Pilkington shall be barred from asserting a claim under Section X (Force Majeure) of the Consent Decree that is based on delays in receiving necessary Permits.

35. For Furnace 1, adequately in advance of, but by no later than 180 Days before any applicable deadline specified in Section IV (Compliance Requirements), Pilkington shall submit a Permit application which is timely and that is complete for processing purposes pursuant to 15A NCAC 2Q.0312 to the North Carolina air permitting authority and take all other actions necessary to obtain any pre-construction, construction, and operating Permits required to install, construct, and operate Control Devices and/or CEMS required under Section IV (Compliance Requirements).

36. If not already included as part of the Permit applications described above, by no later than one year after each compliance deadline for the final emission limits specified in Section IV (Compliance Requirements), Pilkington shall also either: (1) submit a Permit application which is timely and that is complete for processing purposes pursuant to 15A NCAC 2Q.0312 to the North Carolina Department of Environmental Quality to incorporate the requirements listed in Paragraph 36.a through 36.g into a permit (other than a Title V permit) that is (i) federally enforceable; (ii) issued under the North Carolina SIP; and, (iii) issued pursuant to authority independent of the North Carolina Department of Environmental Quality's authority to issue Title V permits, so that those requirements become 'applicable requirements' within the meaning of 42 U.S.C. § 7661c(a), and 40 C.F.R. § 70.2, , and those requirements shall survive termination of this Consent Decree, or (2) request that the North Carolina Department of Environmental Quality submit the portions of the Consent Decree listed in Paragraph 36.a through 36.g to the U.S. EPA for approval under the North Carolina SIP in accordance with 42 U.S.C. § 7410, including, but not limited to, 42 U.S.C. § 7410(k).

Pilkington agrees that if Pilkington requests the North Carolina Department of Environmental Quality to submit a SIP revision to the U.S. EPA, Pilkington will not contest the submittal of any such proposed SIP revision that incorporates the terms of this Consent Decree to U.S. EPA or U.S. EPA's approval of such submittal. The permit or SIP amendment requested under this Paragraph shall incorporate and require Pilkington's compliance with the following requirements of the Consent Decree:

a. requirements to Operate the Control Devices as specified in Paragraphs 8, 10, and 12;

b. any applicable final emission limits, as well as the specified method of measuring and calculating emissions and averaging periods specified in Paragraphs 8, 10, 12, and 20, and relevant definitions;

c. requirements to install, calibrate, certify, maintain, and operate NO_x and SO_2 CEMS pursuant to Paragraphs 15 through 18;

d. requirements to operate in accordance with 40 C.F.R. § 60.11(d) pursuant to Paragraph 19;

e. requirements for PM stack tests pursuant to Paragraph 21; and

f. any reporting and recordkeeping requirements associated with Furnace 1 and the Control Devices pursuant to Section VIII (Reporting Requirements) or any other provision of this Consent Decree; and

g. all of Section VII (Emission Credit Generation).

37. Upon issuance of any Permit or approval required under Paragraphs 35 or 36, or a source-specific SIP revision under Paragraph 36, Pilkington shall promptly file

any applications necessary to incorporate the requirements of that Permit or the source-specific SIP revisions into the Title V operating Permit of the Laurinburg Facility. Such application(s) for a Title V permit, or for any subsequent renewal or modifications thereof, shall expressly incorporate the Consent Decree provisions listed in Paragraph 36.a through 36.g. Pilkington shall not challenge the inclusion of requirements listed in Paragraph 36.a through 36.g in any such Permit unless such provisions are superseded by future, federally-approved requirements pursuant to the CAA, but nothing in this Consent Decree is intended nor shall it be construed to preclude Pilkington from challenging any more stringent terms should they be proposed for reasons independent of this Consent Decree.

38. The Parties agree that the incorporation of any of the requirements listed in Paragraph 36.a. through 36.g. into the Title V Permit for the Laurinburg Facility shall be done in accordance with the applicable federal, State or local rules and laws.

39. This Consent Decree shall not terminate until the requirements listed in Paragraph 36.a. through 36.g. are incorporated into a federally enforceable Permit or SIP Amendment, and also the Title V operating permit of the Laurinburg facility in accordance with Paragraph 37, such that all requirements listed in Paragraph 36.a through 36.g shall survive termination of this Consent Decree.

VII. EMISSION CREDIT GENERATION

40. Prohibitions. Pilkington shall neither generate nor use any CD Emissions Reductions: as netting reductions; as emissions offsets; or to apply for, obtain, trade, or sell any emission reduction credits. For projects achieving CD Emissions Reductions,

and projects implemented concurrently with or after either projects, controls, or actions achieving CD Emissions Reductions or the deadline for implementing such projects, controls, or actions achieving CD Emissions Reductions, whichever comes first, baseline actual emissions during any 24-month period selected by Pilkington shall be adjusted downward to exclude any portion of the baseline emissions that would have been eliminated as CD Emissions Reductions had Pilkington been complying with this Consent Decree during that 24-month period. Any plant-wide applicability limits (PALs) or PAL-like limits that apply to Furnace 1 must be adjusted downward to exclude any portion of the baseline emissions used in establishing such limit(s) that would have been eliminated as CD Emissions Reductions had Pilkington been complying with this Consent Decree during such baseline period.

41. Glass Manufacturing Exception to the Prohibition. Notwithstanding the general prohibition set forth in Paragraph 40 above, Pilkington may use past actual emissions from Furnace 1, without the downward adjustment required by Paragraph 40, as baseline actual emissions for Furnace 1 in the actual–to-projected-actual applicability test for the following projects: First, for an increase in production rate achieved in conjunction with the first Cold Tank Repair at Furnace 1 following entry of this Decree; second, for an increase in production rate achieved in conjunction with the installation of a Control Device pursuant to this Decree. Utilization of this exception is subject to each of the following conditions:

a. If use of past actual emissions from Furnace 1 as baseline actual emissions in the actual-to-projected-actual applicability test leads to the calculation of a

negative (below zero) emissions increase at that emissions unit, the emissions increase at that emissions unit shall be considered equal to zero in determining whether the project will result in a significant emissions increase;

b. Use of past actual emissions under this Exception to the Prohibition does not extend to any use of past actual emissions in determining the net emissions increase from the major stationary source. However, if past actual emissions are used under this Exception to the Prohibition, then baseline actual emissions for Furnace 1 in any subsequent netting analysis shall be based upon a rate no greater than the projected actual emissions determined as a result of the use of this Exception to the Prohibition;

c. Pilkington shall still be subject to all federal and state regulations applicable to the PSD, Non-attainment NSR, and/or Minor NSR permitting process; and,

d. Pilkington shall provide notice of such project(s) to EPA (including copies of all permit applications and other relevant documentation submitted to the permitting authority) upon submission of a permit application for the project(s) to the permitting authority, or thirty (30) days prior to implementing a project, control, or action using this Exception to the Prohibition, whichever comes first.

42. Outside the Scope of the Prohibition. Nothing in this Section VII is intended to prohibit Pilkington from seeking to:

a. Use or generate emission reductions from emissions units that are covered by this Consent Decree to the extent that the proposed emission reductions represent the difference between CD Emissions Reductions and more stringent control requirements that Pilkington may elect to accept for Furnace 1 in a permitting process, so

long as Pilkington: (1) timely reports any such use of emission reductions in accordance with Section VIII (Reporting Requirements) and (2) accepts the more stringent emission rate(s) in a federally enforceable Permit for Furnace 1;

b. Use or generate emission reductions from emissions units that are not subject to an emission limitation or control requirement pursuant to this Consent Decree; or

c. Use CD Emissions Reductions for compliance with any rules or regulations designed to address regional haze or the non-attainment status of any area (excluding PSD and non-attainment NSR rules, but including, for example, RACT rules) that apply to the facility; provided, however, that Pilkington shall not be allowed to trade or sell any CD Emissions Reductions.

VIII. REPORTING REQUIREMENTS

43. Until termination of this Consent Decree pursuant to Section XX, Pilkington shall submit to the United States and EPA a written, annual progress report by no later than March 1 of each succeeding Calendar Year.

44. Each annual report shall include the following information for the preceding Calendar Year: (1) the status of Pilkington's progress toward implementing Section IV (Compliance Requirements); (2) a description of any Section IV Compliance Requirements completed; (3) any problems encountered or anticipated in implementing Section IV (Compliance Requirements), together with implemented or proposed solutions; (4) a summary of all permitting activity pertaining to compliance with the Consent Decree including the status of any necessary Permit applications; (5) a record of

Furnace 1's daily 30-day Rolling Average Emission Rate for NO_x and SO_2, as applicable; (6) a record of Furnace 1's daily 30-day Rolling Average NO_x Removal Efficiency Rate, as applicable; (7) the actual monthly emissions of NO_x and SO_2, from Furnace 1 measured using CEMS, and for PM emissions as estimated based on the most recent source/stack test(s); (7) the results of any source/stack testing performed at Furnace 1; (8) Daily Glass Production rates at Furnace 1; (9) monthly production of glass at Furnace 1; (10) a list of Days excluded from the 30-day Rolling Average Emission Rates for NO_x and SO_2, and the 30-day Rolling Average NO_x Removal Efficiency Rate due to an Abnormally Low Production Rate Day, Furnace Startup, Control Device Startup, Malfunction, or Maintenance; (11) the pounds of NO_x or SO_2 emitted from Furnace 1 for each Day excluded from the 30-day Rolling Averages; (12) for Day(s) excluded because of Furnace Startup, the amount of cubic feet of natural gas burned on such Day(s); (13) status of payment of any stipulated penalties due or demanded; and (14) any other information required to be recorded in Paragraphs 25–27, or 42.

45. Each annual report shall also include a description of any non-compliance with the requirements of this Consent Decree and an explanation of the violation's likely cause and of the remedial steps taken, or to be taken, to prevent or minimize the violation. If Pilkington violates, or has reason to believe that it may have violated, any requirement of this Consent Decree, Pilkington shall notify the United States and EPA of the violation and its likely duration, in writing and by telephone, fax, or email, within ten Days of the Day Pilkington first became aware of the violation or potential violation. This notice shall provide an explanation of the violation's likely cause and of the

remedial steps taken, or to be taken, to prevent or minimize such violation. If the cause of a violation cannot be fully explained at the time the report is due, Pilkington shall explain this in the report. Pilkington shall investigate the cause of the violation and shall then submit an amendment to the report, including a full explanation of the cause of the violation, within thirty Days of the Day Pilkington first becomes aware of the cause of the violation. Nothing in this Paragraph or the following Paragraph relieves Pilkington of its obligation to provide the notice required by Section X (Force Majeure) of this Consent Decree.

46. Whenever any violation of this Consent Decree or any other event affecting Pilkington's performance under this Consent Decree, or affecting the performance of Furnace 1, may pose an immediate threat to the public health or welfare or the environment, Pilkington shall notify EPA orally or by electronic email transmission as soon as possible, but in no case no later than twenty-four hours after Pilkington first knew of the violation or event. This procedure is in addition to the requirements set forth in the preceding Paragraph.

47. Pilkington shall notify EPA in writing of a proposed permanent shutdown of Furnace 1 prior to permanently shutting down Furnace 1.

48. All reports and notifications required under this Section shall be submitted in accordance with Section XV of this Consent Decree (Notices).

49. Each report or notification submitted by Pilkington under this Section shall be signed by an official of the submitting party and shall include the following certification:

> I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.

This certification requirement does not apply to emergency or similar notifications where compliance would be impractical.

50. The reporting requirements of this Consent Decree do not relieve Pilkington of any reporting obligations required by the Clean Air Act or its implementing regulations, or by any other federal, state, or local law, regulation, Permit, or other requirement.

51. Any information provided pursuant to the terms and implementation of this Consent Decree may be used by the United States in any proceeding to enforce the provisions of this Consent Decree and as otherwise permitted by law.

IX. STIPULATED PENALTIES

52. Pilkington shall be liable for stipulated penalties to the United States for violations of the Consent Decree as specified below, unless excused under Section X (Force Majeure). A violation includes failing to perform any obligation required by the terms of this Consent Decree, including any work plan or schedule approved under this Consent Decree, according to all applicable requirements of this Consent Decree, and within the specified time schedules established by or approved under this Consent Decree.

53. Emission Limits. The following stipulated penalties shall accrue per violation for each violation of any NO_x, SO_2 and/or PM interim or final emission limit specified in Section IV (Compliance Requirements):

a. Where the violation exceeds the applicable emission limit by less than or equal to 10%:

Penalty Per Violation Per Day	Period of Noncompliance
$750	1st through 30th Day
$1,500	31st Day and beyond

b. Where the violation exceeds the applicable emission limit by more than 10%:

Penalty Per Violation Per Day	Period of Noncompliance
$1,500	1st through 14th Day
$2,250	15th through 30th Day
$3,000	31st Day and beyond

c. Emission limit violations during stack/source testing: For each stack/source test required by Section IV (Compliance Requirements) where the applicable interim or final emission limit for PM is exceeded, a stipulated penalty of $5,000 shall accrue per stack/source test per Calendar Year.

54. Compliance Deadlines for Installing and Operating Control Devices or Alternative Primary Control Technology. The following stipulated penalties shall accrue per violation per Day for each violation of any compliance deadline specified in Section IV (Compliance Requirements) of the Consent Decree regarding the installation and operation of Control Devices or alternative Primary Control Technology:

Penalty Per Violation Per Day	Period of Noncompliance
$2,250	1st through 14th Day
$3,500	15th through 30th Day
$5,000	31st Day and beyond

55. Installation of CEMS. The following stipulated penalties shall accrue per violation per Day for each violation of any requirement identified in Section IV (Compliance Requirements) of the Consent Decree regarding the installation and operation of a CEMS by the specified deadlines:

Penalty Per Violation Per Day	Period of Noncompliance
$300	1st through 30th Day
$600	31st through 60th Day
$1,200	61st Day and beyond

56. Reporting Requirements. The following stipulated penalties shall accrue per violation per Day for each violation of the reporting requirements of Section VIII (Reporting Requirements):

Penalty Per Violation Per Day	Period of Noncompliance
$250	1st through 14th Day
$500	15th through 30th Day
$1,000	31st Day and beyond

57. Permitting Requirements. The following stipulated penalties shall accrue per violation per Day for each violation of any permitting requirement identified in Section VI (Permits) of this Consent Decree:

Penalty Per Violation Per Day	Period of Noncompliance
$750	1st through 14th Day
$1,250	15th through 30th Day
$2,000	31st Day and beyond

58. Emission Credit Generation Requirements. The following stipulated penalties shall accrue for violations of the requirements of Section VII (Emission Credit Generation) of this Consent Decree:

Pollutant for which reductions were impermissibly used or baseline was not adjusted downward	Penalty per ton of pollutant impermissibly used or counted in baseline
Nitrogen Oxides	$25,000
Sulfur Dioxide	$25,000
Particulate Matter	$100,000

In addition to stipulated penalties, (1) Pilkington shall purchase and retire the amount of emissions offsets impermissibly used or sold and (2) any PSD, Non-attainment NSR, and/or synthetic Minor NSR permit improperly relying on CD Emissions Reductions in violation of Section VII (Emission Credit Generation) will be subject to reevaluation as to whether a significant emissions increase and significant net emissions increase occurred such that the project qualified as a major modification.

59. Other Violations. The following stipulated penalties shall accrue per violation per Day for each violation of any other requirement of the Consent Decree:

Penalty Per Violation Per Day	Period of Noncompliance
$750	1st through 14th Day
$1,000	15th Day and beyond

60. Stipulated penalties under this Section shall begin to accrue on the Day after performance is due or on the Day a violation occurs, whichever is applicable, and shall continue to accrue until performance is satisfactorily completed or until the

violation ceases. Stipulated penalties shall accrue simultaneously for separate violations of this Consent Decree. Per Day penalties do not increase from one tier to the next unless the violations are continuous.

61. Pilkington shall pay any stipulated penalty within thirty Days of receipt of the written demand by the United States, unless Pilkington elects within twenty Days of receipt of the written demand to dispute the obligation in accordance with the Dispute Resolution procedure set forth in Section XI below.

62. The United States may, in the unreviewable exercise of its discretion, reduce or waive the amount of stipulated penalties otherwise due under this Consent Decree.

63. Stipulated penalties shall continue to accrue during any dispute resolution, but need not be paid until the following:

a. If the dispute is resolved by agreement or by a decision of the United States that is not appealed to the Court, Pilkington shall pay accrued penalties determined to be owing, together with interest, to the United States within thirty Days of the effective date of the agreement or Pilkington's receipt of the United States' decision or order.

b. If the dispute is appealed to the Court and the United States prevails in whole or in part, Pilkington shall pay all accrued penalties determined by the Court to be owing, together with interest, within sixty Days of receiving the Court's decision or order, except as provided in Paragraph 63.c, below.

c. If either Party appeals the District Court's decision, Pilkington shall pay all accrued penalties determined to be owing, together with interest, within fifteen Days of receiving the final appellate court decision.

64. Pilkington shall pay stipulated penalties owing to the United States by FedWire Electronic Funds Transfer ("EFT") to the U.S. Department of Justice in accordance with written instructions to be provided to Pilkington by the Financial Litigation Unit ("FLU") of the U.S. Attorney's Office for the Middle District of North Carolina. The FLU will provide payment instructions to:

Richard A. Altman
Regional Director, Architectural
Pilkington North America, Inc.
811 Madison Ave.
Toledo, OH 43604
Richard.Altman@nsg.com
(419) 247-4814

on behalf of Pilkington. At the time of payment, Pilkington shall send a copy of the EFT authorization form and the EFT transaction record, together with a transmittal letter, to the United States and EPA in accordance with Section XV of this Decree (Notices); by email to acctsreceivable.CINWD@epa.gov; and by mail to:

EPA Cincinnati Finance Office
26 Martin Luther King Drive
Cincinnati, OH 45268

This transmittal letter shall state that the payment is for the stipulated penalties owed pursuant to the Consent Decree in *United States v. Pilkington North America, Inc.* (M.D.N.C.), shall reference the civil action number and DOJ case number 90-5-2-1-10328, and shall state for which violation(s) the penalties are being paid.

65. Pilkington shall not deduct any penalties paid under this Consent Decree pursuant to this Section in calculating its federal, state, and local income taxes.

66. If Pilkington fails to pay stipulated penalties according to the terms of this Consent Decree, Pilkington shall be liable for interest on such penalties, as provided for in 28 U.S.C. § 1961, accruing as of the date payment became due. Nothing in this Paragraph shall be construed to limit the United States from seeking any remedy otherwise provided by law for Pilkington's failure to pay any stipulated penalties.

67. Subject to the provisions of Section XIII of this Consent Decree (Effect of Settlement/Reservation of Rights), the stipulated penalties provided for in this Consent Decree shall be in addition to any other rights, remedies, or sanctions available to the United States for Pilkington's violation of this Consent Decree or applicable law, except that for any violation of relevant statutory, regulatory, or permitting requirements for which this Consent Decree provides for payment of a stipulated penalty, the United States will elect whether to seek stipulated penalties or to seek statutory penalties for such violation.

X. FORCE MAJEURE

68. "Force Majeure," for purposes of this Consent Decree, is defined as any event arising from causes beyond the control of Pilkington, of any entity controlled by Pilkington, or of Pilkington's contractors that delays or prevents the performance of any obligation under this Consent Decree despite Pilkington's best efforts to fulfill the obligation. The requirement that Pilkington exercise "best efforts to fulfill the obligation" includes using best efforts to anticipate any potential Force Majeure event

and best efforts to address the effects of any such event: (a) as it is occurring and (b) after it has occurred in order to prevent or minimize any resulting delay to the greatest extent possible. Force Majeure does not include Pilkington's financial inability to perform any obligation under this Consent Decree.

69. If any event occurs or has occurred that may delay the performance of any obligation under this Consent Decree, whether or not caused by a Force Majeure event, Pilkington shall provide notice orally or by electronic transmission to EPA within seven Days of when Pilkington first knew that the event might cause a delay. Within fifteen Days thereafter, Pilkington shall provide in writing to EPA an explanation and description of the reasons for the delay; the anticipated duration of the delay; all actions taken or to be taken to prevent or minimize the delay; a schedule for implementation of any measures to be taken to prevent or mitigate the delay or the effect of the delay; Pilkington's rationale for attributing such delay to a Force Majeure event if it intends to assert such a claim; and a statement as to whether, in the opinion of Pilkington, such event may cause or contribute to an endangerment to public health, welfare or the environment. Pilkington shall include with any notice all available documentation supporting the claim that the delay was attributable to a Force Majeure. Failure to comply with the above requirements shall preclude Pilkington from asserting any claim of Force Majeure for that event for the period of time of such failure to comply, and for any additional delay caused by such failure. Pilkington shall be deemed to know of any circumstance of which Pilkington, any entity controlled by Pilkington, or Pilkington's contractors knew or should have known.

70. If EPA agrees that the delay or anticipated delay is attributable to a Force Majeure event, the time for performance of the obligations under this Consent Decree that are affected by the Force Majeure event will be extended by EPA for such time as is necessary to complete those obligations. An extension of the time for performance of the obligations affected by the Force Majeure event shall not, of itself, extend the time for performance of any other obligation. EPA will notify Pilkington in writing of the length of the extension, if any, for performance of the obligations affected by the Force Majeure event.

71. If EPA does not agree that the delay or anticipated delay has been or will be caused by a Force Majeure event, EPA will notify Pilkington in writing of its decision.

72. If Pilkington elects to invoke the dispute resolution procedures set forth in Section XI (Dispute Resolution), it shall do so no later than fifteen Days after receipt of EPA's notice. In any such proceeding, Pilkington shall have the burden of demonstrating by a preponderance of the evidence that the delay or anticipated delay has been or will be caused by a Force Majeure event, that the duration of the delay or the extension sought was or will be warranted under the circumstances, that best efforts were exercised to avoid and mitigate the effects of the delay, and that Pilkington complied with the requirements of this Section. If Pilkington carries this burden, the delay at issue shall be deemed not to be a violation by Pilkington of the affected obligation of this Consent Decree identified to EPA and the Court.

XI. DISPUTE RESOLUTION

73. Unless otherwise expressly provided for in this Consent Decree, the dispute resolution procedures of this Section shall be the exclusive mechanism to resolve disputes arising under or with respect to this Consent Decree. The procedures set forth in this Section do not apply to actions by the United States to enforce obligations of Pilkington that have not been disputed in accordance with this Section.

74. Except as otherwise expressly provided for in this Consent Decree, the dispute resolution procedures set forth in this Section shall be available to resolve any and all disputes arising under the Decree, provided that the Party invoking the procedures has made a good-faith attempt to resolve the matter with the other Party involved.

75. The dispute resolution procedures required herein shall be invoked upon the giving of written notice by a Party to the Consent Decree to another Party, advising the other Party of a dispute under Section XV (Notices). The notice shall describe the nature of the dispute and shall state the noticing Party's position with regard to the dispute. The Party receiving the notice shall acknowledge receipt of the notice and the Parties shall schedule a meeting to discuss the dispute informally not later than fourteen Days from the receipt of notice.

76. Informal Dispute Resolution. Disputes submitted to dispute resolution shall, in the first instance, be the subject of informal negotiations between the Parties. The period of informal negotiations shall not exceed thirty Days from the date the dispute arises, unless that period is modified by written agreement. If the Parties cannot resolve a dispute by informal negotiations, then the position advanced by the United States shall be

considered binding unless, within fourteen Days after the conclusion of the informal negotiation period, Pilkington invokes formal dispute resolution procedures as set forth below.

77. Formal Dispute Resolution. Pilkington shall invoke formal dispute resolution procedures, within the time period provided in the preceding Paragraph, by serving on the United States a written Statement of Position regarding the matter in dispute. The Statement of Position shall include, but need not be limited to, any factual data, analysis, or opinion supporting Pilkington's position and any supporting documentation relied upon by Pilkington. The United States shall serve its Statement of Position within forty-five Days of receipt of Pilkington's Statement of Position. The United States' Statement of Position shall include, but need not be limited to, any factual data, analysis, or opinion supporting that position and any supporting documentation relied upon by the United States. The United States' Statement of Position shall be binding on Pilkington, unless Pilkington files a motion for judicial review of the dispute in accordance with the following Paragraph.

78. Pilkington may seek judicial review of the dispute by filing with the Court and serving on the United States, in accordance with Section XV (Notices), a motion requesting judicial resolution of the dispute. The motion must be filed within forty-five Days of receipt of the United States' Statement of Position pursuant to the preceding Paragraph. The motion shall contain a written statement of Pilkington's position on the matter in dispute, including any supporting factual data, analysis, opinion, or documentation, and shall set forth the relief requested and any schedule within which the

dispute must be resolved for orderly implementation of the Consent Decree. The motion may not raise any issue not raised in informal dispute resolution pursuant to Paragraph 76, unless the United States raises a new issue of law or fact in its Statement of Position.

79. The United States shall respond to Pilkington's motion within the time period allowed by the Local Rules of this Court. Pilkington may file a reply memorandum, to the extent permitted by the Local Rules.

80. In a formal dispute resolution proceeding under this Section, the Court shall decide all disputes pursuant to applicable principles of law for resolving such disputes. In their filings with the Court, the Parties shall state their respective positions as to the applicable standard of law for resolving the particular dispute.

81. Where the nature of the dispute is such that a more timely resolution of the issue is required, the time periods set forth in this Section may be shortened upon motion of one of the Parties to the dispute or by agreement of the Parties. The Parties do not intend that the invocation of this Section by a Party shall cause the Court to draw any inferences nor establish any presumptions adverse to either Party as a result of the invocation of this Section.

82. In appropriate circumstances, as part of the resolution of any matter submitted to the Court under this Section, the Parties may agree to, or the Court may order, an extension or modification of the schedule for completion of work under the Consent Decree to account for the delay in the work that occurred as a result of dispute resolution. If appropriate, the Court may also order Pilkington to mitigate any adverse environmental impacts resulting from Pilkington's failure to timely perform any

obligation under this Consent Decree. Pilkington shall be liable for stipulated penalties for its failure thereafter to complete the work in accordance with the extended or modified schedule. Invocation of dispute resolution with respect to any of Pilkington's obligations under the Consent Decree shall not, of itself, excuse or extend the time for performance of any other obligation of Pilkington under the Consent Decree.

XII. INFORMATION COLLECTION AND RETENTION

83. The United States and its representatives, including attorneys, contractors, and consultants, shall have the right of entry into the Laurinburg Facility, at all reasonable times, upon presentation of credentials, to:

a. monitor the progress of activities required under this Consent Decree;

b. verify any data or information submitted to the United States in accordance with the terms of this Consent Decree;

c. obtain samples and, upon request, splits of any samples taken by Pilkington or its representatives, contractors, or consultants;

d. obtain documentary evidence, including photographs (which Pilkington may request copies of) and similar data; and,

e. assess Pilkington's compliance with this Consent Decree.

84. Upon request, Pilkington shall provide EPA or its authorized representatives splits of any samples taken by Pilkington. Upon request, EPA shall provide Pilkington splits of any samples taken by EPA.

85. Pilkington shall retain, and shall instruct its contractors and agents to preserve, all non-identical copies of all documents, records, or other information (including documents, records, or other information in electronic form) in its or its contractors' or agents' possession or control, or that come into its or its contractors' or agents' possession or control, and that relate to Pilkington's performance of its obligations under this Consent Decree. These information-retention requirements shall apply at the Laurinburg Facility until three years after this Consent Decree is terminated under Section XX (Termination). This information-retention requirement shall apply regardless of any contrary corporate or institutional policies or procedures. At any time during this information-retention period, upon request by the United States, Pilkington shall provide copies of any documents, records, or other information required to be maintained under this Paragraph.

86. At the conclusion of the information retention period provided in the preceding Paragraph, Pilkington shall notify the United States at least ninety Days prior to the destruction of any documents, records, or other information subject to the requirements of the preceding Paragraph and, upon request by the United States, Pilkington shall deliver any such documents, records, or other information to EPA. Pilkington may assert that certain documents, records, or other information is privileged under the attorney-client privilege or any other privilege recognized by federal law. If Pilkington asserts such a privilege, it shall provide the following: (1) the title of the document, record, or information; (2) the date of the document, record, or information; (3) the name and title of each author of the document, record, or information; (4) the

name and title of each addressee and recipient; (5) a description of the subject of the document, record, or information; and (6) the privilege asserted by Pilkington. However, no documents, records, or other information created or generated pursuant to the requirements of this Consent Decree shall be withheld on grounds of privilege.

87. Pilkington may also assert that information required to be provided under this Section is protected as Confidential Business Information ("CBI") under 40 C.F.R. Part 2 and any applicable state law. As to any information that Pilkington seeks to protect as CBI, Pilkington shall follow the procedures set forth in 40 C.F.R. Part 2 and any applicable state law.

88. This Consent Decree in no way limits or affects any right of entry and inspection, or any right to obtain information, held by the United States pursuant to applicable federal or state laws, regulations, or Permits, nor does it limit or affect any duty or obligation of Pilkington to maintain documents, records, or other information imposed by applicable federal or state laws, regulations, or Permits.

XIII. EFFECT OF SETTLEMENT/RESERVATION OF RIGHTS

89. This Consent Decree resolves the civil claims of the United States for the violations alleged in the Complaint filed in this action through the Date of Lodging. This Consent Decree also resolves the civil claims of the United States for the violations alleged in the notice of violation issued to Pilkington on August 28, 2020.

90. With respect to emissions of NO_x, SO_2, and PM, entry of this Consent Decree resolves the civil liability of Pilkington to the United States for the following

claims arising from any construction or modification commenced on Furnace 1 at the Laurinburg Furnace prior to the lodging of this Consent Decree:

a. claims based on Part C or D of Subchapter I of the Clean Air Act, 42 U.S.C. §§ 7470–7492, 7501–7515, and the regulations promulgated thereunder at 40 C.F.R. § 52.21, 40 C.F.R. §§ 51.165(a) and (b), and 51.166, 40 C.F.R. Part 51, Appendix S, and 40 C.F.R. § 52.24;

b. claims based on Sections 502(a) and 504(a) of Title V of the Clean Air Act, 42 U.S.C. §§ 7661a(a) and 7661c(a), but only to the extent that such claims are based on Pilkington's failure to obtain a Permit that reflects applicable requirements imposed under Parts C or D of Subchapter I; and

c. claims based on any applicable North Carolina state law counterparts to the provisions listed in the preceding subparagraphs of this Paragraph, including claims based on counterpart provisions of the federally-approved and enforceable North Carolina SIP.

91. The United States reserves all legal and equitable remedies available to enforce the provisions of this Consent Decree. This Consent Decree shall not be construed to limit the rights of the United States to obtain penalties or injunctive relief under the CAA or implementing regulations, or under other federal or state laws, regulations, or Permit conditions, except as expressly specified in Paragraphs 89 through 90. The United States further reserves all legal and equitable remedies to address any imminent and substantial endangerment to the public health or welfare or the

environment arising at, or posed by, the Laurinburg Facility, whether related to the violations addressed in this Consent Decree or otherwise.

92. In any subsequent administrative or judicial proceeding initiated by the United States for injunctive relief, civil penalties, other appropriate relief relating to the Laurinburg Facility or Pilkington's violations, Pilkington shall not assert, and may not maintain, any defense or claim based upon the principles of waiver, res judicata, collateral estoppel, issue preclusion, claim preclusion, claim-splitting, or other defenses based upon any contention that the claims raised by the United States in the subsequent proceeding were or should have been brought in the instant case, except with respect to claims that have been specifically resolved pursuant to Paragraphs 89 through 90.

93. This Consent Decree is not a Permit, or a modification of any Permit, under any federal, state, or local laws or regulations. Pilkington is responsible for achieving and maintaining complete compliance with all applicable federal, state, and local laws, regulations, and Permits; and Pilkington's compliance with this Consent Decree shall be no defense to any action commenced pursuant to any such laws, regulations, or Permits, except as set forth herein. The United States does not, by consent to the entry of this Consent Decree, warrant or aver in any manner that Pilkington's compliance with any aspect of this Consent Decree will result in compliance with provisions of the CAA, 42 U.S.C. §§ 7401, *et seq*., or with any other provisions of federal, state, or local laws, regulations, or Permits.

94. This Consent Decree does not limit or affect the rights of Pilkington or of the United States against any third parties, not party to this Consent Decree, nor does it

limit the rights of third parties, not party to this Consent Decree, against Pilkington, except as otherwise provided by law.

95. This Consent Decree shall not be construed to create rights in, or grant any cause of action to, any third party not party to this Consent Decree.

XIV. COSTS

96. The Parties shall bear their own costs of this action, including attorneys' fees, except that if the United States is the prevailing party, it shall be entitled to collect the costs (including attorneys' fees) incurred in any action necessary to collect any portion of any stipulated penalties due but not paid by Pilkington.

XV. NOTICES

97. Unless otherwise specified herein, whenever notifications, submissions, statements of position, or communications are required by this Consent Decree, they shall be made in writing, addressed as follows, and delivered by U.S. Mail, postage pre-paid, overnight mail, or registered mail, return receipt requested. Where an e-mail address is provided below, Pilkington shall also submit all Consent Decree submissions to the designated recipient electronically. Electronic submissions will be deemed submitted on the date they are transmitted electronically and only one electronic submission is required per recipient.

To the United States by mail:

EES Case Management Unit
Environment and Natural Resources Division
U.S. Department of Justice
P.O. Box 7611 Ben Franklin Station

Washington, D.C. 20044-7611
Re: DOJ No. 90-5-2-1-10328

To the United States by email:

eescdcopy.enrd@usdoj.gov
Re: DJ No. 90-5-2-1-10328

To EPA:

Chief
Air Enforcement Branch
U.S. Environmental Protection Agency, Region 4
Sam Nunn Atlanta Federal Center
61 Forsyth St. SW
Atlanta, GA 30303-8960

Nicole Radford
U.S. Environmental Protection Agency, Region 4
Sam Nunn Atlanta Federal Center
61 Forsyth St. SW
Atlanta, GA 30303-8960
radford.nicole@epa.gov

To Pilkington:

Richard A. Altman
Regional Director, Architectural
Pilkington North America, Inc.
811 Madison Ave.
Toledo, OH 43604
Richard.Altman@nsg.com

Office of the General Counsel, Legal Department
Pilkington North America, Inc.
811 Madison Ave.
Toledo, OH 43604

98. Any Party may, by written notice to the other Party, change its designated notice recipient or notice address provided above.

99. Notices submitted pursuant to this Section shall be deemed submitted upon mailing or e-mailing, unless otherwise provided in this Consent Decree or by mutual agreement of the Parties in writing.

XVI. SALE OR TRANSFER OF OPERATIONAL OR OWNERSHIP INTERESTS

100. If Pilkington proposes to sell or transfer an asset or an operational or ownership interest in the Laurinburg Facility to an entity unrelated to Pilkington ("Third Party"), it shall advise the Third Party in writing of the existence of this Consent Decree prior to such closing, and it shall send a copy of such written notification to the United States pursuant to Section XV (Notices) of this Consent Decree prior to such proposed closing.

101. Pilkington shall condition any transfer, in whole or in part, of ownership, operation of, or other interest in any portion of the Laurinburg Facility that is subject to the terms of this Decree upon the execution by the Third Party of a modification to the Consent Decree, making the terms and conditions of the Decree that apply to the Laurinburg Facility applicable to the Third Party. Pilkington shall submit the application for modification to the Court promptly upon such transfer, to make the terms and conditions of the Consent Decree that apply to the Laurinburg Facility applicable to the Third Party.

102. Upon approval by the Court of such modification, pursuant to Section XIX (Modification) of this Consent Decree, making the Third Party a party to this Consent Decree and liable for all the requirements of this Decree that may be applicable to the

transferred or purchased interests, Pilkington shall be released from the obligations and liabilities of this Consent Decree as to the transferred or purchased interests, provided that the environmental mitigation project pursuant to Section V (Environmental Mitigation) has been fully implemented and all Project Dollars have been expended.

103. This Consent Decree shall not be construed to impede the transfer of any interests between Pilkington and any Third Party so long as the requirements of this Consent Decree are met. This Section applies to transfers of assets or interest only, and shall not be construed to affect or apply to mergers or other corporate transactions in which the shares of Pilkington are acquired by any Third Party and the surviving corporation, by operation of law, assumes all of the assets and liabilities of Pilkington pursuant to this Consent Decree related to the Laurinburg Facility.

104. Notwithstanding the foregoing, however, Pilkington may not assign, and may not be released from, any obligation under this Consent Decree that is not specific to the purchased or transferred interests, including Section V (Environmental Mitigation),).

XVII. EFFECTIVE DATE

105. The Effective Date of this Consent Decree shall be the date upon which this Consent Decree is entered by the Court or a motion to enter the Consent Decree is granted, whichever occurs first, as recorded on the Court's docket.

XVIII. RETENTION OF JURISDICTION

106. The Court shall retain jurisdiction over this case until termination of this Consent Decree, for the purpose of: (1) resolving disputes arising under this Consent Decree pursuant to Section XI (Dispute Resolution), (2) entering orders modifying this

Decree pursuant to Section XIX (Modification), or (3) effectuating or enforcing compliance with the terms of this Consent Decree.

XIX. MODIFICATION

107. The terms of this Consent Decree, including any attached appendices, may be modified only by a subsequent written agreement signed by the United States and Pilkington. Where the modification constitutes a material change to the Consent Decree, it shall be effective only upon approval by the Court.

108. Any disputes concerning modification of this Consent Decree shall be resolved pursuant to Section XI of this Decree (Dispute Resolution). The Party seeking the modification bears the burden of demonstrating that it is entitled to the requested modification in accordance with Federal Rule of Civil Procedure 60(b).

XX. TERMINATION

109. After Pilkington has completed the requirements of Sections IV (Compliance Requirements) and VI (Permits) of this Consent Decree, has complied with all other requirements of this Consent Decree, including full funding and implementation of the environmental mitigation project, and has paid any accrued stipulated penalties as required by this Consent Decree, Pilkington may serve upon the United States a request for termination, stating that Pilkington has satisfied those requirements, together with all necessary supporting documentation. Notwithstanding Pilkington's request for termination, the permitting requirements of Paragraphs 34 through 39 and the information retention obligations of Paragraphs 85 and 86 shall remain in effect and continue until completed in accordance with the terms contained therein.

110. Following receipt by the United States of Pilkington's request for termination, the Parties shall confer informally concerning the request and any disagreement that the Parties may have as to whether Pilkington has satisfactorily complied with the requirements for terminating this Consent Decree. If the United States agrees that the Consent Decree may be terminated, the Parties shall submit, for the Court's approval, a joint stipulation terminating the Consent Decree.

111. If the United States does not agree that the Decree may be terminated, Pilkington may invoke dispute resolution under Section XI of the Consent Decree. However, Pilkington shall not seek dispute resolution of any dispute regarding termination until ninety (90) Days after service of its request for termination.

XXI. PUBLIC PARTICIPATION

112. This Consent Decree shall be lodged with the Court for a period of not less than thirty Days for public notice and comment in accordance with 28 C.F.R. § 50.7. The United States reserves the right to withdraw or withhold its consent if the comments regarding the Consent Decree disclose facts or considerations indicating that the Consent Decree is inappropriate, improper, or inadequate. Pilkington consents to entry of this Consent Decree without further notice and agrees not to withdraw from or oppose entry of this Consent Decree by the Court or to challenge any provision of the Consent Decree, unless the United States has notified Pilkington in writing that it no longer supports entry of the Consent Decree.

XXII. SIGNATORIES/SERVICE

113. Each undersigned representative of Pilkington and the Assistant Attorney General for the Environment and Natural Resources Division of the Department of Justice certifies that he or she is fully authorized to enter into the terms and conditions of this Consent Decree and to execute and legally bind the Party he or she represents to this document.

114. This Consent Decree may be signed in counterparts, and its validity shall not be challenged on that basis. Pilkington agrees to accept service of process by mail with respect to all matters arising under or relating to this Consent Decree and to waive the formal service requirements set forth in Rules 4 and 5 of the Federal Rules of Civil Procedure and any applicable Local Rules of this Court including, but not limited to, service of a summons. Pilkington need not file an answer or other responsive pleading to the Complaint in this action unless or until the Court expressly declines to enter this Decree, in which case Pilkington's responsive pleading to the Complaint would be due thirty Days following the Court's order.

XXIII. INTEGRATION

115. This Consent Decree constitutes the final, complete, and exclusive agreement and understanding between the Parties with respect to the settlement embodied in the Consent Decree and supersedes all prior agreements and understandings, whether oral or written, concerning the settlement embodied herein. No other document, nor any representation, inducement, agreement, understanding, or promise, constitutes any part of

this Consent Decree or the settlement it represents, nor shall it be used in construing the terms of the Consent Decree.

XXIV. APPENDICES

116. The following appendices are attached to and incorporated as part of this Consent Decree:

"Appendix A" is the description of the environmental mitigation project.

XXV. FINAL JUDGMENT

117. Upon approval and entry of this Consent Decree by the Court, this Consent Decree shall constitute a final judgment of the Court as to the United States and Pilkington North America, Inc.

XXVI. HEADINGS

118. Headings to the Sections and sub-Sections of this Consent Decree are provided for convenience and do not affect the meaning or interpretation of the provisions of this Consent Decree.

XXVII. 26 U.S.C. SECTION 162(f)(2)(a)(ii) IDENTIFICATION

119. For purposes of the identification requirement of Section 162(f)(2)(A)(ii) of the Internal Revenue Code, 26 U.S.C. § 162(f)(2)(A)(ii), performance of Section II (Applicability), Paragraph 4; Section IV (Compliance Requirements), Paragraphs 7–12, 14–19, 21–22, and 25–27; Section V (Environmental Mitigation), Paragraphs 28–29, 31–32, and related Appendix A; Section VI (Permits), Paragraphs 34–37; Section VIII (Reporting Requirements), Paragraphs 43–45 (except with respect to the payment of

stipulated penalties) and 47–49; Section XII (Information Collection and Retention), Paragraphs 83–86, is restitution or required to come into compliance with the law.

Dated and entered this 26th day of April, 2021.

UNITED STATES DISTRICT JUDGE
Middle District of North Carolina

Signature Page to the Consent Decree in *United States v. Pilkington North America, Inc.*

FOR PLAINTIFF THE UNITED STATES OF AMERICA:

Date: 1/13/2021

_____

ELLEN MAHAN
Deputy Section Chief
Environmental Enforcement Section
Environment and Natural Resources Division
United States Department of Justice

Date: 1/14/2021

_____

STEFAN J. BACHMAN
Trial Attorney
Environmental Enforcement Section
Environment & Natural Resources Division
United States Department of Justice
P.O. Box 7611 Ben Franklin Station
Washington, DC 20044
Stefan.Bachman@usdoj.gov
(202) 616-6536

Signature Page to the Consent Decree in *United States v. Pilkington North America, Inc.*

FOR PLAINTIFF THE UNITED STATES OF AMERICA:

MATTHEW G.T. MARTIN
United States Attorney
Middle District of North Carolina

_____ Date: 1/7/2021

Brandon D. Zeller
Assistant United States Attorney
U.S. Attorney's Office
Middle District of North Carolina
101 South Edgeworth Street, 4th Floor
Greensboro, NC 27401
(336) 333-5351

Signature Page to the Consent Decree in *United States v. Pilkington North America, Inc.*

FOR THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY REGION 4:

_____ Date: _____

VALERIE NOWELL
Chief, Air & EPCRA Law Office
U.S. Environmental Protection Agency
Region 4

_____ Date: _____

GRETCHEN M. FRIZZELL
Attorney-Advisor
Office of Regional Counsel
U.S. Environmental Protection Agency
Region 4

Signature Page to the Consent Decree in *United States v. Pilkington North America, Inc.*

FOR THE DEFENDANT PILKINGTON NORTH AMERICA, INC.:

_____ Date: _____

RICHARD A. ALTMAN
Regional Director, Architectural
Pilkington North America, Inc.
811 Madison Ave.
Toledo, OH 43604
Richard.Altman@nsg.com
(419) 247-4814

CONSENT DECREE APPENDIX A

United States v. Pilkington North America, Inc.

Mitigation Project – Laurinburg Cullet Conveyor Dust Elimination

Background

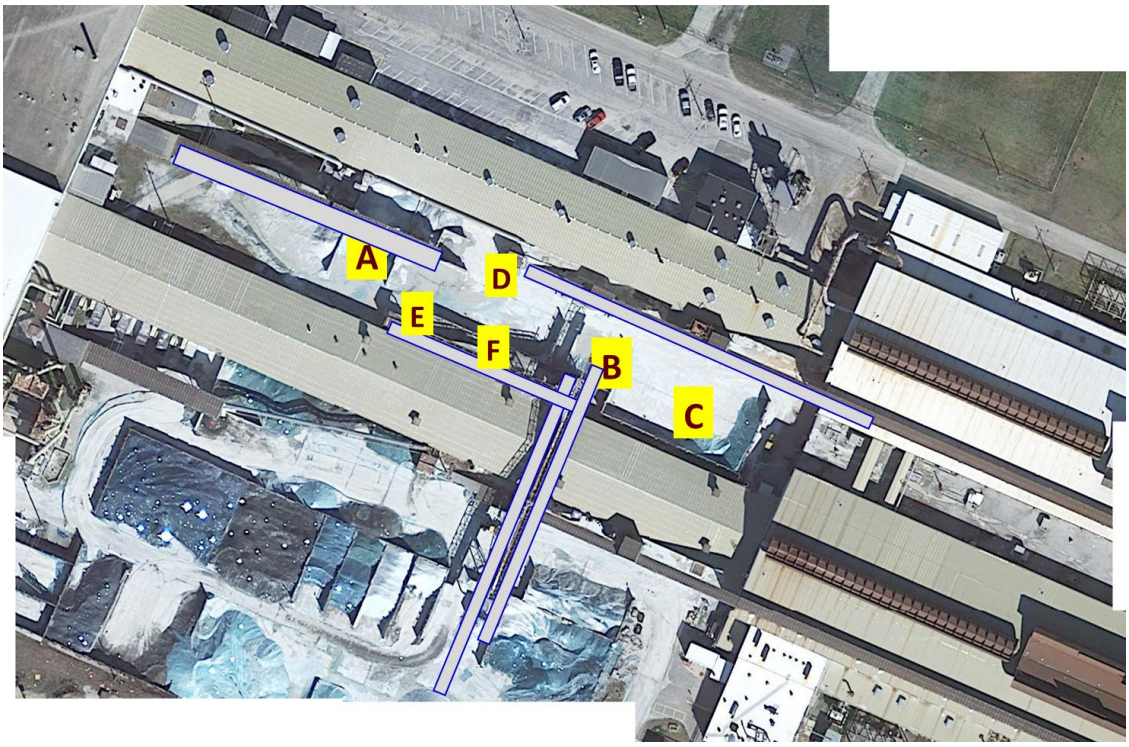
This mitigation project minimizes the creation of fugitive dust and particulate matter (PM) and operation of a diesel front-end loader at the Laurinburg Facility's outside cullet handling processes by installing new cullet conveyors to eliminate four drop points, which will improve air quality and diminish the potential for fugitive dust. The cullet transfer process currently requires cullet (small pieces of glass) to be discharged onto handling piles outside on the ground from which it is moved by the diesel front-end loader. During routine operation this mitigation project would allow for direct transfer of cullet from the cutting operation to the furnace feed hopper for remelting via covered conveyors and thus eliminate the need to move the material by the diesel front-end loader.

Cullet is continuously generated by each float line; this modification would allow cullet handling to be reduced by a minimum of 50% overall. With the elimination of these discharge points, airborne dust and diesel emissions would be significantly reduced.

Scope of Mitigation Project

This project will mitigate the PM created through the transfer of cullet by installing three new covered conveyors which will eliminate four cullet transfer piles.

The Laurinburg Facility's current cullet yard operations are as depicted in the image below:

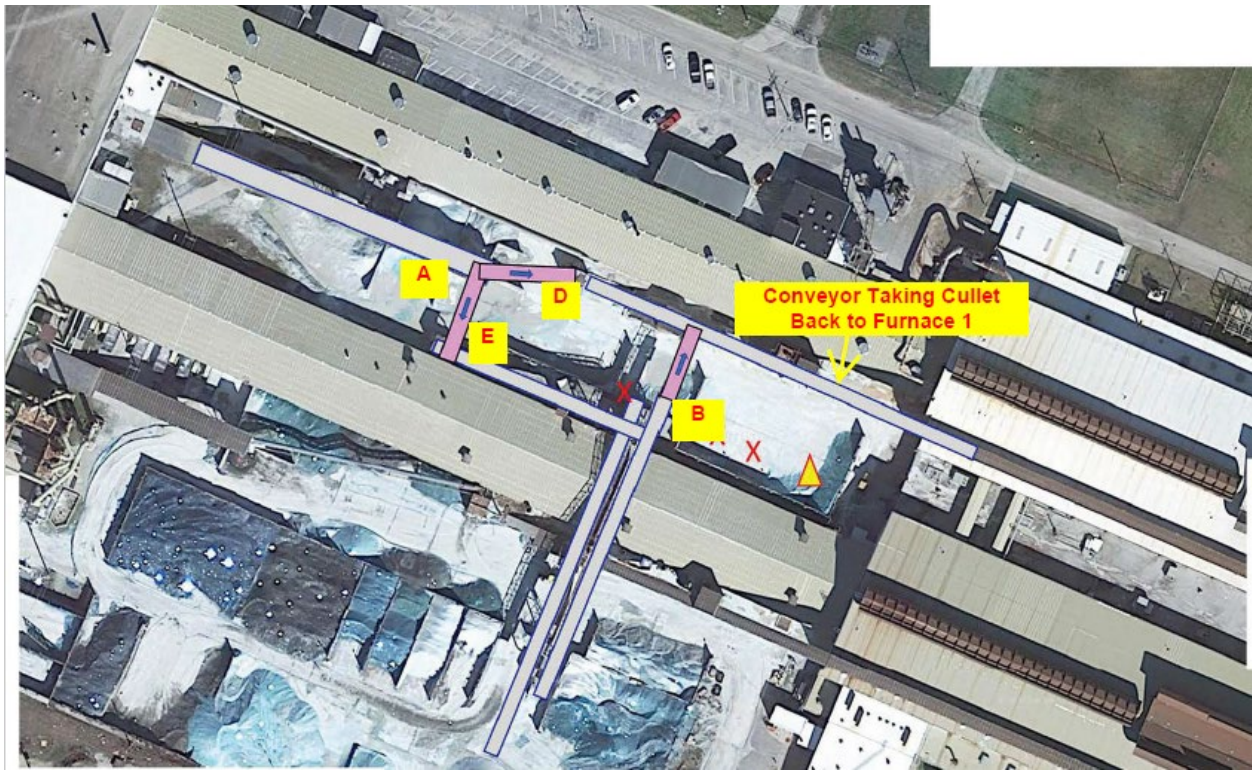


Under this configuration, the cullet yard currently operates as follows:

- Cullet generated from Furnace 1 is dropped by a conveyor to a bunker at Point A.
- Cullet generated from the Furnace 2 cullet yard is transferred to Point B by a transfer conveyor. Cullet deposited at Point B is moved by a front-end loader to points C, D, or F.
- Point D is the cullet bin that feeds the cullet return conveyor taking cullet back to Furnace 1. Point D accepts cullet moved by front-end loader truck from Points A, B, C or F.
- Point E is the cullet bin that feeds the cullet return conveyor taking cullet back to Furnace 2. Point E accepts cullet moved by front-end loader truck from piles A, F, or C.
- Points C and F are temporary cullet storage piles.

The mitigation project entails installing three fully-covered belt conveyors between the following locations:

- Point A to Point E
- Point A to Point D, and,
- Point B to the return conveyor taking cullet back to Furnace 1.



The mitigation project will reduce the usage of a front-end loader transferring the cullet in the middle yard by over 80%. The project will reduce total fugitive PM emissions by 92% (from 2.28 tons/year to 0.17 tons/year).

This system will significantly reduce the dust that is created during the discharge and manual handling of cullet at several key points in the handling and transfer process, thereby improving air quality and minimizing the potential for fugitive emissions. The total cost of the project is expected to be at least $100,000, and Pilkington will spend no less than $100,000 to implement the project.

As of the time of execution of the Consent Decree, the equipment needed for implementing the project has been ordered. The conveyors are expected to be installed and commissioned in Summer 2020 and to begin operating in Fall 2020.