



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

Beverly Eaves Perdue  
Governor

B. Keith Overcash, P.E.  
Director

Dee Freeman  
Secretary

**ENTER DATE**

Karl Ehemann  
Plant Manager  
Corning Incorporated  
310 North College Road  
Wilmington, NC 28405

**SUBJECT: Air Permit No. 03809T46  
Corning Incorporated  
Wilmington, New Hanover County, North Carolina  
Fee Class: Title V  
Site Number: 08/65/00049**

Dear Mr. Ehemann:

In accordance with your completed Air Quality Permit Application for a Renewal of a Title V permit received October 26, 2006, we are forwarding herewith Air Quality Permit No. 03809T46 to Corning Incorporated, 310 North College Road, Wilmington, North Carolina authorizing the construction and operation, of the emission source(s) and associated air pollution control device(s) specified herein. Additionally, any emissions activities determined from your Air Quality Permit Application as being insignificant per 15A North Carolina Administrative Code 2Q .0503(8) have been listed for informational purposes as an "ATTACHMENT." Please note the requirements for the annual compliance certification are contained in General Condition P in Section 3. **The current owner is responsible for submitting a compliance certification for the entire year regardless of who owned the facility during the year.**

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

If any parts, requirements, or limitations contained in this Air Quality Permit are unacceptable to you, you have the right to request a formal adjudicatory hearing within 30 days following receipt of this permit, identifying the specific issues to be contested. This hearing request must be in the form of a written petition, conforming to NCGS (North Carolina General Statutes) 150B-23, and filed with **both** the Office of Administrative Hearings, 6714 Mail Service Center, Raleigh, North Carolina 27699-6714 and the Division of Air Quality, Permitting Section, 1641 Mail Service Center, Raleigh, North Carolina 27699-1641. The form for requesting a formal adjudicatory hearing may be obtained upon request from the Office of Administrative Hearings. Please note that this permit will be stayed in its entirety upon receipt of the request for a hearing. Unless a request for a hearing is made pursuant to NCGS 150B-23, this Air Quality Permit shall be final and

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**Permitting Section**

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

One  
North Carolina  
*Naturally*

binding 30 days after issuance.

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

**The construction of new air pollution emission source(s) and associated air pollution control device(s), or modifications to the emission source(s) and air pollution control device(s) described in this permit must be covered under an Air Quality Permit issued by the Division of Air Quality prior to construction unless the Permittee has fulfilled the requirements of GS 143-215-108A(b) and received written approval from the Director of the Division of Air Quality to commence construction. Failure to receive an Air Quality Permit or written approval prior to commencing construction is a violation of GS 143-215.108A and may subject the Permittee to civil or criminal penalties as described in GS 143-215.114A and 143-215.114B.**

This Air Quality Permit shall be effective from **ENTER DATE** until April 30, 2012, is nontransferable to future owners and operators, and shall be subject to the conditions and limitations as specified therein. Should you have any questions concerning this matter, please contact Ms. Fern Paterson, P.E. at (919) 715-6242.

Sincerely yours,

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

Enclosure

cc: Wilmington Region Office  
Central Files  
Gregg Worley, EPA Region 4

**ATTACHEMENT I:****Summary of Changes to the Existing Permit (Permit No. 03809T45)**

<b>Page(s)</b>	<b>Section</b>	<b>Description of Change(s)</b>
Insignificant Activity List	Attachment	Remove three affected boilers ( <b>ID Nos. ES-HB, ES-T5HB-2, ES-T5HB-3</b> ) from the insignificant activity list.
1	Permit Cover Page	Amend permit revision numbers and issuance/effective dates.
12-13	2.1.F. (New)	Add Section to include applicable requirements for the three affected boilers ( <b>ID Nos. ES-HB, ES-T5HB-2, ES-T5HB-3</b> ).
22-30	Section 3	Update General Provisions with the most recent revision (v. 2.22.1)
22-30	Section 3	Update General Provisions with the most recent revision (v. 2.22.1)

## ATTACHEMENT II:

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

<b>Emission Source ID No.</b>	<b>Emission Source Description</b>
IES-BDS-1	Diesel storage tank
IES-BDS-2	Diesel storage tank
IES-BDS-3	Diesel storage tank
IES-CT	Cooling tower
IES-DRAW	Draw Conditioning
IES-DT1	Diesel storage tank
IES-DT2	Diesel storage tank
IES-DT3	Diesel storage tank
IES-EBSV	Emergency bulk SiC14 system (ID No. ES-EBSV) with associated spray scrubber (50 gpm liquid injection rate, ID No. CD-HCl-090)
IES-EHVS	Emergency halide storage area ventilation system
IES-EPG1	One diesel-fired IC driven emergency generator (800 hp)
IES-EPG2	One diesel-fired IC driven emergency generator (800 hp)
IES-FB	Maintenance spray booth
IES-FWP-1	Diesel storage tank
IES-FWP-2	Diesel storage tank
IES-GC	Glass cleaning operation
IES-HOUSEVAC#1	One house vacuum system with fabric filter
IES-HOUSEVAC#2	One house vacuum system with fabric filter
IES-HOUSEVAC#3	One house vacuum system with fabric filter
IES-HOUSEVAC#4	One house vacuum system with fabric filter
IES-HOUSEVAC#5	One house vacuum system with fabric filter
IES-HOUSEVAC#6	One house vacuum system with fabric filter
IES-HOUSEVAC#7	One house vacuum system with fabric filter
IES-PC	Purge carts
IES-SHP1	One soot handling silo (1,200 cubic foot capacity, north silo)
IES-SHP2	One soot handling silo (1,200 cubic foot capacity, south silo)
IES-SOOTVAC#1	One soot vacuum system with fabric filter
IES-SOOTVAC#3	One soot vacuum system with fabric filter
IES-SOOTVAC#4	One soot vacuum system with fabric filter
IES-SOOTVAC#5	One soot vacuum system with fabric filter
IES-SOOTVAC#6	One soot vacuum system with fabric filter
IES-Solvent	Fugitive solvent emissions
IES-nMPDIECLEAN	Three nonhalogenated solvent vapor cleaning machine
IES-CF	Furnace Gas Treatment

1. Because an activity is insignificant does not mean that the activity is exempted from an applicable requirement or that the owner or operator of the source is exempted from demonstrating compliance with any applicable requirement.
2. When applicable, emissions from stationary source activities identified above shall be included in determining compliance with the permit requirements for toxic air pollutants under 15A NCAC 2D .1100, "Control of Toxic Air Pollutants", or 15A NCAC 2Q .0711, "Emission Rates Requiring a Permit".



## AIR QUALITY PERMIT

Permit No.	Replaces Permit No.	Effective Date	Expiration Date
03809T46	03809T45	ENTER DATE	April 30, 2013

Until such time as this permit expires or is modified or revoked, the below named Permittee is permitted to construct and operate the emission source(s) and associated air pollution control device(s) specified herein, in accordance with the terms, conditions, and limitations within this permit. This permit is issued under the provisions of Article 21B of Chapter 143, General Statutes of North Carolina as amended, and Title 15A North Carolina Administrative Codes (15A NCAC), Subchapters 2D and 2Q, and other applicable Laws.

Pursuant to Title 15A NCAC, Subchapter 2Q, the Permittee shall not construct, operate, or modify any emission source(s) or air pollution control device(s) without having first submitted a complete Air Quality Permit Application to the permitting authority and received an Air Quality Permit, except as provided in this permit.

**Permittee:** **Corning Inc.**  
**Facility ID:** **6500049**

**Facility Site Location:** **310 North College Road**  
**City, County, State, Zip:** **Wilmington, New Hanover County, NC 28405**

**Mailing Address:** **310 North College Road**  
**City, State, Zip:** **Wilmington, NC 28405**

**Application Number:** **6500049.09A**  
**Complete Application Date:** **August 21, 2009**

**Primary SIC Code:** **3229**  
**Division of Air Quality,**  
**Regional Office Address:** **Wilmington Regional Office**  
**127 Cardinal Drive Extension**  
**Wilmington, NC 28405-3845**

Permit issued this the ##<sup>th</sup> day of ###, 2009

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

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

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

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

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

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
ES-002 CAM	Natural gas-fired chemical vapor deposition process (8.22 million Btu per hour heat input)	CD-BH-1, CD-BH-2, and CD-BH-3	Three parallel fabric filters: 12,012 square feet of filter area in three modules, 20,888 square feet of filter area in four modules, 53,016 square feet of filter area in eight modules
		with a minimum of 48,964 square feet of filter area on-line venting to a minimum of two sieve tray scrubbers operating in parallel in the following configuration:  CD-HCL-5, CD-HCL-6, or CD-HCL-7 vent to stack 3	minimum of two of three sieve tray scrubbers in parallel each with 80 gallons per minute water/weak acid injection each
ES-001	Glass modification, Glass drying, and Tramp fume collection system	CD-TF-1 and CD-TF-2 vent to Stack 2A	Two four stage horizontal spray chamber scrubbers; 360 gallon per minute minimum water injection, in parallel with:
		CD-TF-3, and CD-TF-4 vent to Stack 2A	Two educing venturi scrubbers; 306 gallons per minute minimum caustic solution injection, minimum 4 pH  (CD-TF-1 through CD-TF-4 interconnected and in parallel, 3 out of 4 scrubbers on line at any time)
ES-005	Glass drying, and Tramp fume collection system	CD-TF-6 or CD-TF-7, vent to Stack 3	Two educing venturi scrubbers; 350 gallon per minute caustic solution injection, minimum 4 pH
		and  CD-TF-8 or CD-TF-9 vent to Stack 3	Two packed tower countercurrent scrubbers; 15 foot LANPAC bed height, 257 gallon per minute minimum caustic solution injection
ES-003	Miscellaneous emissions collection system (Miscellaneous emissions sources include: analytical lab hood, acid tank farm)	CD-TF-1 and CD-TF-2 vent to Stack 2A	Two four stage horizontal spray chamber scrubbers; 360 gallon per minute minimum water injection, in parallel with:
		CD-TF-3, and CD-TF-4	Two educing venturi scrubbers; 306 gallons per minute minimum caustic solution injection.

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
	vents, and PA chemical transfer station)	vent to Stack 2A	minimum 4 pH (CD-TF-1 through CD-TF-4 interconnected and in parallel, 3 out of 4 scrubbers on line at any time)
ES-006 CAM	Natural gas-fired chemical vapor deposition process; <del>4.07</del> 8.22 million Btu per hour heat input	CD-BH-4 Vent to Stack 3	Fabric filter; 12 modules, each with 3,500 square feet of filter area. (Each module shall maintain a maximum air to cloth ratio of 1:1 when operating.)
ES-007 CAM	Natural gas-fired chemical vapor deposition process; 11.58 million Btu per hour heat input	CD-BH-5 vent to Stack 4	Cartridge filter; maximum air-to-cloth ratio of 2.06:1 when operating, nine of eleven modules on line
ES-EPG3	IC diesel-fired emergency generator; 2,000 kw output	NA	NA
ES-EPG4	IC diesel-fired emergency generator; 2,190 kw output	NA	NA
ES-COATING	Acrylate coating and curing operations for glass optical fiber	NA	NA
ES-008 CAM	Natural gas-fired chemical vapor deposition process; 3.5 million Btu per hour heat input	CD-BH-6 and  CD-HCL-8 to CD-POS-8,  <u>or</u> CD-HCL-9 to  CD-POS-9 vent to Stack 5	Fabric filter : 33,175 square feet of filter area with 19,905 square feet of filter area on line venting to:  Sieve tray scrubber; 80 gallon per minute water/weak acid injection venting to sieve tray scrubber; 30 gallons per minute caustic solution injection  <u>or</u> Sieve tray scrubber; 80 gallon per minute water/weak acid injection venting to  Sieve tray scrubber; 30 gallons per minute caustic solution injection
ES-009	Glass drying process	CD-TF-10  <u>or</u> CD-TF-11 vent to Stack 5	Packed tower scrubber; 15 foot LANPAC bed height, 257 gallon per minute caustic solution injection  <u>or</u> Packed tower scrubber; 15 foot LANPAC bed height, 257 gallon per minute caustic solution injection
ES-010	Various wave guide manufacturing equipment including delivery cabinet, storage tank, and fill reservoir	CD-TF-12  <u>or</u> CD-TF-13 Vents to Stack 5	Educing venturi scrubber; 350 gallon per minute caustic solution injection  <u>or</u> Educing venturi scrubber; 350 gallon per minute caustic solution injection
ES-011	Glass modification equipment	CD-BH-7A to	Fabric filter; 354 square feet of filter area with a minimum of 177 square feet of filter area on line

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
		CD-OX1, CD-OX2, CD-OX3, CD-OX4, and CD-OX5 to  CD-HFS-1 to  CD-BH-7  Vents to Stack 6	venting to:  Five natural gas-fired thermal oxidizers in parallel (minimum of three on line); 1.2 million Btu per hour total heat input venting to:  Vertical moving bed limestone adsorber venting to:  Fabric filter; 4,666 square feet of filter area with a minimum of 2,333 square feet of filter area on line
ES-004 <b>CAM</b>	Natural gas-fired chemical vapor deposition process (5.26 million Btu per hour heat input)	CD-BH-9  Vents to Stack 7	Cartridge filter; maximum air-to-cloth ratio of 1.94:1 when operating, two of four modules on line
ES-HB, ES-T5HB-2, ES-T5HB-3 <b>112(j)</b>	Three (3) natural gas-fired humidification boilers (2.9 million Btu per hour, each)	NA	NA

## SECTION 2 - SPECIFIC LIMITATIONS AND CONDITIONS

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

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

- A. Glass Modification Process (ID No. ES-011) with oxidizer, fabric filter, and scrubber controls,  
Two Chemical Vapor Deposition Processes (ID Nos. ES-002 and ES-008) with fabric filter and scrubber controls,  
Three Chemical Vapor Deposition Processes (ID Nos. ES-004, ES-006, ES-007) with fabric filter controls.**

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
PM	particulate emissions shall not exceed the rate prescribed by the process weight equations: For process rates up to 30 tons per hour: $E = 4.10 \times P^{0.67}$ For process rates greater than 30 tons per hour: $E = 55.0 \times P^{0.11} - 40$ Where: E = allowable emission rate in pounds per hour, and P = process weight in tons per hour	15A NCAC 2D .0515
SO <sub>2</sub>	sulfur dioxide emissions shall not exceed 2.3 pounds per million Btu heat input	15A NCAC 2D .0516
visible emissions	Visible emissions shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity.	15A NCAC 2D .0521
odor	<b>State-enforceable only</b> - odorous emissions must be controlled (See Multiple Emissions Sources - Section 2.2 A.2.)	15A NCAC 2D .1806
NO <sub>x</sub>	<b>PSD Avoidance</b> - facility wide emissions shall not exceed 250 tons per consecutive 12-month period, running monthly total (See Multiple Emissions Sources - Section 2.2 B. 1.)	15A NCAC 2Q .0317 (Avoidance Condition for 15A NCAC 2D .0530)
toxic air pollutants	<b>State-enforceable only</b> - toxic air pollutant ambient impact must not exceed acceptable ambient concentrations (See Multiple Emissions Sources - Section 2.2 D. 1.)	15A NCAC 2D .1100
PM10	Compliance Assurance Monitoring for ES-002, ES-004, 006, ES-007, and ES-008 – Section 2.3 A.	15A NCAC 2D .0614

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

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

$$E = 4.10 \times P^{0.67} \quad \text{Where:} \quad E = \text{allowable emission rate in pounds per hour, and} \\ P = \text{process weight in tons per hour}$$

For process rates greater than 30 tons per hour:

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

Where:  $E$  = allowable emission rate in pounds per hour, and  
 $P$  = process weight in tons per hour

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

**Testing** [15A NCAC 2D .2601]

- b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 A. 1. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0515.

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

- c. Particulate matter emissions from the Chemical Vapor Deposition Processes (ID Nos. ES-002, ES-004, ES-006, ES-007, and ES-008) and the glass modification process (ID No. ES-011) shall each be controlled by a cartridge or fabric filter as delineated in SECTION 1. To assure compliance, the Permittee shall perform inspections and maintenance. Inspection and maintenance shall include:
- i. a monthly visual inspection of the system ductwork and bag/cartridge house units for leaks; and
  - ii. an annual (for each 12 month period following the initial inspection) internal inspection, where feasible, of each bag/cartridge house for structural integrity and filter fabric condition.
- The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0515 if the cartridge and fabric filters are not inspected and maintained.
- d. The following continuous parametric measures of bagfilter performance are to be observed and recorded: differential pressure, and a dust monitor located in the outlet header. Measured out of range deviations are to be alarmed with corrective actions taken.
- e. Parametric instrumentation shall be cleaned and calibrated as recommended by the manufacturer. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0515 if the parametric instrumentation is not inspected and maintained.

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

- f. The results of each inspection, maintenance activity, and alarm condition with corrective action shall be maintained in a logbook (written or electronic format), kept on-site, and made available to an authorized DAQ representative upon request. An exception log shall note any periods of time when the minimum square feet of filter area is not maintained on-line for that cartridge or fabric filter. The logbook shall indicate the date and time of each recorded action. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0515 if the records of the monitoring results are not maintained.

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

- g. The Permittee shall submit the results of any maintenance performed on the bagfilters within 30 days of receipt of a written request by the DAQ.
- h. The Permittee shall submit a summary report of monitoring and recordkeeping activities postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

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

- a. Emissions of sulfur dioxide from Chemical Vapor Deposition Processes (ID Nos. ES-002, ES-004, ES-006, ES-007, and ES-008) and the Glass Modification Process (ID No. ES-011) shall not exceed 2.3 pounds per million Btu heat input. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard.

**Testing** [15A NCAC 2D .2601]

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

and General Condition JJ found in Section 3. If the results of this test are above the limit given in Section 2.1 A. 2. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0516.

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

- c. No monitoring/recordkeeping/reporting is required for sulfur dioxide emissions from the combustion of natural gas.

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

- a. Visible emissions from Chemical Vapor Deposition Processes (ID Nos. ES-002, ES-004, ES-006, ES-007, and ES-008) and the Glass Modification Process (ID No. ES-011) shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity. [15A NCAC 2D .0521 (d)]

**Testing** [15A NCAC 2D .2601]

- b. If emissions testing is required by the DAQ, the Permittee shall perform such testing in accordance with 15A NCAC 2D .2601 and General Condition JJ found in Section 3. If the results of this test are above the limit given in Section 2.1 A. 3. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0521.

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

- c. To assure compliance, once a month for Glass Modification Process (ID No. ES-011) and once a month for Chemical Vapor Deposition Processes (ID Nos. ES-002, ES-004, ES-006, ES-007, and ES-008), the Permittee shall observe the emission points of these sources for any visible emissions above normal. If visible emissions from this source are observed to be above normal, the Permittee shall either:
  - i. take appropriate action to correct the above-normal emissions as soon as practicable and within the monitoring period and record the action taken as provided in the recordkeeping requirements below, or
  - ii. demonstrate that the percent opacity from the emission points of the emission source in accordance with 15A NCAC 2D .2601 (Method 9) for 12 minutes is below the limit given in Section 2.1 A.3. a. above.

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

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

- d. The results of the monitoring shall be maintained in a logbook (written or electronic format), kept 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 above normal along with any corrective actions taken to reduce visible emissions and/or tests conducted to determine compliance.

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0521 if the records of the monitoring results are not maintained.

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

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

**B. Miscellaneous Emission Collections System (ID NO. ES-003) with scrubber controls and Various Wave Guide Manufacturing Equipment Emissions Collection System (ID No. ES-010) with scrubber controls**

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
PM	particulate emissions shall not exceed the rate prescribed by the process weight equations: For process rates up to 30 tons per hour: $E = 4.10 \times P^{0.67}$ For process rates greater than 30 tons per hour: $E = 55.0 \times P^{0.11} - 40$ Where: E = allowable emission rate in pounds per hour, and P = process weight in tons per hour	15A NCAC 2D .0515
visible emissions	Visible emissions shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity.	15A NCAC 2D .0521
odor	<b>State-enforceable only</b> - odorous emissions must be controlled (See Multiple Emissions Sources - Section 2.2 A.2.)	15A NCAC 2D .1806
toxic air pollutants	<b>State-enforceable only</b> - toxic air pollutant ambient impact must not exceed acceptable ambient concentrations (See Multiple Emissions Sources - Section 2.2 D.1.)	15A NCAC 2D .1100

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

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

For process rates less than or equal to 30 tons per hour:

$$E = 4.10 \times P^{0.67} \quad \text{Where: } E = \text{allowable emission rate in pounds per hour}$$

$$P = \text{process weight in tons per hour}$$

For process rates greater than 30 tons per hour:

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

$$\text{Where: } E = \text{allowable emission rate in pounds per hour, and}$$

$$P = \text{process weight in tons per hour}$$

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

**Testing** [15A NCAC 2D .2601]

- b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 B. 1. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0515.

**Monitoring, Recordkeeping, and Reporting** [15A NCAC 2Q .0508(f)]

- c. No monitoring, recordkeeping or reporting is required.

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

- a. Visible emissions from miscellaneous emission collections system (ID No. ES-003) and various wave guide manufacturing equipment emissions collection system (ID No. ES-010) shall not be more than 20 percent

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

**Testing** [15A NCAC 2D .2601]

- b. If emissions testing is required by the DAQ, the Permittee shall perform such testing in accordance with 15A NCAC 2D .2601 and General Condition JJ found in Section 3. If the results of this test are above the limit given in Section 2.1 B. 2. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0521.

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

- c. To assure compliance, once a calendar month for miscellaneous emission collections system (ID No. ES-003), and once a calendar month for various wave guide manufacturing equipment emissions collection system (ID No. ES-010), the Permittee shall observe the emission points of these sources for any visible emissions above normal. If visible emissions from this source are observed to be above normal, the Permittee shall either:
- take appropriate action to correct the above-normal emissions as soon as practicable and within the monitoring period and record the action taken as provided in the recordkeeping requirements below, or
  - demonstrate that the percent opacity from the emission points of the emission source in accordance with 15A NCAC 2D .2601 (Method 9) for 12 minutes is below the limit given in Section 2.1 B.2. a. above.

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

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

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

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0521 if the records of the monitoring results are not maintained.

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

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

**C. Two Diesel-Fired Internal Combustion Engines for Emergency Generators (ID Nos. ES-EPG3 and ES-EPG4)**

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

<b>Regulated Pollutant</b>	<b>Limits/Standards</b>	<b>Applicable Regulation</b>
SO <sub>2</sub>	sulfur dioxide emissions shall not exceed 2.3 pounds per million Btu heat input	15A NCAC 2D .0516
visible emissions	Visible emissions shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity.	15A NCAC 2D .0521
NO <sub>x</sub>	<b>PSD Avoidance</b> - facility wide emissions shall not exceed 250 tons per consecutive 12-month period.	15A NCAC 2Q .0317 (Avoidance Condition for

Regulated Pollutant	Limits/Standards	Applicable Regulation
	running monthly total (See Multiple Emissions Sources - Section 2.2 B. 1.)	15A NCAC 2D .0530)

**1. 15A NCAC 2D .0516: SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES**

- a. Emissions of sulfur dioxide from the diesel-fired internal combustion engines for the emergency generators (ID Nos. ES-EPG3 and ES-EPG4) shall not exceed 2.3 pounds per million Btu heat input. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard.

**Testing** [15A NCAC 2D .2601]

- b. If emissions testing is required, the testing shall be performed in accordance with 15A NCAC 2D .2601 and General Condition JJ found in Section 3. If the results of this test are above the limit given in Section 2.1 C. 1. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0516.

**Monitoring, Recordkeeping, and Reporting** [15A NCAC 2Q .0508(f)]

- c. No monitoring, recordkeeping, or reporting is required for sulfur dioxide emissions from the combustion of diesel fuel.

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

- a. Visible emissions from diesel-fired internal combustion engines for the emergency generators (ID Nos. ES-EPG3 and ES-EPG4) shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity.

**Testing** [15A NCAC 2D .2601]

- b. If emissions testing is required by the DAQ, the Permittee shall perform such testing in accordance with 15A NCAC 2D .2601 and General Condition JJ found in Section 3. If the results of this test are above the limit given in Section 2.1 C. 2. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0521.

**Monitoring, Recordkeeping, and Reporting** [15A NCAC 2Q .0508(f)]

- c. No monitoring, recordkeeping, or reporting is required for the combustion of diesel fuel.

**D. Glass modification, Glass Drying, and Tramp Fume Collection System (ID No. ES-001) with scrubber controls, Glass Drying, and Tramp Fume Emissions Collection System (ID No. ES-005) with scrubber controls, and Glass Drying Process (ID No. ES-009) with scrubber controls**

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
odor	<b>State-enforceable only</b> - odorous emissions must be controlled (See Multiple Emissions Sources - Section 2.2 A.2.)	15A NCAC 2D .1806
toxic air pollutants	<b>State-enforceable only</b> - toxic air pollutant ambient impact must not exceed acceptable ambient concentrations (See Multiple Emissions Sources - Section 2.2 D. 1.)	15A NCAC 2D .1100

**E. Acrylate Coating and Curing Operations for Optical Fiber (ID No. ES-COATING)**

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
VOC	work practice standards (See Multiple Emissions Sources - Section 2.2 A.1.)	15A NCAC 2D .0958
odor	<b>State-enforceable only</b> - odorous emissions must be controlled (See Multiple Emissions Sources - Section 2.2 A.2.)	15A NCAC 2D .1806
toxic air pollutants	<b>State-enforceable only</b> - facility wide emissions shall not exceed toxic pollutant exemption rates (See Multiple Emissions Sources - Section 2.2 C. 1.)	15A NCAC 2D .0711

**F. Three (3) Natural Gas-Fired Humidification Boilers (2.9 million Btu per hour, each) (ID Nos. ES-HB, ES-T5HB-2, ES-T5HB-3)**

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
Particulate matter	0.60 pounds per million Btu	15A NCAC 2D .0503
Sulfur dioxide	2.3 pounds per million Btu	15A NCAC 2D .0516
Opacity	Shall not be more than 20% opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20% opacity 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% opacity.	15A NCAC 2D .0521
HAPs	Best Combustion Practices	15A NCAC 2D .1109 [CAA § 112(j)]

**1. 15A NCAC 2D .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-HB, ES-T5HB-2, ES-T5HB-3**) into the atmosphere shall not exceed 0.60 pounds per million Btu heat input.

**Testing** [15A NCAC 2D .2601]

- 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 F.1.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0503.

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

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

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

- a. Emissions of sulfur dioxide from the affected boilers (**ID Nos. ES-HB, ES-T5HB-2, ES-T5HB-3**) shall not exceed 2.3 pounds per million Btu heat input. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard.

**Testing** [15A NCAC 2D .2601]

- b. If emissions testing is required, the testing shall be performed in accordance with 15A NCAC 2D .2601 and General Condition JJ found in Section 3. If the results of this test are above the limit given in Section 2.1 F.2.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0516.

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

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

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

- a. Visible emissions from the affected boilers (**ID Nos. ES-HB, ES-T5HB-2, ES-T5HB-3**) shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity.

**Testing** [15A NCAC 2D .2601]

- b. If emissions testing is required, the testing shall be performed in accordance with 15A NCAC 2D .2601 and General Condition JJ. If the results of this test are above the limit given in Section 2.1 F.3.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0521.

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

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

**4. 15A NCAC 2D .1109: CAA § 112(j); Case-by-Case MACT for Boilers & Process Heaters**

- a. The Permittee shall use best combustion practices when operating the affected boilers (**ID Nos. ES-HB, ES-T5HB-2, ES-T5HB-3**).

**Monitoring/Recordkeeping**

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

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

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

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

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

- d. No reporting is required for hazardous air pollutants from the firing of natural gas in these sources.

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

### **A. Facility Wide**

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
VOC	work practice standards	15A NCAC 2D .0958
odor	odor control	15A NCAC 2D .1806

**1. 15A NCAC 2D .0958: WORK PRACTICES FOR SOURCES OF VOLATILE ORGANIC COMPOUNDS**

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

**Monitoring**

- c. To assure compliance with paragraphs a. and b. above, the Permittee shall, at a minimum, perform a visual inspection once per month of all operations and processes utilizing volatile organic compounds. The inspections shall be conducted during normal operations. If the required inspections are not conducted the Permittee shall be deemed to be in noncompliance with 15A NCAC 2D .0958.

**Recordkeeping**

- d. The results of the inspections shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:
- i. the date and time of each inspection; and
  - ii. the results of each inspection noting whether or not noncompliant conditions were observed.
- If the required records are not maintained the Permittee shall be deemed to be in noncompliance with 15A NCAC 2D .0958.

**Reporting**

- e. The Permittee shall submit a summary report of the observations by January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

**State Enforceable Only**

**2. 15A NCAC 2D .1806: CONTROL AND PROHIBITION OF ODOROUS EMISSIONS**

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. 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.

**B. Facility Wide Including:  
Five Chemical Vapor Deposition Processes (ID Nos. ES-002, ES-004, ES-006, ES-007, and ES-008)  
Glass Modification Equipment (ID No. ES-011), and Diesel-fired Internal Combustion Engines**

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
NOx	facility wide emissions of nitrogen oxides shall not exceed 250 tons per consecutive 12-month period on a rolling total basis	15A NCAC 2Q .0317 (Avoidance Condition for 15A NCAC 2D .0530)

**1. 15A NCAC 2Q .0317: AVOIDANCE CONDITION for  
15A NCAC 2D .0530: PREVENTION OF SIGNIFICANT DETERIORATION**

To comply with this permit and avoid the applicability of 15A NCAC 2D .0530 "Prevention of Significant Deterioration," as requested by the Permittee, nitrogen oxides emissions from the facility shall be less than 250 tons per consecutive 12-month period on a rolling monthly total basis.

a. Operations Restrictions - To ensure emissions do not exceed the limitations above, NOx emissions shall be calculated as follows:

- i. NOx emissions from the processes ES-002 and ES-008 shall be the Btu heat input to the process times 1.065 tons of nitrogen oxide per billion Btu (except for the TAS lathe at ES-002 whose emission factor is 1.82 tons of nitrogen oxide per billion Btu),
- ii. NOx emissions from process ES-006 shall be the Btu heat input times 1.494 tons of nitrogen oxide per billion Btu,
- iii. NOx emissions from the processes ES-004 and ES-007 shall be the heat input to the process times 1.82 tons of nitrogen oxide per billion Btu, and
- iv. NOx emission from the diesel-fired engines shall be determined using the actual heat input times the current AP-42 emissions factor or documented manufacturer's emission factors.

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530 if the nitrogen oxide emissions logbook is not maintained or if the nitrogen oxide emissions exceed the limit in Section 2.2 B.1. above.

b. Recordkeeping Requirements - The Permittee shall keep each monthly record on file for a minimum of three years. The report shall contain the following:

- i. the date meter read, the meter reading, and the calculated quantity by fuel type delivered to processes ES-002, ES-004, ES-006, ES-007, ES-008, and ES-011. In addition, the silicon fluid delivered to these processes shall be measured monthly by load cells or on a per drum basis,
- ii. a detailed list of the lathes which comprise processes ES-002, ES-004, ES-006, ES-007, and ES-008 from which nitrogen oxide is emitted,
- iii. monthly calculation of heat input to processes ES-002, ES-004, ES-006, ES-007, ES-008, ES-011, and the diesel engines, and
- iv. the dates of meter calibration by identification number and a brief summary of any required meter calibrations.

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530 if the above records are not maintained.

c. Reporting Requirements - 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. The

report shall contain the following:

- i. the monthly nitrogen oxide emissions 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 Btu heat input for processes ES-002, ES-004, ES-006, ES-007, ES-008, and ES-011 including the heat input value of the silicon fluid for the previous 17 months, and
- iii. The monthly heat input to the diesel engines for the previous the previous 17 months.
- iii. All instances of deviations from the requirements of this permit must be clearly identified.

**C. Facility Wide Including:  
Acrylate Coating and Curing for Glass Optical Fiber (ID No. ES-COATING)**

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
toxic air pollutants	facility wide emissions of toxic air pollutants shall not exceed the applicable toxic pollutant exemption rate (TPER)	15A NCAC 2Q .0711

**State Enforceable Only**

**1. 15A NCAC 2Q .0711: TOXIC AIR POLLUTANT EMISSIONS REQUIRING A PERMIT**

Pursuant to 15A NCAC 2Q .0711 Emission Rates Requiring a Permit, for each of the below listed toxic air pollutants (TAPs), the Permittee has made a demonstration that facility-wide actual emissions do not exceed the Toxic Permit Emission Rates (TPERs) listed in 15A NCAC 2Q .0711. The facility shall be operated and maintained in such a manner that emissions of any listed TAPs from the facility, including fugitive emissions, will not exceed TPERs listed in 15A NCAC 2Q .0711.

- a. A permit to emit any of the below listed TAPs shall be required for this facility if actual emissions from all sources will become greater than the corresponding TPERs.
- b. PRIOR to exceeding any of these listed TPERs, the Permittee shall be responsible for obtaining a permit to emit TAPs and for demonstrating compliance with the requirements of 15A NCAC 2D .1100 "Control of Toxic Air Pollutants".
- c. In accordance with the approved application, the Permittee shall maintain records of operational information demonstrating that the TAP emissions do not exceed the TPERs as listed below:

Pollutant (CAS Number)	TPERs Limitations			
	Carcinogens (lb/yr)	Chronic Toxicants (lb/day)	Acute Systemic Toxicants (lb/hr)	Acute Irritants (lb/hr)
Methyl Ethyl Ketone (78-93-3)		78		22.4
Toluene (108-88-33)		98		14.4
Xylene (1330-20-7)		57		16.4

- D. Glass modification, Glass Drying, and Tramp Fume Emissions Collection System (ID No. ES-001) with scrubber controls,  
Two Chemical Vapor Deposition Processes (ID Nos. ES-002 and ES-008) with fabric filter and scrubber controls,  
Miscellaneous Emission Collections System (ID No. ES-003), with scrubber controls,  
Glass Drying and Tramp Fume Collection System (ID No. ES-005) with scrubber controls,  
Chemical Vapor Deposition Processes (ID No. ES-006) with fabric filter controls,  
Glass Drying Process (ID No. ES-009) with scrubber controls,  
Various Wave Guide Manufacturing Equipment Emissions Collection System (ID No. ES-010) with scrubber controls, and  
Glass Modification Process (ID No. ES-011) with oxidizer, fabric filter, and scrubber controls.**

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
toxic air pollutants	toxic air pollutants shall not exceed the applicable emissions rate to ensure that the acceptable ambient air quality levels (AAL) are not exceeded	15A NCAC 2D .1100

**State Enforceable Only**

**1. 15A NCAC 2D .1100: CONTROL OF TOXIC AIR POLLUTANTS**

Pursuant to 15A NCAC 2D .1100 "Control of Toxic Air Pollutants," and in accordance with the approved application for an air toxic compliance demonstration, the following permit limits shall not be exceeded:

Emission Point	Toxic Air Pollutant Emission Source Contributions	Emission Limits
<b>Stack 2A</b>	<b>Hydrogen Chloride *</b> ES-001 = 10.72 lb/hr ES-003 = 1.40 lb/hr	12.12 lb/hr
	<b>Chlorine *</b> ES-001 = 15.29 lb/hr & 366.96 lb/day ES-003 = 0.28 lb/hr & 6.72 lb/day	15.57 lbs/hr and 373.68 lb/day
	<b>Total Fluorides (including HF)</b> ES-001	2.58 lb/hr and 61.92 lb/day
	<b>Hydrogen Fluoride</b> ES-001	2.72 lb/hr and 65.28 lb/day
<b>Stack 3</b>	<b>Hydrogen Chloride *</b> ES-002 = 108.55 lb/hr ES-005 = 1.38 lb/hr	109.93 lb/hr
	<b>Chlorine *</b> ES-002 = 37.78 lb/hr & 906.72 lb/day ES-005 = 15.47 lb/hr & 371.28 lb/day	53.25 lb/hr and 1278 lb/day
	<b>Total Fluorides (including HF)</b> ES-005	2.50 lb/hr and 47.08 lb/day
	<b>Hydrogen Fluoride</b> ES-005	1.90 lb/hr and 31.99 lb/day
<b>Stack 5</b>	<b>Hydrogen Chloride *</b> ES-008=0.54 lb/hr ES-009=0.14 lb/hr ES-010=0.11 lb/hr	0.79 lb/hr

	<b>Chlorine *</b> ES-008=0.86 lb/hr & 20.64 lb/day ES-009=0.66 lb/hr & 15.84 lb/day ES-010=1.99 lb/hr & 1.99 lb/day	3.51 lb/hr and 38.47 lb/day
<b>Stack 6</b>	<b>Total Fluorides (including HF)</b> ES-011	4.49 lb/hr and 107.76 lb/day
	<b>Hydrogen Fluoride</b> ES-011	3.39 lb/hr and 81.36 lb/day

\* Hydrogen chloride and chlorine emissions shall be monitored as specified in Section 2.2 D. 1. b. i.

**a. Emissions Control Requirements**

- i. **WET SCRUBBER SYSTEM REQUIREMENTS** - Hydrogen chloride and chlorine toxic air pollutant emissions shall be controlled as described in the permitted equipment list.
  - (A) **Wet Scrubber Systems Inspection and Maintenance Requirements**  
To comply with the provisions of this Permit and ensure that optimum control efficiency is maintained, the Permittee shall establish an inspection and maintenance schedule/checklist based on manufacturer's recommendations. Additionally, an annual internal inspection shall be conducted on the wet scrubbers by the Permittee to insure structural integrity such that optimum control efficiency is achieved. As a minimum, the inspection and maintenance program will include inspection of spray nozzles, packing material, chemical feed system (if so equipped), and the cleaning/calibration of all associated instrumentation.
  - (B) **Wet Scrubber Systems Monitoring Requirements**  
The Permittee shall ensure the proper performance of each scrubber by monitoring the following operational parameters where appropriate:
    - (1) recycle liquid flow rates,
    - (2) sump levels,
    - (3) pH of recirculation tank scrubbing solution, and
    - (4) pressure drop across each scrubber.
  - (C) **Wet Scrubber Systems Record Keeping and Reporting Requirements**  
A scrubber logbook or equivalent shall be kept on site and made available to DAQ personnel upon request. Any variance from manufacturer's recommendations shall be investigated with corrections made and date of actions recorded in the logbook.  
Inspections and maintenance of the I & M program, the recycle liquid flow rates, sump levels, pH of the scrubber solutions, and the pressure drop across the scrubbers shall be recorded in a log book, or equivalent. No reporting is required.
- ii. **THERMAL OXIDIZER REQUIREMENTS** - Fluoride compound emissions from the glass modification process (ID No. ES-011) shall undergo degradation by thermal oxidizers (ID Nos. CD-OX1 through CD-OX5).
  - (A) **Inspection and Maintenance Requirements** - To comply with the provisions of this permit and ensure that emissions do not exceed the regulatory limits, the Permittee shall perform periodic inspection and maintenance (I&M) as recommended by the manufacturer. As a minimum, the Permittee shall perform an annual internal inspection of the combustion head to ensure structural integrity.
  - (B) **Recordkeeping Requirements** - The results of all inspections and any variance from manufacturer's recommendations or from those given in this permit (when applicable) shall be investigated with corrections made and dates of actions recorded in a logbook. Records of all maintenance and monitoring activities shall be recorded in the logbook. The logbook (in written or electronic form) shall be kept on-site and made available to DAQ personnel upon request.
  - (C) **Monitoring Requirements** - The Permittee shall ensure the proper performance of the thermal oxidizer by monitoring the following operational parameters:
    - (1) the Permittee shall continuously measure the temperature at the combustion chamber (design range of 1,200 F to 2,100 F), and
    - (2) the Permittee shall continuously measure the flow rate to the oxidizer (13.70 to 19.97 scfm per oxidizer unit on-line).
- iii. **ADSORBER SYSTEM REQUIREMENTS** - Hydrogen fluoride emissions from the glass modification

process (ID No. ES-011) shall be controlled by a vertical moving bed limestone adsorber ID No. CD-HFS-1).

(A) Adsorber System Inspection and Maintenance Requirements

To comply with the provisions of this Permit and ensure that optimum control efficiency is maintained, the Permittee shall establish an inspection and maintenance schedule/checklist based on manufacturer's recommendations. Additionally, an annual inspection shall be conducted on the adsorber by the Permittee to insure structural integrity such that optimum control efficiency is achieved.

(B) Adsorber System Monitoring Requirements

The Permittee shall ensure the proper performance of each scrubber by monitoring the following operational parameters where appropriate:

- (1) pressure drop across the adsorber and
- (2) verification of limestone bed movement through the adsorber by way of feed hopper replenishment.

(C) Adsorber System Record Keeping and Reporting Requirements

A scrubber logbook or equivalent shall be kept on site and made available to DAQ personnel upon request. Any variance from manufacturer's recommendations shall be investigated with corrections made and date of actions recorded in the logbook.

The I & M program, feed hopper replenishment for the limestone adsorber, and the pressure drop across the adsorber shall be recorded. The results of inspections and any maintenance performed on the adsorber shall be recorded in a log book, or equivalent. No reporting is required.

**b. Emission Monitoring and Recordkeeping Requirements**

i. Hydrogen chloride and chlorine emissions shall be monitored as follows.

(A) A physical audit of all production equipment set-ups, covered under Sources ES-002, ES-005, ES-008, ES-009, and ES-010 shall be conducted on a quarterly basis to certify that the mass flow controllers are the correct size and at correct setting. In addition, a quarterly sample audit of recipes shall be made to help ensure that the potential does not exist for the permit limits to be exceeded based on material balance.

(B) The Permittee shall maintain records of production rates, throughput, material usage, and other process operational information as is necessary to determine compliance with the above toxic air pollutant emission limits at sources ES-001, ES-002, S-003 ES-005, ES-008, ES-009, and ES-010.

ii. All records required by these permit stipulations shall be kept on site and made available to the DAQ upon request. The Permittee shall retain records of all information resulting from monitoring activities and information indicating operating parameters as specified in this permit for a minimum of two years from the date of recording.

For compliance purposes, within 30 days after each calendar year quarter, the Permittee shall provide to the Regional Supervisor a certification that the monitoring described above was performed and include a summary of the results.

## 2.3- Compliance Assurance Monitoring (40 CFR 64)

### A. Three parallel fabric filters (ID Nos. CD-BH-1, CD-BH-2, and CD-BH-3)

**Fabric filter (ID No. CD-BH-4)**

**Fabric filter (ID No. CD-BH-5)**

**Fabric filter (ID No. CD-BH-6)**

**Fabric filter (ID No. CD-BH-9)**

#### 1. 15A NCAC 2D .0614: Continuous Assurance Monitoring (40 CFR 64)

The Permittee shall ensure that PM10 emission from the following sources shall be controlled as follows:

- i) the natural gas-fired chemical vapor deposition process (ID No. ES-002) is controlled by the three parallel fabric filters (ID Nos. CD-BH-1, CD-BH-2, and CD-BH-3),
- ii) the natural gas-fired chemical vapor deposition process (ID No. ES-006) is controlled by the fabric filter (ID No. CD-BH-4),
- iii) The natural gas fired vapor deposition process (ID No. ES-007) is controlled by the fabric filter (ID No. CD-BH-5),
- iv) the natural gas-fired chemical vapor deposition process (ID No. ES-008) is controlled by the fabric filter (ID No. CD-BH-6), and
- v) the natural gas-fired chemical vapor deposition process (ID No. ES-004) is controlled by the fabric filter (ID No. CD-BH-9)

The Permittee shall monitor the pressure differential across each bagfilter. The sources, control devices, pollutant controlled, regulation, maximum and minimum pressure difference across each bagfilter are outlined in the table below:

Source	control device(s)	Pollutant controlled	Regulation	Maximum pressure difference across the bagfilter in inches of water	Minimum pressure difference across the bagfilter in inches of water
ES-002	CD-BH-1, CD-BH-2, and CD-BH-3	PM10	2D .0515	14.5	0.2
ES-006	CD-BH-4	PM10	2D .0515	14.5	0.075
ES-007	CD-BH-5	PM10	2D .0515	14.0	0.2
ES-008	CD-BH-6	PM10	2D .0515	16.5	0.2
ES-004	CD-BH-9	PM10	2D .0515	16.5	0.2

#### **Testing**

- a. None.
- b. **Monitoring Approach.** The key elements of the monitoring approach are presented in the following table.

<b>Indicator</b> [64.6(c)(1)(i)]	The pressure difference across each bagfilter recorded once per hour during operation.
<b>Measurement Approach</b> [64.6(c)(1)(ii)]	Pressure measurements are indicated by pressure transmitters on both the inlet and outlet side of each baghouse.
<b>Indicator Range and excursion</b> [64.6(c)(2)]	An excursion is defined as maximum pressure drop across each bagfilter above the maximum pressure drop for the bagfilter as per the table above or minimum pressure drop across the bagfilter below the minimum pressure drop for the bagfilter as per the table above
<b>Quality Improvement Plan (QIP) Threshold</b>	Four excursions, as defined above, within any 6-month period.

[64.8]	
<b>QA/QC Practices and Criteria</b> [64.3(b)(3)]	The monitoring devices shall be calibrated once per year
<b>Monitoring Frequency</b> [64.3(b)(4)] <b>&amp; Data Collection Procedure</b>	The hourly results shall be recorded once per hour and kept in a logbook
<b>Averaging Period</b>	NA

### **Recordkeeping and Reporting**

- c. Effective August 15, 2008 the Permittee must maintain the following records on a monthly basis in accordance with the requirements of 40 CFR 64.9:
  - i. records specified in 40 CFR 64 of all measurements of operating parameters including:
    - (a) Excursion reports and corrective actions.
- d. Semi annual compliance reports must cover the semiannual reporting period from January 1 through June 30 and the semiannual reporting period from July 1 through December 31. Each compliance report must be postmarked or delivered no later than July 30 or January 30, whichever date is the first date following the end of the semiannual reporting period. The compliance report must contain the following information:
  - i. Company name and address,
  - ii. a statement by a responsible official with that official's name, title, and signature, certifying the accuracy of the content of the report,
  - iii. the date of report and beginning and ending dates of the reporting period,
  - iv. a statement that there were no excursion outside of the allowable operating parameter limits during the reporting period (as applicable). Or for each exceedance of an allowable operating parameter that occurs, the compliance report must contain:
    - (a) the total operating time of the source during the reporting period,
    - (b) information on the number, duration, and cause of exceedances (including unknown cause), if applicable, and the corrective action taken.

## **2.4 - Other Applicable Requirements**

- A. **15A NCAC 2Q .0508(g): PREVENTION OF ACCIDENTAL RELEASES - SECTION 112 (r) OF THE CLEAN AIR ACT**
  1. The Permittee is subject to Section 112(r) of the Clean Air Act and shall comply with all applicable requirements in accordance with 40 CFR Part 68 [15A NCAC 2Q .0508(g)].

### **Recordkeeping/** [15A NCAC 2Q .0508(g)]

2. The Permittee shall submit a Risk Management Plan to EPA pursuant to 40 CFR, 68.150 prior to June 21, 1999, or as specified in 40 CFR, 68.10.

### **SECTION 3 - GENERAL CONDITIONS** (version 2.22.1)

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

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

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

B. **Permit Availability** [15A NCAC 2Q .0507(k) and .0508(i)(9)(B)]

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

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

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

D. **Submissions** [15A NCAC 2Q .0507(e) and 2Q .0508(i)(16)]

Except as otherwise specified herein, two copies of all documents, reports, test data, monitoring data, notifications, request for renewal, and any other information required by this permit shall be submitted to the appropriate Regional Office. Refer to the Regional Office address on the cover page of this permit. For continuous emissions monitoring systems (CEMS) reports, continuous opacity monitoring systems (COMS) reports, quality assurance (QA)/quality control (QC) reports, acid rain CEM certification reports, and NO<sub>x</sub> budget CEM certification reports, one copy shall be sent to the appropriate Regional Office and one copy shall be sent to:

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

E. **Duty to Comply** [15A NCAC 2Q .0508(i)(2)]

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

F. **Circumvention** - STATE ENFORCEABLE ONLY

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

G. **Permit Modifications**

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

H. **Changes Not Requiring Permit Modifications**

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

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

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

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

**“Excess Emissions”** - means an emission rate that exceeds any applicable emission limitation or standard allowed by any rule in Sections .0500, .0900, .1200, or .1400 of Subchapter 2D; or by a permit condition; or that exceeds an emission limit established in a permit issued under 15A NCAC 2Q .0700. (*Note: Definitions of excess emissions under 2D .1110 and 2D .1111 shall apply where defined by rule.*)

**“Deviations”** - for the purposes of this condition, any action or condition not in accordance with the terms and conditions of this permit including those attributable to upset conditions as well as excess emissions as defined above lasting less than four hours.

**Excess Emissions**

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

**Permit Deviations**

3. Pursuant to 15A NCAC 2Q .0508(f)(2), the Permittee shall report deviations from permit requirements (terms and conditions) as follows:
  - a. Notify the Regional Supervisor or Director of all other deviations from permit requirements not covered under 15A NCAC 2D .0535 quarterly. A written report to the Regional Supervisor shall include the probable cause of such deviation and any corrective actions or preventative actions taken. The responsible official shall certify all deviations from permit requirements.

**I.B. Other Requirements under 15A NCAC 2D .0535**

The Permittee shall comply with all other applicable requirements contained in 15A NCAC 2D .0535, including 15A NCAC 2D .0535(c) as follows:

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

**J. Emergency Provisions [40 CFR 70.6(g)]**

The Permittee shall be subject to the following provisions with respect to emergencies:

1. An emergency means any situation arising from sudden and reasonably unforeseeable events beyond the control of the facility, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the facility to exceed a technology-based emission limitation under the permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventive

- maintenance, careless or improper operation, or operator error.
2. An emergency constitutes an affirmative defense to an action brought for noncompliance with such technology-based emission limitations if the conditions specified in 3. below are met.
  3. The affirmative defense of emergency shall be demonstrated through properly signed contemporaneous operating logs or other relevant evidence that include information as follows:
    - a. an emergency occurred and the Permittee can identify the cause(s) of the emergency;
    - b. the permitted facility was at the time being properly operated;
    - c. during the period of the emergency the Permittee took all reasonable steps to minimize levels of emissions that exceeded the standards or other requirements in the permit; and
    - d. the Permittee submitted notice of the emergency to the DAQ within two working days of the time when emission limitations were exceeded due to the emergency. This notice must contain a description of the emergency, steps taken to mitigate emissions, and corrective actions taken.
  4. In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.
  5. This provision is in addition to any emergency or upset provision contained in any applicable requirement specified elsewhere herein.
- K. **Permit Renewal** [15A NCAC 2Q .0508(e) and 2Q .0513(b)]  
This permit is issued for a fixed term of five years for facilities subject to Title IV requirements and for a term not to exceed five years in the case of all other facilities. This permit shall expire at the end of its term. Permit expiration terminates the facility's right to operate unless a complete renewal application is submitted at least nine months before the date of permit expiration. If the Permittee or applicant has complied with 15A NCAC 2Q .0512(b)(1), this permit shall not expire until the renewal permit has been issued or denied. All terms and conditions of this permit shall remain in effect until the renewal permit has been issued or denied.
- L. **Need to Halt or Reduce Activity Not a Defense** [15A NCAC 2Q .0508(i)(4)]  
It shall not be a defense for a Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.
- M. **Duty to Provide Information (submittal of information)** [15A NCAC 2Q .0508(i)(9)]
  1. The Permittee shall furnish to the DAQ, in a timely manner, any reasonable information that the Director may request in **writing** to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit.
  2. The Permittee shall furnish the DAQ copies of records required to be kept by the permit when such copies are requested by the Director. For information claimed to be confidential, the Permittee may furnish such records directly to the EPA upon request along with a claim of confidentiality.
- N. **Duty to Supplement** [15A NCAC 2Q .0507(f)]  
The Permittee, upon becoming aware that any relevant facts were omitted or incorrect information was submitted in the permit application, shall promptly submit such supplementary facts or corrected information to the DAQ. The Permittee shall also provide additional information as necessary to address any requirement that becomes applicable to the facility after the date a complete permit application was submitted but prior to the release of the draft permit.
- O. **Retention of Records** [15A NCAC 2Q .0508(f) and 2Q .0508 (l)]  
The Permittee shall retain records of all required monitoring data and supporting information for a period of at least five years from the date of the monitoring sample, measurement, report, or application. Supporting information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring information, and copies of all reports required by the permit. These records shall be maintained in a form suitable and readily available for expeditious inspection and review. Any records required by the conditions of this permit shall be kept on site and made available to DAQ personnel for inspection upon request.
- P. **Compliance Certification** [15A NCAC 2Q .0508(n)]  
The Permittee shall submit to the DAQ and the EPA (Air and EPCRA Enforcement Branch, EPA, Region 4, 61 Forsyth Street, Atlanta, GA 30303) postmarked on or before March 1 a compliance certification (for the preceding calendar year) by a responsible official with all federally-enforceable terms and conditions in the permit, including emissions limitations, standards, or work practices. It shall be the responsibility of the current owner to submit a compliance certification for the entire year regardless of who owned the facility during the year. The compliance

certification

shall comply with additional requirements as may be specified under Sections 114(a)(3) or 504(b) of the Federal Clean Air Act. The compliance certification shall specify:

1. the identification of each term or condition of the permit that is the basis of the certification;
2. the compliance status (with the terms and conditions of the permit for the period covered by the certification);
3. whether compliance was continuous or intermittent; and
4. the method(s) used for determining the compliance status of the source during the certification period.

Q. **Certification by Responsible Official** [15A NCAC 2Q .0520]

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

R. **Permit Shield for Applicable Requirements** [15A NCAC 2Q .0512]

1. Compliance with the terms and conditions of this permit shall be deemed compliance with applicable requirements, where such applicable requirements are included and specifically identified in the permit as of the date of permit issuance.
2. A permit shield shall not alter or affect:
  - a. the power of the Commission, Secretary of the Department, or Governor under NCGS 143-215.3(a)(12), or EPA under Section 303 of the Federal Clean Air Act;
  - b. the liability of an owner or operator of a facility for any violation of applicable requirements prior to the effective date of the permit or at the time of permit issuance;
  - c. the applicable requirements under Title IV; or
  - d. the ability of the Director or the EPA under Section 114 of the Federal Clean Air Act to obtain information to determine compliance of the facility with its permit.
3. A permit shield does not apply to any change made at a facility that does not require a permit or permit revision made under 15A NCAC 2Q .0523.
4. A permit shield does not extend to minor permit modifications made under 15A NCAC 2Q .0515.

S. **Termination, Modification, and Revocation of the Permit** [15A NCAC 2Q .0519]

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

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

T. **Insignificant Activities** [15A NCAC 2Q .0503]

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

U. **Property Rights** [15A NCAC 2Q .0508(i)(8)]

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

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

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

- permit; and
- d. sample or monitor substances or parameters, using reasonable safety practices, for the purpose of assuring compliance with the permit or applicable requirements at reasonable times.
- Nothing in this condition shall limit the ability of the EPA to inspect or enter the premises of the Permittee under Section 114 or other provisions of the Federal Clean Air Act.
2. No person shall refuse entry or access to any authorized representative of the DAQ who requests entry for purposes of inspection, and who presents appropriate credentials, nor shall any person obstruct, hamper, or interfere with any such authorized representative while in the process of carrying out his official duties. Refusal of entry or access may constitute grounds for permit revocation and assessment of civil penalties.
- W. **Annual Fee Payment** [15A NCAC 2Q .0508(i)(10)]
1. The Permittee shall pay all fees in accordance with 15A NCAC 2Q .0200.
  2. Payment of fees may be by check or money order made payable to the N.C. Department of Environment and Natural Resources. Annual permit fee payments shall refer to the permit number.
  3. If, within 30 days after being billed, the Permittee fails to pay an annual fee, the Director may initiate action to terminate the permit under 15A NCAC 2Q .0519.
- X. **Annual Emission Inventory Requirements** [15A NCAC 2Q .0207]  
The Permittee shall report by **June 30 of each year** the actual emissions of each air pollutant listed in 15A NCAC 2Q .0207(a) from each emission source within the facility during the previous calendar year. The report shall be in or on such form as may be established by the Director. The accuracy of the report shall be certified by a responsible official of the facility.
- Y. **Confidential Information** [15A NCAC 2Q .0107 and 2Q .0508(i)(9)]  
Whenever the Permittee submits information under a claim of confidentiality pursuant to 15A NCAC 2Q .0107, the Permittee may also submit a copy of all such information and claim directly to the EPA upon request. All requests for confidentiality must be in accordance with 15A NCAC 2Q .0107.
- Z. **Construction and Operation Permits** [15A NCAC 2Q .0100 and .0300]  
A construction and operating permit shall be obtained by the Permittee for any proposed new or modified facility or emission source which is not exempted from having a permit prior to the beginning of construction or modification, in accordance with all applicable provisions of 15A NCAC 2Q .0100 and .0300.
- AA. **Standard Application Form and Required Information** [15A NCAC 2Q .0505 and .0507]  
The Permittee shall submit applications and required information in accordance with the provisions of 15A NCAC 2Q .0505 and .0507.
- BB. **Financial Responsibility and Compliance History** [15A NCAC 2Q .0507(d)(3)]  
The DAQ may require an applicant to submit a statement of financial qualifications and/or a statement of substantial compliance history.
- CC. **Refrigerant Requirements (Stratospheric Ozone and Climate Protection)** [15A NCAC 2Q .0501(e)]
1. If the Permittee has appliances or refrigeration equipment, including air conditioning equipment, which use Class I or II ozone-depleting substances such as chlorofluorocarbons and hydrochlorofluorocarbons listed as refrigerants in 40 CFR Part 82 Subpart A Appendices A and B, the Permittee shall service, repair, and maintain such equipment according to the work practices, personnel certification requirements, and certified recycling and recovery equipment specified in 40 CFR Part 82 Subpart F.
  2. The Permittee shall not knowingly vent or otherwise release any Class I or II substance into the environment during the repair, servicing, maintenance, or disposal of any such device except as provided in 40 CFR Part 82 Subpart F.
  3. The Permittee shall comply with all reporting and recordkeeping requirements of 40 CFR 82.166. Reports shall be submitted to the EPA or its designee as required.
- DD. **Prevention of Accidental Releases - Section 112(r)** [15A NCAC 2Q .0508(h)]  
If the Permittee is required to develop and register a Risk Management Plan with EPA pursuant to Section 112(r) of the Clean Air Act, then the Permittee is required to register this plan in accordance with 40 CFR Part 68.

EE. **Prevention of Accidental Releases General Duty Clause - Section 112(r)(1) -**

FEDERALLY-ENFORCEABLE ONLY

Although a risk management plan may not be required, if the Permittee produces, processes, handles, or stores any amount of a listed hazardous substance, the Permittee has a general duty to take such steps as are necessary to prevent the accidental release of such substance and to minimize the consequences of any release.

FF. **Title IV Allowances** [15A NCAC 2Q .0508(i)(1)]

This permit does not limit the number of Title IV allowances held by the Permittee, but the Permittee may not use allowances as a defense to noncompliance with any other applicable requirement. The Permittee's emissions may not exceed any allowances that the facility lawfully holds under Title IV of the Federal Clean Air Act.

GG. **Air Pollution Emergency Episode** [15A NCAC 2D .0300]

Should the Director of the DAQ declare an Air Pollution Emergency Episode, the Permittee will be required to operate in accordance with the Permittee's previously approved Emission Reduction Plan or, in the absence of an approved plan, with the appropriate requirements specified in 15A NCAC 2D .0300.

HH. **Registration of Air Pollution Sources** [15A NCAC 2D .0200]

The Director of the DAQ may require the Permittee to register a source of air pollution. If the Permittee is required to register a source of air pollution, this registration and required information will be in accordance with 15A NCAC 2D .0202(b).

II. **Ambient Air Quality Standards** [15A NCAC 2D .0501(c)]

In addition to any control or manner of operation necessary to meet emission standards specified in this permit, any source of air pollution shall be operated with such control or in such manner that the source shall not cause the ambient air quality standards in 15A NCAC 2D .0400 to be exceeded at any point beyond the premises on which the source is located. When controls more stringent than named in the applicable emission standards in this permit are required to prevent violation of the ambient air quality standards or are required to create an offset, the permit shall contain a condition requiring these controls.

JJ. **General Emissions Testing and Reporting Requirements** [15A NCAC 2Q .0508(i)(16)]

If emissions testing is required by this permit or the DAQ or if the Permittee submits emissions testing to the DAQ in support of a permit application or to demonstrate compliance, the Permittee shall perform such testing in accordance with 15A NCAC 2D .2600 and follow the procedures outlined below:

1. The Permittee shall submit a completed Protocol Submittal Form to the DAQ Regional Supervisor at least 45 days prior to the scheduled test date. A copy of the Protocol Submittal Form may be obtained from the Regional Supervisor.
2. The Permittee shall notify the Regional Supervisor of the specific test dates at least 15 days prior to testing in order to afford the DAQ the opportunity to have an observer on-site during the sampling program.
3. During all sampling periods, the Permittee shall operate the emission source(s) under maximum normal operating conditions or alternative operating conditions as deemed appropriate by the Regional Supervisor or his delegate.
4. The Permittee shall submit **two** copies of the test report to the DAQ. The test report shall contain at a minimum the following information:
  - a. a description of the training and air testing experience of the person directing the test;
  - b. a certification of the test results by sampling team leader and facility representative;
  - c. a summary of emissions results and text detailing the objectives of the testing program, the applicable state and federal regulations, and conclusions about the testing and compliance status of the emission source(s);
  - d. a detailed description of the tested emission source(s) and sampling location(s) process flow diagrams, engineering drawings, and sampling location schematics should be included as necessary;
  - e. all field, analytical, and calibration data necessary to verify that the testing was performed as specified in the applicable test methods;
  - f. example calculations for at least one test run using equations in the applicable test methods and all test results including intermediate parameter calculations; and
  - g. documentation of facility operating conditions during all testing periods and an explanation relating these operating conditions to maximum normal operation. If necessary, provide historical process data to verify maximum normal operation.
5. The testing requirement(s) shall be considered satisfied only upon written approval of the test results by the

DAQ.

6. The DAQ will review emission test results with respect exclusively to the specified testing objectives as proposed by the Permittee and approved by the DAQ.

**KK. Reopening for Cause** [15A NCAC 2Q .0517]

1. A permit shall be reopened and revised under the following circumstances:
  - a. additional applicable requirements become applicable to a facility with remaining permit term of three or more years;
  - b. additional requirements (including excess emission requirements) become applicable to a source covered by Title IV;
  - c. the Director or EPA finds that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit; or
  - d. the Director or EPA determines that the permit must be revised or revoked to assure compliance with the applicable requirements.
2. Any permit reopening shall be completed or a revised permit issued within 18 months after the applicable requirement is promulgated. No reopening is required if the effective date of the requirement is after the expiration of the permit term unless the term of the permit was extended pursuant to 15A NCAC 2Q .0513(c).
3. Except for the state-enforceable only portion of the permit, the procedures set out in 15A NCAC 2Q .0507, .0521, or .0522 shall be followed to reissue the permit. If the State-enforceable only portion of the permit is reopened, the procedures in 15A NCAC 2Q .0300 shall be followed. The proceedings shall affect only those parts of the permit for which cause to reopen exists.
4. The Director shall notify the Permittee at least 60 days in advance of the date that the permit is to be reopened, except in cases of imminent threat to public health or safety the notification period may be less than 60 days.
5. Within 90 days, or 180 days if the EPA extends the response period, after receiving notification from the EPA that a permit needs to be terminated, modified, or revoked and reissued, the Director shall send to the EPA a proposed determination of termination, modification, or revocation and reissuance, as appropriate.

**LL. Reporting Requirements for Non-Operating Equipment** [15A NCAC 2Q .0508(i)(16)]

The Permittee shall maintain a record of operation for permitted equipment noting whenever the equipment is taken from and placed into operation. During operation the monitoring recordkeeping and reporting requirements as prescribed by the permit shall be implemented within the monitoring period.

**MM. Fugitive Dust Control Requirement** [15A NCAC 2D .0540] - STATE ENFORCEABLE ONLY

As required by 15A NCAC 2D .0540 "Particulates from Fugitive Dust Emission Sources," the Permittee shall not cause or allow fugitive dust emissions to cause or contribute to substantive complaints or excess visible emissions beyond the property boundary. If substantive complaints or excessive fugitive dust emissions from the facility are observed beyond the property boundaries for six minutes in any one hour (using Reference Method 22 in 40 CFR, Appendix A), the owner or operator may be required to submit a fugitive dust plan as described in 2D .0540(f). "Fugitive dust emissions" means particulate matter from process operations that does not pass through a process stack or vent and that is generated within plant property boundaries from activities such as: unloading and loading areas, process areas stockpiles, stock pile working, plant parking lots, and plant roads (including access roads and haul roads).

1. For modifications made pursuant to 15A NCAC 2Q .0501(c)(2), the Permittee shall file a Title V Air Quality Permit Application for the air emission source(s) and associated air pollution control device(s) on or before 12 months after commencing operation.
2. For modifications made pursuant to 15A NCAC 2Q .0501(d)(2), the Permittee shall not begin operation of the air emission source(s) and associated air pollution control device(s) until a Title V Air Quality Permit Application is filed and a construction and operation permit following the procedures of Section .0500 (except for Rule .0504 of this Section) is obtained.
3. For modifications made pursuant to 502(b)(10), in accordance with 15A NCAC 2Q .0523(a)(1)(C), the Permittee shall notify the Director and EPA (EPA - Air Planning Branch, 61 Forsyth St., Atlanta, GA 30303) in writing at least seven days before the change is made. The written notification shall include:
  - a. a description of the change at the facility;
  - b. the date on which the change will occur;
  - c. any change in emissions; and
  - d. Any permit term or condition that is no longer applicable as a result of the change.**

In addition to this notification requirement, with the next significant modification or Air Quality Permit renewal, the Permittee shall submit a page "E5" of the application forms signed by the responsible official verifying that the application for the 502(b)(10) change/modification, is true, accurate, and complete. Further note that modifications made pursuant to 502(b)(10) do not relieve the Permittee from satisfying preconstruction requirements.

## ATTACHMENT

### List of Acronyms

<b>AOS</b>	Alternate Operating Scenario
<b>BACT</b>	Best Available Control Technology
<b>Btu</b>	British thermal unit
<b>CEM</b>	Continuous Emission Monitor
<b>CFR</b>	Code of Federal Regulations
<b>CAA</b>	Clean Air Act
<b>DAQ</b>	Division of Air Quality
<b>DENR</b>	Department of Environment and Natural Resources
<b>EMC</b>	Environmental Management Commission
<b>EPA</b>	Environmental Protection Agency
<b>FR</b>	Federal Register
<b>GACT</b>	Generally Available Control Technology
<b>HAP</b>	Hazardous Air Pollutant
<b>MACT</b>	Maximum Achievable Control Technology
<b>NCAC</b>	North Carolina Administrative Code
<b>NCGS</b>	North Carolina General Statutes
<b>NESHAPS</b>	National Emission Standards for Hazardous Air Pollutants
<b>NO<sub>x</sub></b>	Nitrogen Oxides
<b>NSPS</b>	New Source Performance Standard
<b>OAH</b>	Office of Administrative Hearings
<b>PM</b>	Particulate Matter
<b>PM<sub>10</sub></b>	Particulate Matter with Nominal Aerodynamic Diameter of 10 Micrometers or Less
<b>POS</b>	Primary Operating Scenario
<b>PSD</b>	Prevention of Significant Deterioration
<b>SIC</b>	Standard Industrial Classification
<b>SIP</b>	State Implementation Plan
<b>SO<sub>2</sub></b>	Sulfur Dioxide
<b>tpy</b>	Tons Per Year
<b>VOC</b>	Volatile Organic Compound