JOSH STEIN
Governor
D. REID WILSON
Secretary
MICHAEL ABRACZINSKAS
Director

NORTH CAROLINA
Environmental Quality

January 24, 2025

Mike Fresina
VP Operations
Qorvo US, Inc.
7628 Thorndike Road
Greensboro, NC 27409

SUBJECT: Air Quality Permit No. 08409T21
Facility ID: 4101022
Qorvo US, Inc.
Greensboro
Guilford County
Fee Class: Title V
PSD Class: Minor

Dear Mr. Fresina:

In accordance with your completed Air Quality Permit Application for a modification of your Title V permit, we are forwarding, herewith, Air Quality Permit No. 08409T21 authorizing the construction and operation of the emission source(s) and associated air pollution control device(s) specified herein. Additionally, any emissions activities determined from your Air Quality Permit Application as being insignificant per 15A North Carolina Administrative Code 02Q .0503(8) have been identified as such in the permit. Please note, the requirements for the annual compliance certification are contained in General Condition P in Section 4. The current owner is responsible for submitting a compliance certification for the entire year regardless of who owned the facility during the year.

These emission sources and control devices (ID Nos. ES-PL3a through j, CD-ME4, CD-ME5, CD-ME6 and CDAG2) are listed as a minor modification per 15A NCAC 02Q .0515. The annual compliance certification as described in General Condition P is required. Unless otherwise notified by DAQ, the affected terms of this permit (excluding the permit shield as described General Condition R) for these emission sources and control devices shall become final on March 25, 2025. Until this date, the affected permit terms herein reflect the proposed operating language that the Permittee shall operate these emission sources and control devices pursuant to 15A NCAC 02Q .0515(f).

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

If any parts, requirements, or limitations contained in this Air Quality Permit are unacceptable to you, you have the right to file a petition for contested case hearing in the North Carolina Office of Administrative Hearings. Information regarding the right, procedure, and time limit for permittees and other

persons aggrieved to file such a petition is contained in the attached "Notice Regarding the Right to Contest a Division of Air Quality Permit Decision."

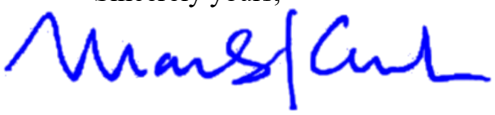
The construction of new air pollution emission source(s) and associated air pollution control device(s), or modifications to existing emission source(s) and air pollution control device(s) described in this permit must be covered under an Air Quality Permit issued by the Division of Air Quality prior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

Guilford County has triggered increment tracking under PSD for PM_{10} and SO_2. However, this permit renewal does not consume or expand increments for any pollutants.

This Air Quality Permit shall be effective from March 25, 2025 until November 30, 2029 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 Jacob Larson at (919) 707-8407 or Jacob.larson@deq.nc.gov.

Sincerely yours,



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

Enclosure

c: Brad Akers, EPA Region 4 (Permit and Review)
Laserfiche [4101022]

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

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

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

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

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

Daniel S. Hirschman , General Counsel
North Carolina Department of Environmental Quality
1601 Mail Service Center
Raleigh, North Carolina 27699-1601

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

* * *

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

Summary of Changes to Permit

The following changes were made to Air Permit No. 08409T20:*

Page No.	Section	Description of Changes
--	Cover page and throughout permit	• Updated all dates and permit revision numbers.
4-6	1 - Permitted Emissions Source Table	• Added control device (ID No. CDAG2) to emission source (ID No. ESMAN31) • Updated ESMAN31 control device list to match source description in section 2.1 A • Added new plating line consisting of sources (ID Nos. ES-PL3a through ES-PL3j) and associated control devices (ID Nos. CD-ME4, -ME 5 and -ME6) • Added minor modification footnote to the sources and control devices affected by this modification
7	2.1 A	• Added Particle Abatement Device (ID No. CDAG2) to control device list • Updated control device list for ESMAN31 to match source description in Section 1
25	2.1 H	• Updated emission source and control device list • Updated 15A NCAC 02D .0515 to include new plating line • Updated 15A NCAC 02D .0521 to include new plating line
25-28	2.1 H.3	• Updated the 02D .1100 (GACT WWWWWW) condition to include (ID No. ES-PL3a and b) and control device (ID No. CD-ME4) • Added initial notification requirement • Added monthly inspection requirement • Added recordkeeping requirement for monthly inspections and maintenance
33	Section 3 (Insignificant Activities List)	• Added I-PL3k to insignificant activities list

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

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

AIR QUALITY PERMIT

Permit No.	Replaces Permit No.(s)	Effective Date	Expiration Date
08409T21	08409T20	March 25, 2025	November 30, 2029

NOTE: Per General Condition K, a permit application for the renewal of this Title V permit shall be submitted no later than May 31, 2029.

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

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

Permittee:	**Qorvo US, Inc.**
Facility ID:	**4101022**
Primary SIC Code:	**3674**
NAICS Code:	**334413**
Facility Site Location:	**7628 Thorndike Road**
City, County, State, Zip:	**Greensboro, Guilford County, NC 27409**
Mailing Address:	**7628 Thorndike Road**
City, State, Zip:	**Greensboro, NC 27409**
Application Number(s):	**4101022.24A**
Complete Application Date(s):	**04/26/2024**
Division of Air Quality, Regional Office Address:	**Winston-Salem Regional Office** **450 West Hanes Mill Road, Suite 300** **Winston-Salem, NC 27105**

Permit issued this the 24th day of January, 2025.

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

Table of Contents

List of Acronyms

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

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

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

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
7914 Piedmont Triad Parkway			
ESG1 **(GACT ZZZZ)**	One No. 2 fuel oil-fired emergency generator (2,000 kW output)	NA	NA
G1 **(GACT ZZZZ)**	One No. 2 fuel oil-fired emergency generator (500 kW output)	NA	NA
ES-PL1a and PL1b ES-PL1c **(GACT WWWWWW)** ES-PL1d **(GACT WWWWWW)** ES-PL1e ES-PL1f	Electrolytic Copper/Nickel Plating Line including: Two (2) copper sulfate plating tanks, One nickel plating tank, One black nickel plating tank, One cleaner tank with sulfuric acid, and One acid dip tank with sulfuric acid	CD-ME1	Mist eliminator (1,500 acfm inlet air flow rate)
ES-PL2a and PL2b **(GACT WWWWWW)** ES-PL2c ES-PL2d ES-PL2e ES-PL2f	Electroless Copper Plating Line including: Two (2) copper sulfate and nickel sulfate plating tanks, One micro-etching tank with sulfuric acid, One acid dip tank with sulfuric acid, One activation tank with hydrochloric acid, One accelerator tank with formaldehyde and sulfuric acid	CD-ME2	Mist eliminator (2,200 acfm inlet air flow rate)
ES-SLa ES-SLb	Rack Stripping Line including: One copper bracket stripping tank with sulfuric acid, One copper/nickel rack stripping tank with nitric acid	CD-ME3	Mist eliminator (3,700 acfm inlet air flow rate)
Electroless Nickel/Gold/Potassium Cynaide/Palladium Plating Line including:			
ES-PL3a, ES-PL3b (**GACT WWWWWW)**	Two electroless nickel plating tanks	CD-ME4	Mist eliminator (1730 acfm inlet air flow rate)
ES-PL3c	Cleaner tank with sulfuric acid		
ES-PL3d	Micro-etch tank		
ES-PL3e	Heated acid dip tank		
ES-PL3f	Pre-dip acid tank		
ES-PL3g	Catalyst tank		
ES-PL3h	Post-drip tank		
ES-PL3i	Electroless palladium tank	CD-ME5	Mist eliminator (590 acfm inlet air flow rate)
ES-PL3j	Immersion gold/potassium cyanide tank	CD-ME6	Mist eliminator (590 acfm inlet air flow rate)

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
7908 Piedmont Triad Parkway			
ESG31, ESG32, ESG33 **(GACT ZZZZ; NSPS Dc)**	Three No. 2 fuel oil-fired emergency generators (2,200 kW output each)	NA	NA
ESG34 **(NSPS IIII; GACT ZZZZ)**	One No. 2 fuel oil-fired emergency generator (2,200 kW output each)	NA	NA
ESB31, ESB32, ESB33 **(NSPS Dc)**	Three natural gas/No. 2 fuel oil-fired boilers (16.33 million Btu per hour heat input each)	NA	NA
ESMAN31	Semiconductor manufacturing line consisting of various organic and inorganic emission sources from processes including photolithography, metallization, etch and deposition, and testing at 7908 Piedmont Triad Parkway. Emissions are vented via the acid gas exhaust or the solvent exhaust. Acid gas exhaust is vented directly to scrubbers for control. ICP etching is either vented to the stirred tank control devices in series with the acid gas scrubbers or directly to the acid gas scrubbers. Solvent exhaust is uncontrolled.	CDAG1[1] CDAG2[1,3] And CDEB3[1] And CD31 CD32 CD33	Two small packed bed particulate scrubbers One constant stirred tank particulate abatement devices three cross flow packed bed acid gas scrubber (160 gallons per minute minimum caustic solution injection)
ESMAN32	Semiconductor manufacturing line consisting of various organic and inorganic emission sources from processes including photolithography, metallization, etch and deposition, and testing at 7908 Piedmont Triad Parkway. Emissions are vented via the acid gas exhaust or the solvent exhaust. Acid gas exhaust is vented directly to scrubbers for control. ICP etching is either vented to the stirred tank control devices in series with the acid gas scrubbers or directly to the acid gas scrubbers. Solvent exhaust is uncontrolled.	CDEB4 CDEB5 CDEB6 And/Or CD31 CD32 CD33	three constant stirred tank particulate abatement devices[1] Acid gas exhaust system vented to two of three parallel cross flow packed bed acid gas scrubbers (160 gallons per minute minimum caustic solution injection each)
EST31, EST32, EST33	Three waste solvent storage tanks (8,000, 5,000, and 3,530 gallons capacity, respectively)	NA	NA
B10	Small tool parts bead blast system with integral cyclone	CDB10	One cartridge filter
7908 Piedmont Triad Parkway			
ESWD2[2]	Wafer dicing center No. 2	CDWD2a CDWD2c And CDWD2b CDWD2d	One of two fabric filters (maximum air-to-cloth ratio of 4.97) Either or both HEPA filters (maximum air-to-cloth ratio of 8.00 each)

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
		And CD31 CD32 CD33	 Two of three parallel cross flow packed bed acid gas scrubbers (160 gallons per minute minimum caustic solution injection each)[2]

1 Operation of the particulate abatement devices to reduce emissions from ICP Etching is not required to achieve compliance with any state or Federal air quality standard.

2 Emissions from the wafer dicing operations shall be vented through the acid gas scrubber stacks as described to demonstrate compliance with the state-enforceable only acceptable ambient level (AAL) for arsenic pursuant to 15A NCAC 02D .1100 as originally modeled. However, operation of the acid gas scrubbers is not required to achieve compliance with any state or federal air quality standard at the wafer dicing centers.

3 Pursuant to application 4101022.24B, these emission sources and control devices **(ID Nos. ES-PL3a through ES-PL3j, CD-ME4, CD-ME5, CD-ME6 and CDAG2)** are listed as a minor modification per 15A NCAC 02Q .0515. The annual compliance certification as described in General Condition P is required. Unless otherwise notified by DAQ, the affected terms of this permit (excluding the permit shield as described General Condition R) for these emission sources and control devices shall become final on March 25, 2025. Until this date, the affected permit terms herein reflect the proposed operating language that the Permittee shall operate these emission sources and control devices pursuant to 15A NCAC 02Q .0515(f).

SECTION 2 - SPECIFIC LIMITATIONS AND CONDITIONS

2.1 Emission Source(s) and Control Devices(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. Semiconductor manufacturing line (ID No. ESMAN31) with associated two small packed bed particulate scrubbers (ID Nos. CDAG1 and CDAG2), one constant stirred tank particulate abatment device (ID No. CDEB3) and three cross flow packed bed acid gas scrubbers 160 gallons per minute minimum caustic solution injection each (ID Nos. CD31, CD32, and/or CD33)

Semiconductor manufacturing line (ID No. ESMAN32) with associated particulate abatement devices for ICP Etching (ID No. CDEB4, CDEB5, and CDEB6) and acid gas control scrubbers (ID Nos. CD31, CD32, and/or CD33)

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

Pollutant	Limits/Standards	Applicable Regulation
Particulate matter	$E = 4.10 \times P^{0.67}$ Where: E = allowable emission rate in pounds per hour P = process weight in tons per hour	15A NCAC 02D .0515
Visible emissions	20 percent opacity	15A NCAC 02D .0521
Toxic air pollutants	**State-enforceable only** See Section 2.2 A.1	15A NCAC 02D .1100
Odors	**State-enforceable only** See Section 2.2 A.2	15A NCAC 02D .1806
Volatile organic compounds	**See Section 2.2 A.3**	15A NCAC 02Q .0317 (PSD Avoidance)
Toxic air pollutants	**State-enforceable only** See Section 2.2 A.4	15A NCAC 02Q .0711
Hazardous air pollutants	See Section 2.2 A.5	15A NCAC 02Q .0317 (MACT Avoidance)

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

a. Emissions of particulate matter from these sources **(ID Nos. ESMAN31 and ESMAN32)** shall not exceed an allowable emission rate as calculated by the following equations:

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

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

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

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

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

noncompliance with 15A NCAC 02D .0515.

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

c. Particulate matter emissions from these sources **(ID Nos. ESMAN31 and ESMAN32)** including those from ICP etching and acid gas aerosols from the acid gas ventilation systems shall be controlled as stipulated in the equipment list and minimum scrubbant flow rates shall be maintained as stipulated in the equipment list for each scrubber **(ID Nos. CD31, CD32, and CD33)**. To ensure compliance, the Permittee shall monitor the flow rate to each scrubber once per day and perform inspections and maintenance as recommended by the manufacturer. The daily observation must be made for each day of the calendar year period to ensure compliance with this requirement. The Permittee shall be allowed three days of absent observations per semi-annual period. In addition to the manufacturer's inspection and maintenance recommendations, or if there are no manufacturer's inspection and maintenance recommendations, as a minimum, the inspection and maintenance requirement shall include the following:
   i. monthly visual inspection of the collection systems and scrubber bodies for leaks; and
   ii. an annual (for each 12-month period following the initial inspection) internal inspection of scrubber packing and other internal components including scrubbant delivery systems. The internal inspection may be performed using the external view ports of the scrubber device.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515 if the scrubbers are not inspected and maintained or if the minimum scrubber flow rates are not maintained.

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

d. The results of inspection and maintenance shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:
   i. the date and time of each recorded action;
   ii. the results of each inspection;
   iii. the results of any maintenance performed on any scrubber; and
   iv. any variance from manufacturer's recommendations, if any, and corrections made.

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

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

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

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

a. Visible emissions from the scrubber stacks of these sources **(ID Nos. ESMAN31 and ESMAN32)** shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity.

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

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

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

c. No monitoring/recordkeeping/reporting is required for visible emissions from the operation of these sources **(ID Nos. ESMAN31 and ESMAN32)** including those from ICP etching and acid gas aerosols from the acid gas ventilation systems).

B. One small tool parts bead blast system (ID No. B10) with an integral cyclone, and associated cartridge filter (ID No. CDB10)

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

Pollutant	Limits/Standards	Applicable Regulation
Visible emissions	20 percent opacity	15A NCAC 02D .0521
Particulate matter	Conduct abrasive blasting indoors, and Comply with 15A NCAC 02D .0521	15A NCAC 02D .0541
Toxic air pollutants	**State-enforceable only** See Section 2.2 A.1	15A NCAC 02D .1100
Odors	**State-enforceable only** See Section 2.2 A.2	15A NCAC 02D .1806

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

a. Visible emissions from this source **(ID No. B10)** shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity.

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

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

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

c. No monitoring/recordkeeping/reporting is required for visible emissions from the operation of this source **(ID No. B10)**.

2. 15A NCAC 02D .0541: CONTROL OF EMISSIONS FROM ABRASIVE BLASTING

a. The Permittee shall ensure that any abrasive blasting conducted indoors and vented to the atmosphere is performed in accordance with 15A NCAC 02D .0521 "Control of Visible Emissions".

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

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 B.1.a, above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0541.

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

c. Particulate matter emissions from this source **(ID No. B10)** shall be controlled by the cartridge filter **(ID No. CDB10)**, as described above. To ensure compliance, the Permittee shall perform inspections and maintenance as recommended by the manufacturer. In addition to the manufacturer's inspection and maintenance recommendations, or if there are no manufacturer's inspection and maintenance recommendations, as a minimum, the inspection and maintenance requirement shall include the following:
   i. a monthly visual inspection of the bead blast exhaust and associated control system for leaks; and
   ii. an annual (for each 12-month period following the initial inspection) inspection of the cartridge filter and cyclone for wear.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0541 if the systems are not inspected and maintained.

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

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

ii. the results of each inspection;
iii. the results of any maintenance performed on the filters; and
iv. any variance from manufacturer's recommendations, if any, and corrections made.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0541 if these records are not maintained.

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

e. The Permittee shall submit the results of any maintenance performed on any control device within 30 days of a written request by the DAQ.
f. The Permittee shall submit a summary report of monitoring and recordkeeping activities given in Sections 2.1 B.2.c and d above postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

C. Three waste solvent storage tanks (ID Nos. EST31, EST32, and EST33)

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

Pollutant	Limits/Standards	Applicable Regulation
Toxic air pollutants	**State-enforceable only** See Section 2.2 A.1	15A NCAC 02D .1100
Odors	**State-enforceable only** See Section 2.2 A.2	15A NCAC 02D .1806
Volatile organic compounds	See Section 2.2 A.3	15A NCAC 02Q .0317 (PSD Avoidance)
Toxic air pollutants	**State-enforceable only** See Section 2.2 A.4	15A NCAC 02Q .0711
Hazardous air pollutants	See Section 2.2 A.5	15A NCAC 02Q .0317 (MACT Avoidance)

D. One 500 kW No. 2 fuel oil-fired emergency generator (ID No. G1)
Four 2,200 kW No. 2 fuel oil-fired emergency generators (ID Nos. ESG1, ESG31, ESG32, and ESG33)

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

Pollutant	Limits/Standards	Applicable Regulation
Sulfur dioxide	Less than 2.3 pounds per million Btu heat input	15A NCAC 02D .0516
Visible emissions	20 percent opacity	15A NCAC 02D .0521
Hazardous air pollutants	GACT Standards	15A NCAC 02D .1111 (40 CFR 63, Subpart ZZZZ)
Odors	**State-enforceable only** See Section 2.2 A.2	15A NCAC 02D .1806

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

a. Emissions of sulfur dioxide from these sources **(ID Nos. ESG1, ESG31, ESG32, ESG33, and G1)** shall not exceed 2.3 pounds per million Btu heat input. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard.

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

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

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

c. No monitoring/recordkeeping/reporting is required for sulfur dioxide emissions from the firing of No. 2 fuel oil in these sources **(ID Nos. ESG1, ESG31, ESG32, ESG33, and G1)**.

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

a. Visible emissions from these sources **(ID Nos. ESG1, ESG31, ESG32, ESG33, and G1)** shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity.

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

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

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

c. No monitoring/recordkeeping/reporting is required for visible emissions from the firing of No. 2 fuel oil in these sources **(ID Nos. ESG1, ESG31, ESG32, ESG33, and G1)**.

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

Applicability

a. For these emission sources (**ID Nos. ESG1, ESG31, ESG32, ESG33, and G1**), the Permittee shall comply with all applicable provisions, including the monitoring, recordkeeping, and reporting contained in Environmental Management Commission Standard 15A NCAC 02D .1111 "Maximum Achievable Control Technology" (MACT) as promulgated in 40 CFR 63 Subpart ZZZZ “National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines” and Subpart A “General Provisions.” [40 CFR 63.6585, 63.6590(a)(1)(iii)]

Definitions and Nomenclature

b. For the purposes of this permit condition, the definitions and nomenclature contained in 40 CFR 63.6675 shall apply.

Applicability Date

c. The Permittee shall comply with the applicable emission limitations, operating limitations, and other requirements no later than May 3, 2013. [40 CFR 63.6595(a)(1)]

Notifications

d. The Permittee has no notification requirements. [40 CFR 63.6645(a)(5)]

General Provisions [

e. The Permittee shall comply with the General Provisions as applicable pursuant to Table 8 of 40 CFR 63 Subpart ZZZZ. 40 CFR 63.6665]

Operating and Maintenance Requirements [15A NCAC 02Q .0508(b)]

f. During periods of startup of the engine, the Permittee shall minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply. [40 CFR 63.6603(a), Table 2d to 40 CFR 60 Subpart ZZZZ and 63.6625(h)]

g. Except during periods of startup of the engine, the Permittee shall:
   i. change oil and filter every 500 hours of operation or annually, whichever comes first;
   ii. inspect air cleaner every 1,000 hours of operation or annually, whichever comes first; and
   iii. inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary

   [40 CFR 6363.6603(a), Table 2d to 40 CFR 63 Subpart ZZZZ]

h. The Permittee shall have the option to utilize the oil analysis program as described in 40 CFR 63.6625(i) in order to extend the specified oil change requirement in Section 2.1 D.3.g above. [40 CFR 63.6603(a), Table 2d to 40 CFR 63 Subpart ZZZZ, 63.6625(i)]

i. If an emergency engine is operating during an emergency and it is not possible to shut down the engine in order to perform the management practice requirements on the schedule required in Section 2.1 D.3.g above, or if performing the management practice on the required schedule would otherwise pose an unacceptable risk under Federal, State, or local law, the management practice can be delayed until the emergency is over or the unacceptable risk under Federal, State, or local law has abated. The management practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under Federal, State, or local law has abated. Sources must report any failure to perform the management practice on the schedule required and the Federal, State or local law under which the risk was deemed unacceptable. [40 CFR 63.6603(a), Table 2d to 40 CFR 63 Subpart ZZZZ]

j. The Permittee shall be in compliance with the emission limitations, operating limitations and other requirements that apply at all times. [40 CFR 63.6605(a)]

k. The Permittee shall operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require you to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. [40 CFR 63.6605(b)]

l. The Permittee shall operate and maintain the stationary RICE and after-treatment control device (if any) according to the manufacturer's emission-related written instructions or develop a maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions. [40 CFR 63.6625(e) and 63.6640(a), Table 6 to 40 CFR 63 Subpart ZZZZ]

m. In order for the engine to be considered an emergency stationary RICE as defined in Section 2.1 D.3.b above, any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year, as described in paragraphs m.i through m.iii below, is prohibited.
   i. There is no time limit on the use of emergency stationary RICE in emergency situations.

ii. The Permittee may operate emergency stationary RICE for any combination of the purposes specified in paragraph m.ii.(A) below for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by paragraph iii below counts as part of the 100 hours per calendar year allowed by this paragraph m.ii.
   (A) Emergency stationary RICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency RICE beyond 100 hours per calendar year.

iii. Emergency stationary RICE located at area sources of HAP may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing provided in paragraph m.ii above. Except as provided in paragraph m.iii.(A) below, the 50 hours per year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity.
   (A) The 50 hours per year for non- emergency situations can be used to supply power as part of a financial arrangement with another entity if all of the following conditions are met:
      (1) the engine is dispatched by the local balancing authority or local transmission and distribution system operator.
      (2) the dispatch is intended to mitigate local transmission and/or distribution limitations so as to avert potential voltage collapse or line overloads that could lead to the interruption of power supply in a local area or region.
      (3) the dispatch follows reliability, emergency operation or similar protocols that follow specific NERC, regional, state, public utility commission or local standards or guidelines.
      (4) the power is provided only to the facility itself or to support the local transmission and distribution system.
      (5) the owner or operator identifies and records the entity that dispatches the engine and the specific NERC, regional, state, public utility commission or local standards or guidelines that are being followed for dispatching the engine. The local balancing authority or local transmission and distribution system operator may keep these records on behalf of the engine owner or operator.

[40 CFR 63.6640(f)(1), (2) and (4)]

n. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the requirements in Section 2.1 D.3.e through m above are not met.

Fuel Requirements [15A NCAC 02Q .0508(f), 40 CFR 63.6604(b)]

o. Beginning January 1, 2015, if you own or operate an existing emergency CI stationary RICE with a site rating of more than 100 brake HP and a displacement of less than 30 liters per cylinder that uses diesel fuel and operates for the purpose specified in Section 2.1 D.3.m.iii.(A) above, you must use diesel fuel that meets the requirements in 40 CFR 1090.305 for nonroad diesel fuel, except that any existing diesel fuel purchased (or otherwise obtained) prior to January 1, 2015, may be used until depleted. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111 if these requirements are not met.

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

p. The Permittee shall install a non-resettable hour meter on the engine if one is not already installed. [40 CFR 63.6625(f)]

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

q. The Permittee shall keep the following:
   i. a copy of each notification and report that you submitted to comply with this subpart, including all documentation supporting any Initial Notification or Notification of Compliance Status that you submitted, according to the requirement in 40 CFR 63.10(b)(2)(xiv) [40 CFR 63.6655(a)(1)];
   ii. records of the occurrence and duration of each malfunction of operation (i.e., process equipment) or the air pollution control and monitoring equipment [40 CFR 63.6655(a)(2)];
   iii. records of all required maintenance performed on the air pollution control and monitoring equipment [40 CFR 63.6655(a)(4)];

iv. records of actions taken during periods of malfunction to minimize emissions in accordance with Section 2.1 D.3.k above, including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation [40 CFR 63.6655(a)(5)];
v. records of the maintenance conducted on the RICE pursuant to Section 2.1 D.3.l above [40 CFR 63.6655(d) and (e)];
vi. records of the hours of operation of the engine that is recorded through the non-resettable hour meter. The Permittee shall document how many hours are spent for emergency operation, including what classified the operation as emergency and how many hours are spent for non-emergency operation [40 CFR 63.6655(f)];
vii. if` the engine is used for the purposes specified in Section 2.1 D.3.m.iii(A) above, records of the notification of the situation, and the date, start time, and end time of engine operation for these purposes[40 CFR 63.6655(f)]; and
viii. each record in a form suitable and readily accessible in hard copy or electronic form for at least 5 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to 40 CFR 63.10(b)(1). [40 CFR 63.6660(a), (b), and (c)]

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

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

r. The Permittee shall submit a summary report of monitoring and recordkeeping activities given in Section 2.1 D.3.p and q above postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of noncompliance must be clearly identified. [40 CFR 63.6640(b), (e) and 63.6650(f)] The summary report shall also include any reporting required under Section 2.1 D.3.i above, as necessary. [40 CFR 63.6603(a), Table 2d to 40 CFR 63 Subpart ZZZZ]
s. If the Permittee owns or operates an emergency stationary RICE with a site rating of more than 100 brake HP that operates for the purpose specified in Section 2.1 D.3.m.iii(A) above, the Permittee shall submit an annual report according to the requirements at 40 CFR 63.6650(h). This report must be submitted to the Regional Supervisor and the EPA. [40 CFR 63.6650(h)]

E. One 2,200 kW No. 2 fuel oil-fired emergency generator (ID No. ESG34)

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

Pollutant	Limits/Standards	Applicable Regulation
Sulfur dioxide	Less than 2.3 pounds per million Btu heat input	15A NCAC 02D .0516
Visible emissions	20 percent opacity	15A NCAC 02D .0521
HC, NOx, CO, PM, and SO_2	New Source Performance Standards	15A NCAC 02D .0524 (40 CFR 60, Subpart IIII)
Hazardous air pollutants	GACT Standards Comply with NSPS Subpart IIII	15A NCAC 02D .1111 (40 CFR 63, Subpart ZZZZ)
Odors	**State-enforceable only** See Section 2.2 A.2	15A NCAC 02D .1806

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

a. Emissions of sulfur dioxide from this emission source **(ID No. ESG34)** shall not exceed 2.3 pounds per million Btu heat input. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard.

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

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

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

c. No monitoring/recordkeeping/reporting is required for sulfur dioxide emissions from the firing of No. 2 fuel oil in this emission source **(ID No. ESG34)**.

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

a. Visible emissions from this emission source **(ID No. ESG34)** shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity.

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

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

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

c. No monitoring/recordkeeping/reporting is required for visible emissions from the firing of No. 2 fuel oil in this source **(ID Nos. ESG34)**.

3. 15A NCAC 02D .0524: NEW SOURCE PERFORMANCE STANDARDS

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

a. For emission source (**ID No. ESG34**) the Permittee shall comply with all applicable provisions, including the requirements for emission standards, notification, testing, reporting, record keeping, and monitoring, contained in Environmental Management Commission Standard 15A NCAC 02D .0524 "New Source Performance Standards (NSPS)" as promulgated in 40 CFR Part 60 Subpart IIII “Standards of Performance for Stationary Compression Ignition Internal Combustion Engines” including Subpart A "General Provisions."

Definitions and Nomenclature

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

General Provisions

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

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

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

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

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

   [40 CFR 60.4207(b)]

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

f. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limits given in Section 2.1 E.3.d and e above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524.

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

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

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

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

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

   [40 CFR 60.4206 and 60.4211(a)]

i. The Permittee shall comply with the emission standards in Section 2.1 E.3.d above by purchasing an engine certified to the emission standards in Section 2.1 E.3.d above for the same model year and maximum engine power. The engine shall be installed and configured according to the manufacturer's emission-related specifications. [40 CFR 60.4211(c)]

j. In order for the engine to be considered an emergency stationary internal combustion engine (ICE) as defined in Section 2.1 E.3.b above, any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year, as described below, is prohibited.
   i. There is no time limit on the use of emergency stationary ICE in emergency situations.
   ii. The Permittee may operate the emergency stationary ICE for any combination of the purposes specified in paragraph j.ii.(A) below for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by paragraph j.(iii) below counts as part of the 100 hours per calendar year allowed by this paragraph j.(ii).
      (A) Emergency stationary ICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency ICE beyond 100 hours per calendar year.
   iii. Emergency stationary ICE may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing provided in paragraph j.(ii) above. Except as provided in paragraph j.iii.(A) below,

the 50 hours per calendar year for non- emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity.

(A) The 50 hours per year for non-emergency situations can be used to supply power as part of a financial arrangement with another entity if all of the following conditions are met:
  (1) The engine is dispatched by the local balancing authority or local transmission and distribution system operator;
  (2) The dispatch is intended to mitigate local transmission and/or distribution limitations so as to avert potential voltage collapse or line overloads that could lead to the interruption of power supply in a local area or region.
  (3) The dispatch follows reliability, emergency operation or similar protocols that follow specific NERC, regional, state, public utility commission or local standards or guidelines.
  (4) The power is provided only to the facility itself or to support the local transmission and distribution system.
  (5) The owner or operator identifies and records the entity that dispatches the engine and the specific NERC, regional, state, public utility commission or local standards or guidelines that are being followed for dispatching the engine. The local balancing authority or local transmission and distribution system operator may keep these records on behalf of the engine owner or operator.

[40 CFR 60.4211(f)]

k. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524 if the compliance requirements in Section 2.1 E.3.h through j above are not met.

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

l. The following records shall be maintained:
  i. The results of inspection and maintenance made pursuant to Section 2.1 E.3.h above shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:
    (A) the date and time of each recorded action;
    (B) the results of each inspection;
    (C) the results of any maintenance performed on the engine;
    (D) any variance from manufacturer's recommendations, if any, and corrections made;
    (E) the hours of operation of the engine in emergency and non-emergency service that are recorded through the non-resettable hour meter. The owner must record the time of operation of the engine and the reason the engine was in operation during that time [40 CFR 60.4214(b)]; and
    (F) if a PM filter is used, records of any corrective action taken after the backpressure monitor has notified the owner or operator that the high backpressure limit of the engine is approached [40 CFR 60.4214(c)];
  ii. documentation from the manufacturer that the engine is certified to meet the emission standards in Section 2.1 E.3.d above; and
  iii. records showing the fuel combusted meets the requirements in Section 2.1 E.3.e above.

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

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

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

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

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

a. For this source (**ID No. ESG34)** the Permittee shall comply with all applicable provisions, including the monitoring, recordkeeping, and reporting contained in Environmental Management Commission Standard 15A NCAC 02D .1111 "Maximum Achievable Control Technology" (MACT) as promulgated in 40 CFR 63 Subpart ZZZZ "National Emission Standards For Hazardous Air Pollutants For Stationary Reciprocating Internal Combustion Engines" and Subpart A "General Provisions."

Stationary RICE subject to Regulations under 40 CFR Part 60 [15A NCAC 02Q. 0508(b)]

b. Pursuant to 40 CFR 63.6590(c)(1), these sources shall meet the requirements of 40 CFR 63 Subpart ZZZZ and Subpart A by meeting the requirements of 40 CFR 60 Subpart IIII . No further requirements apply for these engines under 40 CFR 63 Subpart ZZZZ and Subpart A. If these requirements are not met, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111.

F. Three natural gas/No. 2 fuel oil-fired boilers (ID Nos. ESB31, ESB32, and ESB33)

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

Pollutant	Limits/Standards	Applicable Regulation
Particulate matter	Less than 0.37 pounds per million Btu heat input	15A NCAC 02D .0503
Sulfur dioxide	Less than 2.3 pounds per million Btu heat input	15A NCAC 02D .0516
Visible emissions	20 percent opacity	15A NCAC 02D .0521
Sulfur dioxide	(When firing only No. 2 fuel oil) Fuel oil sulfur content shall not exceed 0.5 percent by weight	15A NCAC 02D .0524 (40 CFR 60, Subpart Dc)
n/a	Fire liquid fuel only during times of natural gas curtailment or maintenance	15A NCAC 02Q .0317 (GACT Avoidance)
Odors	**State-enforceable only** See Section 2.2 A.2	15A NCAC 02D .1806

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

a. Emissions of particulate matter from these sources **(ID Nos. ESB31, ESB32, and ESB33)** discharged into the atmosphere shall not exceed 0.37 pounds per million Btu heat input.

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

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

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

c. No monitoring/recordkeeping/reporting is required for particulate emissions from the firing of natural gas/No. 2 fuel oil in these sources **(ID Nos. ESB31, ESB32, and ESB33)**.

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

a. When firing natural gas, emissions of sulfur dioxide from these sources **(ID Nos. ESB31, ESB32, and ESB33)** shall not exceed 2.3 pounds per million Btu heat input. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard.

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

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

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

c. No monitoring/recordkeeping/reporting is required for sulfur dioxide emissions from the firing of natural gas in these sources **(ID Nos. ESB31, ESB32, and ESB33)**.

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

a. Visible emissions from these sources **(ID Nos. ESB31, ESB32, and ESB33)** shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity.

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

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

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

c. No monitoring/recordkeeping/reporting is required for visible emissions from the firing of natural gas/No. 2 fuel oil in these sources **(ID Nos. ESB31, ESB32, and ESB33)**

4. 15A NCAC 02D .0524: NEW SOURCE PERFORMANCE STANDARDS

a. The Permittee shall comply with all applicable provisions, including the notification, testing, reporting, recordkeeping, and monitoring requirements contained in Environmental Management Commission Standard 15A NCAC 2D .0524 "New Source Performance Standards as promulgated in 40 CFR Part 60 Subpart Dc "Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units" including Subpart A, "General Provisions."

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

b. The Permittee shall not combust oil in these sources that contains greater than 0.5 weight percent sulfur. [40 CFR 60.42c(d)]

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

c. The following monitoring and recordkeeping requirements apply:
   i. Compliance with the fuel oil sulfur limits in Section 2.1 F.4.b above may be determined based on a certification from the fuel supplier, as described below.[40 CFR 60.42c(h)(1)]
   ii. The Permittee shall keep records, including the following information:
      (A) Calendar dates covered in the reporting period.
      (B) Fuel supplier certifications including the following information.
         (1) The name of the oil supplier;
         (2) A statement from the oil supplier that the oil complies with the specifications under the definition of distillate oil in 40 CFR 60.41c; and
         (3) The sulfur content or maximum sulfur content of the oil.
         [40 CFR 60.48c(f)(1)]
      [40 CFR 60.48c(e)(1) and (11)]
   iii. The Permittee shall maintain records of the amount of each fuel combusted during each calendar month. [40 CFR 60.48c(g)]

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524 if these monitoring and recordkeeping requirements are not met or the sulfur content of the oil exceeds the limit in Section 2.1 F.4.b above.

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

d. The following reporting requirements apply:
   i. The Permittee shall submit a summary report of monitoring and recordkeeping activities given in Section 2.1 F.4.c above postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.
   ii. The summary report shall contain the information in Section 2.1 F.4.c above.[40 CFR 60.48c(e)(1) and (11)]
   iii. A certified statement signed by the owner or operator of the affected facility that the records of fuel supplier certifications submitted represent all of the distillate fuel combusted during the reporting period. [40 CFR 60.48c(e)(11)]

5. 15A NCAC 02Q .0317: AVOIDANCE CONDITIONS for 15A NCAC 02D .1111, 40 CFR Part 63, Subpart JJJJJJ, "National Emission Standards for Hazardous Air Pollutants for Area Sources: Industrial, Commercial, and Institutional Boilers"

a. In order to avoid the applicability of 40 CFR 63 Subpart JJJJJJ "National Emission Standards for Hazardous Air Pollutants for Area sources: Industrial, Commercial, and Institutional Boilers," the Permittee shall operate the emission sources **(ID Nos. ESB31, ESB32, and ESB33)** as follows:
   i. Gaseous-fuels are not combined with any solid fuels.
   ii. Liquid fuels are burned only during periods of gas curtailment, gas supply interruption, startups, or periodic testing on liquid fuel.
   iii. Periodic testing of liquid fuel shall not exceed a combined total of 48 hours during any calendar year.
   [40 CFR 63.11195(e), 63.11237]

Definitions and Nomenclature

b. For the purposes of this permit condition, the definitions and nomenclature contained in 40 CFR 63.11237 shall apply.

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

c. The Permittee shall maintain, and make available upon request, the following records:
   i. types of fuels combusted during periods of gas curtailment, gas supply interruption, and startups;
   ii. date and duration of periods of gas curtailment, gas supply interruption and startups; and
   ii. date and duration of periods of testing with liquid fuel.

d. If the Permittee:
   i. fails to keep the records in Section 2.1 F.5.c above;
   ii. combusts any solid fuels;
   iii. burns liquid fuels outside the periods indicated in Section 2.1 F.5.a.ii above; or
   iv. tests the source burning liquid fuel for longer than 48 hours during any calendar year;
   the Permittee shall be deemed in non-compliance with 15A NCAC 02D .1111.

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

e. The Permittee shall submit a summary report of the monitoring and recordkeeping activities given in Section 2.1 F.5.c and d above postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

G. Wafer Dicing Center No. 2 (ID No. ESWD2) with associated fabric filters (ID Nos. CDWD2a and CDWD2c) and HEPA filters (ID Nos. CDWD2b and CDWD2d) and acid gas control scrubbers (ID Nos. CD31, CD32 and CD33**)

** ***Emissions from the wafer dicing operations shall be vented through the acid gas scrubber stacks as described to demonstrate compliance with the state-enforceable only acceptable ambient level (AAL) for arsenic pursuant to 15A NCAC 02D .1100 as originally modeled. However, operation of the acid gas scrubbers is not required to achieve compliance with any state or federal air quality standard at the wafer dicing centers.***

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

Pollutant	Limits/Standards	Applicable Regulation
Particulate matter	$E = 4.10 \times P^{0.67}$ Where: E = allowable emission rate in pounds per hour P = process weight in tons per hour	15A NCAC 02D .0515
Visible emissions	20 percent opacity	15A NCAC 02D .0521
Toxic air pollutants	**State-enforceable only** See Section 2.2 A.1	15A NCAC 02D .1100
Odors	**State-enforceable only** See Section 2.2 A.2	15A NCAC 02D .1806

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

a. Emissions of particulate matter from this source **(ID No. ESWD2)** shall not exceed an allowable emission rate as calculated by the following equation:

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

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

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

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

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

c. The Permittee shall maintain production records such that the process rates "P" in tons per hour, as specified by the formula contained above, can be derived, and shall make these records available to a DAQ authorized representative upon request. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515 if the production records are not maintained or the types of materials and finishes are not monitored.

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

d. No reporting is required for particulate emissions from this source **(ID No. ESWD2)**.

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

a. Visible emissions from this source **(ID No. ESWD2)** shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity.

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

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

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

c. No monitoring/recordkeeping/reporting is required for visible emissions from the operation of this source **(ID No. ESWD2)**.

H. Microshield Plating Lines comprised of the following:

1. **Electrolytic Copper/Nickel Plating line equipped with mist eliminator (ID No. CD-ME1) including;**
   - **two (2) acid copper plating tanks (ID Nos. ES-PL1a and PL1b),**
   - **one nickel plating tank (ID No. ES-PL1c),**
   - **one black nickel plating tank (ID No. ES-PL1d),**
   - **one cleaner tank with sulfuric acid (ID No. ES-PL1e), and**
   - **one acid dip tank with sulfuric acid (ID No. ES-PL1f)**

2. **Electroless Copper Plating line equipped with mist eliminator (ID No. CD-ME2) including;**
   - **two (2) electroless copper sulfate and nickel sulfate plating tanks (ID Nos. ES-PL2a and PL2b),**
   - **one micro-etching tank with sulfuric acid (ID No. ES-PL2c),**
   - **one acid dip tank with sulfuric acid (ID No. ES-PL2d),**
   - **one activation tank with hydrochloric acid (ID No. ES-PL2e),**
   - **one accelerator tank with formaldehyde and sulfuric acid (ID No. ES-PL2f)**

3. **Rack Stripping line equipped with mist eliminator (ID No. CD-ME3) including;**
   - **one basket stripping tank with sulfuric acid (ID No. ES-SLa), and**
   - **one rack stripping tank with nitric acid (ID No. ES-SLb)**

4. **Electroless Nickel/Gold/Potassium Cyanide/Palladium Plating Line including: (ID Nos. CD-ME4, CD-ME5, and CD-ME6)**
   a. **Electroless nickel plating tank 1 (ID No. ES-PL3a) controlled by Mist eliminator 1730 acfm inlet air flow rate (ID No. CD-ME4)**
   b. **Electroless nickel plating tank 2 (ID No. ES-PL3b) controlled by Mist eliminator 1730 acfm inlet air flow rate (ID No. CD-ME4)**
   c. **Cleaner tank with sulfuric acid (ID No. ES-PL3c) controlled by Mist eliminator 1730 acfm inlet air flow rate (ID No. CD-ME4)**
   d. **Micro-etch tank (ID No. ES-PL3d) controlled by Mist eliminator 1730 acfm inlet air flow rate (ID No. CD-ME4)**
   e. **Heated acid dip tank (ID No. ES-PL3e) controlled by Mist eliminator 1730 acfm inlet air flow rate (ID No. CD-ME4)**
   f. **Pre dip acid tank (ID No. ES-PL3f) controlled by Mist eliminator 1730 acfm inlet air flow rate (ID No. CD-ME4)**
   g. **Catalyst tank (ID No. ES-PL3g) controlled by Mist eliminator 1730 acfm inlet air flow rate (ID No. CD-ME4)**
   h. **Post drip acid tank (ID No. ES-PL3h) controlled by Mist eliminator 1730 acfm inlet air flow rate (ID No. CD-ME4)**
   i. **Electroless palladum tank (ID No. ES-PL3i) controlled by Mist eliminator 590 acfm inlet air flow rate (ID No. CD-ME5)**
   j. **Immersion gold/potassium cyanide tank (ID No. ES-PL3j) controlled by Mist eliminator 590 acfm inlet air flow rate (ID No. CD-ME6)**

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

Pollutant	Limits/Standards	Applicable Regulation
Particulate matter	$E=4.10 \times P^{0.67}$, for process rates $\leq$ 30 tons per hour, OR $E=55 \times P^{0.11} - 40$, for process rates > 30 tons per hour Where: E = allowable emission rate in pounds per hour P = process weight in tons per hour	15A NCAC 02D .0515
Visible emissions	20 percent opacity	15A NCAC 02D .0521
Hazardous air pollutants	See Section 2.1 H.3	15A NCAC 02D .1111 40 CFR Part 63, Supart WWWWWW
Toxic air pollutants	**State-enforceable only** See Section 2.2 A.1	15A NCAC 02D .1100
Odors	**State-enforceable only** See Section 2.2 A.2	15A NCAC 02D .1806

1. 15A NCAC 02D .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:

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

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

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

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

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

c. The Permittee shall maintain production records such that the process rates "P" in tons per hour, as specified by the formula contained above, can be derived, and shall make these records available to a DAQ authorized representative upon request. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515 if the production records are not maintained or the types of materials and finishes are not monitored.

d. No reporting is required for particulate emissions from these sources.

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

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

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

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

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

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

3. 15A NCAC 02D .1111: MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY (40 CFR 63 Subpart WWWWWW, "National Emission Standards For Hazardous Air Pollutants: Area Source Standards For Plating And Polishing Operations)

Applicability [40 CFR 63.11504]

a. Each plating and polishing facility that is an area source of hazardous air pollutants (HAP), uses or has emissions of

compounds of one or more plating and polishing metal HAP, and is engaged in one or more of the following processes is subject to this Subpart:

i. electroplating other than chromium electroplating,
ii. electroless or non-electrolytic plating,
iii. other non-electrolytic metal coating processes,
iv. dry mechanical polishing of finished metals and formed products after plating or thermal spraying,
v. electroforming,
iv. electropolishing

Each new facility, constructed after March 14, 2008, must comply with the provisions of this Subpart upon initial startup. The following table provides a summary of the affected sources:

Emission Source Description	Emission Source ID No.	Control Device	Control Device ID No.	Requirement
Nickel plating tank	ES-PL1c	Mesh pad mist eliminator	CD-ME1	Management practices
Black nickel plating tank	ES-PL1d	Mesh pad mist eliminator	CD-ME1	Management practices
Two (2) copper sulfate and nickel sulfate plating tanks	ES-PL2a and ES-PL2b	Mesh pad mist eliminator	CD-ME2	Management practices
Two (2) Electroless Nickel plating tanks	ES-PL3a and ES-PL3b	Mesh pad mist eliminator	CD-ME4	Management practices

Standards and Management Practices [40 CFR 63.11507]

b. For the facility's (non-cyanide) electroplating, electroforming, or electropolishing tanks with a pH of less than 12, the Permittee will comply by using mesh pad mist eliminators as provided in 40 CFR 63.11507(a)(2). The Permittee must operate all capture and control devices according to the manufacturer's specifications and operating instructions. The Permittee must keep the manufacturer's specifications and operating instructions at the facility at all times in a location where they can be easily accessed by the operators.

c. Pursuant to 40 CFR 63.11507(g), the facility must implement the following management practices:
   i. Minimize bath agitation when removing any parts processed in the tank, as practicable except when necessary to meet part quality requirements.
   ii. Maximize the draining of bath solution back into the tank, as practicable, by extending drip time when removing parts from the tank, using drain boards (also known as drip shields); or withdrawing parts slowly from the tank, as practicable.
   iii. Optimize the design of barrels, racks, and parts to minimize dragout of bath solution (such as by using slotted barrels and tilted racks, or by designing parts with flow-through holes to allow the tank solution to drip back into the tank), as practicable.
   iv. Use tank covers, if already owned and available at the facility, whenever practicable.
   v. Minimize or reduce heating of process tanks, as practicable (e.g. when doing so would not interrupt production or adversely affect part quality).
   vi. Perform regular repair, maintenance, and preventative maintenance of racks, barrels, and other equipment associated with the affected sources, as practicable.
   vii. Minimize bath contamination, such as through the prevention or quick recovery of dropped parts, use of distilled/de-ionized water, water filtration, pre-cleaning of parts to be plated, and thorough rinsing of pre-treated parts to be plated, as practicable.
   viii. Maintain quality control of chemicals, and chemical and other bath ingredient concentrations in the tanks, as practicable.
   ix. Perform general good housekeeping, such as regular sweeping or vacuuming, if needed, and periodic wash-downs, as practicable.
   x. Minimize spills and overflow of tanks, as practicable.
   xi. Use squeegee rolls in continuous or reel-to-reel plating tanks, as practicable.
   xii. Perform monthly inspections to identify leaks and other opportunities for pollution prevention. [15A NCAC 02Q .0508(f)]

Compliance Requirements [40 CFR 63.11508(c)(2)]

d. The facility must be in compliance with the above management practices and equipment standards at all times. For the batch electrolytic process tanks that contains one or more of the plating and polishing metal HAP and uses a control system, initial compliance must be demonstrated according to the following:

i. Install a control system designed to capture emissions from the affected tank and exhaust them to a composite mesh pad, packed bed scrubber, or mesh pad mist eliminator.
ii. State in the Notification of Compliance Status that the control system has been installed according to manufacturer's specifications and instructions.
iii. Implement the applicable management practices specified in 40 CFR 63.11507(g).
iv. State in the Notification of Compliance Status that the management practices have been implemented.
v. Follow the manufacturer's specifications and operating instructions for the control systems at all times.

Notification, Reporting, and Recordkeeping Requirements [40 CFR 63.11509]

e. The Permittee must submit an initial notification that includes a description of the compliance method for each affected source.
   i. The Permittee shall submit an Initial Notification upon start-up of each source (**ID Nos. ES-Pl3a and ES-Pl3b**). The notification shall include the information specified in 40 CFR 63.11509(a)(1) through (4).
   ii. The notification required in paragraph i above shall be submitted to the DAQ within 15 days of startup of each source. [15A NCAC 02Q .0508(f)]
f. The Permittee must submit a Notification of Compliance Status before the close of business on the compliance date. The Notification of Compliance Status must include the following:
   i. A list of affected sources and the plating and polishing metal HAP used in, or emitted by, those sources.
   ii. Methods used to comply with the applicable management practices and equipment standards.
   iii. A description of the capture and emission control systems used to comply with the applicable equipment standards.
   iv. A statement by the owner or operator of the affected source as to whether the source is in compliance with the applicable standards.
   v. The Permittee shall submit a Notification of Compliance Status for each source (**ID Nos. ES-Pl3a and ES-Pl3b**). The notification shall include the information specified in 40 CFR 63.11509(b)(2)(i) through(iv). These notifications shall be submitted to the DAQ before the close of business on the date of startup of each source.
g. The facility must prepare an annual certification of compliance report stating that the control system has been operated and maintained according to the manufacturer's specifications and instructions and that the applicable management practices have been implemented. The report does not need to be submitted unless a deviation has occurred during the reporting year, in which case, the annual compliance report must be submitted along with the deviation report.
h. The facility must keep records of the following:
   i. A copy of any Initial Notification, Notification of Compliance Status, and all documentation supporting these notifications.
   ii. Continuous compliance with each management practice and equipment standard.
   iii. Results of each monthly inspection and any maintenance performed.
   The facility must maintain records for 5 years, with records being retained onsite for 2 years and made available to an authorized representative upon request.

2.2 Multiple Emission Source(s) Specific Limitations and Conditions

A. Facility-wide affected sources

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

Pollutant	Limits/Standards	Applicable Regulation
Toxic air pollutants	**State-enforceable only** See Section 2.2 A.1	15A NCAC 02D .1100
Odor	**State-enforceable only** Odorous emissions shall be controlled	15A NCAC 02D .1806
Volatile organic compounds	Less than 250 tons per consecutive 12-month period	15A NCAC 02Q .0317 (PSD Avoidance)
Toxic air pollutants	**State-enforceable only** See Section 2.2 A.3	15A NCAC 02Q .0711
Hazardous air pollutants	Less than 10 tons per year of any individual HAP and Less than 25 tons per year of any combination of HAPs	15A NCAC 02Q .0317 (MACT Avoidance)

State-enforceable only

1. 15A NCAC 02D .1100 TOXIC AIR POLLUTANT EMISSIONS LIMITATION AND REPORTING REQUIREMENT

a. The Permittee has submitted a toxic air pollutant dispersion modeling analysis dated August 30, 2016 for the facility's toxic air pollutant emissions as listed in the table below. The original modeling analysis was reviewed and approved by the AQAB on October 19, 2016. Placement of the emission sources, configuration of the emission points, and operation of the sources shall be in accordance with the submitted dispersion modeling analysis and should reflect any changes from the original analysis submittal as outlined in the AQAB review memo.

Pollutant	CAS No.	Facility Wide Emission Limits		
		(lb/yr)	(lb/day)	(lb/hr)
Arsenic	7440-38-2	1.21		
Chlorine	7782-50-5		34.28	10.41
Sulfuric Acid	7664-93-9		4.40	0.23

b. To comply with the arsenic standard, the Permittee shall operate the wafer dicing center **(ID No. ESWD2)** as follows:
   i. emissions from wafer dicing center No. 2 **(ID No. ESWD2)** shall be controlled by either of the available fabric filters **(ID Nos. CDWD2a or CDWD2c)** and either or both of the available HEPA filters **(ID Nos. CDWD2b or CDWD2d)**;
   ii. exhaust from wafer dicing center No. 2 **(ID No. ESWD2)** shall be released to the atmosphere from any of the acid gas scrubber stacks **(ID Nos. CD31, CD32, or CD33)** associated with the semiconductor manufacturing line 7908 Piedmont Triad Parkway.

   The Permittee shall not operate the wafer dicing center **(ID No. ESWD2)** in a manner that is inconsistent with the requirements listed above.

Testing

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

Reporting

d. Within 30 days after each calendar year quarter, regardless of the actual emissions, the following shall be reported to the Regional Supervisor, DAQ;
   i. records of the highest hourly and daily chlorine and sulfuric acid emission rate during each month of the reporting quarter;

ii. records of the monthly arsenic emissions for the previous 14 months. The emissions must be calculated for each of the 12-month periods over the previous 14 months.

State-enforceable only

2. 15A NCAC 02D .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.

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

a. In order to avoid applicability of this regulation, the facility shall discharge into the atmosphere less than 250 tons of volatile organic compounds (VOCs) per consecutive 12-month period.

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

b. Calculations of VOC emissions per month shall be made at the end of each month. VOC emissions shall be determined by multiplying the total amount of each type of VOC-containing material consumed during the month by the VOC content of the material. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530 if the amounts of VOC containing materials or the VOC emissions are not monitored and recorded.

c. Calculations of the total amount of VOC emissions shall be recorded monthly in a logbook (written or electronic format). The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530 if the VOC emissions exceed the limit in Section 2.2 A.3.a, above.

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

d. The Permittee shall submit a summary report of monitoring and recordkeeping activities given in Section 2.2 A.3 b and c above postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. The report shall contain the following the monthly VOC emissions for the previous 17 months. The emissions must be calculated for each of the 12-month periods over the previous 17 months.

State-enforceable only

4. 15A NCAC 02Q .0711: EMISSION RATES REQUIRING A PERMIT

Pursuant to 15A NCAC 02Q .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 02Q .0711(a). 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 the TPERs listed in 15A NCAC 02Q .0711(a).

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 02D .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)	CAS No.	Carcinogens (lbs/yr)	Chronic Toxicants (lbs/day)	Acute Systemic Toxicants (lbs/hr)	Acute Irritants (lbs/hr)
Acetaldehyde	75-07-0				6.8
Acrolein	107-02-8				0.02
Ammonia (as NH_3)	7664-41-7				0.68
Benzene	71-43-2	8.1			

Pollutant (CAS)	CAS No.	Carcinogens (lbs/yr)	Chronic Toxicants (lbs/day)	Acute Systemic Toxicants (lbs/hr)	Acute Irritants (lbs/hr)
Benzo(a)pyrene	50-32-8	2.2			
Beryllium	7440-41-7	0.28			
Cadmium	7440-43-9	0.37			
Formaldehyde	50-00-0				0.04
Hydrogen chloride (hydrochloric acid)	7647-01-0				0.18
Hydrogen fluoride (hydrofluoric acid component of Fluorides)	7664-39-3		0.63		0.064
n-hexane	110-54-3		23		
Mercury vapor	7439-97-6		0.013		
Manganese and Compounds	7439-96-5		0.63		
Nickel metal	7440-02-0		0.13		
Nitric acid	7697-37-2				0.256
Chromium (VI) Soluble chromate compounds as chromic acid	7738-94-5		0.013		
Toluene	108-88-3		98		14.4
Xylene	1330-20-7		57		16.4

5. 15A NCAC 02Q 0317: AVOIDANCE CONDITIONS for 15A NCAC 02D .1111: MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY (40 CFR Part 63, Subpart BBBBB)

a. In order to remain classified a minor source for hazardous air pollutants and avoid applicability of 40 CFR Part 63, Subpart BBBBB, facility-wide emissions shall be less than:
   i. 10 tons per year of each hazardous air pollutant, and
   ii. 25 tons per year of all hazardous air pollutants combined.
   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the HAP emissions exceed these limits.

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

b. The Permittee shall maintain monthly consumption records of each material used containing hazardous air pollutants as follows:
   i. quantity of individual hazardous air pollutants in pounds used by the facility each month and for the 12-month period ending on that month,
   ii. quantity of all hazardous air pollutants in pounds used by the facility each month and for the 12-month period ending on that month.

c. The Permittee shall keep a record of the applicability determination on site at the source for a period of five years after the determination, or until the source becomes an affected source. The determination must include the analysis demonstrating why the Permittee believes the source is unaffected pursuant to 40 CFR Part 63.10(b)(3). The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the records are not maintained.

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

d. The Permittee shall submit a summary report of monitoring and recordkeeping activities given in Sections 2.2 A.5.b and c above. The report shall summarize emissions of hazardous air pollutants containing the following:
   i. greatest quantity in pounds of an individual hazardous air pollutant used:
      (A) for each month during the semiannual period, and
      (B) for each 12-month period ending on each month during the semiannual period using a 12-month rolling total;

ii. pounds of all hazardous air pollutants used:
(A) for each month during the semiannual period, and
(B) for each 12-month period ending on each month during the semiannual period using a 12-month rolling total.

State-enforceable only

6. **Disclosure of Information Relating to Emissions of Fluorinated Chemicals [15A NCAC 02Q .0308(a); 15A NCAC 02Q .0309(b)]**
The Permittee shall have an ongoing duty to disclose the presence of materials containing fluorinated chemicals at the facility that have the potential to result in the emission of fluorinated chemicals to the environment. Such disclosures shall be in writing and submitted to the Regional Office Supervisor within thirty days of the Permittee becoming aware of such information, unless such information has already been disclosed to DAQ by the Permittee. The disclosure shall describe the identity, quantity, and use of such material to the extent known. DAQ may require the permittee to conduct analysis or testing of fluorinated chemical emissions as necessary to properly evaluate emissions sources at the facility. As used in this condition, the term "fluorinated chemicals" includes but is not limited to per- and polyfluoroalkyl substances (PFAS).

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

Emission Source ID No.	Emission Source Description[1,2]
I-GH1, I-GH2, I-GH3, I-GH4	Four natural gas-fired humidifiers (0.3 million Btu per hour maximum heat input rate, each) at 7914 Piedmont Triad Parkway
I-GH5, I-GH6	Two natural gas-fired humidifiers (0.4 million Btu per hour maximum heat input rate, each) at 7914 Piedmont Triad Parkway
I-Evap1, I-Evap2, and I-Evap3	Three natural gas-fired rinse water evaporators (0.327, 0.52, and 0.52 million Btu maximum heat input rate, respectively) at 7914 Piedmont Triad Parkway
I-FG3 **(GACT ZZZZ)**	One 100 kW No. 2 fuel oil-fired emergency generator at 7628 Thorndike Road
I-TANK	One diesel fuel storage tank (20,000 gallons maximum capacity)
I-DAYTANKS	Diesel fuel day tanks associated with each generator
I-HU1, I-HU2, I-HU3, I-HU4	Four natural gas-fired humidifiers (1.0, 0.8, 1.4, and 0.8 million Btu per hour maximum heat input rate, respectively) at 8220 Piedmont Triad Parkway
I-GFUH1	Natural gas-fired area heater (0.1 million Btu per hour maximum heat input rate) at 8220 Piedmont Triad Parkway
IS-G2 **(GACT ZZZZ, NSPS IIII)**	One 500 kW No. 2 fuel oil-fired emergency generator at 8220 Piedmont Triad Parkway
I-LA	Laser ablation tool
I-B1, I-B2, I-B3	Three natural gas-fired boilers (3.5 million Btu per hour heat input, each) at 7907 Piedmont Triad Parkway
I-B4, I-B5, I-B6, I-B7, I-B8	Five natural gas-fired boilers (1.56 million Btu per hour heat input, each) at 7914 Piedmont Triad Parkway
I-GFUH2 through I-GFUH7	Six natural gas-fired space heaters (0.15 million Btu per hour heat input, each) at 7907 Piedmont Triad Parkway
I-CTC	Two-cell cooling tower located at 7914 Piedmont Triad Parkway
I-CTD	Five-cell cooling tower located at 7908 Piedmont Triad Parkway
I-CTM	Two-cell cooling tower located at 8220 Piedmont Triad Parkway
I-PL	Packaging lab operations located at 7907 Piedmont Triad Parkway
I-ABATE-1	PFC abatement tool – natural gas fueled burn box (0.1492 million Btu per hour heat input rate) on semiconductor manufacturing lines ESMAN31 and ESMAN32
I-ABATE-2	PFC abatement tool – natural gas fueled burn box (0.1492 million Btu per hour heat input rate) on semiconductor manufacturing lines ESMAN31 and ESMAN32
I-PL3k	Multiple di-ionized water rinsing baths

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

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

SECTION 4 - GENERAL CONDITIONS (version 8.0, 07/10/2024)

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

A. **General Provisions** [NCGS 143-215 and 15A NCAC 02Q .0508(i)(16)]
1. Terms not otherwise defined in this permit shall have the meaning assigned to such terms as defined in 15A NCAC 02D and 02Q.
2. The terms, conditions, requirements, limitations, and restrictions set forth in this permit are binding and enforceable pursuant to NCGS 143-215.114A and 143-215.114B, including assessment of civil and/or criminal penalties. Any unauthorized deviation from the conditions of this permit may constitute grounds for revocation and/or enforcement action by the DAQ.
3. This permit is not a waiver of or approval of any other Department permits that may be required for other aspects of the facility which are not addressed in this permit.
4. This permit does not relieve the Permittee from liability for harm or injury to human health or welfare, animal or plant life, or property caused by the construction or operation of this permitted facility, or from penalties therefore, nor does it allow the Permittee to cause pollution in contravention of state laws or rules, unless specifically authorized by an order from the North Carolina Environmental Management Commission.
5. Except as identified as state-only requirements in this permit, all terms and conditions contained herein shall be enforceable by the DAQ, the EPA, and citizens of the United States as defined in the Federal Clean Air Act.
6. Any stationary source of air pollution shall not be operated, maintained, or modified without the appropriate and valid permits issued by the DAQ, unless the source is exempted by rule. The DAQ may issue a permit only after it receives reasonable assurance that the installation will not cause air pollution in violation of any of the applicable requirements. A permitted installation may only be operated, maintained, constructed, expanded, or modified in a manner that is consistent with the terms of this permit.

B. **Permit Availability** [15A NCAC 02Q .0507(k) and .0508(i)(9)(B)]
The Permittee shall have available at the facility a copy of this permit and shall retain for the duration of the permit term one complete copy of the application(s) and any information submitted in support of the application package. The permit and application shall be made available to an authorized representative of the Department of Environmental Quality upon request.

C. **Severability Clause** [15A NCAC 02Q .0508(i)(2)]
In the event of an administrative challenge to a final and binding permit in which a condition is held to be invalid, the provisions in this permit are severable so that all requirements contained in the permit, except those held to be invalid, shall remain valid and must be complied with.

D. **Submissions** [15A NCAC 02Q .0507(e) and 02Q .0508(i)(16)]
Except as otherwise specified herein, one copy of all documents, reports, test data, monitoring data, notifications, request for renewal, and any other information required by this permit shall be submitted to the appropriate Regional Office. Refer to the Regional Office address on the cover page of this permit. For continuous emissions monitoring systems (CEMS) reports, continuous opacity monitoring systems (COMS) reports, quality assurance (QA)/quality control (QC) reports, acid rain CEM certification reports, and NOx budget CEM certification reports, one copy shall be sent to the appropriate Regional Office and one copy shall be sent to:

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

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

E. **Duty to Comply** [15A NCAC 02Q .0508(i)(3)]
The Permittee shall comply with all terms, conditions, requirements, limitations and restrictions set forth in this permit. Noncompliance with any permit condition except conditions identified as state-only requirements constitutes a violation of

the Federal Clean Air Act. Noncompliance with any permit condition is grounds for enforcement action, for permit termination, revocation and reissuance, or modification, or for denial of a permit renewal application.

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

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

H. **Changes Not Requiring Permit Modifications**
1. Reporting Requirements [15A NCAC 02Q .0508(f)]
Any of the following that would result in new or increased emissions from the emission source(s) listed in Section 1 must be reported to the Regional Supervisor, DAQ:
   a. changes in the information submitted in the application;
   b. changes that modify equipment or processes; or
   c. changes in the quantity or quality of materials processed.

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

To the extent that emissions trading is allowed under 15A NCAC 02D, including subsequently adopted maximum achievable control technology standards, emissions trading shall be allowed without permit revision pursuant to 15A NCAC 02Q .0523(c).

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

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

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

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

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

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

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

J. **RESERVED**

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

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

15A NCAC 02Q .0400 renewal application is submitted at least six months before the date of permit expiration for facilities subject to 15A NCAC 02Q .0400 requirements. In either of these events, all terms and conditions of these permits shall remain in effect until the renewal permits have been issued or denied.

L. **Need to Halt or Reduce Activity Not a Defense** [15A NCAC 02Q .0508(i)(4)]
It shall not be a defense for a Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

M. **Duty to Provide Information (submittal of information)** [15A NCAC 02Q .0508(i)(9)]
1. The Permittee shall furnish to the DAQ, in a timely manner, any reasonable information that the Director may request in **writing** to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit.
2. The Permittee shall furnish the DAQ copies of records required to be kept by the permit when such copies are requested by the Director. For information claimed to be confidential, the Permittee may furnish such records directly to the EPA upon request along with a claim of confidentiality.

N. **Duty to Supplement** [15A NCAC 02Q .0507(f)]
The Permittee, upon becoming aware that any relevant facts were omitted or incorrect information was submitted in the permit application, shall promptly submit such supplementary facts or corrected information to the DAQ. The Permittee shall also provide additional information as necessary to address any requirement that becomes applicable to the facility after the date a complete permit application was submitted but prior to the release of the draft permit.

O. **Retention of Records** [15A NCAC 02Q .0508(f) and 02Q .0508(l)]
The Permittee shall retain records of all required monitoring data and supporting information for a period of at least five years from the date of the monitoring sample, measurement, report, or application. Supporting information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring information, and copies of all reports required by the permit. These records shall be maintained in a form suitable and readily available for expeditious inspection and review. Any records required by the conditions of this permit shall be kept on site and made available to DAQ personnel for inspection upon request.

P. **Compliance Certification** [15A NCAC 02Q .0508(n)]
The Permittee shall submit to the DAQ and the EPA (Air Enforcement Branch, EPA, Region 4, 61 Forsyth Street SW, Atlanta, GA 30303 or through the EPA CEDRI) postmarked on or before March 1 a compliance certification (for the preceding calendar year) by a responsible official with all terms and conditions in the permit (including emissions limitations, standards, or work practices), except for conditions identified as being State-enforceable Only. It shall be the responsibility of the current owner to submit a compliance certification for the entire year regardless of who owned the facility during the year. The compliance certification shall comply with additional requirements as may be specified under Sections 114(a)(3) or 504(b) of the Federal Clean Air Act. The compliance certification shall specify:
1. the identification of each term or condition of the permit that is the basis of the certification;
2. the compliance status (with the terms and conditions of the permit for the period covered by the certification);
3. whether compliance was continuous or intermittent;
4. the method(s) used for determining the compliance status of the source during the certification period;
5. each deviation and take it into account in the compliance certification; and
6. as possible exceptions to compliance, any periods during which compliance is required and in which an excursion or exceedance as defined under 40 CFR Part 64 (CAM) occurred.

Q. **Certification by Responsible Official** [15A NCAC 02Q .0520]
A responsible official shall certify the truth, accuracy, and completeness of any application form, report, or compliance certification required by this permit. All certifications shall state that based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

R. **Permit Shield for Applicable Requirements** [15A NCAC 02Q .0512]
1. Compliance with the terms and conditions of this permit shall be deemed compliance with applicable requirements, where such applicable requirements are included and specifically identified in the permit as of the date of permit issuance.
2. A permit shield shall not alter or affect:

a. the power of the Commission, Secretary of the Department, or Governor under NCGS 143-215.3(a)(12), or EPA under Section 303 of the Federal Clean Air Act;
b. the liability of an owner or operator of a facility for any violation of applicable requirements prior to the effective date of the permit or at the time of permit issuance;
c. the applicable requirements under Title IV; or
d. the ability of the Director or the EPA under Section 114 of the Federal Clean Air Act to obtain information to determine compliance of the facility with its permit.

3. A permit shield does not apply to any change made at a facility that does not require a permit or permit revision made under 15A NCAC 02Q .0523.
4. A permit shield does not extend to minor permit modifications made under 15A NCAC 02Q .0515.

S. **Termination, Modification, and Revocation of the Permit** [15A NCAC 02Q .0519]
The Director may terminate, modify, or revoke and reissue this permit if:
1. the information contained in the application or presented in support thereof is determined to be incorrect;
2. the conditions under which the permit or permit renewal was granted have changed;
3. violations of conditions contained in the permit have occurred;
4. the EPA requests that the permit be revoked under 40 CFR 70.7(g) or 70.8(d); or
5. the Director finds that termination, modification, or revocation and reissuance of the permit is necessary to carry out the purpose of NCGS Chapter 143, Article 21B.

T. **Insignificant Activities** [15A NCAC 02Q .0503]
Because an emission source or activity is insignificant does not mean that the emission source or activity is exempted from any applicable requirement or that the owner or operator of the source is exempted from demonstrating compliance with any applicable requirement. The Permittee shall have available at the facility at all times and made available to an authorized representative upon request, documentation, including calculations, if necessary, to demonstrate that an emission source or activity is insignificant.

U. **Property Rights** [15A NCAC 02Q .0508(i)(8)]
This permit does not convey any property rights in either real or personal property or any exclusive privileges.

V. **Inspection and Entry** [15A NCAC 02Q .0508(l) and NCGS 143-215.3(a)(2)]
1. Upon presentation of credentials and other documents as may be required by law, the Permittee shall allow the DAQ, or an authorized representative, to perform the following:
   a. enter the Permittee's premises where the permitted facility is located or emissions-related activity is conducted, or where records are kept under the conditions of the permit;
   b. have access to and copy, at reasonable times, any records that are required to be kept under the conditions of the permit;
   c. inspect at reasonable times and using reasonable safety practices any source, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit; and
   d. sample or monitor substances or parameters, using reasonable safety practices, for the purpose of assuring compliance with the permit or applicable requirements at reasonable times.

   Nothing in this condition shall limit the ability of the EPA to inspect or enter the premises of the Permittee under Section 114 or other provisions of the Federal Clean Air Act.
2. No person shall refuse entry or access to any authorized representative of the DAQ who requests entry for purposes of inspection, and who presents appropriate credentials, nor shall any person obstruct, hamper, or interfere with any such authorized representative while in the process of carrying out his official duties. Refusal of entry or access may constitute grounds for permit revocation and assessment of civil penalties.

W. **Annual Fee Payment** [15A NCAC 02Q .0508(i)(10)]
1. The Permittee shall pay all fees in accordance with 15A NCAC 02Q .0200.
2. Payment of fees may be by check or money order made payable to the N.C. Department of Environmental Quality. Annual permit fee payments shall refer to the permit number.
3. If, within 30 days after being billed, the Permittee fails to pay an annual fee, the Director may initiate action to terminate the permit under 15A NCAC 02Q .0519.

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

Y. **Confidential Information** [15A NCAC 02Q .0107 and 02Q .0508(i)(9)]
Whenever the Permittee submits information under a claim of confidentiality pursuant to 15A NCAC 02Q .0107, the Permittee may also submit a copy of all such information and claim directly to the EPA upon request. All requests for confidentiality must be in accordance with 15A NCAC 02Q .0107.

Z. **Construction and Operation Permits** [15A NCAC 02Q .0100 and .0300]
A construction and operating permit shall be obtained by the Permittee for any proposed new or modified facility or emission source which is not exempted from having a permit prior to the beginning of construction or modification, in accordance with all applicable provisions of 15A NCAC 02Q .0100 and .0300.

AA. **Standard Application Form and Required Information** [15A NCAC 02Q .0505 and .0507]
The Permittee shall submit applications and required information in accordance with the provisions of 15A NCAC 02Q .0505 and .0507.

BB. **Financial Responsibility and Compliance History** [15A NCAC 02Q .0507(d)(3)]
The DAQ may require an applicant to submit a statement of financial qualifications and/or a statement of substantial compliance history.

CC. **Refrigerant Requirements (Stratospheric Ozone and Climate Protection)** [15A NCAC 02Q .0501(d)]
1. If the Permittee has appliances or refrigeration equipment, including air conditioning equipment, which use Class I or II ozone-depleting substances such as chlorofluorocarbons and hydrochlorofluorocarbons listed as refrigerants in 40 CFR Part 82 Subpart A Appendices A and B, the Permittee shall service, repair, and maintain such equipment according to the work practices, personnel certification requirements, and certified recycling and recovery equipment specified in 40 CFR Part 82 Subpart F.
2. The Permittee shall not knowingly vent or otherwise release any Class I or II substance into the environment during the repair, servicing, maintenance, or disposal of any such device except as provided in 40 CFR Part 82 Subpart F.
3. The Permittee shall comply with all reporting and recordkeeping requirements of 40 CFR 82.166. Reports shall be submitted to the EPA or its designee as required.

DD. **Prevention of Accidental Releases - Section 112(r)** [15A NCAC 02Q .0508(h)]
If the Permittee is required to develop and register a Risk Management Plan with EPA pursuant to Section 112(r) of the Clean Air Act, then the Permittee is required to register this plan in accordance with 40 CFR Part 68.

EE. **National Emission Standards Asbestos – 40 CFR Part 61, Subpart M** [15A NCAC 02D .1110]
The Permittee shall comply with all applicable standards for demolition and renovation activities pursuant to the requirements of 40 CFR Part 61, Subpart M. The permittee shall not be required to obtain a modification of this permit in order to perform the referenced activities.

FF. **Title IV Allowances** [15A NCAC 02Q .0508(i)(1)]
This permit does not limit the number of Title IV allowances held by the Permittee, but the Permittee may not use allowances as a defense to noncompliance with any other applicable requirement. The Permittee's emissions may not exceed any allowances that the facility lawfully holds under Title IV of the Federal Clean Air Act.

GG. **Air Pollution Emergency Episode** [15A NCAC 02D .0300]
Should the Director of the DAQ declare an Air Pollution Emergency Episode, the Permittee will be required to operate in accordance with the Permittee's previously approved Emission Reduction Plan or, in the absence of an approved plan, with the appropriate requirements specified in 15A NCAC 02D .0300.

HH. **Registration of Air Pollution Sources** [15A NCAC 02D .0202]
The Director of the DAQ may require the Permittee to register a source of air pollution. If the Permittee is required to register a source of air pollution, this registration and required information will be in accordance with 15A NCAC 02D .0202(b).

II. **Ambient Air Quality Standards** [15A NCAC 02D .0501(c)]
In addition to any control or manner of operation necessary to meet emission standards specified in this permit, any source of air pollution shall be operated with such control or in such manner that the source shall not cause the ambient air quality standards in 15A NCAC 02D .0400 to be exceeded at any point beyond the premises on which the source is located. When controls more stringent than named in the applicable emission standards in this permit are required to prevent violation of the ambient air quality standards or are required to create an offset, the permit shall contain a condition requiring these controls.

JJ. **General Emissions Testing and Reporting Requirements** [15A NCAC 02Q .0508(i)(16)]
Emission compliance testing shall be by the procedures of Section .2600, except as may be otherwise required in Rules .0524, .1110, or .1111 of Subchapter 02D. If emissions testing is required by this permit or the DAQ or if the Permittee submits emissions testing to the DAQ to demonstrate compliance for emission sources subject to Rules .0524, .1110, or .1111, the Permittee shall provide and submit all notifications, conduct all testing, and submit all test reports in accordance with the requirements of 15A NCAC 02D .0524, .1110, or .1111, as applicable. Otherwise, if emissions testing is required by this permit or the DAQ or if the Permittee submits emissions testing to the DAQ to demonstrate compliance, the Permittee shall perform such testing in accordance with 15A NCAC 02D .2600 and follow the procedures outlined below:

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

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

1. A permit shall be reopened and revised under the following circumstances:
    a. additional applicable requirements become applicable to a facility with remaining permit term of three or more years;
    b. additional requirements (including excess emission requirements) become applicable to a source covered by Title IV;

c. the Director or EPA finds that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit; or
d. the Director or EPA determines that the permit must be revised or revoked to assure compliance with the applicable requirements.

2. Any permit reopening shall be completed or a revised permit issued within 18 months after the applicable requirement is promulgated. No reopening is required if the effective date of the requirement is after the expiration of the permit term unless the term of the permit was extended pursuant to 15A NCAC 02Q .0513(c).
3. Except for the state-enforceable only portion of the permit, the procedures set out in 15A NCAC 02Q .0507, .0521, or .0522 shall be followed to reissue the permit. If the State-enforceable only portion of the permit is reopened, the procedures in 15A NCAC 02Q .0300 shall be followed. The proceedings shall affect only those parts of the permit for which cause to reopen exists.
4. The Director shall notify the Permittee at least 60 days in advance of the date that the permit is to be reopened, except in cases of imminent threat to public health or safety the notification period may be less than 60 days.
5. Within 90 days, or 180 days if the EPA extends the response period, after receiving notification from the EPA that a permit needs to be terminated, modified, or revoked and reissued, the Director shall send to the EPA a proposed determination of termination, modification, or revocation and reissuance, as appropriate.

LL. **Reporting Requirements for Non-Operating Equipment** [15A NCAC 02Q .0508(i)(16)]
The Permittee shall maintain a record of operation for permitted equipment noting whenever the equipment is taken from and placed into operation. When permitted equipment is not in operation, the requirements for testing, monitoring, and recordkeeping are suspended until operation resumes.

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

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

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

OO. **Third Party Participation and EPA Review** [15A NCAC 02Q .0521, .0522 and .0525(7)]
For permits modifications subject to 45-day review by the federal EPA, EPA's decision to not object to the proposed permit is considered final and binding on the EPA and absent a third party petition, the failure to object is the end of EPA's decision-making process with respect to the revisions to the permit. The time period available to submit a public petition pursuant to 15A NCAC 02Q .0518 begins at the end of the 45-day EPA review period.