Title V Operating Permit Renewal Application

The Chemours Company – Fayetteville, North Carolina

2 September 2020

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Title V Operating Permit Renewal Application

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Acronyms and Abbreviations

Name	Description
Acfm	actual cubic feet per minute
AERO	Air Emissions Reporting On-line
Btu	British thermal unit
CAA	Clean Air Act
CaF_2	calcium fluoride
CFR	Code of Federal Regulations
CH_4	methane
CO	carbon monoxide
CO_2	carbon dioxide
CO_{2e}	carbon dioxide equivalent
DAQ	Division of Air Quality
DEQ	North Carolina Department of Environmental Quality
dscf	dry standard cubic feet
dscfm	dry standard cubic feet per minute
EAF	Electric Arc Furnace
eGGRT	Electronic Greenhouse Gas Reporting Tool
EPA	United States Environmental Protection Agency
F	fluorides
gr	grains
HAP	Hazardous Air Pollutant
HCl	hydrogen chloride
HF	hydrogen fluoride
hp	horsepower
lb(s)	pounds
LMF	ladle metallurgical furnace
MACT	Maximum Achievable Control Technology
MM	Million
MSRM1	melt shop roof monitor
NCAC	North Carolina Administrative Code
NESHAP	National Emission Standards for Hazardous Air Pollutants
NOx	nitrogen oxides
NSPS	New Source Performance Standards
N_2O	nitrous oxide
PM	particulate matter
PM_{10}	particulate matter with an aerodynamic diameter less than 10 microns
$PM_{2.5}$	particulate matter with an aerodynamic diameter less than 2.5 microns
PSD	Prevention of Significant Deterioration
RMP	Risk Management Plan
scfm	standard cubic feet per minute
SO_2	sulphur dioxide
tph	tons per hour
tpy	tons per year
VOC	volatile organic compounds

1. INTRODUCTION

The Chemours Corporation (Chemours) owns and operates a chemical manufacturing facility located at 22828 NC Highway 87 West in Fayetteville, Bladen County, North Carolina (Chemours Company – Fayetteville Works). The facility currently operates under Title V Operating Permit Number 03735T48 issued by North Carolina Department of Environmental Quality (DEQ), Division of Air Quality (DAQ) on 13 May 2020 and effective on 12 July 2020.

Title V Operating Permit Number 03735T48 expires on 31 March 2021. As provided in Title V Permit Condition 3.K and 15A North Carolina Administrative Code (NCAC) 02Q .0513, the permittee must submit a complete Title V renewal application at least six months prior to the date of permit expiration. This application is intended to satisfy all the requirements of Title V of the 1990 Clean Air Act (CAA) as encoded in 40 Code of Federal Regulations (CFR) Part 70 and in 15A NCAC 02Q .0500, "Title V Procedures."

Section 503(d) of the CAA and Title V Permit Condition 3.K provides that, once a timely and complete application for an operating permit has been filed, the applicant is shielded from enforcement action for operating without a permit until the permit has been issued or other action has been taken on the application. Therefore, by submitting this application, Chemours cannot be subject to enforcement action for operating without a permit during the period in which this permit application is under review if the current permit expires before a new permit is issued.

This application is organized as follows:

- Section 2 includes a process overview of the Chemours Company – Fayetteville Works facility.
- Section 3 includes a detailed description of changes that occurred since the last permit renewal, along with a list of proposed changes to the Title V Permit.
- Section 4 provides a facility-wide summary of actual controlled emissions in tons per year (tpy) for the previous five year period.
- Section 5 includes a facility-wide regulatory applicability for federal and state air quality rules and regulations.
- Appendix A includes relevant NC DEQ application forms.
- Appendix B contains a redlined version of the existing Title V Permit which specifies proposed changes.
- Appendix C includes Compliance Assurance Monitoring (CAM) plans, as applicable.
- Appendix D contains emission calculations for a diesel-fired emergency engine.

2. PROCESS OVERVIEW

Chemours Company – Fayetteville Works manufactures chemicals, plastic resins, plastic sheeting and plastic film at its facility located at 22828 NC Highway 87 West, Fayetteville, Bladen County, North Carolina (the facility). A site map detailing the location of the site with property boundaries and fencelines is included in Figure 2-1. The facility is a major source of criteria pollutants under the Part 70 (Title V) Operating Permit Program and a major source of Hazardous Air Pollutants (HAP).

Specific materials produced at the Fayetteville facility are:

- Chemours™ Nafion® Membrane (plastic film) used in the chloroalkali industry and in electrochemical fuel cells.
- Chemours™ Nafion® Polymer Dispersions used in the fabrication of thin films and coating formulations for fuel cells membranes, catalyst coatings, sensors, and a variety of electrochemical applications.
- HFPO monomer and Vinyl Ether monomers used to manufacture various fluorochemical products such as Chemours™ Teflon®.
- Fluorocarbon intermediates for Nafion® membranes and other fluorocarbon products, and
- Fluoropolymer Processing Aids (PPA) used in the manufacturing of fluoropolymers and fluorinated telomers.

Production of these materials occurs in several manufacturing or processing areas throughout the plant site, including Hexafluoropropylene Oxide (HFPO) Process, Vinyl Ethers North Process, Vinyl Ethers South Process, RSU Process, MMF Process, IXM Resins Process, Semiworks Polymerization Operations, E-2 Process, TFE/CO_2 Separation Process, and Polymer Processing Aid (PPA) Process.

In addition to the manufacturing operations, Chemours operates two natural gas-fired boilers and a wastewater treatment plant (WWTP) for the treatment of process and sanitary wastewaters from Chemours, Kuraray, and DuPont (both Kuraray and DuPont are also located on the site). However, no wastewater is discharged currently from the Chemours facility to the WWTP, except reject water from making filtered, deionized/degassed water at the power plant. At this time, all process wastewater generated from the Chemours Company – Fayetteville Works manufacturing facility is collected and shipped off-site for disposal.

Chemours also operates several additional ancillary activities such as research laboratories, paint shops, abrasive blasting operations, and emergency generators and fire water pumps.

A list of permitted emission sources are included in Table 2-1 and a list of insignificant activities are included in Table 2-2. While Section 3 details proposed changes to the Title V Permit, any emissions source descriptions that vary from the existing Title V Permit are also noted in bold, italicized font in Tables 2-1 and 2-2.

Since the last Title V Permit renewal, Chemours has added several additional air emission control devices, primarily for the capture and control of GenX Compounds[1], while additional VOC reductions are also realized. The additional air emission control devices include a Thermal Oxidizer and 4-Stage Scrubber System (CD Nos. NCD-Q1 and NCD-Q2) for the control of process emissions from several process areas. Figure 2-2 details the sources controlled by the Thermal Oxidizer and 4-Stage Scrubber

[1] "GenX Compounds" means HFPO Dimer Acid, also known as C3 Dimer Acid (CAS No. 13252-13-6); HFPO Dimer Acid Fluoride, also known as C3 Dimer Acid Fluoride (CAS No. 2062-98-8); and HFPO Dimer Acid Ammonium Salt, also known as C3 Dimer Acid Ammonium Salt (CAS No. 62037-80-3).

System. In addition to the Thermal Oxidizer and 4-Stage Scrubber System, Chemours has installed several carbon adsorbers for various process emissions and indoor fugitive emissions. The control devices utilized for each emission source is detailed in the table of emission sources (Table 1-1).

Figure 2-1. Chemours – Fayetteville Works Site Property Boundary and Fenceline

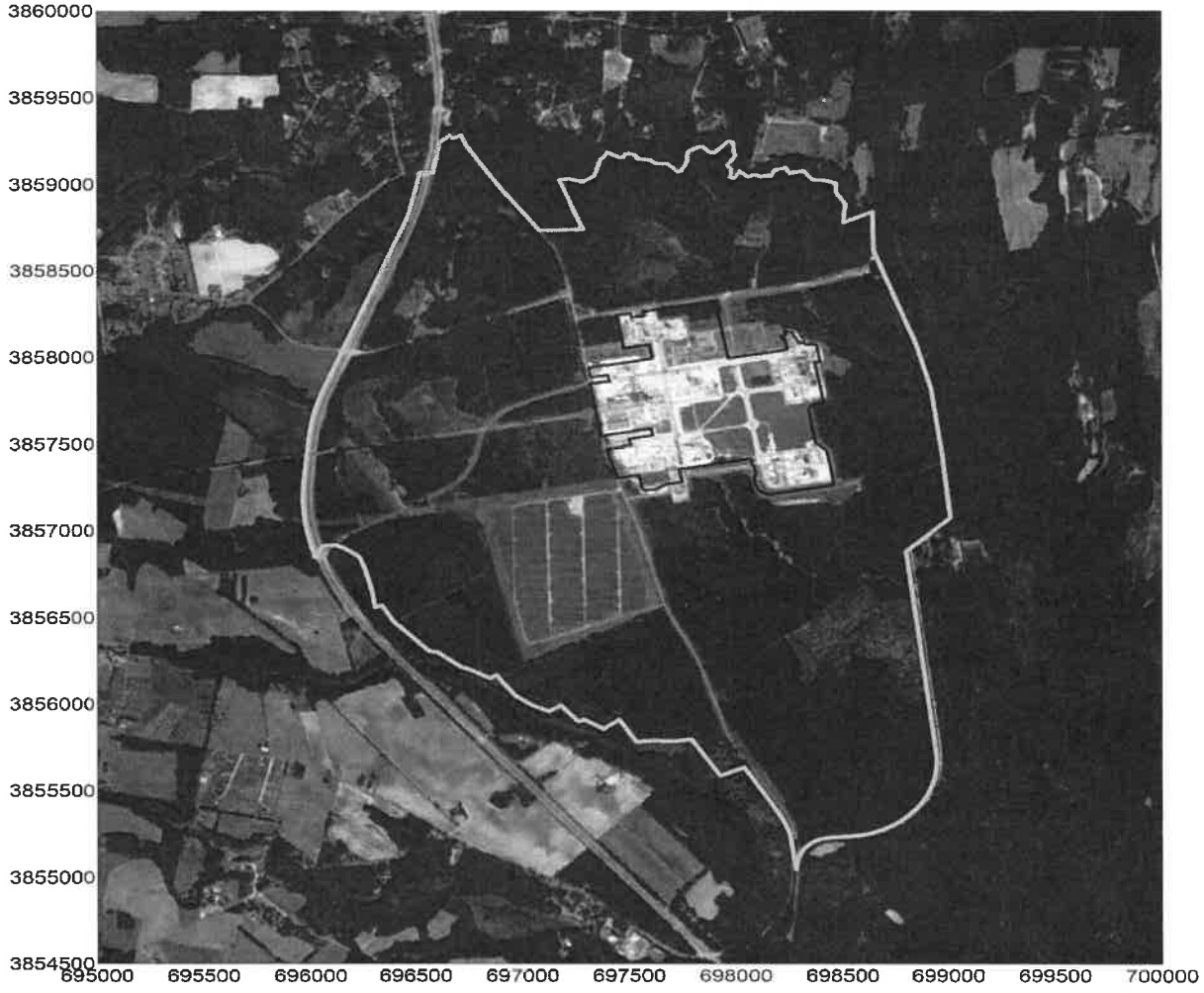


Table 2-1. List of Emission Sources

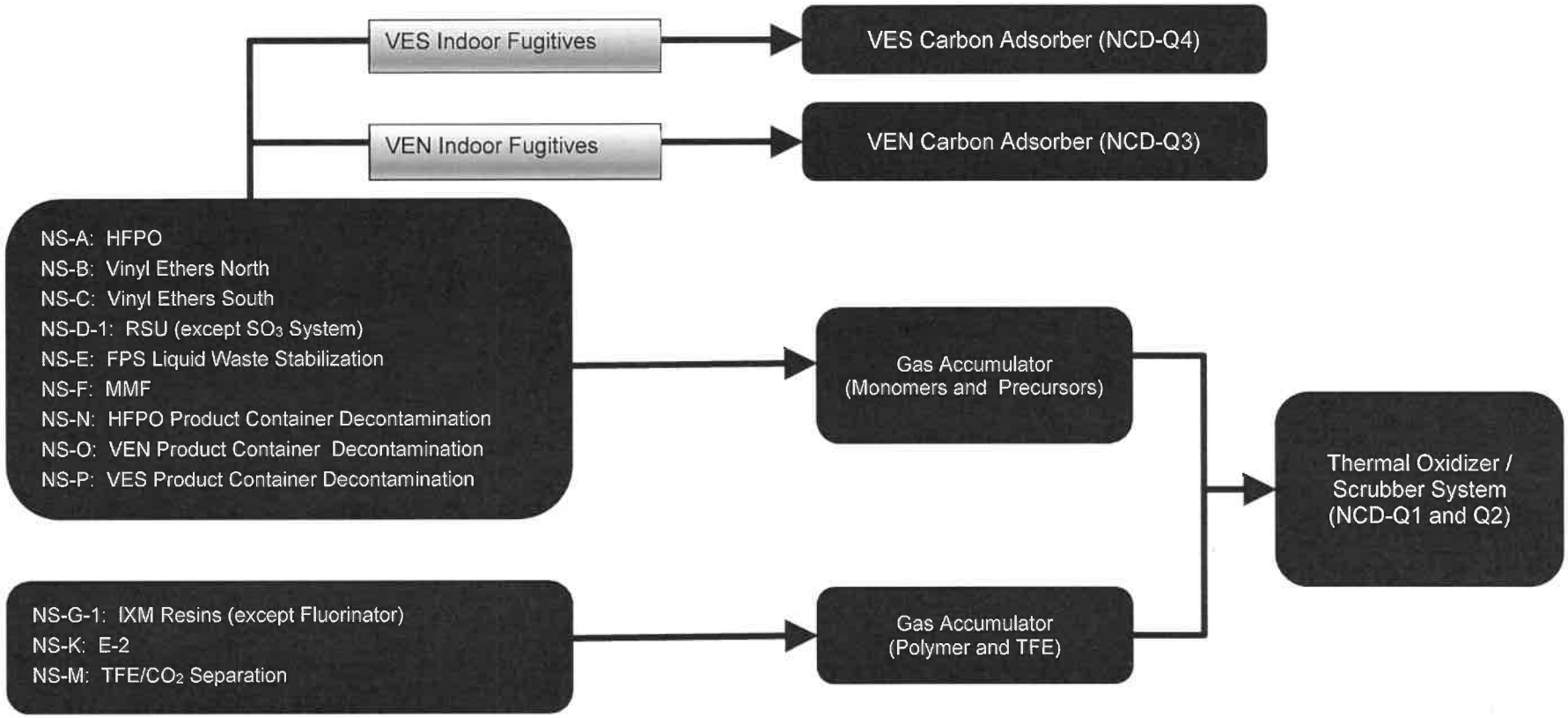
Emission Source ID	Emission Source Description	Control Device ID	Control Device Description
PS-A	Natural gas/No. 2 fuel oil-fired boiler (139.4 million Btu per hour maximum heat input) equipped with an oxygen trim system	N/A	N/A
PS-B	Natural gas/No. 2 fuel oil-fired boiler (88.4 million Btu per hour maximum heat input) equipped with an oxygen trim system	N/A	N/A
PS-C	Natural gas/No. 2 fuel oil-fired boiler (97 million Btu per hour maximum heat input) equipped with a low-NOx burner and an oxygen trim system	N/A	N/A
PS-Temp	Natural gas/No. 2 fuel oil-fired temporary boiler (less than 100.0 million Btu per hour maximum heat input)	N/A	N/A
NS-A	Hexafluoropropylene oxide (HFPO) process	NCD-Q1 And NCD-Q2	Thermal Oxidizer (10 million Btu per hour, natural gas-fired) And 4-Stage Scrubber: Countercurrent Packed Bed Stages 1, 2, and 3; Caustic Stage 4
NS-B	Vinyl Ethers North process		
NS-C	Vinyl Ethers South process		
NS-D-1	RSU Process (except SO_3 System)		
NS-E	FPS Liquid waste stabilization		
NS-F	MMF process		
NS-G-2	IXM Resins Process Fluorinator	NCD-G2	Caustic scrubber
NS-D-2	RSU Process SO_3 System: SO_3 Storage Tank, Vaporizer, SO_3 Truck Unloading, Reservoir Tank	NCD-D	Wet scrubber with mist eliminator
NS-H	IXM membrane process	N/A	N/A
NS-I	IXM membrane coating	N/A	N/A

SW-1	Semiworks polymerization operation	SCD-SW1	Carbon Adsorber
SW-2	Semiworks laboratory hood		
NS-G-1	IXM Resins Process (except Fluorinator)	NCD-Q1 And NCD-Q2	Thermal Oxidizer (10 million Btu per hour, natural gas-fired) And 4-Stage Scrubber: Countercurrent Packed Bed Stages 1, 2, and 3; Caustic Stage 4
NS-K	E-2 Process		
NS-M	TFE/CO2 separation process		
NS-N	HFPO product container decontamination process		
NS-O	Vinyl Ethers North product container decontamination process		
NS-P	Vinyl Ethers South product container decontamination process		
NS-B-2	***Vinyl Ethers North*** Indoor Fugitives	NCD-Q3	Carbon Adsorber
NS-C-2	***Vinyl Ethers South*** Indoor Fugitives	NCD-Q4	Carbon Adsorber
AS-A	Polymer Processing Aid Process	ACD-A1 And ACD-A2	Wet scrubber and Carbon Adsorber
WTS-A	Extended aeration biological wastewater treatment facility	N/A	N/A
WTS-B, WTS-C	Two (2) Indirect steam-heated rotary sludge dryers	WTCD-1	Wet scrubber with mist eliminator
NS-R1	Lime Silo	NCD-R1	Pulse Jet Baghouse
NS-R2	Lime Slaker	NCD-R2	Wet Particulate Scrubber

Table 2-2. List of Insignificant Activities

Source ID No.	Emission Source Description
I-02	Waste DMSO Storage Tank
I-03	Fugitive Emissions of Methylene Chloride
I-04	Chlorination of Riverwater to control mussel growth in equipment
I-05-1	Sitewide Laboratory Emissions (not including VE Research Laboratory Hood and VE Research Laboratory Chemical Storage Cabinet)
I-05-2	VE Research Laboratory Hood and VE Research Laboratory Chemical Storage Cabinet routed to a Carbon Adsorber (ID No. SCD-SW1)
I-06	Outdoor abrasive blasting operation for items exceeding 8 feet in any dimension
I-07	Paint shop
I-08	Self-contained abrasive blasting cabinets
I-09	Paint spray booths
I-10	Abrasive blasting and painting building
I-12	IXM Dispersion Process
I-CT	Cooling Tower (6,000 gallons per minute, expandable to 8,000 gallons per minute)
I-RICE-01	Diesel Engine for Stack Blower Emergency Electrical Generator
I-RICE-02	Diesel Engine for Emergency Fire Water Pump
I-RICE-03	Diesel Engine for HFPO Barricade Emergency Electrical Generator
I-RICE-04	Diesel-Fired Emergency Generator ***for Thermal Oxidizer System*** (320 hp)
I-RICE-05	***Diesel-Fired Emergency Generator for Remediation Treatment System (540 hp)***

Figure 2-2. Thermal Oxidizer and Scrubber System Layout



3. TITLE V PERMIT CHANGES

The Chemours Company – Fayetteville Works facility has applied for and received several Title V Permit modifications since the last Title V Permit renewal application was submittal. Those changes are detailed throughout Section 3.1. Chemours is also requesting additional changes, updates, and/or corrections to the existing Title V Permit application as part of this renewal application. Those proposed changes are detailed throughout Section 3.2.

3.1 Permit Changes Since Last Title V Permit Renewal

Chemours submitted the last Title V Permit renewal application in April 2014, which was processed and those changes incorporated in Permit No. 03735T42 with an effective date of April 22, 2016. Since the issuance of Permit No. 03735T42, Chemours has requested modifications which include increase in membrane spray coating throughput, installation of carbon adsorbers, installation of the Thermal Oxidizer/4-Stage Scrubber System, and additional changes as summarized in Table 3-1.

Table 3-1. Permit Changes Since Last Renewal

Permit #	Application Date	Effective Date	Changes
03735T43	28 October 2016	14 December 2016	Spray Coating Throughput Increase Project ■ Added a row to the summary of limits and standards table for the VOC 15A NCC 02D .0530(u) condition and ■ Added new Section for the use of projected actual emissions to avoid applicability requirements.
03735T44	13 March 2019	29 May 2019	Thermal Oxidizer / 4-Stage Scrubber System Project, VE-North Carbon Adsorber, and PPA Carbon Adsorber ■ Added Thermal Oxidizer and 4-Stage Scrubber System as the control device under the alternative operating scenario (AOS); and associated regulations ■ Added a new Diesel-Fired Emergency Generator; ■ Added Cooling Tower ■ Divided DCM Resins Process into two sources: IXM Resins Process (except Fluorinator) and Resins Process Fluorinator; ■ Renamed existing baffle plate scrubbers installed on FPS/IXM Process Area Sources as primary operating scenario (POS); ■ Added sources from Lime Processing: Lime Silo controlled by a bin vent baghouse and Lime Slaker controlled by a wet particulate scrubber; and associated regulations ■ Added VE-North Indoor Fugitives to be controlled by Carbon Adsorber; ■ Added Carbon Adsorber as a control device to Polymers Processing Aid Process; ■ Updated PSD VOC emission calculations, to include POS and AOS calculations and corrected scrubber control efficiency for POS;

Table 3-1. Permit Changes Since Last Renewal

Permit #	Application Date	Effective Date	Changes
			■ Reworded/revised PSD VOC conditions to account for the acid fluoride and VOC removal efficiencies; ■ Added to include regulation 15A NCAC 02Q .0519 for reduction of PFAS emissions; ■ Updated toxic emission limits for HF to account for the Thermal Oxidizer; and ■ Added a condition requiring the Permittee to comply with a GenX emissions limitation in the Consent Order.
03735T45	13 March 2019	29 May 2019	Change of Boiler MACT Subcategory for PS-B from 'Units designed to burn light liquid fuel' to 'Units designed to burn gas 1' ■ Revised summary of limits and standards table to remove reference to emission limits associated with units designed to burn light liquid fuel; and ■ Revised to add Boiler PS-B to existing source requirements under the Subpart DDDDD units designed to bum gas I fuels subcategory.
03735T46	26 April 2018 and 27 August 2018	6 December 2019	Addition of RSU SO_3 System and Part II Application for the IXM Membrane Spray Coating Throughput Increase Project ■ Added RSU process SO_3 System as a separate source under the RSU Process; and associated regulations ■ Removed the requirement for submittal of a Title V permit application for the throughput increase in the IXM Membrane Coating Process
03735T47	20 November 2019	8 January 2020	Change Performance Test Report Due Dates to 45 Days ■ Added a sentences in various permit conditions specifying that the performance test reports shall be submitted not later than 45 days, instead of the general 30 day period. These changes align the reporting period for performance test reports with the Chemours Consent Order.

Table 3-1. Permit Changes Since Last Renewal

Permit #	Application Date	Effective Date	Changes
03735T48	13 February 2020 And 21 April 2020	13 May 2020	Addition of VE-South Carbon Adsorber and Semiworks Carbon Adsorber, Revision to Lime Slaker Scrubber Minimum Flow Rate, and Clarified Requirement for Inspection of the Thermal Oxidizer / 4-Stage Scrubber System ■ Split emission source Site-wide Laboratory Emissions into two sources to distinguish between those routed to the carbon adsorber and those that remain uncontrolled; ■ Added carbon adsorber as control device for Semiworks Polymerization Operation and Semiworks Laboratory Hood as well as the VE Laboratory Hood and VE Research Laboratory Chemical Storage Cabinet; ■ Added emission source for VE-South Indoor Fugitives and associated carbon adsorber; ■ Changed scrubber minimum flow rate for Lime Slaker Scrubber from 2.9 gallons per minute to 0.84 gallons per minute; ■ Updated table of limits and standards to clarify the affected sources subject to the conditions for all PFAS and GenX compounds; ■ Added a condition to include the carbon adsorbers in the alternative operating scenario; ■ Corrected condition to reflect DAQ's intention that detailed inspections need to be conducted when the Thermal Oxidizer and 4-Stage Scrubber System are nonoperational for a minimum of 72 hours.

3.2 Proposed Permit Changes

As previous discussed, the Chemours Company – Fayetteville Works facility currently operates under Title V Permit No. 03735T48, which became effective on 12 July 2020. Chemours has conducted a thorough review of the current Title V Permit and developed a list of proposed changes to the permit which is detailed in Table 3-2. The majority of the proposed changes are related to the removal of permit conditions that are no longer applicable, such as:

- Case-by-Case MACT requirements for the boilers. The boiler are now subject to the requirements of the federal Boiler MACT (40 CFR 63, Subpart DDDDD); therefore, the Case-by-Case MACT requirements are no longer applicable.
- Primary Operating Scenarios (POS). Chemours is currently operating under the Alternative Operating Scenario (AOS), which includes operation of the Thermal Oxidizer and 4-Stage Scrubber System; therefore, reference to the POS can now be removed from the permit.
- Completed Compliance Requirements. There are several permit conditions that contain initial compliance requirements that have been satisfied. To avoid confusion, Chemours is requesting removal of those requirements from the permit.

Additional changes such as clarification to the carbon bed testing requirements, updates to Toxic Air Pollutant reporting requirements, and additional minor changes throughout for clarification purposes are also detailed in the list of proposed permit changes in Table 3-2. A redlined version of Title V Permit No. 03735T48 is also included in Appendix B.

Chemours is also requesting the addition of a Diesel-Fired Emergency Generator for the Remediation Treatment System, with a rating of 540 horsepower (ID No. I-RICE-05). The emergency generator qualifies as an insignificant activity under 15A NCAC 02Q .0503(8) since potential emissions of criterial pollutants are less than 5 tons per year and potential emissions of HAPs are less than 1,000 pounds per year. Potential emission calculations for the diesel-fired emergency engine are included in Appendix D.

Table 3-2. Proposed Permit Changes

Permit Condition	Proposed Change
Insignificant Activities Table	Add descriptor to I-RICE-04 "Diesel-Fired Emergency Generator for Thermal Oxidizer System (320 hp)"
	Add I-RICE-05 540 hp Diesel-Fired Emergency Generator for the Remediation Treatment System
Section I Table of Emission Sources	Remove reference to the Case-by-Case MACT for PS-A, PS-B and PS-C.
	Change "VE-North Indoor Fugitives" to "Vinyl Ethers North Indoor Fugitives"
	Change "VE-South Indoor Fugitives" to "Vinyl Ethers South Indoor Fugitives"
	Remove POS throughout table, as it no longer exist.
	NS-M remove note. It is no longer applicable.
	NS-N remove note. It is no longer applicable.
	NS-O remove note. It is no longer applicable.
	NS-P remove note. It is no longer applicable.
	Remove footnote for the Lime Slaker. The condition is no longer applicable.
Section 2.1 (A)(6)	Remove condition, compliance date is in the past.
Section 2.1 (A)(7)(e)(i) and (ii)	Change the condition as follows: The Permittee shall comply with ~~the CAA §112(j) standards~~ ~~in Section 2.1 A.6 through May 19, 2019.~~ ~~[40 CFR 63.7495(a) and (b), 63.56(b)]~~ **i.** ~~On and after May 20, 2019, the Permittee shall comply with~~ the requirements of Section 2.1 A.7 for the boilers (ID Nos. PS-A and PS-B) **ii.** The Permittee shall comply with the requirements of this section for boiler (ID No. PS-C) ~~on May 20,~~

Table 3-2. Proposed Permit Changes

Permit Condition	Proposed Change
	~~2019 or~~ upon startup~~, whichever is later~~. Boiler PS-C has not been installed.
Section 2.1 (A)(7)(f)	Change the condition as follows: As specified in 40 CFR 63.9(b)(4) and (5), ~~if the initial startup of~~ for the boiler (ID No. PS-C~~) is after May 20, 2019~~, the Permittee shall submit an Initial Notification not later than 15 days after the actual date of startup of the boiler. [40 CFR 63.7545(c)] Boiler PS-C has not been installed.
Section 2.1 (A)(7)(g)	Change condition as follows: The Permittee shall submit a Notification of Compliance Status for the boilers (ID Nos. ~~PS-A, PS-B, and~~ PS-C). The notification must be signed by a responsible official and postmarked before the close of business within 60 days of the startup of the boiler. ~~the compliance date specified in Section 2.1 A.7.e, above~~. The notification shall contain the following: NOCS for PS-A and PS-B has already been submitted. Boiler PS-C has not been installed.
Section 2.1 (A)(7)(g)(i)	A description of the boilers **(ID Nos. ~~PS-A, PS-B, and~~ PS-C),** including a statement that the boilers ~~are~~ is in "the unit designed to burn gas 1 subcategory," the design heat input capacity of the boilers, and description of the fuel(s) burned. The NOCS for PS-A and PS-B has already been submitted. Boiler PS-C has not been installed.
Section 2.1 (A)(7)(g)(ii)(A)	A signed certification that the facility completed the required initial tune-up for the boiler (ID No. PS-C) ~~all of the boilers~~ covered by 40 CFR Part 63, Subpart DDDDD according to the procedures Section 2.1 A.7.j, below; and
Section 2.1 (A)(7)(k)(i)	Remove condition, initial tune-up for PS-A and PS-B has already occurred.
Section 2.1 (A)(7)(n)	Remove condition, the one-time energy assessment has already occurred.

Table 3-2. Proposed Permit Changes

Permit Condition	Proposed Change
Section 2.1 (A)(7)(r)	The Permittee shall submit the ~~annual~~ compliance report via the CEDRI. (CEDRI can be accessed through the EPA's Central Data Exchange, CDX.) As specified in 40 CFR 63.7550(b), "For units that are subject only to a requirement to conduct subsequent annual, biennial, or 5-year tune-up according to §63.7540(a)(10), (11), or (12), respectively, and not subject to emission limits or Table 4 operating limits, you may submit only an annual, biennial, or 5-year compliance report, as applicable, as specified in paragraphs (b)(1) through (4) of this section, instead of a semi-annual compliance report." Since PS-A, PS-B, and PS-C are not subject to emission limits or operating limits and tune-ups are required every 5 years, the compliance report is required to be submitted on a 5-year basis.
Section 2.1 (B)	Remove all references to POS and AOS as these are no longer applicable since the facility is operating solely under the AOS.
Section 2.1 (B)(1)	Remove condition since the facility is now operating under the AOS.
Section 2.1 (B)(3)(a)	Remove reference to AOS.
Section 2.1 (B)(5)(c)(ii)	Remove reference to AOS and POS. Change to " Calculate the VOC emissions (E_V) from the process vents during the previous calendar month (in lb/month) using the following equation: $E_V = 0.0001\ x\ (Q_{AF} + Q_{AF})$"
Section 2.1 (B)(6)(c)(v)	Remove reference to AOS and POS. Change to "Calculate the VOC emissions (E) from the affected facility during the previous calendar month (in ton/month) using the following equation: $E= (1-0.9999)*(M-P-W+S)*(2.2\ lb/kg)/(2{,}000\ lb/ton)$"
Section 2.1 (B)(7(c)(iii)	Remove condition (A) and delete reference to AOS
Section 2.1(B)(7(c)(iv)	Remove condition (A) and delete reference to AOS
Section 2.1 (B)(8)(c)(ii)(B)	Delete reference to AOS

Table 3-2. Proposed Permit Changes

Permit Condition	Proposed Change
Section 2.1 (B)(11)	Remove the Title "Alternative Operating Scenario" above condition.
Section 2.1 (B)(11)(a)(i)	Remove "No later than December 31, 2019" since the Thermal Oxidizer / Scrubber System is operational.
Section 2.1 (B)(11)(a)(i)	Change "install and begin normal operation of a" to "operate a".
Section 2.1 (B)(11)(b)	Removed the requirements to conduct initial performance testing since initial performance testing has been completed and submitted to NC DEQ.
Section 2.1 (B)(11)(b)	Remove the sentence "The Permittee shall install sampling ports in compliance with 15A NCAC 02D.2600" since unit is operational and ports were previously installed.
Section 2.1 (B)(11)(c)	Remove condition since initial compliance report has been submitted.
Section 2.1 (B)(11)(d)	Remove phrase "After the initial performance test is conducted," since initial performance testing has been conducted.
Section 2.1 (B)(11)(d)(ii)	Remove phrase "After the initial performance test is conducted as specified in Section 2.1.B.11.b, above," since initial performance testing has been conducted.
Section 2.1 (B)(11)(g)	Change the phrase "develop, and submit to DAQ for approval" to "follow". The site specific monitoring plan has already been developed and submitted to the DAQ.
Section 2.1 (B)(11)(g)(i)	Remove the phrase "Initial and any" since the initial calibration of the CMS has already occurred.
Section 2.1 (B)(11)(k)	Remove phrase "Prior to the operation of the Thermal Oxidizer and 4 Stage Scrubber System"
Section 2.1 (E)(5)	Remove this condition since Case-by-Case MACT is no longer applicable.
Section 2.1 (F)(1)(c)	Second sentence change the word "each" to "the"

Table 3-2. Proposed Permit Changes

Permit Condition	Proposed Change
Section 2.1 (F)(2)(c)	Remove the last sentence that states "The Permittee shall establish "normal" for the Lime Slaker in the first 30 days following the beginning operation" as this has already been completed.
Section 2.2 (B)(1)(c)	Change reporting requirements from quarterly to annually based on history of compliance with toxics limits.
Section 2.2 (B)(2)(a)	Remove Primary Operating Scenario associated equipment references and emission limits from the table. Delete the phrase "Alternative Operating Scenario" as it is no longer relevant. Delete the title "Primary and Alternative Operating Scenario" from the second to last line of the table as it is no longer relevant.
Section 2.2 (B)(2)(b)(i)	Delete condition as it is no longer relevant.
Section 2.2 (B)(2)(b)(ii)	Delete the phrase "AOS" as it is no longer relevant.
Section 2.2 (B)(2)(c)(i)	Delete condition as it is no longer relevant.
Section 2.2 (B)(2)(c)(ii)	Delete the phrase "AOS" as it is no longer relevant.
Section 2.2 (B)(2)(e)	Change reporting requirements from quarterly to annually based on history of compliance with toxics limits.
Section 2.2 (D)(1)(c)	Made various changes for clarification purposes. Refer to the redlined permit.
Section 2.2 (D)(1)(f)(i)	Remove the phrase "Initial and any subsequent" since the initial calibration of the CMS has already occurred.
Section 2.2 (D)(1)(g)	Change the phrase "No later than April 13, 2019, the Permittee shall develop, and submit to DAQ for approval" to "The Permittee shall maintain" since the plan has been developed and submitted.
Section 2.2 (D)(1)(h)	Delete the first sentence since development and submittal of the plan has already occurred.
Section 2.2 (D)(1)(h)	Second sentence, change the phrase "the approved program" to "an approved enhanced leak detection and repair program" for clarification.

4. ACTUAL EMISSIONS

The manufacturing processes at the Chemours – Fayetteville Works facility emits various pollutants to the atmosphere, including the following:

- filterable particulate matter (PM),
- particulate matter with an aerodynamic diameter less than 10 microns (PM_{10}),
- particulate matter with an aerodynamic diameter less than 2.5 microns ($PM_{2.5}$),
- nitrogen oxides (NOx),
- carbon monoxide (CO),
- sulfur dioxide (SO_2),
- volatile organic compounds (VOC),
- carbon dioxide (CO_2),
- carbon dioxide equivalent (CO_2e),
- methane (CH_4),
- nitrous oxides (N_2O),
- fluorides (F) and
- HAPs

Chemours develops annual Air Emission Inventories and submits to DAQ in Air Emissions Reporting On-Line (AERO) by June 30 of each calendar year. Along with those submittals are detailed calculation narratives, including calculation methodologies, emission factors, and rationale, for each process area. A summary of the facility-wide actual controlled emissions in tons per year (tpy) for the last five year period in provided in Table 4-1.

Table 4-1. Summary of Actual Controlled Emissions (tpy)[a]

CY	SO_2	NO_X	VOC	CO	PM_{10}	$PM_{2.5}$	Total HAP	Largest HAP
2019	0.21	62.47	281.28	28.97	1.00	0.34	22.82	15.26 [Methanol]
2018	0.21	65.87	299.95	29.83	0.94	0.32	27.49	17.93 [Methanol]
2017	0.20	61.63	239.09	33.86	3.97	3.97	34.00	17.29 [Methanol]
2016	0.21	65.19	237.76	36.45	4.16	4.16	33.27	18.44 [Methanol]
2015	0.20	55.45	290.39	42.10	8.94	8.94	36.82	17.06 [Methanol]

[a] Emissions obtained from Air Emissions Reporting On-line (AERO) system submittal.

5. AIR REGULATORY APPLICABILITY ANALYSIS

The applicability determinations made for potentially applicable federal and state air quality regulations are described in this section for the sources located at the Chemours – Fayetteville Works facility. Federal regulations are reviewed first, followed by North Carolina regulations. A summary detailing applicability of each regulation is provided throughout this section.

5.1 Federal Regulations

5.1.1 Permitting Programs

5.1.1.1 Prevention of Significant Deterioration (PSD) of Air Quality, 40 CFR Part 52

The federal PSD program, codified in 40 CFR Part 52.21, requires any new major stationary source of air pollutants to obtain a major source air construction permit before commencing construction. North Carolina has incorporated the federal PSD program in 15A NCAC 2Q .0300. The PSD program applies to a facility if potential emissions exceed applicable major source thresholds. The facility is considered a chemical process plant, which is one of the 28 listed PSD source categories specified in §52.21(b)(1)(i)(a) with a 100-tpy PSD major source threshold for regulated New Source Review (NSR) pollutants. Since the existing facility is a major source with respect to the PSD program, modifications at the facility must undergo major source review if the proposed project will increase emissions of one of the PSD regulated pollutants in excess of the applicable pollutant Significant Emission Rate (SER) threshold. The current permit has numerous PSD avoidance conditions which will remain in the Title V permit.

Chemours opted to take a PSD avoidance limit specified in Permit Condition 2.1 (B)(9) by using projected emissions for the IXM Membrane Process (ID No. NS-I). As such, Permit Condition 2.1 (B)(9)(b)(ii) requires that Chemours submit a report 60 days after the end of each calendar year for the actual VOC emissions from IXM Membrane Coating Process (ID No. NS-I). The report must contains the items listed in 40 CFR 51.166(r)(6)(v)(a), as follows:

- The name, address and telephone number of the major stationary source;
- The annual calculated VOC emissions; and
- Any other information that Chemours wishes to include in the report.

5.1.1.2 Nonattainment Area New Source Review (NNSR)

NNSR is applicable to construction of a new major stationary source or a project that is a major modification at an existing major stationary source in an area designated as nonattainment for the National Ambient Air Quality Standards (NAAQS). The facility is located in Bladen County which is classified as an attainment or unclassifiable county for NSR pollutants. Thus, the facility is not subject to NNSR.

5.1.1.3 Title V Operating Permit Programs, 40 CFR Part 70

A Title V (Part 70) operating permit is required for facilities that meet the definition of a major source according to 40 CFR Part 70.2. A facility with criteria pollutant emissions greater than 100 tpy, 10 tpy of a single HAP, or 25 tpy of a combination of HAPs is considered a major source under the Title V permitting program. The facility is considered a major source with respect to the Title V permitting program and operates under the current Permit 03735T48. The permit requires that a Title V renewal application be submitted at least six months before the date of permit expiration. This application satisfies the requirements for submittal of a complete renewal application.

5.1.2 New Source Performance Standards, 40 CFR Part 60

New Source Performance Standards (NSPS), codified in Title 40 CFR Part 60, establish pollutant emission limits and monitoring, reporting, and recordkeeping requirements for various emission sources based on source type and size. NSPS applies to new, modified, or reconstructed sources as defined by the particular standard. North Carolina has incorporated the federal NSPS in 15A NCAC 02D .0524.

5.1.2.1 40 CFR Part 60 Subpart A: General Provisions

40 CFR 60 Subpart A conditions are referenced by specific NSPS subparts and as such as mentioned throughout the permit. Chemours will continue to comply with these requirements as applicable.

5.1.2.2 40 CFR Part 60 Subpart Dc: Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units

NSPS Subpart Dc applies to the PS-C boiler which has not yet be installed at the facility. Table 5-1 provides a reference to the permit conditions and applicable NSPS Subpart Dc requirements to the PS-C boiler.

5.1.2.3 40 CFR Part 60 Subpart IIII: Standards of Performance for Stationary Compression Ignition Internal Combustion Engines

Diesel-fired emergency engines (ID Nos. I-RICE-03, I-RICE-04 and I-RICE-05) are subject to the requirements of NSPS Subpart IIII. Since these units are listed as insignificant activities, the permit does not identify specific requirements. NSPS Subpart IIII includes requirements, such as emission standards, work practices, and recordkeeping for each emission source, as applicable.

Table 5-1. Summary of NSPS Requirements

Emission Unit ID	Emission Unit Description	NSPS Subpart	Permit Condition	Summary of Requirements
PS-C	97 MMBtu/hr Natural gas/No. 2 oil-fired boiler	Dc	2.1 (A)(4)	■ Emissions limitations include maximum fuel sulfur content and visible emission limitations. ■ Records must be maintained for fuel sulfur monitoring and routine opacity monitoring, the amounts and types of each fuel burned during each month, and the occurrence and duration of any startup, shutdown, or malfunction event. ■ Initial notifications for construction and startup shall be submitted as detailed in the permit. ■ Summary reports must be submitted semiannually

5.1.3 National Emission Standards for Hazardous Air Pollutants, 40 CFR Part 61

National Emission Standards for Hazardous Air Pollutants (NESHAP) are generally applicable to sources of specified HAPs. The NESHAP regulations in 40 CFR 61 are on a pollutant-specific basis. None of the NESHAP regulations in 40 CFR 61 apply to the Chemours facility.

5.1.4 National Emission Standards for Hazardous Air Pollutants, 40 CFR Part 63

The NESHAP regulations in 40 CFR 63 are established based on Maximum Achievable Control Technology (MACT) determinations for particular source types. The facility is a major source of HAP emissions as defined in 40 CFR 63.2. Several emission sources at the facility are subject to 40 CFR 63 MACT requirements.

5.1.4.1 40 CFR 63 Subpart A: General Provisions

40 CFR 63 Subpart A conditions are referenced from specific subparts and are mentioned throughout the permit. Chemours will continue to comply with these requirements as applicable.

5.1.4.2 40 CFR Part 63 Subpart FFFF: National Emission Standards for Miscellaneous Organic Chemical Manufacturing

The HFPO, Vinyl Ethers North, Vinyl Ethers South, and IXM Resins processes (ID Nos. NS-A, NS-B, NS-B-2 NS-C, NS-C-2, NS-G-1 and NS-G2) are subject to the requirements of 40 CFR 63, Subpart FFFF, "National Emission Standards for Hazardous Air Pollutants: Miscellaneous Organic Chemical Manufacturing" (also referred to as the Miscellaneous Organic NESHAP, or MON). The MON includes emission limitations, work practice standards, continuous compliance requirements, recordkeeping, and reporting requirements for various affected sources. The compliance status of the facility was included with the Notification of Compliance Status. Permit Condition 2.1 (B)(10) details the site specific MON requirements.

The facility does not operate any Group 1 process vents, Group 1 storage tanks, or transfer racks or loading arms. The facility has Group 2 continuous process vents, one Group 2 wastewater stream, and two heat exchange systems requiring monitoring. There are process streams in all four of the process units that are subject to the equipment leak provisions, or MON LDAR requirements. Chemours has elected to follow 40 CFR Subpart UU for LDAR compliance.

Table 5-2 provides an overview of the requirements of Subpart FFFF.

5.1.4.3 40 CFR Part 63 Subpart ZZZZ: National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

40 CFR Subpart ZZZZ applies to each of the five emergency engines located at the facility (ID Nos. I-RICE-01, 02, 03, 04, and 05). Since these emissions sources are listed as insignificant activities, the specific requirements of Subpart ZZZZ are not included in the permit. Table 5-2 provides a summary of the requirements for Subpart ZZZZ.

For emergency engines that are also subject to the requirements of 40 CFR 60 Subpart IIII and have a site rating of less than 500 brake hp, the emission units comply with the requirements of this subpart by meeting the requirements in 40 CFR 60 Subpart IIII in accordance with 40 CFR 63.6590(c)(6). In accordance with 40 CFR 63.6590(b)(1)(i), a new or reconstructed emergency RICE with a rating greater

than 500 brake hp located at a major source of HAPs (i.e., I-RICE-05) does not have to meet the requirements of NSPS Subpart ZZZZ, with the exception of the initial notification requirements.

5.1.4.4 40 CFR Part 63 Subpart DDDDD - National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters

40 CFR Part 63 Subpart DDDDD applies to the two existing boilers (ID Nos. PS-A and PS-B) and will apply to the new boiler (ID Nos. PS-C) upon installation. This subpart will not apply to the temporary boiler (ID No. PS-TEMP) if installed as long as the boiler does not remain on-site for more than 12 consecutive months. Table 5-2 provides a summary of the requirements of Subpart DDDDD.

In 2011, the State of North Carolina implemented a Case-by-Case MACT under the CAA Section 112(j), since Subpart DDDDD was not implemented in a timely manner by the US EPA. These conditions were added to the permit in 12 December 2010 (Permit No. 03735T36). The requirements of Subpart DDDDD now replace those conditions and Chemours is requesting the Case-by-Case MACT conditions be removed from the permit.

Table 5-2 Summary of MACT Requirements

Emission Unit ID	Emission Unit Description	MACT	Permit Condition	Summary of Requirements
NS-A, NS-B, NS-B-2, NS- C, NS-C-2, NS-G-1, and NS-G-2	HFPO, Vinyl Ethers North, Vinyl Ethers South, Resins	FFFF	2.1 (B)(10)	■ Monitor applicable equipment at frequencies specified per component type and leak rate and repair leaks as detailed in 40 CFR 63.1024. ■ Monitor applicable heat exchange systems quarterly and repair leaks as detailed in 40 CFR 63.104. ■ Maintain records to demonstrate compliance as detailed in 40 CFR 63.2525. ■ Submit a semiannual summary report in accordance with 40 CFR 63.2520.
PS-A, PS-B, and PS-C	Boiler A - Natural gas/No. 2 fuel oil-fired boiler (139.4 million Btu per hour maximum heat input) equipped with an oxygen trim system Boiler B - Natural gas/No. 2 fuel oil-fired boiler (88.4 million Btu per hour maximum heat input) equipped with an oxygen trim System Boiler C Natural gas/No. 2 fuel oil-fired boiler (97 million Btu per hour maximum heat input) equipped with a low-NOx burner and an oxygen trim system	DDDDD	2.1 (A)(7)	■ Conduct initial tune-up and subsequent tune-ups every 5 years, in accordance with 40 CFR 63.7540(a)(10). ■ Conduct a one-time energy assessment in accordance with Table 3 of Subpart DDDDD. ■ Maintain records to demonstrate compliance as detailed in 40 CFR 63.7555. ■ Submit compliance reports every 5 years to DAQ and via CEDRI in accordance with 40 CFR 63.7550.

5.1.5 Compliance Assurance Monitoring (CAM), 40 CFR Part 64

Under 40 CFR Part 64, Compliance Assurance Monitoring (CAM), facilities are required to prepare and submit monitoring plans for certain emission units with certain Title V permit applications. Specifically CAM applies to any unit that meets all three of the following criteria:

- be subject to an emission limitation or standard,
- use a control device to achieve compliance, and
- have pre-control emissions that exceed or are equivalent to the major source threshold.

Uncontrolled particulate matter emissions from the lime slaker (ID No. NS-R2) does not exceed 100 tpy; therefore, a CAM plan is not required for the lime slaker system.

Uncontrolled particulate matter emissions from the lime silo (ID No. NS-R1) could exceed 100 tpy, is subject to an emission standard in 15A NCAC 02D .0515, and uses a control device to achieve compliance with the standard. As such, a CAM plan is required for the lime silo.

CAM plans compliant with the requirements of 40 CFR Part 64 must accomplish the following:

- Describe the indicators to be monitored;
- Describe the ranges or the process to set indicator ranges or conditions;
- Describe the performance criteria for the monitoring, including
  - Specifications for obtaining representative data,
  - Verification procedures to confirm the operational status of the monitoring device,
  - Quality assurance and control procedures, and
  - Monitoring frequency and data averaging period;
- Provide a justification for the use of parameters, ranges, and monitoring approach; and
- Provide emissions test data, if necessary

The monitoring approach, which addresses each of the aforementioned plan requirements, for the source (i.e., lime silo) and associated control device (i.e., pulse jet baghouse) that is subject to CAM is summarized in Appendix C.

5.1.6 Accidental Release Prevention Requirements: Risk Management Programs under the Clean Air Act, Section 112(r), 40 CFR Part 68

As specified in Permit Conditions 2.2 (B)(3) and Section 3 (DD) and (EE), Chemours is subject to Section 112(r) of the Clean Air Act and is in compliance with all applicable requirements in accordance with 40 CFR Part 68. Chemours is subject to 112 (r) for sulfur trioxide and tetrafluoroethylene. Chemours submits updates to the EPA as required via EPA's CDX system. The last submittal was submitted on 24 July 2019.

5.1.7 Protection of Stratospheric Ozone, 40 CFR Part 82

Permit Condition 3(CC) specifies that if Chemours has appliances or refrigeration equipment, including air conditioning equipment, which use Class I or II ozone-depleting substances such as that Chemours must 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: "Recycling and Emissions Reduction". In addition, Chemours must 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. Chemours must also comply with the reporting requirements of 40 CFR 82.166 "Reporting And Recordkeeping Requirements For Leak Repair". Chemours will continue to comply with these requirements.

5.2 State of North Carolina Regulations

Potentially applicable standards under 15A North Carolina Administrative Code (NCAC) Chapter 02, Environmental Management are discussed in the following section. Table 5-3 provides a summary of the applicable state requirements for the Chemours facility.

Table 5-3 Applicable North Carolina Air Regulations

Regulation (15A NCAC)	Applicability	Comment
02D .0503 Particulates from Fuel Burning Indirect Heat Exchangers	Applicable	Applicable to PS-A, PS-B, PS-C and PS-TEMP
02D .0515 Particulate Emissions from Miscellaneous Industrial Processes	Applicable	Applicable to NS-I, NS-D-2, NS-R1 and NS-R2
02D .0516 Sulfur Dioxide Emissions from Combustion Sources	Applicable	Applicable to PS-A, PS-B, PS-C, PS-TEMP, NS-I, NS-D-2, NS-R1, NS-R2, and NCD-Q1
02D .0521 Control of Visible Emissions	Applicable	Applicable to PS-A, PS-B, PS-C, PS-TEMP, and NCD-Q1
02D .0524 New Source Performance Standards	Applicable	40 CFR 60 Subparts Dc and IIII apply to certain operations at the Chemours facility.
02D .0530 Prevention of Significant Deterioration	Applicable	Chemours is a major source with respect to PSD, and has requested several PSD avoidance limitations
02D .0531 Sources in Nonattainment Areas	Not Applicable	Chemours is located in an attainment area
02D .0540 Particulate from Fugitive Dust Emission Sources	Applicable	Facility-wide. See permit condition Section 3(MM)
02D .0541 Control of Emissions from Abrasive Blasting	Applicable	Facility-wide. See permit condition Section 2.2(B)(4)
02D .0614 Compliance Assurance Monitoring	Applicable	Applicable to NS-R2
02D .1100 Control of Air Toxics	Applicable	Facility-wide.
02D .1110 National Emission Standards for Hazardous Air Pollutants	Not Applicable	Chemours does not operate any sources subject to 40 CFR 61
02D .1111 Maximum Achievable Control Technology	Applicable	40 CFR 63 Subparts FFFF, ZZZZ, and DDDDD apply to certain operations at the Chemours facility.
02D .1800 Control of Odors	Applicable	Facility-wide. See permit condition Section 2.1 (D)(1) and Section 2.2 (B)(5)
02D .2100 Risk Management Program	Applicable	As specified in Section 5.1.6 of this report.
02D .2600 Source Testing	Applicable	As specified in permit condition Section 3(JJ)
02Q .0700 Toxic Air Pollutant Procedures	Applicable	Facility-wide

5.2.1 15A NCAC 02D .0202 – Registration of Air Pollution Sources

Permit Condition 3(HH) specifies that the DAQ may require Chemours to register a source of air pollutants. If requested, Chemours will provide the registration for applicable sources.

5.2.2 15A NCAC 02D .0503 – Particulates from Fuel Burning Indirect Heat Exchangers

This section regulates particulate emissions from indirect-fired fuel combustion sources. Condition 2.1 (A)(1) of the current permit limits particulate emissions from boilers PS-A and PS-B to 0.2667 lbs/MMBtu. Particulate emissions from PS-C are limited to 0.2268 lbs/MMBtu. Condition 2.1 (E)(1) details a particulate emissions limit of 0.2426 lb/MMBtu for PS-Temp. No monitoring, recordkeeping, or reporting are required to demonstrate compliance.

5.2.3 15A NCAC 02D .0515 – Particulates from Miscellaneous Industrial Processes

This rule established particulate matter emissions based off of process weight rates for miscellaneous industrial processes as follows:).

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

Where: E = allowable emission rate in pounds per hour

P = process weight in tons per hour

As detailed in Conditions 2.1 (B)(2) and 2.1 (F)(1), the membrane coating process (ID No. NS-I), the SO3 system (ID No. NS-D-2), the lime silo (ID No. NS-R1) and the lime slaker (NS-R2) are subject to 15A NCAC 02D .0515.

Chemours is required to maintain production records such that 'P' in the above equation can be determined for the membrane coating process (ID No. NS-I) and the SO_3 system (ID No. NS-D-2). Additional requirements, including monitoring of scrubber flow rate and performing inspections and maintenance on the relevant control devices are required for the lime silo (ID No. NS-R1) and the lime slaker (NS-R2). Chemours is required to submit semiannual reports summarizing the monitoring and recordkeeping requirements.

5.2.4 15A NCAC 02D .0516 – Sulfur Dioxide Emissions from Combustion Sources

This rule establishes a sulfur dioxide emission limit of 2.3 lbs/MMBtu from combustion sources. As detailed in Conditions 2.1(A)(2), 2.1 (B)(3), and 2.1 (E)(2) boilers PS-A and PS-B, boiler PS-C (while firing natural gas only), the thermal oxidizer (ID No. NCD-Q1), and the temporary boiler (ID No. PS-Temp) are subject to 15A NCAC 02D .0516. No monitoring, recordkeeping, or reporting are required to demonstrate compliance.

5.2.5 15A NCAC 02D .0521 - Control of Visible Emissions

This rule applies to "industrial processes where an emission can reasonably be expected to occur". For sources manufactured as of July 1, 1971, visible emissions shall not be more than 40 percent opacity when averaged over a six-minute period. However, except for sources required to comply with Paragraph (g) of this Rule, six minute averaging periods may exceed 40 percent opacity if:

(1) No six-minute period exceeds 90 percent opacity;
(2) No more than one six-minute period exceeds 40 percent opacity in any hour; and
(3) No more than four six-minute periods exceed 40 percent opacity in any 24-hour period.

For sources manufactured after July 1, 1971, visible emissions shall not be more than 20 percent opacity when averaged over a six-minute period. However, except for sources required to comply with Paragraph (g) of this Rule, six minute averaging periods may exceed 20 percent opacity if:

(1) No six-minute period exceeds 87 percent opacity;
(2) No more than one six-minute period exceeds 20 percent opacity in any hour; and
(3) No more than four six-minute periods exceed 20 percent opacity in any 24-hour period.

As detailed in Condition 2.1 (A)(3), visible emissions from boiler PS-A are limited to 40% opacity and boilers PS-B and PS-C are limited to 20% opacity. Boiler PS-Temp also has an opacity limit of 20% as specified in Condition 2.1 (E)(3). Per Condition 2.1 (B)(4), the membrane coating process (ID No. NS-I), the SO3 system (ID No. NS-D-2), and the 4-Stage Scrubber exhaust (ID No. NCD-Q2) are subject to an opacity limit of 20%. No monitoring, recordkeeping, or reporting are required to demonstrate compliance for these sources.

Condition 2.1 (F)(2) limits visible emissions from the lime silo (ID No. NS-R1) and lime slaker (ID No. NS-R2) to 20% opacity and requires visual inspection of the emission point at least once per week. A summary report of these monitoring activities are required to be submitted in a semiannual compliance report..

5.2.6 15A NCAC 02D .0524 – New Source Performance Standards

NSPS requirements and applicability are addressed in the federal regulatory applicability discussion in Section 5.1.2.

5.2.7 15A NCAC 02D .0530 – Prevention of Significant Deterioration

As discussed in section 5.1.1, the current facility is a major source with respect to the PSD regulations. As such, an increase in emissions associated with any modification at the facility must be assessed against the appropriate SER thresholds.

5.2.7.1 15A NCAC 02D .0530(u) – Use of Projected Actual Emissions to Avoid Applicability of Requirements of PSD

15A NCAC 02D .0530(u) requires the facility to maintain records of annual VOC emissions from the IXM Membrane Coating Process (ID No. NS-I) for 10 years following the startup of the modified process. As detailed in Condition 2.1 (B)(9), an annual report is required within 60 days after the end of the calendar year. If the projected actual emissions of 67.27 tons per year, as stated in the permit application, are exceeded, an explanation as to why the actual rates exceeded the projection must be included in the annual report.

5.2.8 15A NCAC 02D .0541 – Control of Emissions from Abrasive Blasting

In accordance with 15A NCAC 02D. 0541 and Condition 2.2 (B)(4), any abrasive blasting operation that is conducted outside a building or conducted indoors and vented to the atmosphere must be performed in accordance with the requirements set forth in 15A NCAC 02D .0521, Control of Visible Emissions. Any visible emissions reading for abrasive blasting performed outside a building shall be taken at a spot approximately one meter above the point of abrasive blasting with a viewing distance of approximately five meters.

All abrasive blasting operations at the site is conducted within a building, except as follows:

- Abrasive blasting of an item that exceeds eight feet in any dimension; or,

- Abrasive blasting of a surface situated at its permanent location or not further away from its permanent location than is necessary to allow the surface to be blasted.

For abrasive blasting operation conducted outside a building, Chemours will use appropriate measures to ensure that the fugitive dust emissions created by the abrasive blasting operation do not migrate beyond the property boundaries in which the abrasive blasting operation is being conducted.

5.2.9 15A NCAC 02D .1100 – Toxic Air Pollutant Emission Limitation and Requirements and 15A NCAC 02Q .0711 – Toxic Air Pollutant Procedures

The Toxic Air Pollutant Procedures require a permit for any facility with emissions of an Air Toxic Pollutant listed in 15A NCAC 02D .1104 in excess of the applicable Toxic Pollutant Emission Rates (TPER) Requiring a Permit presented in 15A NCAC 02Q. 0711. The current permit for the Chemours facility contains facility-wide emission limits for each of the applicable pollutants emitted at the facility in Section 2.2(B)(1) and 2.2(B)(2).

These emission limits are based on air toxics modeling conducted in 1995 which developed a 'worst-case' unit impact and backed into facility-wide allowable emission rates. Conditions Section 2.2 (B)(1)(c) and 2.2 (B)(2)(e) requires Chemours to submit quarterly air toxics reports. Since these quarterly reports have consistently shown over the past several years that Chemours does not exceed the air toxic limits in the report and that the installation of the thermal oxidizer and scrubber system will further reduce air toxic emissions, Chemours is requesting to reduce the reporting frequency to submittal on an annual basis.

In addition Condition 2.1 (C)(1) requires that PPA (ID No. AS-A) be controlled by a wet scrubber (ID No. ACD-A1) to ensure compliance with this rule. To demonstrate proper performance of the scrubber, the liquid flow rate should be a minimum of 30 gallons per minute and the differential pressure across the packed bed section of the scrubber should be a maximum of 12 inches of water. Chemours is required to maintain records of the inspections on the scrubber. Reporting is not required to demonstrate compliance with Condition 2.1 (C)(1).

5.2.10 15A NCAC 02D .1111 – Maximum Achievable Control Technology

MACT requirements and applicability are addressed in the federal regulatory applicability discussion in Section 5.1.4.

5.2.11 15A NCAC 02D .1806 – Control and Prohibition of Odorous Emissions

In accordance with 15A NCAC 02D. 1806 and Condition 2.2 (B)(5) requires that a facility not operate 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.

Permit Condition 2.1 (D)(1)(a) further specifies that the wastewater treatment sludge dryers (ID Nos. WTS-B and WTS-C) shall be controlled by a caustic injection scrubber (ID No. WTCD-1). Chemours is required to perform periodic inspection and maintenance as recommended by the scrubber manufacturer. Condition Section 2.1(D)(1)(d) requires and inspection and maintenance logbook be kept for the scrubber. Reporting is not required to demonstrate compliance with this rule.

5.2.12 15A NCAC 02Q .0317 – Avoidance Conditions

This rule allows a facility to obtain avoidance conditions from specific permitting requirements. Chemours has taken conditions to avoid PSD requirements for multiple sources and pollutants as detailed in the current permit. Conditions 2.1 (A)(5), 2.1 (B)(5), 2.1 (B)(6), 2.1 (B)(7), 2.1 (B)(8), 2.1 (E)(4), and 2.2

(A)(1) provides PSD avoidance limits for Boiler PS-B, Vinyl Ethers North (ID No. NS-B), IXM Resins Process (ID Nos. NS-G-1 and NS-G-2), HFPO (ID No. NS-A), HFPO Production Decontamination Process (ID No. NS-N), Boiler PS-Temp, and all boilers combined, respectively. These conditions require monthly emission calculations and fuel use tracking, along with semiannual reporting.

APPENDIX A DAQ APPLICATION FORMS

FORM A

GENERAL FACILITY INFORMATION

REVISED 09/22/16 | NCDEQ/Division of Air Quality - Application for Air Permit to Construct/Operate | A

NOTE- APPLICATION WILL NOT BE PROCESSED WITHOUT THE FOLLOWING:

☐	Local Zoning Consistency Determination (new or modification only)	☑	Appropriate Number of Copies of Application	Application Fee (please check one option below)	
☑	Responsible Official/Authorized Contact Signature	☐	P.E. Seal (if required)	☑ Not Required ☐	ePayment ☐ Check Enclosed

GENERAL INFORMATION

Legal Corporate/Owner Name:	*The Chemours Company FC, LLC*
Site Name:	*The Chemours Company - Fayetteville Works*
Site Address (911 Address) Line 1:	*22828 NC Highway 87 West*
Site Address Line 2:	
City: *Fayetteville*	State: *North Carolina*
Zip Code: *28306-7332*	County: *Bladen*

CONTACT INFORMATION

Responsible Official/Authorized Contact:		*Invoice Contact:*	
Name/Title: *Brian D. Long/Plant Manager*		Name/Title: *Christel Compton/Program Manager*	
Mailing Address Line 1: *22828 NC Highway 87 West*		Mailing Address Line 1: *22828 NC Highway 87 West*	
Mailing Address Line 2:		Mailing Address Line 2:	
City: *Fayetteville* State: *North Carolina* Zip Code: *28306-7332*		City: *Fayetteville* State: *North Carolina* Zip Code: *28306-7332*	
Primary Phone No.: *910-678-1415*	Fax No.: *910.678.1247*	Primary Phone No.: *910.678.1213*	Fax No.: *910.678.1247*
Secondary Phone No.:		Secondary Phone No.:	
Email Address: *Brian.D.Long@chemours.com*		Email Address: *Christel.E.Compton@chemours.com*	
Facility/Inspection Contact:		*Permit/Technical Contact:*	
Name/Title: *Christel Compton/Program Manager*		Name/Title: *Christel Compton/Program Manager*	
Mailing Address Line 1: *22828 NC Highway 87 West*		Mailing Address Line 1: *22828 NC Highway 87 West*	
Mailing Address Line 2:		Mailing Address Line 2:	
City: *Fayetteville* State: *North Carolina* Zip Code: *28306-7332*		City: *Fayetteville* State: *North Carolina* Zip Code: *28306-7332*	
Primary Phone No.: *910.678.1213*	Fax No.: *910.678.1247*	Primary Phone No.: *910.678.1213*	Fax No.: *910.678.1247*
Secondary Phone No.:		Secondary Phone No.:	
Email Address: *Christel.E.Compton@chemours.com*		Email Address: *Christel.E.Compton@chemours.com*	

APPLICATION IS BEING MADE FOR

☐ New Non-permitted Facility/Greenfield ☐ Modification of Facility (permitted) ☑ Renewal Title V ☐ Renewal Non-Title V
☐ Name Change ☐ Ownership Change ☐ Administrative Amendment ☐ Renewal with Modification

FACILITY CLASSIFICATION AFTER APPLICATION (Check Only One)

☐ General ☐ Small ☐ Prohibitory Small ☐ Synthetic Minor ☑ Title V

FACILITY (Plant Site) INFORMATION

Describe nature of (plant site) operation(s): *Manufacturer of chemicals, plastic resins, plastic sheeting and plastic film.*

		Facility ID No.	*900009*
Primary SIC/NAICS Code:	*2821, 3081, 3083/326113*	Current/Previous Air Permit No. *03735T48*	Expiration Date: *31-Mar-2021*
Facility Coordinates: Latitude:	*34.843934*	Longitude:	*-78.836834*
Does this application contain confidential data? ☐ YES ☑ NO		***If yes, please contact the DAQ Regional Office prior to submitting this application.*** (See Instructions)	

PERSON OR FIRM THAT PREPARED APPLICATION

Person Name: *Kevin Eldridge*		Firm Name: *ERM NC, Inc.*	
Mailing Address Line 1: *4140 Parklake Avenue*		Mailing Address Line 2: *Suite 110*	
City: *Raleigh*	State: *NC*	Zip Code: *27612*	County: *Wake*
Phone No.: *919.233.4501*	Fax No.:	Email Address: *Kevin.Eldridge@erm.com*	

SIGNATURE OF RESPONSIBLE OFFICIAL/AUTHORIZED CONTACT

Name (typed): *Brian D. Long*	Title: *Plant Manager*
X Signature(Blue Ink): Brian D. Long	Date: 9/3/2020

Attach Additional Sheets As Necessary

FORM A (continued, page 2 of 2)
GENERAL FACILITY INFORMATION

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SECTION AA1 - APPLICATION FOR NON-TITLE V PERMIT RENEWAL

_____ (Company Name) hereby formally requests renewal of Air Permit No. _____

There have been no modifications to the originally permitted facility or the operations therein that would require an air permit since the last permit was issued.

Is your facility subject to 40 CFR Part 68 "Prevnetion of Accidental Releases" - Section 112(r) of the Clean Air Act? ☐ YES ☐ NO

If yes, have you already submitted a Risk Manage Plan (RMP) to EPA? ☐ YES ☐ NO Date Submitted: _____

Did you attach a current emissions inventory? ☐ YES ☐ NO

If no, did you submit the inventory via AERO or by mail? ☐ Via AERO ☐ Mailed Date Mailed: _____

SECTION AA2- APPLICATION FOR TITLE V PERMIT RENEWAL

In accordance with the provisions of Title 15A 2Q .0513, the responsible official of *The Chemours Company FC, LLC* (Company Name)

hereby formally requests renewal of Air Permit No. *03735T48* (Air Permit No.) and further certifies that:

(1) The current air quality permit identifies and describes all emissions units at the above subject facility, except where such units are exempted under the North Carolina Title V regulations at 15A NCAC 2Q .0500;

(2) The current air quality permit cites all applicable requirements and provides the method or methods for determing compliance with the applicable requirements;

(3) The facility is currently in compliance, and shall continue to comply, with all applicable requiremetns. (Note: As provided under 15A NCAC 2Q .0512 compliance with the conditions of the permit shall be deemed compliance with the applicable requirements specifically identified in the permit);

(4) For applicable requirements that become effective during the term of the renewed permit that the facility shall comply on a timely basis;

(5) The facility shall fulfill applicable enhanced monitoring requirements and submit a compliance certification as required by 40 CFR Part 64.

The responsible official (signature on page 1) certifies under the penalty of law that all information and statements provided above, based on information and belief formed after reasonable inquiry, are true, accurate, and complete.

SECTION AA3- APPLICATION FOR NAME CHANGE

New Facility Name: _____

Former Facility Name: _____

An official facility name change is requested as described above for the air permit mentioned on page 1 of this form. Complete the other sections if there have been modifications to the originally premitted facility that would requie an air quality permit since the last permit was issued and if ther has been an ownership change associated with this name change.

SECTION AA4- APPLICATION FOR AN OWNERSHIP CHANGE

By this application we hereby request transfer of Air Quality Permit No. _____ from the former owner to the new owner as described below.

The transfer of permit responsibility, coverage and liability shall be effective _____ (immediately or insert date.) The legal ownership of the facility described on page 1 of this form has been or will be transferred on _____ (date). There have been no modifications to the originally permitted facility that would require an air quality permit since the last permit was issued.

Signature of New (Buyer) Responsible Official/Authorized Contact (as typed on page 1):

X Signature (Blue Ink): _____

Date:

New Facility Name:

Former Facility Name:

Signature of Former (Seller) Responsible Official/Authorized Contact:

Name (typed or print):

Title:

X Signature (Blue Ink): _____

Date:

Former Legal Corporate/Owner Name:

In lieu of the seller's signature on this form, a letter may be submitted with the seller's signature indicating the ownership change

SECTION AA5- APPLICATION FOR ADMINISTRATIVE AMENDMENT

Describe the requested administrative amendment here (attach additional documents as necessary):

Attach Additional Sheets As Necessary

FORMs A2, A3

EMISSION SOURCE LISTING FOR THIS APPLICATION - A2

112r APPLICABILITY INFORMATION - A3

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EMISSION SOURCE LISTING: New, Modified, Previously Unpermitted, Replaced, Deleted

EMISSION SOURCE ID NO.	EMISSION SOURCE DESCRIPTION	CONTROL DEVICE ID NO.	CONTROL DEVICE DESCRIPTION
Equipment To Be ADDED By This Application (New, Previously Unpermitted, or Replacement)			
Existing Permitted Equipment To Be MODIFIED By This Application			
Equipment To Be DELETED By This Application			
---	---	*NCD-Hdr1*	*Baffle-Plate Scrubber*
---	---	*NCD-Hdr2*	*Baffle-Plate Scrubber*

112(r) APPLICABILITY INFORMATION — **A 3**

Is your facility subject to 40 CFR Part 68 "Prevention of Accidental Releases" - Section 112(r) of the Federal Clean Air Act? ☑ Yes ☐ No

If No, please specify in detail how your facility avoided applicability: _____

If your facility is Subject to 112(r), please complete the following:

A. Have you already submitted a Risk Management Plan (RMP) to EPA Pursuant to 40 CFR Part 68.10 or Part 68.150?

☑ Yes ☐ No Specify required RMP submittal date: *30 June 1999*

If submitted, RMP submittal date: *Original 8 june 1999, last updated 24 July 2019*

B. Are you using administrative controls to subject your facility to a lesser 112(r) program standard?

☐ Yes ☑ No If yes, please specify: _____

C. List the processes subject to 112(r) at your facility:

PROCESS DESCRIPTION	PROCESS LEVEL (1, 2, or 3)	HAZARDOUS CHEMICAL	MAXIMUM INTENDED INVENTORY (LBS)
SO_3 Process	*3*	*sulfur trioxide*	*59,400*
TFE Process	*1*	*tetrafluoroethylene*	*61,000*

Attach Additional Sheets As Necessary

FORM D1

FACILITY-WIDE EMISSIONS SUMMARY

REVISED 09/22/16 | NCDEQ/Division of Air Quality - Application for Air Permit to Construct/Operate | D1

CRITERIA AIR POLLUTANT EMISSIONS INFORMATION - FACILITY-WIDE

AIR POLLUTANT EMITTED	EXPECTED ACTUAL EMISSIONS (AFTER CONTROLS / LIMITATIONS) tons/yr	POTENTIAL EMISSIONS (BEFORE CONTROLS / LIMITATIONS) tons/yr	POTENTIAL EMISSIONS (AFTER CONTROLS / LIMITATIONS) tons/yr
PARTICULATE MATTER (PM)	*<2*	*>100*	*<30*
PARTICULATE MATTER < 10 MICRONS (PM_{10})	*<2*	*<100*	*<20*
PARTICULATE MATTER < 2.5 MICRONS ($PM_{2.5}$)	*<2*	*<100*	*<15*
SULFUR DIOXIDE (SO_2)	*<0.50*	*<2*	*<2*
NITROGEN OXIDES (NOx)	*<100*	*>100*	*>100*
CARBON MONOXIDE (CO)	*<50*	*<100*	*<100*
VOLATILE ORGANIC COMPOUNDS (VOC)	*>100*	*>100*	*>100*
LEAD	*<1*	*<1*	*<1*
GREENHOUSE GASES (GHG) (SHORT TONS)	*<75,000*	*<200,000*	*<200,000*
OTHER			

HAZARDOUS AIR POLLUTANT EMITTED	CAS NO.	EXPECTED ACTUAL EMISSIONS (AFTER CONTROLS / LIMITATIONS) tons/yr	POTENTIAL EMISSIONS (BEFORE CONTROLS / LIMITATIONS) tons/yr	POTENTIAL EMISSIONS (AFTER CONTROLS / LIMITATIONS) tons/yr
toluene	*108-88-3*	*<0.2*	*<0.5*	*<0.5*
ethyl benzene	*100-41-4*	*<0.01*	*<0.01*	*<0.01*
xylene	*1330-020-7*	*<0.01*	*<0.01*	*<0.01*
methanol	*67-56-1*	*<20*	*<20*	*<20*
benzene	*71-43-2*	*<0.01*	*<0.03*	*<0.03*
methylene chloride	*75-09-2*	*<0.01*	*<0.01*	*<0.01*
acetenitrile	*75-05-8*	*<0.2*	*<1*	*<0.3*
hdyrogen chloride	*7647-01-0*	*<0.5*	*<20*	*<20*
hydrogen fluoride	*7664-39-3*	*<0.5*	*NA*[a]	*<1*
sulfuric acid	*7664-93-9*	*<0.5*	*<0.5*	*<1*
other HAPs		*<1*	*>25*	*<2*
Total HAPs		*<20*	*>25*	*>25*

TOXIC AIR POLLUTANT EMISSIONS INFORMATION - FACILITY-WIDE

INDICATE REQUESTED ACTUAL EMISSIONS AFTER CONTROLS / LIMITATIONS. EMISSIONS ABOVE THE TOXIC PERMIT EMISSION RATE (TPER) IN 15A NCAC 2Q .0711 MAY REQUIRE AIR DISPERSION MODELING. USE NETTING FORM D2 IF NECESSARY.

TOXIC AIR POLLUTANT EMITTED	CAS NO.	lb/hr	lb/day	lb/year	Modeling Required ? Yes	No
Toxic air pollutant emissions will not increase above permitted limits with this project.						

COMMENTS:

[a] *The thermal oxidizer will create hydrogen fluoride by the chemical conversion of the fluoronated hydrocarbons being controlled by the thermal oxidizer. The hydrogen fluoride produced in the thermal oxidzer will then be controlled by the scrubber.*

Attach Additional Sheets As Necessary

FORM D4

EXEMPT AND INSIGNIFICANT ACTIVITIES SUMMARY

ACTIVITIES EXEMPTED PER 2Q .0102 OR INSIGNIFICANT ACTIVITIES PER 2Q .0503 FOR TITLE V SOURCES		
DESCRIPTION OF EMISSION SOURCE	**SIZE OR PRODUCTION RATE**	**BASIS FOR EXEMPTION OR INSIGNIFICANT ACTIVITY**
1. *Diesel-Fired Emergency Generator for Remediation Treatment System (I-RICE-05)*	*540 hp*	*15A NCAC 02Q .0503(8)*
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		

Attach Additional Sheets As Necessary

FORM E1

TITLE V GENERAL INFORMATION

REVISED 06/01/16 | NCDEQ/Division of Air Quality - Application for Air Permit to Construct/Operate | E1

IF YOUR FACILITY IS CLASSIFIED AS "MAJOR" FOR TITLE V YOU MUST COMPLETE THIS FORM AND ALL OTHER REQUIRED "E" FORMS (E2 THROUGH E5 AS APPLICABLE)

Indicate here if your facility is subject to Title V by: ☑ EMISSIONS ☐ OTHER

If subject to Title V by "OTHER", specify why: ☐ NSPS ☑ NESHAP (MACT) ☐ TITLE IV ☐ OTHER (specify) _____

If you are or will be subject to any maximum achievable control technology standards (MACT) issued pursuant to section 112(d) of the Clean Air Act, specify below:

EMISSION SOURCE ID	EMISSION SOURCE DESCRIPTION	MACT
I-RICE-01, I-RICE-02, I-RICE-03, I-RICE-04, and I-RICE-05	Diesel-Fired Engines for Fire Water Pumps and Emergency Generators	ZZZZ
PS-A, PS-B, and PS-C	Natural Gas/No. 2 Fuel Oil-Fired Boilers	DDDDD
NS-A, NS-B, NS-B-2, NS-C, NS-C-2, NS-G-1, and NS-G-2	HFPO, Vinyl Ethers North, Vinyl Ethers South, and IXM Resins	FFFF

List any additional regulation which are requested to be included in the shield and provide a detailed explanation as to why the shield should be granted:

REGULATION	EMISSION SOURCE (Include ID)	EXPLANATION
40 CFR Part 63, Subpart DDDDD	*Temporary Boiler (PS-TEMP)*	*The National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters (40 CFR Part 63, Subpart DDDDD) and 15A NCAC 02D .1111 are not applicable to the natural gas/No. 2 fuel oil-fired temporary boiler (ID No. PS-Temp) because the boiler is a temporary boiler, as defined in §63.7575*

Comments:

Attach Additional Sheets As Necessary

FORM E2

EMISSION SOURCE APPLICABLE REGULATION LISTING

REVISED 09/22/16 | NCDEQ/Division of Air Quality - Application for Air Permit to Construct/Operate | E2

EMISSION SOURCE ID NO.	EMISSION SOURCE DESCRIPTION	OPERATING SCENARIO INDICATE PRIMARY (P) OR ALTERNATIVE (A)	POLLUTANT	APPLICABLE REGULATION
ES 1	*Coal/Wood Boiler*	*P - Coal*	*PM*	*NCAC 2D .0503*
		A - Wood	*PM*	*NCAC 2D .0504*
See accompanying Title V renewal application report.				

Attach Additional Sheets As Necessary

FORM E3

EMISSION SOURCE COMPLIANCE METHOD

REVISED 09/22/16 | NCDEQ/Division Of Air Quality - Application for Air Permit to Construct/Operate | E3

Emission Source ID NO.	Regulated Pollutant
	Applicable Regulation

Alternative Operating Scenario (AOS) NO: Refer to the Title V renewal application report.

ATTACH A SEPARATE PAGE TO EXPAND ON ANY OF THE BELOW COMMENTS

MONITORING REQUIREMENTS

Is Compliance Assurance Monitoring (CAM) 40 CFR Part 64 Applicable? ☐ YES ☐ NO

If yes, is CAM Plan Attached (if applicable, CAM plan must be attached)? ☐ YES ☐ NO

Describe Monitoring Device Type:

Describe Monitoring Location:

Other Monitoring Methods (Describe In Detail):

Describe the frequency and duration of monitoring and how the data will be recorded (i.e., every 15 minutes, 1 minute instantaneous readings taken to produce an hourly average):

RECORDKEEPING REQUIREMENTS

Data (Parameter) being recording:

Frequency of recordkeeping (How often is data recorded?):

REPORTING REQUIREMENTS

Generally describe what is being reported:

Frequency: ☐ MONTHLY ☐ QUARTERLY ☐ EVERY 6 MONTHS ☐ OTHER (DESCRIBE):

TESTING

Specify proposed reference test method:

Specify reference test method rule and citation:

Specify testing frequency:

NOTE - Proposed test method subject to approval and possible change during the test protocol process

Attach Additional Sheets As Necessary

FORM E4

EMISSION SOURCE COMPLIANCE SCHEDULE

COMPLIANCE STATUS WITH RESPECT TO ALL APPLICABLE REQUIREMENTS

Will each emission source at your facility be in compliance with all applicable requirements at the time of permit issuance and continue to comply with these requirements?

☑ YES ☐ NO **If NO**, complete **A** through **F** below for each requirement for which compliance is not achieved.

Will your facility be in compliance with all applicable requirements taking effect during the term of the permit and meet such requirements on a timely basis?

☑ YES ☐ NO **If NO**, complete **A** through **F** below for each requirement for which compliance is not achieved.

If this application is for a modification of existing emissions source(s), is each emission source currently in compliance with all applicable requirements?

☐ YES ☐ NO **If NO**, complete **A** through **F** below for each requirement for which compliance is not achieved.

A. Emission Source Description (Include ID NO.) _____

B. Identify applicable requirement for which compliance is not achieved:

_____

_____

_____

_____

_____

_____

C. Narrative description of how compliance will be achieved with this applicable requirements:

_____

_____

_____

_____

_____

D. Detailed Schedule of Compliance:

Step(s)	Date Expected

E. Frequency for submittal of progress reports (6 month minimum):

_____

F. Starting date of submittal of progress reports: _____

Attach Additional Sheets As Necessary

FORM E5

TITLE V COMPLIANCE CERTIFICATION (Required)

In accordance with the provisions of Title 15A NCAC 2Q .0520 and .0515(b)(4) the responsible company official of:

SITE NAME: *The Chemours Company - Fayetteville Works*

SITE ADDRESS: *22828 NC Highway 87 West*

CITY, NC : *Fayetteville, NC*

COUNTY: *Bladen*

PERMIT NUMBER : *03735T48*

CERTIFIES THAT (Check the appropriate statement(s):

- ☑ The facility is in compliance with all applicable requirements
- ☐ In accordance with the provisions of Title 15A NCAC 2Q .0515(b)(4) the responsible company official certifies that the proposed minor modification meets the criteria for using the procedures set out in 2Q .0515 and requests that these procedures be used to process the permit application.
- ☐ The facility is not currently in compliance with all applicable requirements
  If this box is checked, you must also complete Form E4 "Emission Source Compliance Schedule"

The undersigned certifies under the penalty of law, that all information and statements provided in the application, based on information and belief formed after reasonable inquiry, are true, accurate, and complete.

Signature of responsible company official (REQUIRED, USE BLUE INK) Date: 9/3/2020

Brian D. Long, Plant Manager

Name, Title of responsible company official (Type or print)

Attach Additional Sheets As Necessary

Received
SEP 08 2020
Air Permits Section

FORM E6

COMPLIANCE ASSURANCE MONITORING (CAM) PLAN (4 pages)

For CAM-affected emission units, the applicant must submit additional information in the form of a CAM Plan as required under 40 CFR 64.

For information about the CAM rule and this form, please refer to 40 CFR 64 and 15A NCAC 2D .0614.
Additional information (including guidance documents may be found at the following URLs:
https://www3.epa.gov/ttn/emc/cam.html
https://deq.nc.gov/about/divisions/air-quality/air-quality-enforcement/compliance-assurance-monitoring

SOURCE INFORMATION

1.	**Facility Name:**	*Chemours Company - Fayetteville Works*
2.	**Permit Number:**	*03735T48*
3.	**Date Form Prepared:**	*8/26/2020*

BASIS OF CAM SUBMITTAL

4. **Mark the appropriate box below as to why this CAM Plan is being submitted as part of this application:**

☑ **Renewal Application:** ALL Emission Units (Pollutant Specific Emission Units [PSEUs] considered separately with respect to EACH regulated air pollutant) for which a CAM Plan has NOT yet been approved needs to be addressed in this CAM Plan submittal.
See Renewal Procedures per 15 A NCAC 2Q .0513.

☐ **Initial Application (Submitted after 4/20/1998):** Only large PSEUs (PSEUs with potential post control device emissions of an applicable regulated air pollutant that are equal to or greater than major source threshold levels) need to be addressed in this CAM Plan submittal.
See Initial Application Procedures per 15A NCAC 2Q .0505(1).

☐ **Significant Modification to Large PSEUs:** Only large PSEUs (PSEUs with potential post control device emissions of an applicable regulated air pollutant that are equal to or greater than major source threshold levels) being modified after 4/20/1998 need to be addressed in this CAM Plan submittal. For large PSEUs with an approved CAM Plan, only address the appropriate monitoring requirements affected by the significant modification.
See Significant Modification Procedures per 15 A NCAC 2Q .0516.

CAM APPLICABILITY DETERMINATION

5. **To determine CAM applicability, a PSEU must meet ALL of the following criteria (If not, then the remainder of this form need not be completed):**

A. The PSEU is located at a major source;
B. The PSEU is subject to an emission limitation or standard for the applicable regulated air pollutant that is NOT exempt;
List of EXEMPT Emission Limitations or Standards below OR as provided in 15A NCAC 2Q .0614(b)(1):
- NSPS (40 CFR Part 60) or NESHAP (40 CFR Part 61 and 63) proposed after 11/15/1990.
- Stratospheric ozone protection requirements.
- Acid Rain program requirements.
- Emission limitations or standards for which a Title V permit specifies a continuous compliance determination method, as defined in the CAM rule (40 CFR 64.1), Continuous Compliance Determination Method.
- An emission cap that meets the requirements specified in 40 CFR 70.4(b)(12).

*If the PSEU is subject to both **Exempt** and **Not Exempt** emission standards for the same pollutant, then the facility is required to determine the CAM applicability for **Not Exempt** emission standards.*

C. The PSEU uses an add-on control device to achieve compliance with an emission limitation or standard;
D. The PSEU has potential pre-control device emissions of the applicable regulated air pollutant that are equal to or greater than major source threshold levels; **and**
E. The PSEU is NOT an exempt backup utility power emission unit that is municpally owned and appropriately documentd as provided in 15A NCAC 2D .0614(b)(2).

BACKGROUND DATA AND INFORMATION	E6-2

6. Complete the following table for ALL PSEUs that need to be addressed in this CAM Plan submittal. This section is to be used to provide background data and information for each PSEU in order to supplement the submittal requirements specified in 40 CFR 64.4. If additional space is needed, please attach and label additional sheets as appropriate.

PSEU Designation	PSEU Description	Pollutant	Control Device	[a]Emission Limitation OR Standard	[b]Monitoring Requirement
NS-R1	*Lime Silo*	*Particulate Matter*	*Pulse Jet Baghouse (NCD-R1)*	*15 NCAC 02D .0515 $E=4.10xP^{0.67}$*	*Perform monthly visual inspection of the system and annual internal inspection of baghouse structural integrity*

[a] Indicate the emission limitation or standard for any applicable requirement that constitutes an emission limitation, emission standard, or standard of performance. Examples of emission limitations or standards may include a permitted emission limitation, applicable regulations, work practices, process or control device parameters, or other forms of specific design, equipment, operational or maintenance requirements.

[b] Indicate the monitoring requirements for the control device that are required by an applicable regulation or permit condition.

[a] CAM MONITORING APPROACH CRITERIA	E6-3

7. **Complete this section for EACH PSEU and for each affected pollutant that needs to be addressed in this CAM Plan submittal. This section may be copied as needed for each PSEU. This section is to be used to provide monitoring data and information for EACH indicator selected for EACH PSEU in order to meet the monitoring design criteria specified in 40 CFR 64.3 and 64.4. If more than two indicators are being selected for a PSEU or if additional space is need, attach and label with the appropriate PSEU designation, pollutant, and indicator Nos.**

PSEU DESIGNATION		POLLUTANT	[b] INDICATOR NO. 1	[b] INDICATOR NO. 2
NS-R1		*Particulate Matter*	*Visible Emissions*	*Inspection and Maintenance Program*
7a.	General Criteria Describe the monitoring approach used to measure the indicators.		*Visible emissions from the baghouse will be monitored to evaluate for the presence of visible emissions. If visible emissions are present, Chemours will determine visible emissions by conducting a Method 9 opacity reading for 12 minutes.*	*Monthly visual inspection of the system ductwork and material collection unit for leaks and annual internal inspection of baghouse's structural integrity*
	[c] Establish the appropriate indicator range or the procedures for establishing the indicator range which provides a reasonable assurance of compliance		*Any visible emissions will trigger a 12 minute Method 9 evaluation. Opacity readings greater than 20% opacity will be an excursion.*	*An excursion is identified as failure to conduct the monthly or annual inspections.*
	[d] Provide Quality Improvement Plan (QIP) Threshold levels.		*Excursions below the indicator range for no more than 3 days during the semi-annual report period.*	*Not Applicable*
7b.	Performance criteria Provide the Specification for Obtaining Representative Data (*Such as detector location and installation specifications*).		*Measurements will be taken at the emission release point (exhaust of the baghouse).*	*Baghouses and associated ductwork will be inspected visually for signs of deterioration.*
	Provide Quality Assurance and Quality Control (QA/QC) Practices that are adequate to ensure the continuing validity of the data, considering manufacturer's recommendations		*The certified observer will perform any Method 9 evaluations, if required.*	*Maintenance, or other qualified personnel, will perform inspection and baghouse maintenance.*
	[e] Provide the Monitoring Frequency		*The visible emission observation will be conducted once per day when silo loading is occurring. The results will be maintained in a logbook.*	*Monthly visual inspection and annual internal inspection. The results will be maintained in a logbook.*
	Provide the Data Collection Procedures that will be used			
	Provide the Data Averaging Period for the purpose of determining whether an excursion or exceedance has occurred.		*Not applicable*	*Not Applicable*

[a] If a Continuous Emission Monitoring System (CEMS), Continuous Opacity Monitoring System (COMS), or Predictive Emission Monitoring System (PEMS) is used, then this section need not be completed **ONLY** for the CEMS, COMS, or PEMS, **EXCEPT** that the Special Criteria Information of 40 CFR 64.3(d) must be provided. Special Criteria Information may be provided on a separate sheet.

[b] Describe all indicators to be monitored which satisfy 40 CFR 64.3(a). Indicators of emission control performance for the control device and associated capture system may include measured or predicted emissions (including visible emissions or opacity), process and control device operating parameters that affect control device (and capture system) efficiency or emission rates, or recorded findings of inspection and maintenance activities.

[c] Indicator ranges may be based on a single maximum or minimum value or at multiple levels that are relevant to distinctly different operating conditions, expressed as a function of process variables, expressed as maintaining the applicable indicator in a particular operational status or designated condition, or established as interdependent between more than one indicator. In addition, unless specifically stated otherwise by an applicable requirement, the owner or operator shall monitor the indicators to detect any **bypass** of the control device (or capture system) to the atmosphere.

[d] The QIP threshold is based on the number of excursions identified in a reporting period. (Example: if the historical monitoring data for a facility indicates that the indicator range was exceeded 10 times in a 6-month period, the threshold could be established at no more than 10 excursions outside the indicator range during a 6-month reporting period.) The threshold levels also could be established based on the duration of excursions as a percentage of operating time.

[e] At a minimum, the owner of a large PSEU must collect four or more data values equally spaced over each hour and average the values. All other PSEUs must collect data **at least once** per 24-hour period *or possibly* ***more*** to provide reasonable assurance of compliance over the anticipated range of operating conditions.

RATIONALE AND JUSTIFICATION

8. **Complete this section for EACH PSEU and for each affected pollutant that needs to be addressed in this CAM Plan submittal. This section *may be copied as needed*. Use this section to provide monitoring data and information for EACH indicator selected for EACH PSEU in order to meet the monitoring design criteria specified in 40 CFR 64.3 and 64.4. If more than two indicators are being selected for a PSEU or if additional space is needed, attach additional sheets and label with the appropriate PSEU designation, pollutant, and indicator Nos.**

PSEU DESIGNATION	POLLUTANT
NS-R1	*Particulate Matter*

9. INDICATORS AND THE MONITORING APPROACH: Provide the rationale and justification for the selection of the indicators and the monitoring approach used to measure the indicators. Also provide any data supporting the rationale and justification. Explain the reasons for any differences between the verification of operational status or the quality assurance and control practices proposed and the manufacturer's recommendations. (If additional space is needed, attach and label with the appropriate PSEU designation and pollutant).

Visible emissions were selected as the performance indicator because it is indicative of operation of the baghouse in a manner necessary to comply with the particulate emission standard. When the baghouse is operating properly, there will not be any visible emissions from the exhaust. Any increase in visible emissions indicates reduced performance of a particulate control device; therefore, the presence of visible emissions is used as the performance indicator.

An inspection and maintenance program was chosen as a performance indicator due to the high reliability of properly maintained baghouses at controlling particulate emissions. A key element of the program is bag filter reliability, which is why an annual internal inspection of baghouse was selected as a performance indicator.

10. **INDICATOR RANGES:** Provide the rationale and justification for the selection of the indicator ranges. The rationale and justification shall indicate how **EACH** indicator range was selected by either a Compliance or Performance Test, a Test Plan and Schedule, or by Engineering Assessments. Depending on which method is being used for each indicator range, include the specific information required below for that specific indicator range. (If additional space is needed, attach and label with the appropriate PSEU designation and pollutant):

- COMPLIANCE or PERFORMANCE TEST (Indicator ranges determined from control device operating parameter data obtained during a compliance or performance test conducted under regulatory specified conditions or under conditions representative of maximum potential emissions under anticipated operating conditions. Such data may be supplemented by engineering assessments and manufacturer's recommendations). The rationale and justification shall **include** a summary of the compliance or performance test results that were used to determine the indicator range and documentation indicating that no changes have taken place that could result in a significant change in the control system performance or the selected indicator ranges since the compliance or performant test was conducted and approved by DAQ.
- TEST PLAN AND SCHEDULE (Indicator ranges will be determined from a proposed implementation plan and schedule for installing, testing, and performing any other appropriate activities prior to use of the monitoring). The rationale and justification shall **include** the proposed implementation plan and schedule that will provide for use of the monitoring as expeditiously as practical after approval of this CAM Plan, but in no case shall the schedule for completing installation and beginning operation of the monitoring exceed 180 days after approval.
- ENGINEERING ASSESSMENTS (Indicator ranges or the procedures for establishing indicator ranges are determined from engineering assessments and other data, such as manufacturer's design criteria and historical monitoring data, because factors specific to the type of monitoring, control device, or PSEU make compliance or performance testing unnecessary). The rationale and justification shall **include** documentation demonstrating that compliance testing is not required to establish the indicator range.

RATIONALE AND JUSTIFICATION:

The selected indicator range is visible emissions in excess of 20% opacity, which was selected because an increase in visible emissions is indicative of an increase in particulate emissions. The initial step to evaluating visible emissions will be conducting a visible/no visible emissions observation because it does not require a Method 9 certified observer. .

Due to the high reliability of baghouses in this type of application, an indicator range of monthly visual and annual internal inspections is considered adequate enough to identify potential degradations in bag filter performance before failure. As a result of these inspections, corrective actions will be initiated and repairs made as required.

APPENDIX B REDLINED PERMIT

ROY COOPER
Governor

MICHAEL S. REGAN
Secretary

MICHAEL ABRACZINSKAS
Director

NORTH CAROLINA
Environmental Quality

May 13, 2020

Mr. Brian D. Long
Plant Manager
Chemours Company - Fayetteville Works
22828 NC Highway 87 West
Fayetteville, North Carolina 28306

SUBJECT: Air Quality Permit No. 03735T48
Facility ID: 0900009
Chemours Company - Fayetteville Works
Fayetteville
Bladen County
Fee Class: Title V

Dear Mr. Long:

In accordance with your completed Air Quality Permit Applications for a State-only modification of your Title V permit under 15A NCAC 02Q .0515(h) received February 13, 2020, and a minor modification of your Title V permit under 15A NCAC 02Q .0515 received April 21, 2020, we are forwarding herewith Air Quality Permit No. 03735T48 to Chemours Company – Fayetteville Works, located at 22828 NC Highway 87 West, Fayetteville, Bladen County, North Carolina authorizing the construction and operation of the emission source(s) and associated air pollution control device(s) specified herein. Additionally, any emissions activities determined from your Air Quality Permit Application as being insignificant per 15A North Carolina Administrative Code 02Q .0503 have been listed for informational purposes. Please note the requirements for the annual compliance certification are contained in General Condition P in Section 3. The current owner is responsible for submitting a compliance certification for the entire year regardless of who owned the facility during the year.

The monitoring requirements for the Lime Slaker (ID No. NS-R2) and wet particulate scrubber (ID No. NCD-R2) is part of a minor modification per 15A NCAC 02Q .0515. The compliance certification as described in General Condition P is required. Unless otherwise notified by NC DAQ, the affected terms of this permit (excluding the permit shield as described General Condition R) for this source shall become final on July 12, 2020. Until this date, the affected permit terms herein reflect the proposed operating language that the Permittee shall operate this source under 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 request a formal adjudicatory hearing within 30 days following receipt of this

permit, identifying the specific issues to be contested. This hearing request must be in the form of a written petition, conforming to NCGS (North Carolina General Statutes) 150B-23, and filed with both the Office of Administrative Hearings, 6714 Mail Service Center, Raleigh, North Carolina 27699-6714 and the Division of Air Quality, Permitting Section, 1641 Mail Service Center, Raleigh, North Carolina 27699-1641. The form for requesting a formal adjudicatory hearing may be obtained upon request from the Office of Administrative Hearings. Please note that this permit will be stayed in its entirety upon receipt of the request for a hearing. Unless a request for a hearing is made pursuant to NCGS 150B-23, this Air Quality Permit shall be final and binding 30 days after issuance. You may request modification of your Air Quality Permit through informal means pursuant to NCGS 150B-22. This request must be submitted in writing to the Director and must identify the specific provisions or issues for which the modification is sought. Please note that this Air Quality Permit will become final and binding regardless of a request for informal modification unless a request for a hearing is also made under NCGS 150B-23.

The construction of new air pollution emission source(s) and associated air pollution control device(s), or modifications to the emission source(s) and air pollution control device(s) described in this permit must be covered under an Air Quality Permit issued by the Division of Air Quality prior to construction unless the Permittee has fulfilled the requirements of 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.

Bladen County has triggered increment tracking under PSD for PM_{10} and SO_2. This permit modification will not result in an increase of PM_{10} or SO_2.

This Air Quality Permit shall be effective from May 13, 2020 until March 31, 2021, 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 Heather Sands at (919) 707-8725 or heather.sands@ncdenr.gov.

Sincerely yours,

William D. Willets, P.E, Chief, Permitting Section
Division of Air Quality, NCDEQ

Enclosure

cc: Kelly Fortin, EPA Region 4
Fayetteville Regional Office
Connie Horne (cover letter only)
Central Files

ATTACHMENT to Permit No. ~~03735T48~~03735T49

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

Source ID No.	Emission Source Description
I-02	Waste DMSO Storage Tank
I-03	Fugitive Emissions of Methylene Chloride
I-04	Chlorination of Riverwater to control mussel growth in equipment
I-05-1	Sitewide Laboratory Emissions (not including VE Research Laboratory Hood and VE Research Laboratory Chemical Storage Cabinet)
I-05-2	VE Research Laboratory Hood and VE Research Laboratory Chemical Storage Cabinet routed to a Carbon Adsorber (ID No. SCD-SW1)
I-06	Outdoor abrasive blasting operation for items exceeding 8 feet in any dimension
I-07	Paint shop
I-08	Self-contained abrasive blasting cabinets
I-09	Paint spray booths
I-10	Abrasive blasting and painting building
I-12	IXM Dispersion Process
I-CT	Cooling Tower (6,000 gallons per minute, expandable to 8,000 gallons per minute)
I-RICE-01 **MACT ZZZZ**	Diesel Engine for Stack Blower Emergency Electrical Generator
I-RICE-02 **MACT ZZZZ**	Diesel Engine for Emergency Fire Water Pump
I-RICE-03 **NSPS IIII MACT ZZZZ**	Diesel Engine for HFPO Barricade Emergency Electrical Generator
I-RICE-04 **NSPS IIII MACT ZZZZ**	Diesel-Fired Emergency Generator for Thermal Oxidizer System (320 hp)
I-RICE-05 MACT ZZZZ	Diesel-Fired Emergency Generator (xxx hp)

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1. Because an activity is insignificant does not mean that the activity is exempted from an applicable requirement or that the owner or operator of the source is exempted from demonstrating compliance with any applicable requirement.
2. When applicable, emissions from stationary source activities identified above shall be included in determining compliance with the permit requirements for toxic air pollutants under 15A NCAC 02D .1100, "Control of Toxic Air Pollutants", or 15A NCAC 02Q .0711, "Emission Rates Requiring a Permit".
3. For additional information regarding the applicability of MACT or GACT see the DAQ page titled "Specific Permit Conditions Regulatory Guide." The link to this site is as follows: http://deq.nc.gov/about/divisions/air-quality/air-quality-permits/specific-permit-conditions-regulatory-guide.

Summary of Changes to Permit

The following changes were made to the Chemours Company – Fayetteville Works, Air Permit No. 03735T47.

Old Page No.	New Page No.	Condition No.	Description of Change(s)
Cover letter	Cover letter	–	- Amended application type, permit revision numbers and dates.
Attachment	Attachment	Insignificant activities list	- Split emission source I-05, Sitewide Laboratory Emissions into two sources to distinguish between those routed to the carbon adsober (ID No. SCD-SW1) and those that remain uncontrolled: ID No. I-05-1 – Sitewide Laboratory Emissions (not including VE Research Laboratory Hood and VE Research Laboratory Chemical Storage Cabinet) and ID No. I-05-2 – VE Research Laboratory Hood and VE Research Laboratory Chemical Storage Cabinet routed to a Carbon Adsorber (ID No. SCD-SW1)
Attachment	Attachment	Summary of changes to permit	- Updated with summary of changes to permit.
1	1	Permit Cover Page	- Updated permit revision number and permit issuance date
3 – 58	3 – 73	All	- Updated permit revision number in header; - Updated permit language to match permit shell.
3 – 4	3 – 4	Section 1	- Added carbon adsorber (ID No. SCD-SW1) as control device for Semiworks Polymerization Operation and Semiworks Laboratory Hood (ID Nos. SW-1 and SW-2). - Added emission source for VE South Indoor Fugitives (ID No. NS-C-2) and associated carbon adsorber (ID No. NCD-Q1). - Changed scrubber minimum flow rate for Lime Slaker Scrubber (ID No. NCD-R2) from 2.9 gallons per minute to 0.84 gallons per minute. - Added footnote to table indicating that the monitoring requirement for the lime slaker was changed as part of a minor modification.
16 – 34	16 – 34	Section 2.1 B	- Updated condition header to specify that carbon adsorbers are installed as control devices for VE North and VE South Indoor Fugitives and Semiworks Operations. - Updated table of limits and standards to clarify the affected sources subject to the conditions for all PFAS and GenX compounds. - Added Condition B.1.d to include the carbon adsorbers in the alternative operating scenario and renumbered remaining conditions. - Updated Condition B.10 to correct typo that omitted VE North and VE South Indoor Fugitives as affected sources under MACT. These sources were initially included under the broader VE North and VE South emission sources (ID Nos. NS-B and NS-C). - Corrected Condition B.11.f.v as requested in email dated April 27, 2020, to reflect DAQ's intention that detailed inspections need to be conducted when the Thermal Oxidizer and 4 State Scrubber System are nonoperational for a minimum of 72 hours.
40 – 42	40 – 41	Section 2.1 F	- In Condition F.1.c, changed minimum scrubbing liquid flowrate for lime slaker scrubber from 2.9 to 0.84 gallons per minute and removed noncompliance statement (this change is being made as a minor modification under 02Q .0515)
44 – 49	43 – 48	Section 2.2 B	- In the table in condition B.2, corrected the VE North Indoor Fugitives ID No. from NS-B-1 to NS-B-2.
51 – 54	50 – 53	Section 2.2 D	- Revised Condition D.1 to include requirements for the carbon adsorbers installed on VE South and Semiworks.
56 – 65	55 – 64	Section 3	- Updated General Conditions to most current revision.

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
~~03735T480~~ 3735T49	~~03735T47~~03735T48	July 12, 2020	March 31, 2021

Commented [KE1]: Update dates

*The effective date listed above applies only to changes made as a result of this modification. All other terms and conditions of this permit are applicable as of the issuance date.

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

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

Permittee:	**Chemours Company - Fayetteville Works**
Facility ID:	**0900009**
Facility Site Location:	**22828 NC Highway 87 West**
City, County, State, Zip:	**Fayetteville, Bladen County, NC, 28306**
Mailing Address:	**22828 NC Highway 87 West**
City, State, Zip:	**Fayetteville, NC, 28306**
Application Number:	**0900009.20A and .20C**
Complete Application Date:	**February 14, 2020, and April 21, 2020**
Primary SIC Code:	**2821, 3081, 3083**
Division of Air Quality, Regional Office Address:	**Fayetteville Regional Office 225 Green Street, Suite 714 Fayetteville, NC 28301**

Permit issued this the 13th day of May, 2020

William D. Willets, P.E., Chief, Air Permits Section
By Authority of the Environmental Management Commission

Table of Contents

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.

Page Nos.	Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
5 to 15, 37, 42	PS-A ~~Case-by-case~~ ~~MACT~~ **MACT DDDDD**	Natural gas/No. 2 fuel oil-fired boiler (139.4 million Btu per hour maximum heat input) equipped with an oxygen trim system	N/A	N/A
	PS-B ~~Case-by-case~~ ~~MACT~~ **MACT DDDDD**	Natural gas/No. 2 fuel oil-fired boiler (88.4 million Btu per hour maximum heat input) equipped with an oxygen trim system	N/A	N/A
	PS-C **NSPS Dc** ~~Case-by-case~~ ~~MACT~~ **MACT DDDDD**	Natural gas/No. 2 fuel oil-fired boiler (97 million Btu per hour maximum heat input) equipped with a low-NOx burner and an oxygen trim system	N/A	N/A
5, 37 to 39, 42, 54	PS-Temp	Natural gas/No. 2 fuel oil-fired temporary boiler (less than 100.0 million Btu per hour maximum heat input)	N/A	N/A
16 to 34, 46 to 47, 50 to 53	NS-A **MACT FFFF**	Hexafluoropropylene oxide (HFPO) process	~~POS~~ ~~NCD-Hdr1~~ ~~-or-~~ ~~NCD-Hdr2~~ ~~AOS~~ NCD-Q1 -and- NCD-Q2	~~POS~~ ~~Baffle-plate scrubber (7,000 kilogram/hour liquid injection rate averaged over a 3-hour period)~~ ~~Baffle-plate scrubber (7,000 kilogram/hour liquid injection rate averaged over a 3-hour period)~~ ~~AOS~~ Thermal Oxidizer (10 million Btu per hour, natural gas-fired) 4-Stage Scrubber: Countercurrent Packed Bed Stages 1, 2, and 3; Caustic Stage 4 with minimum scrubber liquor flow of 40 gallons per minute and minimum pH of 7.1
	NS-B **MACT FFFF**	Vinyl Ethers North process		
	NS-C **MACT FFFF**	Vinyl Ethers South process		
	NS-D-1	RSU Process (except SO_3 System)		
	NS-E	FPS Liquid waste stabilization		
	NS-F	MMF process		
16 to 34	NS-G-2 **MACT FFFF**	IXM Resins Process Fluorinator	NCD-G2	Caustic scrubber
16 to 34	NS-D-2	RSU Process SO_3 System: SO_3 Storage Tank, Vaporizer, SO_3 Truck Unloading, Reservoir Tank	NCD-D	Wet scrubber with mist eliminator (minimum liquid injection rate of 0.5 gallons per minute)
16 to 18	NS-H	IXM membrane process	N/A	N/A
	NS-I	IXM membrane coating	N/A	N/A
16 to 18, 50 to 53	SW-1	Semiworks polymerization operation	SCD-SW1	Carbon Adsorber
	SW-2	Semiworks laboratory hood		

Page Nos.	Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
16 to 34, 46 to 47, 50 to 53	NS-G-1 **MACT FFFF**	IXM Resins Process (except Fluorinator)	~~POS~~ ~~N/A~~	~~POS~~ ~~N/A~~
	NS-K	E-2 Process		
	NS-M	TFE/CO_2 separation process ~~*(NOTE: Although NS-M is routed through one of two baffle-plate scrubbers, NCD-Hdr1 and NCD-Hdr2, the non-acid fluoride emissions from this source are not removed in the scrubber.)*~~	~~AOS~~ NCD-Q1 -and- NCD-Q2	~~AOS~~ Thermal Oxidizer (10 million Btu per hour, natural gas-fired) 4-Stage Scrubber: Countercurrent Packed Bed Stages 1, 2, and 3; Caustic Stage 4 with minimum scrubber liquor flow of 40 gallons per minute and minimum pH of 7.1
	NS-N	HFPO product container decontamination process ~~*(NOTE: Although NS-N is routed through one of two baffle-plate scrubbers, NCD-Hdr1 and NCD-Hdr2, the non-acid fluoride emissions from this source are not removed in the scrubber.)*~~		
	NS-O	Vinyl Ethers North product container decontamination process ~~*(NOTE: Although NS-O is routed through one of two baffle-plate scrubbers, NCD-Hdr1 and NCD-Hdr2, the non-acid fluoride emissions from this source are not removed in the scrubber.)*~~		
	NS-P	Vinyl Ethers South product container decontamination process ~~*(NOTE: Although NS-P is routed through one of two baffle-plate scrubbers, NCD-Hdr1 and NCD-Hdr2, the non-acid fluoride emissions from this source are not removed in the scrubber.)*~~		
16 to 34, 46 to 47, 51 to 54	NS-B-2 MACT-FFFF	Vinyl Ethers -North Indoor Fugitives	NCD-Q3	Carbon Adsorber
	NS-C-2 MACT-FFFF	Vinyl Ethers~~E~~-South Indoor Fugitives	NCD-Q4	Carbon Adsorber
35, 46 to 47, 50 to 53	AS-A	Polymer Processing Aid Process	ACD-A1 -and- ACD-A2	Wet scrubber (30 gallons per minute water injection rate averaged over a 3-hour period) ***State-enforceable only*** Carbon Adsorber
36	WTS-A	Extended aeration biological wastewater treatment facility	N/A	N/A
	WTS-B, WTS-C	Two (2) Indirect steam-heated rotary sludge dryers	WTCD-1	Wet scrubber with mist eliminator ***State-enforceable only***
40 to 41, 49	NS-R1	Lime Silo	NCD-R1	Pulse Jet Baghouse (300 square feet of filter area)
	NS-R2~~*~~	Lime Slaker~~*~~	NCD-R2	Wet Particulate Scrubber (minimum liquid injection rate of 0.84 gallons per minute)

~~*The change in the scrubber monitoring parameter requirement for the Lime Slaker (ID No. NS-R2) and wet particulate scrubber (ID No. NCD-R2) is part of a minor modification per 15A NCAC 02Q .0515. The 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 this source shall become final on July 12, 2020. Until this date, the affected permit terms herein reflect the proposed operating language that the Permittee shall operate this source 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. Three natural gas/No. 2 fuel oil-fired boilers (ID Nos. PS-A, PS-B, and PS-C)

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
Particulate Matter	**Affected Sources: PS-A and PS-B** 0.2667 pounds particulate per million Btu heat input **Affected Sources: PS-C** 0.2268 pounds particulate per million Btu heat input	15A NCAC 02D .0503
Sulfur Dioxide	**Affected Sources: PS-A and PS-B** 2.3 pounds SO_2 per million Btu heat input, each	15A NCAC 02D .0516
Sulfur Dioxide	**Affected Source: PS-C (when firing fuel oil)** Fuel oil sulfur content shall not exceed 0.5% by weight.	15A NCAC 02D .0524 (40 CFR Part 60, Subpart Dc)
Visible Emissions	**Affected Source: PS-A** 40 percent opacity **Affected Source: PS-B and PS-C (when firing natural gas)** 20 percent opacity	15A NCAC 02D .0521(c) 15A NCAC 02D .0521(d)
Visible Emissions	**Affected Source: PS-C (when firing fuel oil)** 20 percent opacity	15A NCAC 02D .0524 (40 CFR Part 60, Subpart Dc)
Nitrogen Oxides, Sulfur Dioxide	**Affected Source: PS-B** Nitrogen oxide < 40 tons per year Sulfur dioxide < 40 tons per year	15A NCAC 02Q .0317 (PSD Avoidance)
Sulfur Dioxide	**Affected Sources: PS-A, PS-B, PS-C, and PS-Temp** Sulfur dioxide < 702.5 tons per year. See Section 2.2 A.1 of this permit	15A NCAC 02Q .0317 (PSD Avoidance)
~~Hazardous Air Pollutants~~	~~Best Combustion Practices~~	~~15A NCAC 02D .1109~~
Hazardous Air Pollutants	**Affected Sources: PS-A, PS-B, and PS-C** Work Practices	15A NCAC 02D .1111 (40 CFR Part 63, Subpart DDDDD)

1. **15A NCAC 02D .0503: PARTICULATES FROM FUEL BURNING INDIRECT HEAT EXCHANGERS**
   a. Emissions of particulate matter from the combustion of natural gas and No. 2 fuel oil that are discharged from the affected boilers **(ID Nos. PS-A and PS-B)** into the atmosphere shall not exceed 0.2667 pounds per million Btu heat input.

   b. Emissions of particulate matter from the combustion of natural gas and No. 2 fuel oil that are discharged from the affected boiler **(ID No. PS-C)** into the atmosphere shall not exceed 0.2268 pounds per million Btu heat input.

   Testing [15A NCAC 02Q .0508(f)]
   c. If emissions testing is required, the testing shall be performed in accordance General Condition JJ. If the results of this test are above the limits given in Section 2.1 A.1.a or A.1.b, above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0503.

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

d. No monitoring/recordkeeping/reporting is required for particulate emissions from the firing of natural gas or No. 2 fuel oil in these boilers **(ID Nos. PS-A, PS-B and PS-C)**.

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

a. Emissions of sulfur dioxide from the affected boilers **(ID Nos. PS-A and PS-B)** when firing natural gas or No. 2 fuel oil, and from the affected boiler **(ID No. PS-C)** when firing natural gas only, shall not exceed 2.3 pounds per million Btu heat input. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard.

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

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

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

c. No monitoring/recordkeeping is required for sulfur dioxide emissions from the firing of natural gas or fuel oil in these boilers **(ID Nos. PS-A, PS-B and PS-C)**.

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

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

b. Visible emissions from the affected boiler **(ID No. PS-B)** 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.

c. Visible emissions from the affected boiler **(ID No. PS-C)** shall not be more than 20 percent opacity when averaged over a six-minute period when natural gas is fired in the boiler. 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)]

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

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

e. No monitoring/recordkeeping/reporting is required for visible emissions from the firing of natural gas or No. 2 fuel oil in these boilers **(ID Nos. PS-A, PS-B and PS-C)**.

4. 15A NCAC 02D .0524: New Source Performance Standards (40 CFR 60, Subpart Dc)

a. For the affected boiler **(ID No. PS-C)**, while firing No. 2 fuel oil only, the Permittee shall comply with all applicable provisions, including the notification, testing, recordkeeping, and monitoring requirements contained in Environmental Management Commission Standard 15A NCAC 02D .0524, "New Source Performance Standards" (NSPS) as promulgated in 40 CFR 60, Subpart Dc, including Subpart A, "General Provisions."

Emission Limitations

b. The maximum sulfur content of any fuel oil received and fired in the affected boiler **(ID No. PS-C)** shall not exceed 0.5 percent by weight. [40 CFR 60.42c(d)]

c. Visible emissions from the affected boiler **(ID No. PS-C)** shall not be more than 20 percent opacity when averaged over a six-minute period, except for one six-minute period per hour of not more than 27 percent opacity. *[40 CFR 60.43c(c)]*

d. The opacity standards in Section 2.1 A.4.c, above, applies at all times when firing No. 2 fuel oil, except during periods of startup, shutdown or malfunction. *[40 CFR 60.43c(d)]*

e. No fuel sulfur limits or opacity limits apply under 15A NCAC 02D .0524 when firing natural gas in the affected boiler **(ID No. PS-C)**.

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 A.4.b or A.4.c, above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524.

g. The Permittee shall conduct an initial performance test using Method 9 of Appendix A-4 of 40 CFR Part 60 and in accordance with General Condition JJ to demonstrate compliance with the opacity limit in Section 2.1 A.4.c, above, and as follows. [40 CFR 60.47c(a)]
   i. The Permittee shall conduct the performance test within 180 days of initial startup.
   ii. The Permittee shall conduct subsequent Method 9 of Appendix A-4 of 40 CFR Part 60 performance tests according to the schedule specified in Section 2.1 A.4.i, below.
   iii. The observation period for Method 9 of Appendix A-4 of 40 CFR Part 60 performance tests may be reduced from 3 hours to 60 minutes if all 6-minute averages are less than 10 percent and all individual 15-second observations are less than or equal to 20 percent during the initial 60 minutes of observation.

   If the results of this test are above the limits in Section 2.1 A.4.c, above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524.

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

h. To assure compliance with the fuel sulfur limit in Section 2.1 A.4.b, above, the Permittee shall retain a copy of the fuel supplier certification for any fuel oil fired at the affected boiler **(ID No. PS-C)**. The fuel supplier certification shall include the following information:
   i. The name of the oil supplier;
   ii. The sulfur content of the oil (in % by weight); and
   iii. A statement from the oil supplier that the oil complies with the specification under the definition of distillate oil in 40 CFR 60.41c.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524 if the sulfur content of the oil exceeds the limit provided in Section 2.1.A.4.b of this permit or if fuel supplier certifications are not retained as described above. *[40 CFR 60.46c(e), 40 CFR 60.48c(f)]*

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

i. After completion of the initial performance testing in Section 2.1 A.4.g, above, the Permittee shall comply with visible emissions monitoring according to the following:
   i. The Permittee shall conduct subsequent Method 9 performance tests using the applicable schedule in Section 2.1 A.4.i(i)(A) through A.4.i(i)(D), below, or within 45 days of switching fuel combustion from natural gas to No. 2 fuel oil, whichever is later, as determined by the most recent Method 9 performance test results. The observation period for Method 9 performance tests may be reduced from 3 hours to 60 minutes if all 6-minute averages are less than 10 percent and all individual 15-second observations are less than or equal to 20 percent during the initial 60 minutes of observation. *[40 CFR 60.47c(a)(1)]*
      A. If no visible emissions are observed, a subsequent Method 9 performance test must be completed within 12 calendar months from the date that the most recent performance test was conducted;
      B. If visible emissions are observed but the maximum 6-minute average opacity is less than or equal to 5 percent, a subsequent Method 9 performance test must be completed within 6 calendar months from the date that the most recent performance test was conducted;
      C. If the maximum 6-minute average opacity is greater than 5 percent but less than or equal to 10 percent, a subsequent Method 9 performance test must be completed within 3 calendar months from the date that the most recent performance test was conducted; or
      D. If the maximum 6-minute average opacity is greater than 10 percent, a subsequent Method 9 performance test must be completed within 45 calendar days from the date that the most recent performance test was conducted.
   ii. If the maximum 6-minute opacity is less than 10 percent during the most recent Method 9 performance test, the Permittee may, as an alternative to performing subsequent Method 9 performance tests, elect to perform

subsequent monitoring using Method 22 according to the procedures specified in Section 2.1 A.4.i(ii)(A) and A.4.i(ii)(B) below. *[40 CFR 60.47c(a)(2)]*

(A) The Permittee shall conduct 10 minute observations (during normal operation) each operating day the affected boiler **(ID No. PS-C)** fires No. 2 fuel oil using Method 22 and demonstrate that the sum of the occurrences of any visible emissions is not in excess of 5 percent of the observation period (i.e., 30 seconds per 10 minute period). If the sum of the occurrence of any visible emissions is greater than 30 seconds during the initial 10 minute observation, immediately conduct a 30 minute observation. If the sum of the occurrence of visible emissions is greater than 5 percent of the observation period (i.e., 90 seconds per 30 minute period), the owner or operator shall either document and adjust the operation of the facility and demonstrate within 24 hours that the sum of the occurrence of visible emissions is equal to or less than 5 percent during a 30 minute observation (i.e., 90 seconds) or conduct a new Method 9 performance test using the procedures in condition (i)(i) above within 45 calendar days.

(B) If no visible emissions are observed for 10 operating days during which No. 2 fuel oil is fired, observations can be reduced to once every 7 operating days during which No. 2 fuel oil is fired. If any visible emissions are observed, daily observations shall be resumed.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524 if the opacity monitoring is not conducted as specified.

Recordkeeping [15A NCAC 02Q .0508(f) and 40 CFR 60.48c(g)(2)]

j. The Permittee shall record and maintain records of the amounts of each fuel fired during each month. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524 if records of the amount of each fuel fired during each month are not maintained.

k. The Permittee shall maintain records of No. 2 fuel oil supplier certifications as specified in Section 2.1 A.4.h.i, above. *[40 CFR 60.48c(e)(11), (f)(1)]*
The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524 if records of fuel sulfur content monitoring are not maintained.

l. The Permittee shall keep the following opacity monitoring records: *[40 CFR 60.48c(c)(1), (2)]*

i. For each performance test conducted using Method 9 of appendix A-4 of 40 CFR Part 60, the Permittee shall keep the records including the following:
   (A) Dates and time intervals of all opacity observation periods;
   (B) Name, affiliation, and copy of current visible emission reading certification for each visible emission observer participating in the performance test; and
   (C) Copies of all visible emission observer opacity field data sheets.

ii. For each performance test conducted using Method 22 of appendix A-4 of 40 CFR Part 60, the Permittee shall keep the records including the following:
   (A) Dates and time intervals of all visible emissions observation periods;
   (B) Name and affiliation for each visible emission observer participating in the performance test;
   (C) Copies of all visible emission observer opacity field data sheets; and
   (D) Documentation of any adjustments made and the time the adjustments were completed to the affected facility operation by the Permittee to demonstrate compliance with the applicable monitoring requirements.

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

m. The Permittee shall maintain records of any occurrence and duration of any startup, shutdown, or malfunction in the operation the affected boiler **(ID No. PS-C)**. *[40 CFR 60.7(b)]*
The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524 if the records of startups, shutdowns, and malfunctions are not maintained.

o. All records required under Section 2.1 A.4.j through A.4.m shall be maintained by the Permittee for a period of two years following the date of such record. *[40 CFR 60.48c(i)]*
The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524 if the records are not maintained for the duration of 2 years.

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

p. The Permittee shall submit a construction notification of the date construction of the affected boiler **(ID No. PS-C)** is commenced, postmarked no later than 30 days after such date. *[40 CFR 60.7(a)(1)]*

q. The Permittee shall submit an initial notification to the Regional Supervisor within 15 days of actual startup of the affected boiler **(ID No. PS-C)**. The notification shall include:
   i. The actual date of initial startup; and,
   ii. The design heat input capacity of the boiler and identification of fuels to be combusted in the boiler.
   [40 CFR 60.48c(a), 40 CFR 60.7(a)(3)]

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

r. The Permittee shall submit a semiannual summary report postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of noncompliance from the requirements of this permit and excess emissions must be clearly identified. The summary report shall include the following information:
   i. Fuel supplier certification(s) for distillate fuel oil, as provided in Section 2.1.A.4.e of this permit; and
   ii. A certified statement signed by the Permittee that the records of fuel supplier certification(s) submitted represents all of the fuel fired at the affected boiler **(ID No. PS-C)** during the semiannual period.
   iii. Records from any subsequent performance tests conducted as required in Section 2.1 A.4.l, above.

5. 15A NCAC 02Q .0317: AVOIDANCE CONDITIONS
for 15A NCAC 02D .0530: PREVENTION OF SIGNIFICANT DETERIORATION

a. In order to avoid applicability of 15A NCAC 02D .0530(g) for major sources and major modifications, the affected boiler **(ID No. PS-B only)** shall discharge into the atmosphere less than the following, per consecutive 12-month period.

Pollutant	Emission Limitation (tons per year)
Nitrogen Oxide	40
Sulfur Dioxide	40

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

b. If emissions testing is required, the Permittee shall perform such testing in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 A.5.a, above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530.

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

c. The Permittee shall keep monthly records of fuel usage in a logbook (written or in electronic format), as follows:
   i. The total quantity (in million standard cubic feet) of natural gas fired at the affected boiler;
   ii. The total quantity (in 1,000 gallons) of No. 2 fuel oil fired at the affected boiler; and,
   iii. The fuel oil supplier certification for any fuel oil fired at the affected boiler **(ID No. PS-B)**, including the sulfur content of the fuel oil (in percent by weight).

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530 if records of the fuel usage and fuel oil sulfur contents are not created and retained as required above.

d. The Permittee shall calculate monthly and 12-month rolling NO_X emissions from the affected boiler **(ID No. PS-B)** within 30 days after the end of each calendar month. Calculations shall be recorded in a logbook (written or electronic format), according to the following formulas:
   i. Calculate NO_X emissions from the previous calendar month using the following equation:

$$E_{NOx} = 20 * Q_{fo2} + 100 * Q_{ng}$$

Where, E_{NOx} = NO_X emissions (pounds) during the previous calendar month;
Q_{fo2} = Quantity of fuel oil fired during the previous calendar month (1,000 gallons); and,

Q_{ng} = Quantity of natural gas fired during the previous calendar month (million standard cubic feet).

ii. Sum the NOx emissions from the affected boiler for the previous 12-month period to determine the 12-month rolling emission total.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530 if records of the monthly calculations listed above are not retained or if the 12-month rolling NO_X emission totals are greater than the NO_X emission limit provided in Section 2.1 A.5.a of this permit.

e. The Permittee shall calculate monthly and 12-month rolling SO_2 emissions from the affected boiler within 30 days after the end of each calendar month. Calculations shall be recorded in a logbook (written or electronic format), according to the following formulas:

i. Calculate SO_2 emissions from the previous calendar month using the following equation:

$$E_{SO_2} = 142 * S_{fo2} * Q_{fo2} + 0.6 * Q_{ng}$$

Where, E_{SO2} = SO_2 emissions (pounds) during the previous calendar month;
S_{fo2} = Sulfur content in the fuel oil (percent by weight).
Q_{fo2} = Quantity of fuel oil fired during the previous calendar month (1,000 gallons); and,
Q_{ng} = Quantity of natural gas fired during the previous calendar month (million standard cubic feet).

ii. Sum the SO_2 emissions from the affected boiler for the previous 12-month period to determine the 12-month rolling emission total.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530 if records of the monthly calculations listed above are not retained or if the 12-month rolling SO_2 emission totals are greater than the SO_2 emission limit provided in Section 2.1 A.5.a of this permit.

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

f. The Permittee shall submit a semi-annual summary report of monitoring and recordkeeping activities postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December, and July 30 of each calendar year for the preceding six-month period between January and June. The report shall contain the following:

i. The monthly NO_X and SO_2 emissions from the affected boiler for the previous 17 calendar months;
ii. The 12-month rolling NO_X and SO_2 emissions for each 12-month period ending during the reporting period; and,
iii. All instances of noncompliance from the requirements of this permit must be clearly identified.

~~**6. 15A NCAC 02D .1109: Case-by-Case MACT**~~

~~a. The initial compliance date for the emission limitations and associated monitoring, recordkeeping, and reporting requirements listed below is December 12, 2013 for each boiler **(ID Nos. PS-A, PS-B, and PS-C)**. These conditions need not be included on the annual compliance certification until after the initial compliance date. These limits apply except for periods of startup, shutdown, and malfunction. The Permittee shall follow the procedures in 15A NCAC 02D .0535 for any excess emissions that occur during periods of startup, shutdown, or malfunction.~~

~~b. The Permittee shall comply with this CAA §112(j) standard until May 19, 2019. The initial compliance date for the applicable CAA §112(d) standard for "National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters" is May 20, 2019. On and after May 20, 2019, the Permittee shall comply with Section 2.1 A.7 for boilers **(ID Nos. PS-A and PS-C)** and Section 2.1 A.8 for boiler **(ID No. PS-B)**.~~

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

~~c. If emissions testing is required, the Permittee shall perform such testing in accordance with General Condition JJ.~~

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

~~d. The Permittee shall perform an annual boiler inspection and maintenance on each boiler **(ID Nos. PS-A, PS-B, and PS-C)** as recommended by the manufacturer, or as a minimum, the inspection and maintenance requirement shall include the following:~~

~~i. Inspect the burner, and clean or replace any components of the burner as necessary;~~

~~ii. Inspect the flame pattern and make any adjustments to the burner necessary to optimize the flame pattern; and;~~

~~iii. Inspect the system controlling the air-to-fuel ratio and ensure that it is correctly calibrated and functioning properly.~~

~~The Permittee shall conduct at least one tune-up per calendar year to demonstrate compliance with this requirement. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1109 if the affected boilers are not inspected and maintained as required above.~~

~~e. The results of any required annual burner inspection and maintenance conducted on each boiler **(ID Nos. PS-A, PS-B, and PS-C)** shall be maintained in a logbook (written or electronic format) on site and made available to an authorized representative upon request. The logbook shall record the following:~~

~~i. The date of each recorded action;~~

~~ii. The results of each inspection; and,~~

~~iii. The results of any maintenance performed on the boilers.~~

~~The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1109 if these records are not maintained.~~

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

~~f. Notifications. The Permittee shall submit an initial notification according to 40 CFR 63.9(b)(4) and (5) not later than 15 days after the actual date of startup of boiler **(ID No. PS-C)**. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1109 if this initial notification is not submitted.~~

~~g. Semiannual Summary Report. The Permittee shall submit a summary report postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December, and July 30 of each calendar year for the preceding six-month period between January and June. The first summary report shall be required on January 30, 2014. The report shall include the following:~~

~~i. Company name and address;~~

~~ii. Statement by a responsible official with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report;~~

~~iii. Date of report and beginning and ending dates of the reporting period; and,~~

~~iv. Signed statement indicating that no new types of fuel were fired in the affected sources.~~

~~7.~~6. **15A NCAC 02D .1111: MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY**

Applicability

a. For the boilers **(ID Nos. PS-A, PS-B, and PS-C)**, the Permittee shall comply with all applicable provisions for the "unit designed to burn gas 1 subcategory," including the monitoring, recordkeeping, and reporting contained in Environmental Management Commission Standard 15A NCAC 02D .1111 "Maximum Achievable Control Technology" (MACT) as promulgated in 40 CFR 63, Subpart DDDDD . "National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters" and Subpart A "General Provisions."
[40 CFR 63.7485, 63.7490(d), 63.7499(l)]

b. In order for the boilers **(ID Nos. PS-A, PS-B, and PS-C)** to be considered in the "unit designed to burn gas 1 subcategory," the Permittee shall only burn liquid fuel for periodic testing of liquid fuel, maintenance, or operator training, not to exceed a combined total of 48 hours during any calendar year, and during periods of gas curtailment or gas supply interruptions of any duration. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the No. 2 fuel oil is burned in the boilers **(ID Nos. PS-A, PS-B, and PS-C)** for periodic testing of liquid fuel, maintenance or operator training for more than 48 hours during any calendar year or if No. 2 fuel oil is burned in the boilers **(ID Nos. PS-A, PS-B, and PS-C)** during any periods other than gas curtailment or gas supply interruption. [40 CFR 63.7575]

Definitions and Nomenclature

c. For the purpose of Section 2.1 7.A, the definitions and nomenclature contained in 40 CFR 63.7575 shall apply.

40 CFR Part 63 Subpart A - General Provisions

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

Compliance Date

~~e. The Permittee shall comply with the CAA §112(j) standards in Section 2.1 A.6 through May 19, 2019. [40 CFR 63.7495(a) and (b), 63.56(b)]~~

~~i.~~e. ~~On and after May 20, 2019, the Permittee shall comply with the~~ requirements of Section 2.1 A.~~7~~6 for the boilers **(ID Nos. PS-A and PS-B)**

~~ii.~~i. The Permittee shall comply with the requirements of this section for boiler **(ID No. PS-C)** ~~on May 20, 2019 or~~ upon startup~~, whichever is later~~.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the compliance dates are not met.

Notifications

f. As specified in 40 CFR 63.9(b)(4) and (5), ~~if the initial startup of~~for the boiler **(ID No. PS-C)** ~~is after May 20, 2019~~, the Permittee shall submit an Initial Notification not later than 15 days after the actual date of startup of the boiler. [40 CFR 63.7545(c)]
The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the Initial Notification is not submitted.

g. The Permittee shall submit a Notification of Compliance Status for the boilers **(ID Nos. ~~PS-A, PS-B, and~~ PS-C)**. The notification must be signed by a responsible official and postmarked before the close of business within 60 days of the ~~compliance date specified in Section 2.1 A.7.e, above~~start-up date of the boiler. The notification shall contain the following:
   i. A description of the boilers **(ID Nos. ~~PS-A, PS-B, and~~ PS-C)**, including a statement that the boilers ~~are~~ is in "the unit designed to burn gas 1 subcategory," the design heat input capacity of the boilers, and description of the fuel(s) burned.
   ii. The following certification(s) of compliance, as applicable:
      A. A signed certification that the facility completed the required initial tune-up for the boiler (ID No. PS-C) ~~all of the boilers~~ covered by 40 CFR Part 63, Subpart DDDDD ~~and at this site~~ according to the procedures Section 2.1 A.~~7~~6.j. below; and
      B. A signed certification that either the energy assessment performed according to Section 2.1 A.~~7~~6.n. below, and that the assessment is an accurate depiction of the facility at the time of the assessment, or that the maximum number of on-site technical hours specified in the definition of energy assessment applicable to the facility has been expended.

   [40 CFR 63.7545(e)(8) and 63.7530(e), and (f)]
   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the Notification of Compliance Status is not submitted.

h. The Permittee shall submit a notification of intent to fire an alternative fuel within 48 hours of the declaration of each period of natural gas curtailment or supply interruption. The notification must include the following information:
   i. Company name and address;
   ii. Identification of the affected boiler;
   iii. Reason the Permittee is unable to use natural gas or equivalent fuel, including the date when the natural gas curtailment was declared or the natural gas supply interruption began;
   iv. The type of alternative fuel the Permittee intends to use; and
   v. Dates when the alternative fuel use is expected to begin and end.

   [40 CFR 63.7545(f)]
   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the notification of intent to fire an alternative fuel is not submitted.

General Compliance Requirements

i. The Permittee shall comply with the work practice standards in Section 2.1 A.~~7~~6.j. below, at all times the boilers **(ID Nos. PS-A, PS-B, and PS-C)** are operating. [40 CFR 63.7500(f) and 63.7505(a)]

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

j. The Permittee shall conduct each tune-up of the boilers **(ID Nos. PS-A, PS-B, and PS-C)** as specified below. The Permittee shall conduct each boiler tune-up while burning the type of fuel that provided the majority of the heat input to the boiler of the 12 months prior to the tune-up.
   i As applicable, the Permittee shall inspect the burner, and clean or replace any components of the burner as necessary. The Permittee may perform the burner inspection at any time prior to the tune-up or delay the burner inspection until the next scheduled or unscheduled shutdown, but each burner must be inspected at least once every 72 months.
   ii. Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available;
   iii. Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly. The Permittee may delay the inspection until the next scheduled unit shutdown.
   iv. Optimize total emissions of carbon monoxide. This optimization should be consistent with the manufacturer's specifications, if available, and with any NO_X requirement to which the unit is subject.
   v. Measure the concentrations in the effluent stream of carbon monoxide in parts per million, by volume, and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). Measurements may be taken using a portable CO analyzer.
   vi. The oxygen level shall be set no lower than the oxygen concentration measured during the most recent tune-up. [40 CFR 63.7500(a), 63.7540(a)(10) and (12)]
   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if these work practice standards are not met.

k. The tune-ups for the boilers **(ID Nos. PS-A, PS-B, and PS-C)** shall be conducted according to the following schedule. **[**Table 3 of Subpart DDDDD**]**
   ~~i. The initial tune-up for the existing boilers **(ID Nos. PS-A and PS-B)** shall be conducted no later than May 20, 2019. [40 CFR 63.7510(e)]~~
   ~~ii.~~i. The initial tune-up for the new boiler **(ID No. PS-C)** shall be no later than 61 months after initial startup of the unit. [40 CFR 63.7510(g) and 63.7515(d)**]**
   ~~iii.~~ii. Subsequent tune-ups for each boiler **(ID Nos. PS-A, PS-B, and PS-C)** shall be conducted every 5 years and no more than 61 months after the previous tune-up. [40 CFR 63.7540(a)(12), 63.7515(d)**]**
   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the initial and annual tune-ups are not conducted as specified.

l. If the boilers **(ID Nos. PS-A, PS-B, and PS-C)** are not operating on the required date for a tune-up, the tune-up must be conducted within 30 calendar days of startup. [40 CFR 63.7515(g) and 63.7540(a)(13)]
   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the delayed tune-up is not conducted within 30 calendar days of startup.

m. At all times, the Permittee shall operate and maintain the boiler, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to DAQ that may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. [40 CFR 63.7500(a)(3)]
   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the boiler is not operated in a manner consistent with safety and good air pollution control practices for minimizing emissions.

~~n. To demonstrate initial compliance, the Permittee shall also conduct a one-time energy assessment for the existing boilers **(ID Nos. PS-A and PS-B)** performed by a qualified energy assessor. The energy assessment must be conducted no later than May 20, 2019. The energy assessment must include the following with extent of the evaluation for the following appropriate for the 32 on-site technical hours as defined in 40 CFR 63.7575. [40 CFR 63.7500(a)(1), Table 3]~~
   ~~i. A visual inspection of the boiler or process heater system.~~
   ~~ii. An evaluation of operating characteristics of the boiler or process heater systems, specifications of energy using systems, operating and maintenance procedures, and unusual operating constraints.~~
   ~~iii. An inventory of major energy use systems consuming energy from affected boilers and process heaters and which are under the control of the boiler/process heater owner/operator.~~

~~iv. A review of available architectural and engineering plans, facility operation and maintenance procedures and logs, and fuel usage.~~
~~v. A review of the facility's energy management program and provide recommendations for improvements consistent with the definition of energy management program, if identified.~~
~~vi. A list of cost-effective energy conservation measures that are within the facility's control.~~
~~vii. A list of the energy savings potential of the energy conservation measures identified.~~
~~viii. A comprehensive report detailing the ways to improve efficiency, the cost of specific improvements, benefits, and the time frame for recouping those investments.~~
~~ix. An energy assessment completed on or after January 1, 2008, that meets or is amended to meet the energy assessment requirements in Section 2.1 A.87.n(i) through A.7.n(viii), above, satisfies the energy assessment requirement. If the Permittee operates under an energy management program developed according to the ENERGY STAR guidelines for energy management or compatible with ISO 50001 for at least one year between January 1, 2008 and May 20, 2019, that includes the boilers **(ID Nos. PS-A and PS-B)** also satisfies the energy assessment requirement.~~

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

~~o.~~n. The Permittee shall keep the following records:
i. A copy of each notification and report submitted to comply with Section 2.1 A.~~76.~~, including all documentation supporting any Initial Notification or Notification of Compliance Status, or semiannual compliance report that has been submitted, according to the requirements in 40 CFR 63.10(b)(2)(xiv). [40 CFR 63.7555(a)(1)]
ii. A report, maintained on-site and submitted to DAQ if requested, containing the information in paragraphs (A) through (C) below [40 CFR 63.7540(a)(10)(vi)]:
(A) The concentrations of carbon monoxide in the effluent stream of each boiler **(ID Nos. PS-A, PS-B, and PS-C)** in parts per million by volume, and oxygen in volume percent, measured before and after the tune-ups of the boilers;
(B) A description of any corrective actions taken as a part of the tune-up; and
(C) The type and amount of fuel used over the 12 months prior to the tune-ups, but only if the boilers were physically and legally capable of using more than one type of fuel during that period. Units sharing a fuel meter may estimate the fuel use by each unit.
iii. The associated records for compliance with the work practice standards in Section 2.1 A.~~76.~~i through A.~~76.~~m, above, including the occurrence and duration of each malfunction of operation (i.e., process equipment) or the required air pollution control and monitoring equipment. [40 CFR 63.10(b)(2)]
iv. Records of the total hours per calendar year that alternative fuel is burned in the boilers **(ID Nos. PS-A, PS-B, and PS-C)** and the total hours per calendar year that the boilers operated during periods of gas curtailment or gas supply emergencies. [40 CFR 63.7555(h)]
The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if these records are not maintained.

~~p.~~o. The Permittee shall:
i. maintain records in a form suitable and readily available for expeditious review;
ii. keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record; and
iii. keep each record on site for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record. The Permittee can keep the records offsite for the remaining 3 years.
The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if records are not maintained as specified above. [40 CFR 63.7560 and 63.10(b)(1)]

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

~~q.~~p. The Permittee shall submit compliance reports to the DAQ every five years. The first report shall cover the period beginning on the compliance date specified in Section 2.1 A.~~76.~~e, above, and ending on December 31 within five years after the compliance date in Section 2.1 A.~~76.~~e, above. Subsequent reports shall cover the five-year periods from January 1 to December 31. The compliance reports shall be postmarked on or before January 31.
[40 CFR 63.7550(a), (b) and 63.10(a)(4), (5)]

~~r.~~q. The Permittee shall submit the ~~annual~~ compliance report via the CEDRI. (CEDRI can be accessed through the EPA's Central Data Exchange, CDX.) The Permittee shall use the appropriate electronic report in CEDRI 40 CFR Part 63, Subpart DDDDD. Instead of using the electronic report in CEDRI for this 40 CFR Part 63, Subpart DDDDD, the Permittee may submit an alternate electronic file consistent with the XML schema listed on the CEDRI Web site (http://www.epa.gov/ttn/chief/cedri/index.html), once the XML schema is available. If the reporting form specific to

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40 CFR Part 63, Subpart DDDDD is not available in CEDRI at the time that the report is due, the Permittee shall submit the report to DAQ. The Permittee shall begin submitting reports via CEDRI no later than 90 days after the form becomes available in CEDRI. [40 CFR 63.7550(h)(3)]

~~r.~~ The Permittee shall include the following information in the annual compliance report:

i. Company and facility name and address;
ii. Process unit information, emissions limitations, and operating parameter limitations;
iii. Date of report and beginning and ending dates of the reporting period;
iv. The date of the most recent tune-up for each boiler **(ID Nos. PS-A, PS-B, and PS-C)** required according to Section 2.1 A.~~7~~6.j. Include the date of the most recent burner inspection if it was not done as scheduled and was delayed until the next scheduled or unscheduled unit shutdown; and
v. If there are no periods of noncompliance from the requirements of the work practice requirements in Section 2.1 A.~~7~~6.j. above, a statement that there were no deviations from the work practice standards during the reporting period.

[40 CFR 63.7550(a) and (c)(1), (c)(5)(i) through (iii), (c)(5)(xiv), (c)(5)(xvii), and Table 9]

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~~s.~~ If the Permittee has a period of noncompliance with a work practice standard for periods of startup and shutdown during the reporting period, the compliance report must also contain the following information:

i. A description of the period of noncompliance and which work practice standard from which the Permittee was in noncompliance; and
ii. Information on the number, duration, and cause of periods of noncompliance (including unknown cause), as applicable, and the corrective action taken.

[40 CFR 63.7540(b), 63.7550(a) and (d) and Table 9]

B. FPS/IXM Process Area consisting of:

~~Primary Operating Scenario (POS)~~		~~Alternative Operating Scenario (AOS)~~	
~~The following emission units are controlled by one of two baffle plate scrubbers (ID Nos. NCD-Hdr1 or NCD-Hdr2)~~		**The following emission units are controlled by a thermal oxidizer (ID No. NCD-Q1) in series with a 4-stage scrubber (ID No. NCD-Q2)**	
~~NS-A~~	~~Hexafluoropropylene oxide (HFPO) Process~~	**NS-A**	**Hexafluoropropylene oxide (HFPO) Process**
~~NS-B~~	~~Vinyl Ethers North Process~~	**NS-B**	**Vinyl Ethers North Process**
~~NS-C~~	~~Vinyl Ethers South Process~~	**NS-C**	**Vinyl Ethers South Process**
~~NS-D-1~~	~~RSU Process (except SO_3 System)~~	**NS-D-1**	**RSU Process (except SO_3 System)**
~~NS-E~~	~~Liquid Waste Stabilization Process~~	**NS-E**	**Liquid Waste Stabilization Process**
~~NS-F~~	~~MMF Process~~	**NS-F**	**MMF Process**
		NS-G-1	**IXM Resins Process – except Fluorinator**
~~The following sources are not controlled in the baffle plate scrubbers (ID Nos. NCD-Hdr1 and NCD-Hdr2)~~		**NS-K**	**E-2 Process**
~~NS-G-1~~	~~IXM Resins Process – except Fluorinator~~	**NS-M**	**TFE/CO_2 Separation Process**
~~NS-K~~	~~E-2 Process~~	**NS-N**	**HFPO Product Container Decontamination Process**
~~NS-M~~	~~TFE/CO_2 Separation Process*~~	**NS-O**	**Vinyl Ethers North Product Container Decontamination Process**
~~NS-N~~	~~HFPO Product Container Decontamination Process*~~	**NS-P**	**Vinyl Ethers South Product Container Decontamination Process**
~~NS-O~~	~~Vinyl Ethers North Product Container Decontamination Process*~~		
~~NS-P~~	~~Vinyl Ethers South Product Container Decontamination Process*~~		

~~*These sources are routed through one of the baffle plate scrubbers (ID Nos. NCD-Hdr1 or NCD-Hdr2) but the scrubber does not control the non-acid fluoride VOC emissions from these sources (POS).~~

The following emission unit is controlled by a caustic scrubber (ID No. NCD G2) ~~(POS and AOS)~~:
IXM Resins Process – Fluorinator (ID No. NS-G-2)

The following emission units are controlled by a wet scrubber with a mist eliminator (ID No. NCD-D) ~~(POS and AOS)~~:
SO_3 System, including SO_3 Storage Tank, SO_3 Vaporizer, SO_3 Truck Unloading, and Reservoir Tank (ID No. NS-D-2)

The following emission units are controlled by carbon adsorbers ~~(AOS only)~~:
VE-North Indoor Fugitives (ID No. NS-B-2, Carbon Adsorber ID No. NCD-Q3);
VE-South Indoor Fugitives (ID No. NS-C-2, Carbon Adsorber ID No. NCD-Q4); and
Semiworks Polymerization Operation and Semiworks Laboratory Hood (ID Nos. SW-1 and SW-2, Carbon Adsorber ID No. SCD-SW1)

The following sources are not controlled ~~(POS and AOS)~~:
IXM Membrane Process (ID No. NS-H); and
IXM Membrane Coating (ID No. NS-I)

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
Particulate Matter	**Affected Sources: ID Nos. NS-I and NS-D-2** $E = 4.10 \times P^{0.67}$ for $P < 30$ tons/hour where: E = allowable emission rate in pounds per hour, and P = process weight rate in tons per hour	15A NCAC 02D .0515
Sulfur Dioxide	**Affected Source: ID No. NCD-Q1** 2.3 lb SO_2 per million Btu heat input	15A NCAC 02D .0516

Regulated Pollutant	Limits/Standards	Applicable Regulation
Visible Emissions	**Affected Sources: ID Nos. NS-I, NS-D-2, and NCD-Q2** 20% visible opacity emissions	15A NCAC 02D .0521
Odors	**State-enforceable only** See Section 2.2 B.5	15A NCAC 02D .1806
Toxic Air Pollutants	**State-enforceable only (all FPM/IXM process units)** Toxic air pollutant limits shall not be exceeded. See Sections 2.2 B.1 and 2.2 B.2	15A NCAC 02D .1100
Volatile Organic Compounds	**Affected Sources: ID No. NS-B** VOC emissions < 68.9 tons/12-month **Affected Sources: ID No. NS-G-1 and G-2** VOC emissions < 40 tons/12-month **Affected Sources: ID No. NS-A** VOC emissions < 85.3 tons/12-month **Affected Sources: ID No. NS-N** VOC emissions < 40 tons/12-month	15A NCAC 02Q .0317 (PSD Avoidance)
Volatile Organic Compounds	**Affected Sources: ID No. NS-I** Reporting for Projected Actual VOC Emissions	15A NCAC 02D .0530(u)
Hazardous Air Pollutants	**Affected Sources: ID Nos. NS-A, NS-B, NS-B-2, NS-C, NS-C-2, NS- G-1, and NS-G-2** LDAR, wastewater, and heat exchanger requirements.	15A NCAC 02D .1111 (40 CFR 63, Subpart FFFF)
All PFAS[1] (including GenX Compounds)	**State-enforceable only** **Affected Sources: ID Nos. NS-A, NS-B, NS-C, NS-D-1, NS-E, NS-F, NS-G-1, NS-K, NS-M, NS-N, NS-O, and NS-P** 99.99 percent emission reduction of all PFAS (including GenX Compounds)	15A NCAC 02Q .0519 Consent Order[2]
GenX Compounds[3]	**State-enforceable only** **Affected Sources: All FPM/IXM process area sources** See Section 2.2 D.1	15A NCAC 02Q .0519 Consent Order

~~1. 15A NCAC 02Q .0508(j): ALTERNATIVE OPERATING SCENARIOS~~

~~The Permittee, contemporaneously with making a change from one alternative operating scenario to another, shall record in a logbook (written or electronic format) the scenario under which it is operating. [15A NCAC 02Q .0508(j)]~~

~~a. The Primary Operating Scenario (POS) is defined as follows:~~

~~i. The HFPO, Vinyl Ethers North, Vinyl Ethers South, RSU, FPS Liquid Waste Stabilization, and MMF Processes (ID Nos. NS-A, NS-B, NS-C, NS-D-1, NS-E, and NS-F) controlled by one of two baffle-plate scrubbers (ID Nos. NCD-Hdr1 and NCD-Hdr2);~~

~~ii. The TFE-CO2 Separation, HFPO Container Decontamination, VEN Container Decontamination, and VES Container Decontamination Processes (ID Nos. NS-M, NS-N, NS-O, and NS-P) are routed to the baffle-plate scrubbers (but the emission reduction is insignificant); and~~

~~iii. The IXM Resins Process – except Fluorinator and E-2 Process (ID Nos. NS-G-1 and NS-K) are uncontrolled.~~

~~b. The Alternative Operating Scenario (AOS) is defined as the HFPO Process, Vinyl Ethers North Process, Vinyl Ethers South Process, RSU Process, FPS Liquid Waste Stabilization Process, MMF Process, IXM Resins Process – except Fluorinator, E-2 Process, TFE-CO_2 Separation Process, HFPO Product Container Decontamination Process, VEN Product Decontamination Process, and VES Product Container Decontamination Process (ID Nos. NS-A, NS-~~

[1] PFAS means per- and polyfluoroalkyl substances.
[2] "Consent Order" means the Consent Order entered on February 25, 2019, in State of North Carolina, ex rel., Michael S. Regan, Secretary, North Carolina Department of Environmental Quality v. The Chemours Company FC, LLC, 17 CVS 580 (Bladen County).
[3] "GenX Compounds" means HFPO Dimer Acid, also known as C3 Dimer Acid (CAS No. 13252-13-6); HFPO Dimer Acid Fluoride, also known as C3 Dimer Acid Fluoride (CAS No. 2062-98-8); and HFPO Dimer Acid Ammonium Salt, also known as C3 Dimer Acid Ammonium Salt (CAS No. 62037-80-3).

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~~B, NS-C, NS-D-1, NS-E, NS-F, NS-G-1, NS-K, NS-M, NS-N, NS-O, and NS-P) are controlled by the Thermal Oxidizer (ID Nos. NCD-Q1) in series with the 4-Stage Scrubber (ID No. NCD-Q2).~~

~~Under both the POS and AOS, the The IXM Resins Process – Fluorinator (ID No. NS-G-2) is controlled by a caustic scrubber (ID No. NCD-G2) and the IXM Membrane Process and IXM Membrane Coating. (ID No. NS-H and NS-I) are uncontrolled.~~

~~c. Under the AOS, the VE-North Indoor Fugitives (ID No. NS-B-2) are controlled by a carbon adsorber (ID No. NCD-Q3). VE-South Indoor Fugitives (ID No. NS-C-2) are controlled by a carbon adsorber (ID No. NCD-Q4), and Semiworks Polymerization Operation (ID No. SW-1) and Semiworks Laboratory Hood (ID No. SW-2) are controlled by a carbon adsorber (ID No. SCD-SW1).~~

~~d. The Permittee shall permanently switch to the AOS no later than December 31, 2019. Once the Permittee begins operation under the AOS, they shall no longer operate under the POS. The Permittee shall submit a notification to DAQ within 10 days of permanently switching to the AOS.~~

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~~2.~~1. 15A NCAC 02D .0515: PARTICULATES FROM MISCELLANEOUS INDUSTRIAL PROCESSES

a. Emissions of particulate matter from the membrane coating process **(ID No. NS-I)** and SO_3 System **(ID No. NS-D-2)** 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 B~~.~~2.1.a, above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515.

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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 (or the formula contained in 15A NCAC 02D .0515) can be derived, and shall make these records available to a DAQ authorized representative upon request. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515 if the production records are not maintained or the types of materials and finishes are not monitored.

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

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

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~~3.~~2. 15A NCAC 02D .0516: SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES

a. ~~AOS:~~ Emissions of sulfur dioxide from the Thermal Oxidizer **(ID No. NCD-Q1)** shall not exceed 2.3 pounds per million Btu heat input. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard.

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

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 B~~.~~2.2.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0516.

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

c. No monitoring/recordkeeping/reporting is required for sulfur dioxide emissions from the firing of natural gas in the Thermal Oxidizer **(ID No. NCD-Q1).**

~~4.~~3. **15A NCAC 02D .0521: CONTROL OF VISIBLE EMISSIONS**

a. Visible emissions from the membrane coating process **(ID No. NS-1)**, the SO_3 System **(ID No. NS-D-2)**, and the outlet of the 4-Stage Scrubber **(ID No. NCD-Q2)** 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.~~4~~3.a, above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521.

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

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

~~5.~~4. **15A NCAC 02Q .0317: AVOIDANCE CONDITIONS**
for 15A NCAC 02D .0530: PREVENTION OF SIGNIFICANT DETERIORATION

a. In order to avoid applicability of 15A NCAC 02D .0530(g) for major sources and major modifications, the Vinyl Ethers North process **(ID No. NS-B)** shall discharge into the atmosphere less than 68.9 tons of VOCs per consecutive 12-month period.

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

b. If emissions testing is required, the Permittee shall perform such testing in accordance with General Condition JJ. If the results of this test indicate annual emission rates in exceedance of the limit given in Section 2.1 B.~~5~~4.a, above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530.

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

c. To demonstrate compliance with the limit provided in Section 2.1 B.~~5~~4.a, above, within 30 days of the end of each calendar month the Permittee shall create and retain production records and estimate associated VOC emissions for the previous calendar month, as follows:

i. Determine the process vent mass flow rates of non-acid fluoride VOC (Q_{nAF}) and acid fluoride VOC (Q_{AF}) prior to the control device during the previous calendar month (in lb/month);

ii. Calculate the VOC emissions (E_V) from the process vents during the previous calendar month (in lb/month) using ~~one of~~ the following equations:

~~(A) POS: Use the following equation, considering the 99.1 percent removal efficiency of the baffle plate scrubber (ID Nos. NCD-Hdr1 and NCD-Hdr2):~~

~~(B) AOS: Use the following equation, considering the 99.99 percent control efficiency of the Thermal Oxidizer and 4-Stage Scrubber System (ID Nos. NCD-Q1 and NCD-Q2):~~

$$E_V = 0.0001\ x\ (Q_{AF} + Q_{AF})$$

iii. Record the total solvents used (M) in the affected facility during the previous calendar month (in lb/month);

iv. Record the total solvent waste generation (W) for the affected facility during the previous calendar month (in lb/month);

v. Calculate the solvent VOC emissions (E_S) from the affected facility during the previous calendar month (in lb/month) using the following equation:

$$Es = M - W$$

vi. Determine the VOC emissions from maintenance emissions (E_M) during the previous calendar month (in lb/month).

vii. Calculate the VOC emissions from fugitive emissions (E_F) using accepted practices during the previous calendar month (in lb/month).

viii. Record VOC emissions from any accidental releases (E_A) during the previous calendar month (in lb/month).

ix. Calculate the total process VOC emissions (E) using the following equation (in ton/month):

$$E = (E_V + E_S + E_M + E_F + E_A)/(2{,}000\ lb/ton)$$

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x. Calculate the 12-month rolling VOC emissions from the affected facility by summing the monthly VOC emissions (E), as calculated in Section 2.1 B.~~5~~4.c.ix, above, for the previous consecutive 12 months.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530 if the above records are not created and retained, or if the 12-month rolling VOC emission rate calculated in Section 2.1 B.~~5~~4.c.x, above, exceeds the limit in Section 2.1 B.~~5~~4.a of this permit.

d. Required records shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530 if the records are not maintained in a logbook on-site and are not available upon request.

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

e. The Permittee shall submit a semi-annual summary report of monitoring and recordkeeping activities specified in Section 2.1 B.~~5~~4.c, and d, above, postmarked on or before January 30 of each calendar year for the preceding six- month period between July and December, and July 30 of each calendar year for the preceding six-month period between January and June. The report shall contain the following:
   i. The monthly VOC emissions from the affected facility for the previous 17 calendar months;
   ii. The 12-month rolling VOC emissions for each 12-month period ending during the reporting period; and,
   iii. All instances of noncompliance from the requirements of this permit must be clearly identified.

~~6.~~5. 15A NCAC 02Q .0317: AVOIDANCE CONDITIONS for 15A NCAC 02D .0530: PREVENTION OF SIGNIFICANT DETERIORATION

a. In order to avoid applicability of 15A NCAC 02D .0530(g) for major sources and major modifications, the IXM Resins Process (except Fluorinator) and the IXM Resins Process Fluorinator **(ID Nos. NS-G-1 and NS-G-2)** shall discharge into the atmosphere less than 40 tons of VOCs per consecutive 12-month period.

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

b. If emissions testing is required, the Permittee shall perform such testing in accordance with General Condition JJ. If the results of this test indicate annual emission rates in exceedance of the limit given in Section 2.1 B.~~6~~5.a, above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530.

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

c. To demonstrate compliance with the limit provided in Section 2.1 B.6.a, within 30 days of the end of each calendar month the Permittee shall create and retain production records and estimate associated VOC emissions for the previous calendar month, as follows:
   i. Record the total raw materials fed (M) to the affected facility during the previous calendar month (in kg/month);
   ii. Record the total transformed materials collected (P) for the affected facility during the previous calendar month (in kg/month);
   iii. Record the total untransformed materials collected (W) for the affected facility during the previous calendar month (in kg/month);
   iv. Determine the VOC emissions from the filling of storage tanks (S) for the affected facility during the previous calendar month (in kg/month);
   v. Calculate the VOC emissions (E) from the affected facility during the previous calendar month (in ton/month) using the following equations:
   ~~(A) POS: Calculate VOC emissions:~~

~~$E = (M - P - W + S) * \left(2.2\ {}^{lb}/_{kg}\right) / (2{,}000\ {}^{lb}/_{ton})$~~

~~(B) AOS: Calculate VOC emissions including the Thermal Oxidizer and 4 Stage Scrubber System (ID Nos. NCD-Q1 and NCD-Q2) control efficiency of 99.99 percent:~~

~~*E= (1-0.9999)*(M-P-W+S)*(2.2 lb/kg)/(2,000 lb/ton)*~~

   vi. Calculate the 12-month rolling VOC emissions from the affected facility by summing the monthly VOC emissions (E), as calculated in Section 2.1 B.~~6~~5.c.iv, above, for the previous consecutive 12-months.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530 if the above records are not created and retained, or if the 12-month rolling VOC emission rate calculated in Section 2.1 B.~~6~~5.c.v, above, exceeds the limit in Section 2.1 B.~~6~~5.a of this permit.

d. Required records shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530 if the records are not maintained in a logbook on-site and are not available upon request.

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

e. The Permittee shall submit a semi-annual summary report of monitoring and recordkeeping activities specified in Section 2.1 B.~~6~~5.c and B.~~6~~5.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. The report shall contain the following:
   i. The monthly VOC emissions from the affected facility for the previous 17 calendar months;
   ii. The 12-month rolling VOC emissions for each 12-month period ending during the reporting period; and,
   iii. All instances of noncompliance from the requirements of this permit must be clearly identified.

~~7.~~6. 15A NCAC 02Q .0317: AVOIDANCE CONDITIONS
for 15A NCAC 02D .0530: PREVENTION OF SIGNIFICANT DETERIORATION

a. In order to avoid applicability of 15A NCAC 02D .0530(g) for major sources and major modifications, the HFPO process **(ID No. NS-A)** shall discharge into the atmosphere less than 85.3 tons of VOCs per consecutive 12-month period.

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

b. If emissions testing is required, the Permittee shall perform such testing in accordance with General Condition JJ. If the results of this test indicate annual emission rates in exceedance of the limit given in Section 2.1 B.~~7~~6.a, above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530.

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

c. To demonstrate compliance with the limit provided in Section 2.1 B.~~7~~6.a, above, within 30 days of the end of each calendar month the Permittee shall create and retain production records and estimate associated VOC emissions for the previous calendar month, as follows:
   i. Record the total raw material HFP consumed (M_{HFP}) in the affected facility during the previous calendar month;
   ii. Record the average vent flow rate and composition from the AF column (Q_{AC}) and Stripper columns (Q_{SC}) during the previous calendar month;
   iii. Determine process VOC emissions (EP, in lb/month) using a combination of ratios of vent rates (Q_{AC} and Q_{SC}) to HFP consumption (M_{HFP}) from the process flowsheet and actual vent data, determine the process VOC emissions (E_P, in lb/month) from the AF column (E_{AC}), stripper column (E_{SC}), solvent recycle tank (E_{SRT}), solvent reclamation converters (E_{SRC}), and routine decontamination of HFP unloading system (E_{DC}) using the following equation and the control efficiencies specified in the following paragraphs:

$$E_p = E_{AC} + E_{SC} + E_{SRT} + E_{DC}$$

~~(A) POS: Using the baffle-plate scrubber **(ID No. NCD-Hdr1 or NCD-Hdr2)** acid fluoride VOC control efficiency of 99.1 percent; and~~
~~(B)~~(A) ~~AOS:~~ Using a thermal oxidizer and 4-stage scrubber **(ID Nos. NCD-Q1 and NCD-Q2)** total VOC control efficiency of 99.99 percent.

   iv. Calculate the VOC emissions (in lb/month) through ~~the one of~~ the control devices as specified below from maintenance activity (E_M) based on vessel volumes and vapor density for each occurrence of this activity during the previous calendar month for:
   ~~(A) POS: the baffle-plate scrubber **(ID No. NCD-Hdr1 or NCD-Hdr2)** using an acid fluoride VOC control efficiency of 99.1 percent; or~~
   ~~(B)~~ ~~AOS:~~ the thermal oxidizer and 4-stage scrubber **(ID Nos. NCD-Q1 and NCD-Q2)** using a total VOC control efficiency of 99.99 percent.
   v. Calculate the VOC emissions (in lb/month) from fugitive emissions (E_F) using accepted practices during the previous calendar month.
   vi. Record VOC emissions (in lb/month) from any accidental releases (E_A) during the previous calendar month.
   vii. Calculate the VOC emissions (E) from the affected facility during the previous calendar month (in ton/month) using the following equation:

$$E = (E_P + E_M + E_F + E_A)/(2{,}000 \text{ lb/ton})$$

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viii. Calculate the 12-month rolling VOC emissions (in ton/month) from the affected facility by summing the monthly VOC emissions (E), as calculated in 2.1 C.~~7~~6.c.vii, above, for the previous consecutive 12-months.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530 if the above records are not created and retained, or if the 12-month rolling VOC emission rate calculated in Section 2.1 B.~~7~~6.c.viii, above, exceeds the limit in Section 2.1 B.~~7~~6.a of this permit.

d. Required records shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530 if the records are not maintained in a logbook on-site and are not available upon request.

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

e. The Permittee shall submit a semi-annual summary report of monitoring and recordkeeping activities specified in Section 2.1 B.~~7~~6.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. The report shall contain the following:
   i. The monthly VOC emissions from the affected facility for the previous 17 calendar months;
   ii. The 12-month rolling VOC emissions for each 12-month period ending during the reporting period; and,
   iii. All instances of noncompliance from the requirements of this permit must be clearly identified.

~~8~~7. 15A NCAC 02Q .0317: AVOIDANCE CONDITIONS for 15A NCAC 02D .0530: PREVENTION OF SIGNIFICANT DETERIORATION

a. In order to avoid applicability of 15A NCAC 02D .0530(g) for major sources and major modifications, the HFPO Product Container Decontamination Process **(ID No. NS-N)** shall discharge into the atmosphere less than 40.0 tons of VOCs per consecutive 12-month period.

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

b. If emissions testing is required, the Permittee shall perform such testing in accordance with General Condition JJ. If the results of this test indicate annual emission rates in exceedance of the limit given in Section 2.1 B.~~8~~7.a, above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530.

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

c. To demonstrate compliance with the limit provided in Section 2.1 B.~~8~~7.a, above, within 30 days of the end of each calendar month the Permittee shall create and retain records and estimate associated VOC emissions for the previous calendar month, as follows:
   i. Create a record of each container received at the facility including:
      (A) The date the container was decontaminated; and,
      (B) The total mass of VOC released from the container (in lb).
   ii. Calculate the VOC emissions from the process during the previous calendar month (in lb/month) by:
      (A) Summing the quantity of VOC released from each container decontaminated during the previous calendar month; and
      (B) ~~AOS:~~ Using a total VOC control efficiency of 99.99 percent associated with the thermal oxidizer and 4-stage scrubber system **(ID No. NCD-Q1 and NCD-Q2)**.
   iii. Calculate the VOC emissions from the process during the previous consecutive 12-month period (in tons/12-months) by summing the quantity of VOC released for the previous twelve (12) calendar months.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530 if the above records are not created and retained, or if the 12-month rolling VOC emission rate calculated above exceeds the limit in Section 2.1 B.~~8~~7.a of this permit.

d. Required records shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530 if the records are not maintained in a logbook on-site and are not available upon request.

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

e. The Permittee shall submit a semi-annual summary report of monitoring and recordkeeping activities specified in Section 2.1 B.~~8~~7.c and B.~~8~~7.d, above, postmarked on or before January 30 of each calendar year for the preceding six- month period between July and December, and July 30 of each calendar year for the preceding six-month period between January and June. The report shall contain the following:
   i. The monthly VOC emissions from the affected facility for the previous 17 calendar months;
   ii. The 12-month rolling VOC emissions for each 12-month period ending during the reporting period; and,
   iii. All instances of noncompliance from the requirements of this permit must be clearly identified.

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~~9.~~8. 15A NCAC 02D .0530(u): USE OF PROJECTED ACTUAL EMISSIONS TO AVOID APPLICABILITY OF REQUIREMENTS OF PSD

a. The Permittee has used projected actual emissions to avoid applicability of prevention of significant deterioration requirements pursuant to application 0900009.16A for the Spray Coating Throughput Increase Project, consisting of an expansion in the capacity of the spray coating process within the IXM Membrane Coating Process **(ID No. NS-I)**. In order to verify the assumptions used in the projected actual emissions calculations, the Permittee shall comply with the requirements in Section 2.1 B.~~9~~8.b, below.

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Monitoring/Recordkeeping/Reporting [15A NCAC 02D .0530(u) and 02Q .0308]

b. The Permittee shall perform the following:
   i. Upon commencement of regular operation of the modified unit, the Permittee shall maintain records ofannual VOC emissions from the IXM Membrane Coating Process (ID No. NS-I) in tons per year, on a calendar year basis related to the Spray Coating Throughput Increase Project. The Permittee shall calculate these annual emissions for 10 years following startup of regular operations of the modified unit.
   ii. The Permittee shall submit a report to the director within 60 days after the end of each calendar year during which these records must be generated. The report shall contain the items listed in 40 CFR 51.166(r)(6)(v)(a) through (c).
   iii. The Permittee shall make the information documented and maintained under this condition available tothe Director or the general public pursuant to the requirements in 40 CFR 70.4(b)(3)(viii).
   iv. The Permittee shall provide a comparison of the reported actual emissions (post-construction emissions) for each of the ten calendar years to the projected actual emissions (pre-construction projection) as includedbelow:

Pollutant	Projected Actual Emissions* (tons per year)
VOC	67.27

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

~~10.~~9. 15A NCAC 02D .1111: MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY (MACT), 40 CFR 63, Subpart FFFF: NESHAP for Miscellaneous Organic Chemical Manufacturing (MON)

a. For each miscellaneous organic chemical manufacturing process unit, MCPU, **(ID Nos. NS-A, NS-B, NS-B-2, NS-C, NS-C-2, NS-G-1, and NS-G-2)**, the Permittee shall comply with all applicable provisions, including the notification, testing, recordkeeping, and monitoring requirements contained in Environmental Management Commission Standard 15A NCAC 02D .1111, "Maximum Achievable Control Technology" as promulgated in 40 CFR 63, Subpart FFFF, including Subpart A, "General Provisions".

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

b. Opening a safety device, as defined in 40 CFR 63.2550, is allowed at any time conditions require it to avoidunsafe conditions. *[40 CFR 63.2450(p)]*

Equipment Identification & Special Designations [40 CFR 63.2480(a), 40 CFR 63.1022]

c. The Permittee shall identify each pump, compressor, agitator, pressure relief device, sampling connection system, open-ended valve or line, valve, connector, and instrumentation system in organic HAP service within each MCPU **(ID Nos. NS-A, NS-B, NS-B-2, NS-C, NS-C-2, NS-G-1, and NS-G-2)**. Identification of the equipment does not require physical tagging of the equipment. For example, the equipment may be identified on a plant site plan, in log entries, by designation of process unit or affected facility boundaries by some form of weatherproof identification, or by other appropriate methods.

i. The following additional equipment identification requirements also apply:
(A) Connectors need not be individually identified if all affected connectors in a designated area or length of pipe are identified as a group, and the number of connectors subject is indicated.
(B) Identify pressure relief devices equipped with upstream rupture disks, as described in Section 2.1 B.~~109~~.y, below; and,
(C) The identity, either by list, location (area or group), or other method, of equipment in organic HAP service less than 300 hours per calendar year.

ii. The Permittee shall identify unsafe-to-monitor valves, pumps, connectors or agitators. Unsafe-to-monitor valves, pumps, connectors or agitators are equipment for which the Permittee has determined that monitoring personnel would be exposed to an immediate danger as a consequence of complying with the monitoring requirements for valves, pumps, connectors or agitators in this section. The Permittee shall provide an explanation why the equipment is unsafe-to-monitor and record the planned schedule for monitoring this equipment.

iii. The Permittee shall identify difficult-to-monitor valves or agitators. Difficult-to-monitor valves or agitators are those that cannot be monitored without elevating the monitoring personnel more than 7 feet above a support surface or is not accessible in a safe manner when it is in organic HAP service. The Permittee shall provide an explanation why the equipment is difficult-to-monitor, and record the planned schedule for monitoring this equipment.

iv. The Permittee shall identify unsafe-to-repair connectors. Unsafe-to-repair connectors are those that cannot be repaired if the Permittee determines that repair personnel would be exposed to an immediate danger as a consequence of complying with the repair requirements in Section 2.1 B.~~109~~.bb through B.~~109~~.cc, below, and if the connector will be repaired before the end of the next process MCPU shutdown. The Permittee shall keep a record of the explanation why the connector is unsafe-to-repair.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if affected equipment is not identified as required above.

d. If the Permittee designates equipment as unsafe-to-monitor or difficult to monitor, the Permittee shall create written plans as specified below. The Permittee shall retain the written plans on-site, and make them available to DAQ for review upon request. [*40 CFR 63.1022(c)(4)*]

i. Unsafe-to-monitor. The Permittee shall create and implement a written plan that requires monitoring of the equipment as frequently as practical during safe-to-monitor times, but not more frequently than the periodic monitoring schedule otherwise applicable, and repair procedures that are consistent with the requirements of this permit.

ii. Difficult-to-monitor. The Permittee shall create and implement a written plan that requires monitoring of the equipment at least once per calendar year and repair procedures that are consistent with the requirements of this permit.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the required plans are not created, implemented, and retained.

Equipment Leak Standards & Inspections [40 CFR 63.2480(a), 40 CFR 63, Subpart UU]
Standards for Valves in Light Liquid, Gas and Vapor Service [40 CFR 63.1025]

e. The instrument reading that defines a leaking valve is **500 ppm or greater**.

f. *Instrument inspection.* The Permittee shall monitor valves in each MCPU **(ID Nos. NS-A, NS-B, NS-B-2, NS-C, NS-C-2, NS-G-1, and NS-G-2)** for leaks using the instrument monitoring methods described in 40 CFR 63.1023(b) and (c) at the frequency specified below:

i. If at least the greater of 2 valves or 2% of the valves in a process unit leak, as calculated according to Section 2.1 B.10.g, below, the Permittee shall monitor each valve once per month.

ii. At each MCPU with less than the greater of 2 leaking valves or 2 percent leaking valves, monitor each valve once each calendar quarter, except as provided in iii., iv., or, v. below.

iii. At each MCPU with less than 1 percent leaking valves, the Permittee may elect to monitor each valve once every two quarters.

iv. At each MCPU with less than 0.5 percent leaking valves, the Permittee may elect to monitor each valve once every four quarters.

v. At each MCPU with less than 0.25 percent leaking valves, the Permittee may elect to monitor each valve once every 2 years.

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The Permittee may choose to subdivide the valves in the MCPUs or groups of process units and apply the provisions above to each subgroup. If the Permittee elects to subdivide the valves, it shall comply with the provisions of 40 CFR 63.1025(b)(4). The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if it does not meet the instrument inspection requirements listed above.

g. The percentage of leaking valves, used to determine the required monitoring frequency in Section 2.1 B.~~109~~.f, above, shall be calculated according to the procedures in 40 CFR 63.1025(c). The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the percentage of leaking valves is not calculated as required. *[40 CFR 63.1025(c)]*

h. The Permittee shall create and retain a record of the monitoring schedule for each process unit. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if it does not keep this record. [*40 CFR 63. 1025(b)(3)(vi), 40 CFR 63. 1038(c)(1)(i)*]

i. If a leak is identified:
   i. It shall be repaired as provided in the repair provisions of Section 2.1 B.~~109~~.bb through B.~~109~~.cc.
   ii. After a leak has been repaired, the valve shall be monitored at least once within the first 3 months after its repair. This requirement is in addition to the monitoring required to satisfy the definition of repaired and first attempt at repair. The required periodic monitoring in Section 2.1 B.~~109~~.f, above, may be used if it satisfies the timing requirement of this condition. If a leak is detected by this follow-up monitoring, follow the provisions below to determine whether that valve must be counted as a leaking valve:
      (A) If the periodic monitoring was used to satisfy the follow-up monitoring requirement, then the valve shall be counted as a leaking valve.
      (B) If other monitoring is used satisfy the follow-up monitoring requirements, then the valve shall be counted as a leaking valve unless it is repaired and shown by periodic monitoring not to be leaking.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if it does not meet the requirements listed above.

j. *Unsafe-to-monitor valves.* Any valve that is designated unsafe-to-monitor according to Section 2.1 B.~~109~~.c, above, is exempt from the monitoring and repair requirements specified in Section 2.1 B.~~109~~.f and B.~~109~~.i, above, and the Permittee shall monitor the valve according to the written plan in Section 2.1 B.~~109~~.d. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if it does not meet these requirements.

k. *Difficult-to-monitor valves.* Any valve that is designated as difficult-to-monitor according to Section 2.1 B.~~109~~.c, above, is exempt from the monitoring requirements of Section 2.1 B.~~109~~.f and B.~~109~~.i, above, and the Permittee shall monitor the valve according to the written plan in Section 2.1 B.~~109~~.d. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if it does not meet these requirements.

Standards for Pumps in Light Liquid Service [40 CFR 63.1026]

l. The instrument reading that defines a leaking pump is 1,000 ppm or greater. Repair is not required unless an instrument reading of 2,000 ppm or greater is detected. *[40 CFR 63.1026(b)(2)(iii) and (b)(3)]*

m. *Visual inspection.* Each pump within the MCPUs **(ID Nos. NS-A, NS-B, NS-B-2, NS-C, NS-C-2, NS-G-1, and NS-G-2)** shall be checked by visual inspection each calendar week for indications of liquids dripping from the pump seal. The visual inspection shall be consistent with the methods described in 40 CFR 63.1023(d). The Permittee shall document that the inspection was conducted and the date of the inspection. If there are indications of liquids dripping from the pump seal at the time of the weekly inspection, follow either of the following procedures:
   i. Conduct instrument monitoring of the pump using the methods described in 40 CFR 63.1023(b) and (c). If the instrument reading is 1,000 ppm or greater, a leak is indicated and the Permittee shall repair the leak as provided in Section 2.1 B.~~109~~.bb through B.~~109~~.cc, below, unless the reading is less than 2,000 ppm; or
   ii. Eliminate the visual indications of liquids dripping.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if it does not monitor and repair pumps as listed above. [*40 CFR 63.1026(b)(4), 40 CFR 63.1038(c)(2)(i)*]

n. *Instrument inspection.* The Permittee shall monitor affected pumps once per calendar month using the instrument monitoring methods described in 40 CFR 63.1023(b) and (c). Leaks shall be repaired as provided in Section 2.1

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B.~~109~~.bb. through B.~~109~~.cc. below. The Permittee shall calculate the percent leaking pumps using the procedures specified in 40 CFR 63.1026(c).

i. If, when calculated on a 6-month rolling average, at least the greater of either 10 percent of the pumps in a MCPU or three pumps in a MCPU leak, the Permittee shall implement a quality improvement program for pumps that meets the requirements in 40 CFR 63.1035.
ii. The number of pumps at a MCPU shall be the sum of all the pumps in organic HAP service, except that pumps found leaking in a continuous process unit within one month after startup of the pump shall not count in the percent leaking pumps calculation for that one monitoring period only.
iii. The Permittee shall comply with the quality improvement plan until the number of leaking pumps is less than the greater of either 10 percent of the pumps or three pumps, calculated on a 6-month rolling average.

[40 CFR 63.1026(b)(1), (c) and (d)]

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if it does not monitor and repair pumps as required above.

o. *Unsafe-to-monitor pumps.* Any pump that is designated as unsafe-to-monitor according to Section 2.1 B.~~109~~.c. above, is exempt from the inspection requirements provided in Section 2.1 B.~~109~~.m and B.~~109~~.n, above, and the Permittee shall monitor and inspect the pump in accordance with the written plan in Section 2.1 B.~~109~~.d. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if it does not meet these requirements. *[40 CFR 63.1026(e)(6)]*

Standards for Connectors in Gas and Vapor and Light Liquid Service [40 CFR 63.2480(b)(4), 63.1029]

p. The Permittee shall comply with the requirements of 40 CFR 63.1027 for connectors in gas/vapor and light liquid service. The Permittee may elect to comply with the requirements in Section 2.1 B.~~109~~.q through B.~~109~~.t. below, for connectors in heavy liquid service. [*40 CFR 63.2480(b)(4)*]

q. The Permittee shall monitor connectors in each MCPU **(ID Nos. NS-A, NS-B, NS-B-2, NS-C, NS-C-2, NS-G-1, and NS-G-2)** within 5 calendar days for leaks using the instrument monitoring methods described in 40 CFR 63.1023(b) and (c), as applicable, if evidence of a potential leak to the atmosphere is found by visual, audible, olfactory, or any other detection method, unless the potential leak is repaired according to Section 2.1 B.~~109~~.s. below. *[40 CFR 63.1029(b)(1)]* The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if it does not monitor the connectors as required above.

r. If an instrument reading of 500 parts per million or greater is measured as required in Section 2.1 B.~~109~~.q. above, a leak is detected. The Permittee shall repair the leak according to Section 2.1 B.~~109~~.bb through B.~~109~~.cc. below. [*40 CFR 63.1029(b)(2)*] The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the leak is not repaired as required.

s. For equipment identified in Section 2.1 B.~~109~~.q. above, that is not monitored by the method specified in 40 CFR 63.1023(b) and (c), as applicable, a leak is considered repaired one of the following conditions is met *[40 CFR 63.1029(c)]*:

i. the visual, audible, olfactory, or other indication of a leak to the atmosphere has been eliminated; or
ii. no bubbles are observed at potential leak sites during a leak check using soap solution; or
iii. the system will hold a test pressure.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if leaks are not repaired as required above.

t. The following are special provisions for connectors:

i. *Unsafe-to-repair connectors.* Any connector that is designated as unsafe-to-repair as described in Section 2.1 B.~~109~~.c. above, is exempt from the repair requirements in Section 2.1 B.~~109~~.bb. below. The Permittee shall monitor these connectors according to the written plan as specified in Section 2.1 B.~~109~~.d. above.
ii. *Inaccessible, ceramic, or ceramic-lined connectors.* Any connector that is inaccessible or that is ceramic-lined (e.g., porcelain, glass, or glass-lined) is exempt from the monitoring requirements specified in 40 CFR 63.1023(b) and (c); from the leak repair requirements of Section 2.1 B.~~109~~.bb. below; from the recordkeeping and reporting requirements in this section.
(A) An inaccessible connector is one of the following: *[40 CFR 63.1027(e)]*

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(1) Buried;
(2) Insulated in a manner that prevents access to the connector by a monitor probe;
(3) Obstructed by equipment or piping that prevents access to the connector by a monitor probe;
(4) Unable to be reached from a wheeled scissor-lift or hydraulic-type scaffold that would allow access to connectors up to 7.6 meters (25 feet) above the ground.
(5) Inaccessible because it would require elevating the monitoring personnel more than 2 meters (7 feet) above a permanent support surface or would require the erection of scaffold;
(6) Not able to be accessed at any time in a safe manner to perform monitoring. Unsafe access includes, but is not limited to, the use of a wheeled scissor-lift on unstable or uneven terrain, the use of a motorized man-lift basket in areas where an ignition potential exists, or access would require near proximity to hazards such as electrical lines, or would risk damage to equipment.

(B) If any inaccessible, ceramic or ceramic-lined connector is observed by visual, audible, olfactory, or other means to be leaking, the visual, audible, olfactory, or other indications of a leak to the atmosphere shall be eliminated as soon as practical.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the special provisions for connectors are not followed as described above.

Standards for Agitators in Gas and Vapor and Light Liquid Service [40 CFR 63.1028]

u. The instrument reading that defines a leaking agitator is **10,000 ppm or greater**.

v. The Permittee shall conduct visual and instrument inspections as provided below [*40 CFR 63.1028, 40 CFR 63.1038(c)(4)(i)*]:
   i. *Visual inspection.* Each agitator within each MCPU **(ID Nos. NS-A, NS-B, NS-B-2, NS-C, NS-C-2, NS-G-1, and NS-G-2)** shall be checked by visual inspection each calendar week for indications of liquids dripping from the agitator seal. The Permittee shall document that the inspection was conducted and the date of the inspection. If are indications of liquids dripping from the agitator seal at the time of the weekly inspection, the Permittee shall follow one of the following procedures: *[40 CFR 63.1028(c)(3)]*
      (A) The Permittee shall conduct instrument monitoring of the agitator seal using the methods described in 40 CFR 63.1023(b) and (c). If the instrument reading indicates a leak (i.e., the reading is 10,000 ppm or greater), it shall be repaired as provided in the repair provisions of Section 2.1 B.~~109~~.bb through B.~~109~~.cc, below; or
      (B) The Permittee shall eliminate the visual indications of liquids dripping.
      (C) The Permittee shall document each visual agitator inspection.
   ii. *Instrument inspection.* The Permittee shall monitor each affected agitator within each MCPU **(ID Nos. NS-A, NS-B, NS-B-2, NS-C, NS-C-2, NS-G-1, and NS-G-2)** once per calendar month using the instrument monitoring methods described in 40 CFR 63.1023(b) and (c). Leaks shall be repaired as provided in the repair provisions of Section 2.1 B.~~109~~.bb through B.~~109~~.cc, below.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if it does not monitor and repair agitators as required above.

w. *Special provisions for agitators.* If the Permittee designates agitator seals as either unsafe-to-monitor or difficult-to-monitor, the permittee shall comply with the following:
   i. *Unsafe-to-monitor agitator seals.* Any agitator seal that is designated as unsafe-to-monitor according to Section 2.1 B.~~109~~.c, above, is exempt from the monitoring and repair requirements in Section 2.1 B.~~109~~.v, above. The Permittee shall monitor the unsafe-to-monitor agitator according to the written plan, as required in Section 2.1 B.~~109~~.d, above.
   ii. *Difficult-to-monitor agitator seals.* Any agitator seal that is designated as difficult-to-monitor according to Section 2.1 B.~~109~~.c, above, is exempt from the monitoring requirements of Section 2.1 B.~~109~~.v, above, and the Permittee shall monitor the agitator seal according to the written plan as required in Section 2.1 B.~~109~~.d, above.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if it does not meet these requirements

Standards for Pressure Relief Valves [40 CFR 63.1030]

x. The instrument reading that defines a leaking pressure relief valve is 500 ppm or greater. This standard does not apply during pressure releases as provided in Section 2.1 B.~~109~~.y, below. After each pressure release, the pressure relief device shall be returned to a condition indicated by an instrument reading of less than 500 parts per million, as soon as practical, but no later than 5 calendar days after each pressure release.

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y. *Instrument inspection.* The pressure relief device shall be monitored as follows:
   i. The Permittee shall monitor no later than five calendar days after each pressure release to confirm the condition indicated by an instrument reading of less than 500 parts per million above background using the instrument monitoring methods described in 40 CFR 63.1023(b) and (c).
   ii. Record the dates and results of the monitoring following a pressure release including the background level measured and the maximum instrument reading measured.
   iii. Any pressure relief device that is equipped with a rupture disk upstream of the pressure relief device is exempt from the requirements of Section 2.1 B.~~109~~.x and B.~~109~~.y, provided the Permittee installs a replacement rupture disk upstream of the pressure relief device as soon as practical after each pressure release but no later than 5 calendar days after each pressure release, except as allowed under the delay of repair provisions in Section 2.1 B.~~109~~.cc, below.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if it does not monitor and maintain pressure relief valves as required above. [*40 CFR 63.1038(c)(5)*]

Equipment Leak Identification [40 CFR 63.2480(a)]

z. When a leak is detected using either sensory or instrument monitoring methods, a weatherproof and readily visible identification shall be attached to the leaking equipment. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if each detected leak is not identified as provided above. [*40 CFR 63.1023(e)(1)*]

aa. Leak identifications that are placed on leaking equipment may be removed as follows [*40 CFR 63.1024(c)*]:
   i. Leak identification on a valve in gas/vapor or light liquid service may be removed after it has been re-monitored as required in Section C.~~109~~.i, above, and no leak has been detected during that monitoring.
   ii. Leak identification on pumps, agitators, connectors (complying with Section 2.1 B.~~109~~.q, above) and pressure relief valves may be removed after it is repaired.

Equipment Leak Repair [40 CFR 63.2480(a), 40 CFR 63, Subpart UU]

bb. The Permittee shall repair each leak detected as soon as practical, but not later than 15 calendar days after it is detected, except where "Delay of Repair" or "Unsafe to Repair" provisions apply. A first attempt at repair shall be made no later than 5 calendar days after the leak is detected. *[40 CFR 63.1024]*
   i. First attempt at repair for pumps includes, but is not limited to, tightening the packing gland nuts and/or ensuring that the seal flush is operating at design pressure and temperature.
   ii. First attempt at repair for valves includes, but is not limited to, tightening the bonnet bolts, and/or replacing the bonnet bolts, and/or tightening the packing gland nuts, and/or injecting lubricant into the lubricated packing.

cc. *Delay of repair.* Delay of repair is allowed for any of the conditions listed below. The Permittee shall maintain a record of the facts that explain any delay of repairs and, where appropriate, why the repair was technically infeasible without a process unit shutdown.
   i. Delay of repair is allowed if repair within 15 days after a leak is detected is technically infeasible without a process unit or affected facility shutdown. Repair of this equipment shall occur as soon as practical, but no later than the end of the next process unit or affected facility shutdown, except as provided in Section 2.1 B.~~109~~.cc.v, below.
   ii. Delay of repair is allowed for equipment that is isolated from the process and that does not remain in regulated material service.
   iii. Delay of repair for valves, connectors, and agitators is also allowed where:
      (A) The Permittee determines that emissions of purged material resulting from immediate repair would be greater than the fugitive emissions likely to result from delay of repair, and
      (B) When repair procedures are affected, the purged material is collected and destroyed, collected and routed to a fuel gas system or process, or recovered in a control device.
   iv. Delay of repair for pumps is also allowed where:
      (A) Repair requires replacing the existing seal design with a new system that the Permittee has determined through a Quality Improvement Plan will provide better performance or one of the following:
         (1) A dual mechanical seal system will be installed;
         (2) A pump that meets the requirements of 40 CFR 63.1026(e)(2) will be installed; or
         (3) A system that routes emissions to a process or a fuel gas system or a closed vent system and control device will be installed; and

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(B) Repair is completed as soon as practical, but not later than 6 months after the leak was detected.

v. Delay of repair beyond a process unit or affected facility shutdown will be allowed for a valve if valve assembly replacement is necessary during the process unit or affected facility shutdown, and valve assembly supplies have been depleted, and valve assembly supplies had been sufficiently stocked before the supplies were depleted. Delay of repair beyond the second process unit or affected facility shutdown will not be allowed unless the third process unit or affected facility shutdown occurs sooner than 6 months after the first process unit or affected facility shutdown.

Equipment Leak Recordkeeping [40 CFR 63.2480(a), 40 CFR 63, Subpart UU]

dd. For each leak detected, the following information shall be recorded and maintained:

i. The date of first attempt to repair the leak.
ii. The date of successful repair of the leak.
iii. Maximum instrument reading measured by Method 21 of 40 CFR Part 60, Appendix A at the time the leak is successfully repaired or determined to be non-repairable.
iv. "Repair delayed" and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak as specified below:
   (A) The Permittee may develop a written procedure that identifies the conditions that justify a delay of repair. In such cases, reasons for delay of repair may be documented by citing the relevant sections of the written procedure.
   (B) If delay of repair was caused by depletion of stocked parts, there must be documentation that the spare parts were sufficiently stocked on-site before depletion and the reason for depletion.
v. Dates of process unit or affected facility shutdowns that occur while the equipment is unrepaired.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the records listed above are not created and retained. [*40 CFR 63.1023(e)(2), 40 CFR 63.1024(f), 40 CFR 63. 1038(b)*]

ee. The Permittee shall create and retain the following general records:

i. General and specific equipment identification if the equipment is not physically tagged and the Permittee is electing to identify the affected equipment through written documentation such as a log or other designation;
ii. Written plans for any equipment that is designated as unsafe- or difficult-to-monitor; and,
iii. A record of the identity and justification of any equipment that is designated as unsafe-to-repair.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the records listed above are not created and retained. [*40 CFR 63. 1038(b)*]

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

ff. The Permittee shall prepare and implement a monitoring plan that documents the procedures that will be used to detect leaks of process fluids into cooling water.

i. The plan shall require monitoring of one or more surrogate indicators (e.g., pH, conductivity, etc.) or monitoring of one or more process parameters or other conditions that indicate a leak. The plan shall include the following:
   (A) A description of the parameter or condition to be monitored and an explanation of how the selected parameter or condition will reliably indicate the presence of a leak;
   (B) The parameter level(s) or conditions(s) that shall constitute a leak. This shall be documented by data or calculations showing that the selected levels or conditions will reliably identify leaks. The monitoring must be sufficiently sensitive to determine the range of parameter levels or conditions when the system is not leaking. When the selected parameter level or condition is outside that range, a leak is indicated;
   (C) The monitoring frequency which shall be no less frequent than monthly for the first 6 months and quarterly thereafter to detect leaks;
   (D) The records that will be maintained to document compliance with the requirements of the monitoring plan.
ii. If a substantial leak is identified by methods other than those described in the monitoring plan and the method(s) specified in the plan could not detect the leak, the Permittee shall revise the plan and document the basis for the changes no later than 180 days after discovery of the leak.
iii. The Permittee shall maintain a copy of the current monitoring plan on-site or other means that provides access within two hours after a request. If the monitoring plan is superseded, the Permittee shall retain the most recent superseded plan at least until 5 years from the date of its creation. The Permittee shall retain the superseded plan on-site (or accessible from a central location by computer or other means that provides access within two hours after a request) for at least 6 months after its creation.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if it does not meet the above requirements. [*40 CFR 63.2490, 40 CFR 63.104(c)*]

gg. Except as allowed by the delay of repair requirements in Section 2.1 B.~~109.~~hh, below, if a leak is detected in any heat exchanger system, the Permittee shall be repair the leak as soon as practical but not later than 45 calendar days after the Permittee receives results of monitoring tests indicating a leak, unless the Permittee demonstrates that the results are due to a condition other than a leak. Once the leak has been repaired, the owner or operator shall confirm that the heat exchange system has been repaired within 7 calendar days of the repair or startup, whichever is later. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if leaks are not repaired as required above. [*40 CFR 63.2490, 40 CFR 63.104(d)*]

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hh. Delay of repair of heat exchange systems is allowed if the equipment is isolated from the process. Delay of repair is also allowed if repair is technically infeasible without a shutdown and any one of the conditions listed in 40 CFR 63.104(e)(1) through (e)(2) is met. [*40 CFR 63.2490, 40 CFR 63.104(e)*] The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the delay of repair provisions are not met.

ii. For each affected heat exchanger system, the Permittee shall retain the following records:
   i. Monitoring data indicating a leak, the date when the leak was detected, and if demonstrated notto be a leak, the basis for that determination;
   ii. Records of any leaks detected by procedures other than those provided in the written plan according to Section 2.1 B.~~109.~~ff, above, including the date the leak was discovered;
   iii. The dates of efforts to repair leaks; and,
   iv. The method or procedure used to confirm repair of a leak and the date repair was confirmed.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the records listed above are not retained. [*40 CFR 63.2490, 40 CFR 63.104(f)*]

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

jj. The Permittee shall create and retain the following records on each affected MCPU: *[40 CFR 63.2525(b)]*
   i. A description of the process and the type of process equipment used;
   ii. An identification of related process vents (including associated emissions episodes), wastewater points of determination (PODs), and storage tanks;
   iii. The applicable control requirements pursuant to 40 CFR 63, Subpart FFFF, including the level ofrequired control, and for vents, the level of control for each vent;
   iv. The control device or treatment process used, as applicable, including a description of operating and/ortesting conditions for any associated control device;
   v. The process vents, wastewater POD, and storage tanks (including those from other processes) thatare simultaneously routed to the control device or treatment process;
   vi. The applicable monitoring requirements of this subpart and any parametric level that assures compliance for all emissions routed to the control device or treatment process; and,
   vii. Calculations and engineering analyses required to demonstrate compliance.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the above records are not retained.

kk. Create and retain a record of each time a safety device is opened to avoid unsafe conditions. *[40 CFR 63.2525(f)]* The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if this record is not retained.

ll. For each affected Group 2 wastewater stream, the Permittee shall retain the following records: *[Table 7 of 40 CFR Part 63, Subpart F and 40 CFR 63.147(b)(8)]*
   i. MCPU identification and description;
   ii. Stream identification code;
   iii. Concentration of compounds listed in Table 8 and Table 9 of 40 CFR 63, Subpart FFFF (in ppmw),including documentation of the methodology used to determine concentration; and,
   iv. Stream flow rate (in L/min).

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the records listed above are not retained. [*40 CFR 63.2585(a), 40 CFR 63.147(b)(8)*]

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

mm. If a Group 2 emission point becomes a Group 1 emission point, the Permittee must be in compliance with the Group 1 requirements beginning on the date the switch occurs. An initial compliance demonstration as specified in 40 CFR Part 63, Subpart FFFF must be conducted within 150 days after the switch occurs. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if it does not meet these requirements. [40 CFR 63.2445(d)]

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

nn. The Permittee shall submit a semi-annual compliance report of monitoring and recordkeeping activities postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December, and July 30 of each calendar year for the preceding six-month period between January and June. The report shall contain the following: *[40 CFR 63.2520(a), (b) and (e)]*

i. Company name and address;
ii. Statement by a responsible official with that official's name, title, and signature, certifying the accuracy of the content of the report;
iii. Date of report and beginning and ending dates of the reporting period;
iv. If there are no periods of noncompliance from any emission limit, operating limit or work practice standard specified in Section 2.1 B.~~109~~, include a statement that there were no periods of noncompliance from the emission limits, operating limits, or work practice standards during the reporting period;
v. For each period of noncompliance from an emission limit, operating limit, and work practice standard, include the following information:
   (A) The total operating time of the affected source during the reporting period; and,
   (B) Information on the number, duration, and cause of noncompliance (including unknown cause, if applicable), as applicable, and the corrective action taken.
vi. Identify each new operating scenario which has been operated since the time period covered by the last compliance report and has not been submitted in the previous compliance report. For each new operating scenario, the Permittee shall provide verification that the operating conditions for any associated control or treatment device have not been exceeded and that any required calculations and engineering analyses have been performed. A revised operating scenario for an existing process is considered to be a new operating scenario;
vii. For the equipment listed below, report in a summary format by equipment type, the number of components for which leaks were detected and for valves, pumps and connectors show the percent leakers, and the total number of components monitored. Also include the number of leaking components that were not repaired as required according to Section 2.1 B.~~109~~.bb through B.~~109~~.cc, above, and for valves and connectors, identify the number of components that are determined to be non-repairable as described in 40 CFR 63.1025(c)(3).
   (A) Valves in gas and vapor service and in light liquid service;
   (B) Pumps in light liquid service;
   (C) Connectors in gas and vapor service and in light liquid service; and,
   (D) Agitators in gas and vapor service and in light liquid service.
viii. Where any delay of repair for leaks is utilized, report that delay of repair has occurred and report the number of instances of delay of repair under Section 2.1 B.~~109~~.cc, above.
ix. For pressure relief devices, report the results of all leak monitoring to show compliance conducted within the semiannual reporting period.
x. Report, if applicable, the initiation of a monthly leak monitoring program for valves and pumps.
xi. For each affected heat exchanger system for which the Permittee invokes the delay of repair, include the following information: *[40 CFR 63.2490 and 68.104(f)(2)]*
   (A) the presence of the leak and the date that the leak was detected
   (B) whether or not the leak has been repaired
   (C) the reason(s) for delay of repair and any supporting emission estimates.
   (D) If the leak is repaired, the owner or operator shall report the date the leak was successfully repaired.
   (E) If the leak remains unrepaired, the expected date of repair.

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~~**ALTERNATIVE OPERATING SCENARIO**~~
State-Only Requirement

~~11.~~10. **15A NCAC 02Q .0519(a)(7) and CONSENT ORDER**

a. To carry out the purposes of N.C.G.S. §143 Article 21B and to ensure that air emissions do not contribute to groundwater violations, and pursuant to the Consent Order,[4] the Permittee shall reduce emissions of all PFAS, including GenX Compounds, from the following sources: HFPO Process, Vinyl Ethers North Process, Vinyl Ethers South Process, RSU Process, FPS Liquid Waste Stabilization Process, MMF Process, E-2 Process, TFE/CO_2 Separation Process, HFPO Product Container Decontamination Process, VEN Product Decontamination Process, and VES Product Container Decontamination Process **(ID Nos. NS-A, NS-B, NS-C, NS-D-1, NS-E, NS-F, NS-G-1, NS-K, NS-M, NS-N, NS-O, and NS-P)** as follows:
   i. ~~No later than December 31, 2019, t~~The Permittee shall ~~install and begin normal operation of a~~ operate a Thermal Oxidizer in series with a 4-Stage Scrubber System **(ID Nos. NCD-Q1 and NCD-Q2).**
   ii. The Thermal Oxidizer and 4-Stage Scrubber System shall reduce emissions of all PFAS, including GenX Compounds, by at least 99.99 percent.

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

b. ~~The Permittee shall conduct an initial performance test of the Thermal Oxidizer and 4-Stage Scrubber System (ID Nos. NCD-Q1 and NCD-Q2).~~ When conducting periodic performance tests ~~T~~the Permittee shall test for all PFAS emissions, including GenX Compounds, at the inlet of the Thermal Oxidizer and the outlet of the 4-Stage Scrubber. ~~The Permittee shall install sampling ports in compliance with 15A NCAC 02D .2600.~~ Emissions testing shall be performed in accordance with General Condition JJ and in accordance with a testing protocol approved by DAQ. The Permittee shall submit the testing protocol for approval at least 45 days prior to conducting the performance test. The testing protocol shall address how the Permittee will ensure that the Thermal Oxidizer and 4-Stage Scrubber System will achieve the emission reduction specified in Section 2.1 B.~~10~~.a, above, including the use of a surrogate for all PFAS, such as hexafluoropropylene oxide (HFPO). Two copies of the final air emission test report shall be submitted to the Director not later than 45 days after each performance test.

~~c. Within 90 days of installation of the Thermal Oxidizer and 4-Stage Scrubber System (ID Nos. NCD-Q1 and NCD-Q2), the Permittee shall submit a report demonstrating initial compliance with the limits specified in Section 2.1 B.11.a, above, using the results of the initial performance test conducted as specified in Section 2.1 B.11.b, above. The report shall specify the emissions measured at the inlet of the Thermal Oxidizer and the outlet of the 4-Stage Scrubber.~~

~~d.~~c. ~~After the initial performance test is conducted, the~~ The Permittee shall conduct periodic performance tests to demonstrate compliance with the emission limits in Section 2.1 B.11.a, above, as follows:
   i. The Permittee shall conduct the periodic performance tests using the procedures specified in Section 2.1 B.~~10~~.b ~~and B.11.c~~, above.
   ii. The Permittee shall conduct periodic performance tests on an annual basis. ~~After the initial performance test conducted as specified in Section 2.1 B.11.b, above, t~~The Permittee shall conduct all periodic performance tests within a 13-month time period after the date of the previous performance test.
   iii. The Permittee shall conduct a performance test within 90 days whenever permanent changes are made in production capacity, process feedstock type, or whenever there is a replacement, removal, or addition of an emission source or control device. Following this performance test, the Permittee shall resume annual performance testing in accordance with the schedule specified in paragraph ~~d~~c.ii, above.
   iv. The permittee shall submit two copies of the final air emission test report to the Director not later than 45 days after each performance test.

~~e.~~d. During performance tests conducted according to Section 2.1 B.~~10~~.b, above, the Permittee shall establish or confirm the operating parameters specified in Section 2.1 B.~~10~~.~~g~~h and B.~~10~~.hi, below. If the results of any performance test require changes to the operating parameters specified in Section 2.1 B.~~10~~.~~g~~h and ~~i~~h, below, to demonstrate compliance with the limits in Section 2.1 B.11.a, above, the Permittee shall submit a permit application for a minor modification to the permit under 15A NCAC 02Q .0515 to revise these parameters. Any previously established continuous compliance monitoring parameters shall not apply during any required subsequent performance testing.

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[4] "Consent Order" means the Consent Order entered on February 25, 2019, in State of North Carolina, ex rel., Michael S. Regan, Secretary, North Carolina Department of Environmental Quality v. The Chemours Company FC, LLC, 17 CVS 580 (Bladen County).

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

~~f.~~e. Emissions of all PFAS, including GenX Compounds, from the HFPO Process, VEN Process, VES Process, RSU Process, Liquid Waste Stabilization Process, MMF Process, E-2 Process, TFE/CO_2 Separation Process, HFPO Product Container Decontamination Process, VEN Product Decontamination Process, and VES Product Container Decontamination Process **(ID Nos. NS-A, NS-B, NS-C, NS-D-1, NS-E, NS-F, NS-G-1, NS-K, NS-M, NS-N, NS-O, and NS-P)** shall be controlled by a Thermal Oxidizer and 4-Stage Scrubber System **(ID Nos. NCD-Q1 and NCD-Q2)**. 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:

i. hourly visual or positive detection by flame scanner checks of the Thermal Oxidizer flame and burner while in operation and annual inspections of the burner assemblies, blowers, fans, dampers, refractory lining, oxidizer shell, fuel lines, and ductwork;
ii. annual inspection of scrubber spray nozzles to detect clogging or corrosion damage of nozzles and perform maintenance and repair when necessary to ensure proper operation of the scrubber;
iii. annual inspection of scrubber packing material to ensure proper packing depth and to check for clogging; and
iv. annual inspection, cleaning, and calibration of all associated instrumentation.
v. In addition to annual inspections, the Permittee shall also conduct the inspections required in paragraphs i. through iv., above, whenever the Thermal Oxidizer and 4-Stage Scrubber System are nonoperational for a minimum of 72 hours.

~~g.~~f. The Permittee shall ~~develop, and submit to DAQ for approval,~~follow a site-specific monitoring plan that addresses design, data collection, and quality assurance/quality control elements for operating each CMS installed according to Section 2.1 B.~~10.hg~~ and B.~~10.ih~~, below. The monitoring plan shall, at a minimum, address the following:

i. ~~Initial and a~~Any ~~subsequent~~ Cealibrations of the CMS;
ii. Determination and adjustment of the calibration drift of the CMS;
iii. Preventive maintenance of the CMS, including spare parts inventory;
iv. Data recording, calculations, and reporting;
v. Accuracy audit procedures, including sampling and analysis methods;
vi. Program of corrective action for a malfunctioning CMS;
vii. Ongoing operation and maintenance procedures; and
viii. Ongoing data quality assurance procedures.

~~h.~~g. The Permittee shall install, calibrate, maintain, and operate CMS for the Thermal Oxidizer **(ID No. NCD-Q1)**. The CMS shall include a continuous recorder capable of taking a measurement at least once every 15 minutes. The Permittee shall operate the CMS according to the approved site-specific monitoring plan specified in Section 2.1 B.~~10.gf~~, above, to ensure the following operational parameters are maintained.

i. A minimum combustion chamber temperature of 1800 degrees Fahrenheit (3-hour rolling average).
   (A) The temperature monitor shall record continuously the operating temperature to within 1 percent (relative to degrees Celsius) or $\pm 0.5^{o}C$ ($\pm 0.9^{o}F$), whichever is greater.
   (B) The temperature monitoring device shall be installed in the firebox of the Thermal Oxidizer or in the ductwork downstream from the firebox and before any substantial heat exchange for the Thermal Oxidizer.
ii. A maximum Thermal Oxidizer inlet gas feed rate 2,200 pounds per hour (3-hour rolling average). The monitoring device used for continuous measurement of the Thermal Oxidizer inlet gas feed rate must be certified by the manufacturer to be accurate within ±5 percent of the Thermal Oxidizer inlet gas feed rate.
iii. Failure to operate the temperature monitor or inlet feed gas monitoring device identified, above, for at least 97 percent of the total operational time per quarterly reporting period shall constitute noncompliance with the emission limits in Section 2.1 B.~~10.~~a, above.

~~i.~~h. The Permittee shall install, calibrate, maintain, and operate CMS for the 4-Stage Scrubber System **(ID No. NCD-Q2)**. The CMS shall include a continuous recorder capable of taking a measurement at least once every 15 minutes. The Permittee shall operate the CMS according to the approved site-specific monitoring plan specified in Section 2.1 B.~~10.gf~~, above, to ensure the following operational parameters are maintained.

i. The scrubber liquor flow shall be a minimum of 40 gallons per minute for the fourth caustic scrubber stage. The monitoring device used for continuous measurement of the scrubber liquor flow rate must be certified by the manufacturer to be accurate within ±5 percent of the scrubber liquid flow rate.
ii. A minimum scrubber liquor pH, no less than 7.1 (3-hour rolling average) for the fourth scrubber stage.

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iii. Failure to operate the scrubber liquor flow meter or pH meter, identified in i. and ii., above, for at least 97 percent of the total operational time per quarterly reporting period shall constitute noncompliance with the emission limits in Section 2.1 B.10~~1~~.a, above.

Shutdown and Malfunction [15A NCAC 02Q .0308(a)]

~~j.~~i. Except as specified in Section 2.1 B.10~~1~~.~~kj~~, below, the Permittee shall operate the Thermal Oxidizer and 4-Stage Scrubber System **(ID Nos. NCD-Q1 and NCD-Q2)** at all times when the HFPO Process, VEN Process, VES Process, RSU Process, Liquid Waste Stabilization Process, MMF Process, IXM Resins Process, E-2 Process, TFE/CO_2 Separation Process, HFPO Product Container Decontamination Process, VEN Product Decontamination Process, and VES Product Container Decontamination Process **(ID Nos. NS-A, NS-B, NS-C, NS-D-1, NS-E, NS-F, NS-G-1, NS-K, NS-M, NS-N, NS-O, and NS-P)** are operating.

~~k.~~j. ~~Prior to operation of the Thermal Oxidizer and 4 Stage Scrubber System (ID Nos. NCD-Q1 AND NCD-Q2), the~~The Permittee shall ~~develop, and submit to DAQ for approval,~~ follow the approved ~~a detailed~~ shutdown and malfunction plan for the Thermal Oxidizer and 4-Stage Scrubber System (ID Nos. NCD-Q1 AND NCD-Q2) that contains specific procedures for initiating the shutdown of process emission sources during periods of control device shutdown and malfunction, and a program of corrective action for malfunctioning processes, and control systems used to comply with the limits in Section 2.1 B.10~~1~~.a, above. The Permittee shall keep a copy of the approved plan onsite.

i. To ensure that the control devices are well maintained to minimize malfunctions, the plan shall include a maintenance schedule for the Thermal Oxidizer and 4-Stage Scrubber System that is consistent with, but not limited to the manufacturer's instructions and recommendations for routine and long-term maintenance, as specified in Section 2.1 B.10~~1~~.~~hg~~ and B.10~~1~~.~~ih~~, above.
ii. An inspection schedule for each CMS installed on the Thermal Oxidizer and 4-Stage Scrubber System to ensure, at least once in each 24-hour period, that each CMS is properly functioning.
iii. At no time shall the emissions from the HFPO Process, VEN Process, VES Process, RSU Process, Liquid Waste Stabilization Process, MMF Process, IXM Resins Process, E-2 Process, TFE/CO_2 Separation Process, HFPO Product Container Decontamination Process, VEN Product Decontamination Process, and VES Product Container Decontamination Process **(ID Nos. NS-A, NS-B, NS-C, NS-D-1, NS-E, NS-F, NS-G-1, NS-K, NS-M, NS-N, NS-O, and NS-P)** be allowed to vent to the atmosphere without being controlled in the Thermal Oxidizer and 4-Stage Scrubber System **(ID Nos. NCD-Q1 and NCD-Q2)**.

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

~~l.~~k. The Permittee shall record the following information monthly in a logbook (written or electronic format) that shall be maintained on-site and made available to DAQ, upon request. The Permittee shall keep all records on file for a minimum of five years.

i. Records of the continuous and 3-hour rolling average operating parameters specified in Section 2.1 B.10~~1~~.~~hg~~ and B.10~~1~~.~~ih~~, above, for the Thermal Oxidizer and 4-Stage Scrubber System **(ID Nos. NCD-Q1 and NCD-Q2)**.
ii. If the emission sources are not operating, a record of this fact along with the corresponding date and time.
iii. Records of all inspections and maintenance conducted for the Thermal Oxidizer and 4-Stage Scrubber System **(ID Nos. NCD-Q1 and NCD-Q2)**, as specified in Section 2.1 B.10~~1~~.~~gf~~, above.
iv. Records associated with the site-specific monitoring plan specified in Section 2.1 B.10~~1~~.~~fg~~, above.

~~m.~~l. The Permittee shall retain all results of performance testing conducted in accordance with Section 2.1 B.10~~1~~.b ~~and B.11.e~~, above, including development of the operating parameters, as specified in Section 2.1 B.10~~1~~.~~hg~~ and B.10~~1~~.~~ih~~, above, and the calculation of the Thermal Oxidizer and 4-Stage Scrubber System **(ID Nos. NCD-Q1 and NCD-Q2)** control efficiency with respect to the control of all PFAS, including GenX Compounds, emissions from the HFPO Process, VEN Process, VES Process, RSU Process, Liquid Waste Stabilization Process, MMF Process, IXM Resins Process, E-2 Process, TFE/CO_2 Separation Process, HFPO Product Container Decontamination Process, VEN Product Decontamination Process, and VES Product Container Decontamination Process **(ID Nos. NS-A, NS-B, NS-C, NS-D-1, NS-E, NS-F, NS-G-1, NS-K, NS-M, NS-N, NS-O, and NS-P).**

~~n.~~m. The Permittee shall submit a quarterly summary report, acceptable to the Regional Air Quality Supervisor, of monitoring and recordkeeping activities specified in Section 2.1 B.10~~1~~.~~fe~~ through B.10~~1~~.~~nm~~, above, postmarked on or before January 30 of each calendar year for the preceding three-month period between October and December; April 30 of each calendar year for the preceding three-month period between January and March; July 30 of each calendar year for the preceding three-month period between April and June; and October 30 of each calendar year for the preceding three-month period between July and September. All instances of deviations from the requirements of this permit must be clearly identified.

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C. Polymer Processing Aid Process (ID No. AS-A) controlled by a wet scrubber (ID No. ACD-A1) in series with a Carbon Adsorber (ID No. ACD-A2)

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
Odors	**State-enforceable only** See Section 2.2 B.5	15A NCAC 02D .1806
Toxic Air Pollutants	**State-enforceable only** Toxic air pollutant limits shall not be exceeded. See Sections 2.2 B.1 and 2.2 B.2	15A NCAC 02D .1100
GenX Compounds[5]	**State-enforceable only** See Section 2.2 D	15A NCAC 02Q .0519 and Consent Order

STATE-ENFORCEABLE ONLY

1. **15A NCAC 02D .1100: CONTROL OF TOXIC AIR POLLUTANTS**
   a. Gaseous and mist emissions from the Polymer Processing Aid process area **(ID No. AS-A)** shall be controlled by a wet scrubber **(ID No. ACD-A1)**. The Permittee shall ensure the proper performance of the scrubber by monitoring the following operational parameters:
      i. Liquid flow rate through the packed bed section (minimum of 30 gallons per minute averaged over a 3-hour period), and
      ii. Differential pressure across the packed bed section of the scrubber (maximum of12 inches of water pressure averaged over a 3-hour period), with a high differential pressure alarm.

   Recordkeeping
   b. The Permittee shall record the results of inspections in a scrubber log (written or electronic records), which shall be kept on site and made available to Division of Air Quality personnel upon request. Any variance from the manufacturer's recommendations or the permit monitoring requirements, or the failure of the air pollution control equipment to operate in a normal and usual manner, shall be investigated with corrections made and dates of action recorded in the log book. The inspection and maintenance activities, as well as required monitoring for scrubbing liquid flow rates, and scrubber pressure drops, if appropriate, shall be recorded.

[5] "GenX Compounds" means HFPO Dimer Acid, also known as C3 Dimer Acid (CAS No. 13252-13-6); HFPO Dimer Acid Fluoride, also known as C3 Dimer Acid Fluoride (CAS No. 2062-98-8); and HFPO Dimer Acid Ammonium Salt, also known as C3 Dimer Acid Ammonium Salt (CAS No. 62037-80-3).

D. Wastewater Treatment Area consisting of an extended aeration biological wastewater treatment facility (ID No. WTS-A) and two indirect steam-heated rotary sludge dryers (ID Nos. WTS-B and WTS-C) controlled by a wet scrubber with mist eliminator (ID No. WTCD-1)

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
Odors	**State-enforceable only** Odorous emissions must be controlled	15A NCAC 02D .1806

STATE ENFORCEABLE ONLY

1. **15A NCAC 02D .1806: CONTROL AND PROHIBITION OF ODOROUS EMISSIONS**
   a. The Permittee shall not operate the wastewater treatment area **(ID Nos. WTS-A, WTS-B AND WTS-C)** without implementing management practices or installing and operating odor control equipment sufficient to prevent odorous emissions from the facility from causing or contributing to objectionable odors beyond the facility's boundary.

   b. Odorous emissions from the wastewater treatment sludge dryers **(ID Nos. WTS-B and WTS-C)** shall be controlled by an impingement-type scrubber with caustic injection **(ID No. WTCD-1)**.

   Monitoring/Recordkeeping

   c. To comply with the provisions of this Permit and ensure that maximum control efficiency of the scrubber **(ID No. WTCD-1)** is maintained, the Permittee shall perform periodic inspections and maintenance as recommended by the scrubber manufacturer. As a minimum, the inspection and maintenance program shall include inspection of spray nozzles, packing material, chemical feed system (if so equipped), and the cleaning/calibration of all associated instrumentation.

   d. The Permittee shall record the results of inspections in a scrubber logbook (written or electronic format) that shall be kept on site and made available to DAQ personnel upon request. Any variance from the manufacturer's recommendations or the permit monitoring requirements, or the failure of the air pollution control equipment to operate in a normal and usual manner, shall be investigated with corrections made and dates of actions taken recorded in the log book. The inspection and maintenance activities, as well as required monitoring for scrubbing liquid flow rates and scrubber pressure drops, if appropriate, shall be recorded.

E. Natural gas/No. 2 fuel oil-fired temporary boiler (less than 100.0 million Btu per hour maximum heat input, ID No. PS-Temp)

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

Regulated Pollutant	Limits/Standards	Applicable Regulations
Particulate Matter	0.2426 pounds of particulate per million Btu	15A NCAC 02D .0503
Sulfur Dioxide	2.3 pounds SO_2 per million Btu heat input	15A NCAC 02D .0516
Visible Emissions	20 percent opacity	15A NCAC 02D .0521(d)
Sulfur Dioxide and Visible Emissions	On site less than 180 days per consecutive twelve month period and use of fuels emitting no more than 0.06 pounds of sulfur dioxide per million Btu heat input.	15A NCAC 02Q .0317 (15A NCAC 02D .0524 [NSPS] Avoidance)
Sulfur Dioxide	Less than 40 tons per consecutive 12-month period	15A NCAC 02Q .0317 (15A NCAC 02Q .0530 [PSD] Avoidance)
Sulfur Dioxide	**Boilers (PS-A, PS-B, PS-C, and PS-Temp)** Less than 702.5 tons per consecutive 12-month period; See Section 2.2 A.1. of this permit.	15A NCAC 02Q .0317 (PSD Avoidance)
Hazardous Air Pollutants	On site less than 180 days per consecutive twelve month period.	15A NCAC 02Q .0317 (15A NCAC 02D .1109/.1111 [MACT] Avoidance)

1. **15A NCAC 02D .0503: PARTICULATES FROM FUEL BURNING INDIRECT HEAT EXCHANGERS**
   a. Emissions of particulate matter discharged into the atmosphere from the combustion of No. 2 fuel oil in the temporary boiler **(ID No. PS-Temp)** shall not exceed 0.2426 pounds per million Btu heat input.

   Testing [15A NCAC 02Q .0508(f)]
   b. If emissions testing is required, the testing shall be performed in accordance General Condition JJ. If the results of this test are above the limit given in Section 2.1 E.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 fuel oil in this source for this regulation.

2. **15A NCAC 02D .0516: SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES**
   a. Emissions of sulfur dioxide from the temporary boiler **(ID No. PS-Temp)** shall not exceed 2.3 pounds per million Btu heat input. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard.

   Testing [15A NCAC 02Q .0508(f)]
   b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 E.2.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0516.

   Monitoring/Recordkeeping/Recordkeeping [15A NCAC 02Q .0508(f)]
   c. No monitoring/recordkeeping is required for sulfur dioxide emissions from the firing of natural gas or fuel oil in this source.

3. **15A NCAC 02D .0521: CONTROL OF VISIBLE EMISSIONS**
   a. Visible emissions from the temporary boiler **(ID No. PS-Temp)** shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than

once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity.

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

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

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

c. No monitoring/recordkeeping/reporting is required for visible emissions from the firing of natural gas or fuel oil in this source.

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

a. In order to avoid applicability of 15A NCAC 02D .0530(g) for major sources and major modifications, the temporary boiler **(ID No. PS-Temp)** shall discharge into the atmosphere less than 40 tons of sulfur dioxide per consecutive twelve-month period.

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 limits given in Section 2.1 E.4.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530.

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

c. The Permittee shall keep monthly records of fuel usage in a log (written or in electronic format), as follows:
   i. The total quantity (in 1,000 gal) of fuel oil fired at the boiler; and,
   ii. The fuel oil supplier certification for any fuel oil fired at the boiler, including the sulfur content of the oil (in percent by weight).

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530 if records of the fuel usage and fuel oil sulfur content are not created and retained as required above.

d. The Permittee shall calculate monthly and 12-month rolling SO_2 emissions from the temporary boiler within 30 days after the end of each calendar month. Calculations shall be recorded in a logbook (written or electronic format), according to the following formulas:
   i. Calculate SO_2 emissions from the previous calendar month using the following equation:

$$E_{SO} = 142 * S * Q_{fo2}$$

Where, E_{SO2} = SO_2 emissions (in lbs) during the previous calendar month,
S = Sulfur content in the fuel oil (in percent by weight), and
Q_{fo2} = Quantity of fuel oil fired at the temporary boiler during the previous calendar month (in 1,000 gal)

   ii. Sum the SO_2 emissions from the boiler for the previous 12-month period to determine the 12-month rolling emission total.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530 if records of the monthly calculations listed above are not retained or if the 12-month rolling emission totals are greater than the emission limit provided in Section 2.1 E.4.a of this permit.

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

e. The Permittee shall submit a semi-annual summary report, acceptable to the Regional Air Quality Supervisor, of monitoring and recordkeeping activities postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December, and July 30 of each calendar year for the preceding six-month period between January and June. The report shall contain the following:
   i. The monthly SO_2 emissions from the boiler for the previous 17 months;
   ii. The total SO_2 emissions from the boiler for each 12-month period ending during the six month reporting period; and,
   iii. All instances of noncompliance from the requirements of this permit must be clearly identified.

~~**5. 15A NCAC 02Q .0317: AVOIDANCE CONDITION**~~
~~**for 15A NCAC 02D .1109: CAA § 112(j); Case-by-Case MACT for Boilers & Process Heaters NCAC 02D**~~

~~a. Prior to May 20, 2019, in order to avoid the applicability of 15A NCAC 02D .1109NCAC 02D, the temporary boiler **(ID No. PS-Temp)** shall not remain on site for more than 180 consecutive days. The Permittee shall retain records of the number of consecutive days the boiler is onsite.~~

~~b. If this boiler remains on site for longer than 180 consecutive days, the Permittee shall notify the Regional Office in writing within ten days of exceeding the 180-day period.~~

~~c. The Permittee shall submit a startup notification to the Fayetteville Regional Office within 15 days of startup of the temporary boiler **(ID No. PS-Temp)**.~~

F. Lime Silo (ID No. NS-R1) equipped with a pulse jet baghouse (ID No. NCD-R1) Lime Slaker (ID No. NS-R2) equipped with a Wet Particulate Scrubber (ID No. NCD-R2)

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

Regulated Pollutant	Limits/Standards	Applicable Regulations
Particulate matter	$E = 4.10 \times P^{0.67}$ where: E = allowable particulate emission rate in pounds per hour P = process weight rate in tons per hour	15A NCAC 02D .0515
Visible emissions	20 percent opacity	15A NCAC 02D .0521

1. **15A NCAC 02D .0515: PARTICULATES FROM MISCELLANEOUS INDUSTRIAL PROCESSES**
   a. Emissions of particulate matter from the Lime Silo and Lime Slaker **(ID Nos. NS-R1 and NS-R2)** 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

   Testing [15A NCAC 02Q .0508(f)]
   b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 F.1.a, above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515.

   Monitoring/Recordkeeping [15A NCAC 02Q .0508(f)]
   c. Particulate matter emissions from the Lime Slaker **(ID No. NS-R2)** shall be controlled by the Wet Particulate Scrubber **(ID No. NCD-R2)**. The Permittee shall install, operate, and maintain a wet scrubbing liquid flowmeter on ~~each~~ the scrubber. To ensure compliance and the effective operation of the scrubbers, the Permittee shall monitor and record, once per day, scrubbing liquid flow rate. The Permittee shall be allowed three (3) days of absent observations per semi-annual period. If the emission source(s) is not operating, a record of this fact along with the corresponding date and time shall substitute for the daily observation. To ensure quality, the flow rate meters shall be calibrated annually. The scrubber shall be operated to ensure the scrubbing liquid flow rate is greater than 0.84 gallons per minute. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515 if the scrubber liquid flow rate is not maintained above the above prescribed limit or if these records are not maintained.

   d. If the scrubber liquid flow rate readings recorded as required, are observed to be below the minimum rate specified in Section 2.1 F.1.c, above, the Permittee shall inspect the scrubber(s) for malfunctions and clean or repair, as necessary. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515 if the inspections, cleaning, and repairs are not performed.

   e. Particulate matter emissions from the Lime Silo **(ID Nos. NS-R1)** shall be controlled by the bagfilter **(ID Nos. NSD-R1)**. To ensure compliance, the Permittee shall perform inspections and maintenance as recommended by the manufacturer. In addition to the manufacturer's inspection and maintenance recommendations, or if there are no manufacturer's inspection and maintenance recommendations, as a minimum, the inspection and maintenance requirement shall include the following:
      i. a monthly visual inspection of the system ductwork and material collection unit for leaks; and
      ii. an annual (for each 12-month period following the initial inspection) internal inspection of the bagfilter's structural integrity.

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

   f. The results of inspection and maintenance activities in Section 2.1 F.1.c through 2.1 F.1.e, above, shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative of DAQ 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 causes for any variance from the prescribed operating range for the scrubber(s); and
iv. corrective actions taken.
The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515 if these records are not maintained.

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

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

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

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

a. Visible emissions from the Lime Silo and Lime Slaker **(ID Nos. NS-R1 and NS-R2)** 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 2.1 F.2.a, above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521.

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

c. To ensure compliance, once a week the Permittee shall observe the emission points of the Lime Silo and Lime Slaker **(ID Nos. NS-R1 and NS-R2)** for any visible emissions above normal. The weekly observation must be made for each week of the calendar year period to ensure compliance with this requirement. ~~The Permittee shall establish "normal" for the Lime Slaker in the first 30 days following the beginning operation.~~
   i. If visible emissions from the Lime Silo and Lime Slaker are observed to be above normal, the Permittee shall either:
      (A) take appropriate action to correct the above-normal emissions as soon as practicable and within the monitoring period and record the action taken as provided in the recordkeeping requirements below, or
      (B) demonstrate that the percent opacity from the emission points of the emission source in accordance with 15A NCAC 02D .2610 (Method 9) for 12 minutes is below the limit given in Section 2.1 F.2.a, above.
   ii. The Permittee shall be deemed to be in noncompliance with 15A NCAC 02D .0521 if:
      (A) the above-normal emissions are not corrected per c.i.(A) above;
      (B) the demonstration in c.i.(B) above cannot be made;
      (C) the weekly observations are not conducted per c above; or
      (D) "normal" is not established for the Lime Silo and Lime Slaker in the first 30 days following the beginning of operation per c above.

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

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

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

e. The Permittee shall submit a summary report of the monitoring activities specified in Section 2.1 F.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.

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

A. BOILERS:

Three natural gas/No. 2 fuel oil-fired boilers (ID Nos. PS-A, PS-B, and PS-C)
Temporary boiler (ID No. PS-Temp), natural gas/No. 2 fuel oil-fired (greater than 30.0 and less than 100.0 million Btu per hour maximum heat input).

1. **15A NCAC 02Q .0317: AVOIDANCE CONDITIONS**
for 15A NCAC 02D .0530: PREVENTION OF SIGNIFICANT DETERIORATION

a. In order to avoid applicability of 15A NCAC 02D .0530(g) for major sources and major modifications, the affected boilers **(ID Nos. PS-A, PS-B, PS-C, and PS-Temp)** shall discharge into the atmosphere less than 702.5 tons of SO_2 per consecutive 12-month period.

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

b. If emissions testing is required, the Permittee shall perform such testing in accordance with General Condition JJ. If the results of this test indicate annual emission rates in exceedance of the limit given in Section 2.2 A.1.a, above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530.

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

c. The Permittee shall keep monthly records of fuel usage in a log (written or in electronic format), as follows:
   i. The total quantity (in million standard cubic feet) of natural gas fired at the affected boilers;
   ii. The total quantity (in 1,000 gal) of fuel oil fired at the affected boilers; and,
   iii. The fuel oil supplier certification for any fuel oil fired at the affected boilers, including the sulfur content of the oil (in percent by weight).

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530 if records of the fuel usage and fuel oil sulfur contents are not created and retained as required above.

d. The Permittee shall calculate monthly and 12-month rolling SO_2 emissions from the affected boilers within 30 days after the end of each calendar month. Calculations shall be recorded in a log (written or electronic format), according to the following formulas:
   i. Calculate SO_2 emissions from the previous calendar month using the following equation:

$$E_{SO_2} = 142 \; x \; S_{fo2} \; x \; Q_{fo2} + 0.6 \; x \; Q_{ng}$$

Where, E_{SO2} = SO_2 emissions (in lb) during the previous calendar month;
S_{fo2} = Sulfur content in the fuel oil (percent by weight);
Q_{fo2} = Quantity of fuel oil fired during the previous calendar month (1,000 gal); and,
Q_{ng} = Quantity of natural gas fired during the previous calendar month (million standard cubic feet).

   ii. Sum the SO_2 emissions from the affected boilers for the previous 12-month period to determine the 12-month rolling emission total.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530 if records of the monthly calculations listed above are not retained or if the 12-month rolling emission totals are greater than the emission limit provided in Section 2.2 A.1.a of this permit.

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

e. The Permittee shall submit a semi-annual summary report, acceptable to the Regional Air Quality Supervisor, of monitoring and recordkeeping activities postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December, and July 30 of each calendar year for the preceding six-month period between January and June. The report shall contain the following:
   i. The monthly SO_2 emissions from the two affected boilers for the previous 17 calendar months;
   ii. The 12-month rolling SO_2 emissions for each 12-month period ending during the reporting period; and,
   iii. All instances of noncompliance from the requirements of this permit must be clearly identified.

B. FACILITY-WIDE

STATE-ENFORCEABLE ONLY

1. 15A NCAC 02D .1100: TOXIC AIR POLLUTANT EMISSIONS LIMITATIONS AND REQUIREMENTS

   a. Pursuant to 15A NCAC 02D .1100 and in accordance with the approved application for an air toxic compliance demonstration, the following permit limit shall not be exceeded:

Toxic Air Pollutant	Facility-Wide Emission Limit
Acetaldehyde	395 lb/hr
Acetic Acid	54.1 lb/hr
Acrolein	1.17 lb/hr
Acrylonitrile	240 lb/yr
Ammonia	39.5 lb/hr
Ammonium Chromate	0.54 lb/day
Ammonium Dichromate	0.54 lb/day
Aniline	14.6 lb/hr
Arsenic and Inorganic Arsenic Compounds	0.37 lb/yr
Aziridine	5.26 lb/day
Benzene	192 lb/yr
Benzidine and Salts	0.02 lb/yr
Benzo(a)pyrene	52.8 lb/yr
Benzyl Chloride	7.31 lb/yr
Beryllium	6.56 lb/yr
Beryllium Chloride	6.56 lb/yr
Beryllium Fluoride	6.56 lb/yr
Beryllium Nitrate	6.56 lb/yr
Bis-Chloromethyl Ether	0.59 lb/yr
Bromine	2.92 lb/hr
1,3-Butadiene	272 lb/yr
Cadmium	8.8 lb/yr
Cadmium Acetate	8.8 lb/yr
Cadmium Bromide	8.8 lb/yr
Calcium Chromate	0.13 lb/yr
Carbon Disulfide	163 lb/day
Carbon Tetrachloride	10,723 lb/yr
Chlorine	13.1 lb/hr; 32.9 lb/day
Chlorobenzene	1,929 lb/day
Chloroform	6,882 lb/yr

Toxic Air Pollutant	Facility-Wide Emission Limit
Chloroprene	51.1 lb/hr; 386 lb/day
Chromic Acid	0.54 lb/day
Chromium (VI)	0.13 lb/yr
Cresol	32.15 lb/hr
p-Dichlorobenzene	965 lb/hr
Dichlorodifluoromethane	217,477 lb/day
Dichlorofluoromethane	438 lb/day
Di(2-ethylhexyle)phthalate	26.3 lb/day
Dimethyl Sulfate	2.63 lb/day
1,4-Dioxane	491 lb/day
Epichlorohydrin	132,832 lb/yr
Ethyl Acetate	2,046 lb/hr
Ethylenediamine	36.5 lb/hr; 263 lb/day
Ethylene Dibromide	640 lb/yr
Ethylene Dichloride	6,081 lb/yr
Ethylene Glycol Monoethyl Ether	27.8 lb/hr; 105 lb/day
Ethylene Oxide	43.2 lb/yr
Ethyl Mercaptan	1.46 lb/hr
Fluorides	3.65 lb/hr; 14.03 lb/day
Formaldehyde	2.19 lb/hr
Hexachlorocyclopentadiene	0.15 lb/hr; 0.53 lb/day
Hexachlorodibenzo-p-dioxine	0.12 lb/yr
n-Hexane	965 lb/day
Hexane Isomers	5,262 lb/hr
Hydrazine	0.53 lb/day
Hydrogen Chloride	10.2 lb/hr
Hydrogen Cyanide	16.1 lb/hr; 123 lb/day
Hydrogen Sulfide	30.7 lb/hr
Maleic Anhydride	1.46 lb/hr; 10.5 lb/day
Manganese & Compounds	27.2 lb/day
Manganese Cyclopentadienyl Tricarbonyl	0.53 lb/day
Manganese Tetroxide	5.44 lb/day
Mercury, Alkyl	0.05 lb/day
Mercury, Aryl & Inorganic	0.53 lb/hr

Toxic Air Pollutant	Facility-Wide Emission Limit
Mercury, vapor	0.53 lb/hr
Methyl Chloroform	3,581 lb/hr; 10,523 lb/day
Methylene Chloride	24.85 lb/hr; 38,409 lb/yr
Methyl Ethyl Ketone	1,293 lb/hr; 3,245lb/day
Methyl Isobutyl Ketone	438 lb/hr; 2,245 lb/day
Methyl Mercaptan	0.73 lb/hr
Nickel Carbonyl	0.53 lb/day
Nickel Metal	5.26 lb/day
Nickel, Soluble Compounds as Nickel	5.26 lb/day
Nickel Subsulfide	3.36 lb/yr
Nitric Acid	14.6 lb/hr
Nitrobenzene	7.31 lb/hr; 52.6 lb/day
n-Nitrosodimethlamine	80.0 lb/yr
Pentachlorophenol	0.37 lb/hr; 2.63 lb/day
Perchloroethylene	304,073 lb/yr
Phenol	13.9 lb/hr
Phosgene	2.19 lb/day
Phosphine	1.90 lb/hr
Polycholinated Biphenyls	133 lb/yr
Potassium Chromate	0.54 lb/day
Potassium Dichromate	0.54 lb/day
Sodium Chromate	0.54 lb/day
Sodium Dichromate	0.54 lb/day
Strontium Chromate	0.13 lb/yr
Styrene	155 lb/hr
Sulfuric Acid	1.46 lb/hr; 10.5 lb/day
Tetrachlorodibenzo-p-dioxin	0.0048 lb/yr
1,1,1,2-Tetrachloro-2,2-Difluoroethane	45,600 lb/day
1,1,2,2,-Tetrachloro-1,2-Difluoroethane	45,600 lb/day
1,1,1,2-Tetrachloroethane	10,082 lb/yr
Toluene	818 lb/hr; 4,122 lb/day
Toluene-2,4-diisocyanate	0.22 lb/hr; 0.44 lb/day
Trichloroethylene	94,423 lb/yr
Trichlorofluoromethane	8,185 lb/hr

Toxic Air Pollutant	Facility-Wide Emission Limit
1,1,2-Trichloro-1,2,2-Trifluoroethane	13,885 lb/hr
Vinyl Chloride	608 lb/yr
Vinylidene Chloride	105 lb/day
Xylene	950 lb/hr; 2,368 lb/day
Zinc Chromate	0.13 lb/yr

Recordkeeping

b. For compliance purposes, the Permittee shall maintain records of production rates, throughput, material usage, periods of excess emissions, failure of air pollution control equipment to operate in a normal and usual manner, and other process operational information, that allows for evaluation for compliance with the toxic air pollutant limits. These records shall be retained for a minimum of three years from the date of recording, and access to these records shall be provided to the Division of Air Quality staff upon request.

Reporting

c. For compliance purposes, within thirty (30) days after each calendar year ~~quarter~~ the following shall bereported to the Regional Supervisor, Division of Air Quality:
   i. Any and all exceedances of applicable toxic air pollutant emission limits during the previous calendar year~~quarter~~.
   ii. The maximum pounds per 1-hour emission rate at any time during the previous calendar year~~quarter~~ for all applicable toxic air pollutants that have a listed emission rate in pounds per hour.
   iii. The maximum pounds per 24-hour emission rate at any time during the previous calendar year ~~quarter~~for all applicable toxic air pollutants that have a listed emission rate in pounds per day.
   iv. The yearly emission rate for the 12-month period ending with the previous calendar year ~~quarter~~ for all applicable toxic air pollutants that have a listed emission rate in pounds per year.

STATE-ENFORCEABLE ONLY

2. 15A NCAC 02D .1100: TOXIC AIR POLLUTANT EMISSIONS LIMITATIONS AND REQUIREMENTS

a. Pursuant to 15A NCAC 02D .1100 and in accordance with the approved application for an air toxiccompliance demonstration, the following permit limits shall not be exceeded:

Stack ID No.	Emission Source	Hydrogen Fluoride Emission Limits	
		lb/hr	lb/day
~~Primary Operating Scenario~~			
~~NEP-Hdr-1~~	~~Baffle Plate Scrubber (ID No. NCD-Hdr1) stack controlling: HFPO, Vinyl Ethers North, RSU, FPS Liquid Waste Stabilization, MMF, TFE-CO2 Separation, HFPO Container Decontamination, VEN Container Decontamination, and VES Container Decontamination Processes (ID Nos. NS-A, NS-B, NS-D-1, NS-E, NS-F, NS-M, NS-N, NS-O, and NS-P)~~	~~7.28~~	~~52.45~~
~~NEP-Hdr-2~~	~~Baffle Plate Scrubber (ID No. NCD-Hdr2) stack controlling: Vinyl Ethers South (ID No. NS-C)~~		
~~AEP-A1~~	~~Polymer Processing Aid Stack including Polymer Processing Aid (ID No. AS-A) process vents controlled by Wet Scrubber (ID No. ACD-A1) and indoor fugitive emissions~~		
~~Alternative Operating Scenario~~			
NEP-Hdr-1	Carbon Adsorber (ID No. NCD-Hdr3) stack controlling VE-North Indoor Fugitive Emissions (ID No. NS-B-2)	7.28	52.45
NEP-Q2	Thermal Oxidizer and 4-Stage Caustic Scrubber System (ID Nos. NCD-Q1 and NCD-Q2) stack controlling: HFPO, Vinyl Ethers North, Vinyl Ethers South, RSU, FPS Liquid Waste Stabilization, MMF, IXM Resins (except Fluorinator), E-2, TFE/CO2 Separation, HFPO Product Container Decontamination, VEN Product Decontamination, and VES Product Container Decontamination Processes (ID Nos. NS-A, NS-B, NS-C, NS-D-1, NS-E, NS-F, NS-G-1, NS-K, NS-M, NS-N, NS-O, and NS-P)		

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~~AEP-A1~~	~~Polymer Processing Aid Stack including Carbon Adsorber (ID No. ACD-A2)~~ installed on Wet Scrubber (**ID No. ACD-A1**) and heating and ventilation building exhaust		
~~**Primary and Alternative Operating Scenarios**~~			
N/A	All sources not identified above	2.7	19.4

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Monitoring

b. To ensure compliance with the limits in Section 2.2 B.2.a, above, the Permittee shall:
   ~~i. POS: ensure the proper performance of the Baffle Plate Type Tower Scrubbers (ID Nos. NCD-Hdr-1 and NCD-Hdr-2) by monitoring the injection liquid flow rate (minimum of 7,000 kilograms per hour, averaged over a 3-hour period).~~
   ~~ii.~~i. ~~AOS:~~ ensure the proper performance of the Thermal Oxidizer and 4-Stage Scrubber System (**ID Nos. NCD-Q1 and NCD-Q2**) by complying with the requirements specified in Section 2.1 B.~~10~~1.

Recordkeeping

c. The Permittee shall:
   ~~i. POS: record the results of inspections of the Baffle Plate Type Tower Scrubbers (ID Nos. NCD-Hdr-1 and NCD-Hdr-2) in a scrubber logbook (written or electronic records) that shall be kept on site and made available to Division of Air Quality personnel upon request.~~
   ~~ii.~~ ~~AOS:~~ record the results of inspections of the Thermal Oxidizer and 4-Stage Scrubber System (**ID Nos. NCD-Q1 and NCD-Q2**) as specified in Section 2.1 B.~~10~~1, above.
   ~~iii.~~i. Any variance from the manufacturer's recommendations or the permit monitoring requirements, or the failure of the air pollution control equipment to operate in a normal and usual manner, shall be investigated with corrections made and dates of action recorded in the log book. The inspection and maintenance activities, as well as required monitoring for scrubbing liquid flow rates, and scrubber pressure drops, if appropriate, shall be recorded.

d. The Permittee shall maintain records of production rates, throughput, material usage, periods of excess emissions, failure of air pollution control equipment to operate in a normal and usual manner, and other process operational information, that allows for evaluation for compliance with the toxic air pollutant limits specified in Section 2.2 B.2.a, above. These records shall be retained for a minimum of three years from the date of recording, and access to these records shall be provided to the Division of Air Quality staff upon request.

Reporting

e. For compliance purposes, within thirty (30) days after each calendar year ~~quarter~~ the following shall bereported to the Regional Supervisor, Division of Air Quality:
   i. Any and all exceedances of applicable TAP emission limits during the previous calendar year~~-quarter~~.
   ii. The maximum pounds per 1-hour emission rate at any time during the previous calendar year~~-quarter~~ forall applicable toxic air pollutants that have a listed emission rate in pounds per hour.
   iii. The maximum pounds per 24-hour emission rate at any time during the previous calendar year~~-quarter~~ for all applicable toxic air pollutants which have a listed emission rate in pounds per day.

3. **40 CFR Part 68 "ACCIDENTAL RELEASE PREVENTION REQUIREMENTS: RISK MANAGEMENT PROGRAMS UNDER THE CLEAN AIR ACT, SECTION 112(r)"**
   a. The Permittee is subject to Section 112(r) of the Clean Air Act and shall comply with allapplicable requirements in accordance with 40 CFR Part 68.

   Recordkeeping/Reporting [15A NCAC 02Q .0508(f)]
   b. The Permittee submitted a Risk Management Plan (RMP) to EPA pursuant to 40 CFR Part 68.150 on August 18, 2014.

   c. The Permittee shall revise and update the RMP submitted under 40 CFR 68.150 by August 31, 2019, and at least once every five years after that date or most recent update required by 40 CFR 68.190(b)(2) through(b)(7), whichever is later.

STATE-ENFORCEABLE ONLY

4. **15A NCAC 02D .0541: CONTROL OF EMISSIONS FROM ABRASIVE BLASTING**
   a. The Permittee shall ensure that any abrasive blasting operation conducted outside a building or conducted indoors and vented to the atmosphere is performed in accordance with the requirements set forth in 15ANCAC 02D .0521, Control of Visible Emissions. Any visible emissions reading for abrasive blasting performed outside a building shall be taken at a spot approximately one meter above the point of abrasive blasting with a viewing distance of approximately five meters.

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b. All abrasive blasting operations shall be conducted within a building, except as provided below. The following abrasive blasting operations need not be conducted within a building:
   i. Abrasive blasting of an item that exceeds eight feet in any dimension; or,
   ii. Abrasive blasting of a surface situated at its permanent location or not further away from itspermanent location than is necessary to allow the surface to be blasted.

c. Any abrasive blasting operation conducted outside a building, as provided in Section 2.2 B.3.b.i or ii, above, shall take appropriate measures to ensure that the fugitive dust emissions created by the abrasive blasting operation do not migrate beyond the property boundaries in which the abrasive blasting operation is being conducted. Appropriate measures include the following:
   i. Addition of a suppressant to the abrasive blasting material;
   ii. Wet abrasive blasting;
   iii. Hydro-blasting;
   iv. Vacuum blasting;
   v. Shrouded blasting; or
   vi. Shrouded hydro-blasting.

STATE-ENFORCEABLE ONLY

5. 15A NCAC 02D .1806: CONTROL AND PROHIBITION OF ODOROUS EMISSIONS

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

C. PERMIT APPLICATION SUBMITTAL REQUIREMENT

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

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

a. As required under 15A NCAC 02Q .0501(b)(2), the Permittee shall have one year from the date ofbeginning normal operation of the Thermal Oxidizer **(ID No. NCD-Q1)**, the 4-Stage Caustic Scrubber **(ID No. NCD-Q2)**, the Lime Silo **(ID No. NS-R1)**, or the Lime Slaker **(ID No. NS-R2)**, whichever is first, to file an amended application following the procedures of Section 15A NCAC 02Q .0504.

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

b. The Permittee shall notify the Regional Office, in writing, of the date of beginning normal operation of the Thermal Oxidizer **(ID No. NCD-Q1)**, the 4-Stage Caustic Scrubber **(ID No. NCD-Q2)**, the Lime Silo **(ID No. NS-R1)**, or the Lime Slaker **(ID No. NS-R2)**, postmarked no later than 30 days after such date.

D. FACILITY-WIDE

STATE-ENFORCEABLE ONLY

1. 15A NCAC 02Q .0519(a)(7) and CONSENT ORDER

a. To carry out the purposes of N.C.G.S. §143 Article 21B and to ensure that air emissions do not contribute to groundwater violations, and pursuant to the Consent Order,[6] the Permittee shall reduce facility-wide annual emissions (including fugitive, maintenance, malfunction, or accidental emissions) of GenX Compounds[7] to less than 23.027 pounds per year, which constitutes a 99 percent reduction from the 2017 Total Reported Emissions of 2,302.7 pounds per year. The Section 2.2 D.1 requirements shall survive termination of the Consent Order[6] and any part thereof. The requirements in this section shall be included in all subsequent air quality permits for the Chemours Company – Fayetteville Works Facility unless the Director determines that the requirements in this section are no longer necessary to carry out the purposes of N.C.G.S. §143 Article 21B and any other applicable statutes and regulations. The Permittee shall comply with the following requirements:

i. Permittee shall demonstrate compliance with the GenX Compounds emission limit of 23.027 pounds per year by calculating annual emissions each calendar month for the previous 12 months.

ii. The Permittee shall reduce emissions of GenX Compounds by 99.99 percent from the HFPO Process, Vinyl Ethers North Process, Vinyl Ethers South Process, RSU Process, FPS Liquid Waste Stabilization Process, MMF Process, IXM Resins Process (except Fluorinator), E-2 Process, TFE/CO_2 Separation Process, HFPO Product Container Decontamination Process, VEN Product Decontamination Process, and VES Product Container Decontamination Process **(ID Nos. NS-A, NS-B, NS-C, NS-D-1, NS-E, NS-F, NS-G-1, NS-K, NS-M, NS-N, NS-O, and NS-P)** by installing, operating, and maintaining a Thermal Oxidizer and 4-Stage Scrubber System **(ID Nos. NCD-Q1 and NCD-Q2)**, as required in Section 2.1 B.11, above.

iii. The Permittee shall install, operate, and maintain Carbon Adsorbers as specified in Section 2.2 D.1.b through g, below to reduce emissions of GenX Compounds from the following sources:
   (A) Carbon Adsorber **(ID No. ACD-A2)** installed to control emissions from the Polymer Processing Aid Process **(ID No. AS-A)**;
   (B) Carbon Adsorber **(ID No. NCD-Q3)** installed to control VE-North Indoor Fugitives **(ID No. NS-B-2)**;
   (C) Carbon Adsorber **(ID No. NCD-Q4)** installed to control VE-South Indoor Fugitives **(ID No. NS-C-2)**; and
   (D) Carbon Adsorber **(ID No. SCD-SW1)** installed to control emissions from Semiworks Polymerization Operation, Semiworks Laboratory Hood, and VE Research Laboratory Hood and Chemical Storage Cabinet **(ID Nos. SW-1, SW-2, and I-05-2, respectively)**.

iv. The Permittee shall reduce emissions of GenX Compounds from process equipment by complying with the enhanced leak detection and repair program as specified in Section 2.2 D.1.h, below.

v. The Permittee shall comply with the recordkeeping and reporting requirements specified in Section 2.2 D.1.i through m, below.

Testing – Carbon Adsorbers [15A NCAC 02Q .0308(a)]

b. The Permittee shall conduct performance tests for GenX Compounds emissions from each Carbon Adsorber **(ID Nos. ACD-A2, NCD-Q3, NCD-Q4, and SCD-SW1)** in accordance with General Condition JJ and in accordance with a testing protocol approved by DAQ at least 45 days prior to conducting the performance test. During each performance test, the Permittee shall collect production data and hours of operation. Two copies of the final air emission test report shall be submitted to the Director not later than 45 days after each performance test.

c. ~~The Permittee shall conduct an initial performance test on the VE-South Indoor Fugitives Carbon Adsorber (ID No. NCD-Q4) no later than July 12, 2020.~~ The Permittee shall conduct an initial performance test on the Semiworks Carbon Adsorber **(ID No. SCD-SW1)** no later than 60 days after startup of normal operations of the adsorber system.

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[6] "Consent Order" means the Consent Order entered on February 25, 2019, in State of North Carolina, ex rel., Michael S. Regan, Secretary, North Carolina Department of Environmental Quality v. The Chemours Company FC, LLC, 17 CVS 580 (Bladen County).

[7] "GenX Compounds" means HFPO Dimer Acid, also known as C3 Dimer Acid (CAS No. 13252-13-6); HFPO Dimer Acid Fluoride, also known as C3 Dimer Acid Fluoride (CAS No. 2062-98-8); and HFPO Dimer Acid Ammonium Salt, also known as C3 Dimer Acid Ammonium Salt (CAS No. 62037-80-3).

d. The Permittee shall also conduct performance tests in order to develop carbon replacement schedules for each carbon adsorber (ID Nos. **ACD-A2, NCD-Q3, NCD-Q4, and SCD-SW1**). The replacement schedules shall be approved by DAQ and shall be based on hours of operation, production rate, or another approved parameter. Until a replacement schedule is submitted to and approved by DAQ, carbon adsorber performance tests shall be conducted as follows:

i. On a quarterly basis for the PPA Process, VE-North Indoor Fugitives, and VE-South Indoor Fugitives carbon adsorbers (ID Nos. **ACD-A2, NCD-Q3, and NCD-Q4**); and
ii. On an annual basis for the Semiworks carbon adsorber (ID No. SCD-SW1).

~~c.~~e. Once the carbon replacement schedule has been approved, the Permittee shall conduct periodic performance tests within a 13-month time period ~~after the date of~~following the previous performance test.

~~d.~~f.

~~e.~~ The Permittee shall conduct additional performance tests to reestablish the carbon replacement schedule no later than 90 days after permanent changes are made in production capacity, process feedstock type, or whenever there is a replacement, removal, or addition of an emission source or control device which has an impact significant enough to affect carbon bed performance. ~~After the revised replacement schedule is approved, the Permittee shall resume annual performance testing. The Permittee shall conduct performance tests to determine or reestablish replacement schedules as follows:~~

~~f. Beginning May 13, 2019, T~~the Permittee shall determine, or reestablish if necessary, the carbon replacement schedule for the Polymer Processing Aid Process and VE-North Indoor Fugitives Carbon Adsorbers ~~(ID Nos. ACD-A2 and NCD-Q3)~~ ~~on a quarterly basis.~~

~~g. The Permittee shall determine, or reestablish if necessary, the carbon replacement schedule for VE-South Indoor Fugitives Carbon Adsorber (ID No. NCD-Q4) on a quarterly basis.~~

~~h. The Permittee shall determine the carbon replacement schedule for the Semiworks Carbon Adsorber (ID No. SCD-SW1) on an annual basis.~~

Inspections – Carbon Adsorbers [15A NCAC 02Q .0308(a)]

~~i.~~g. Emissions of GenX Compounds from Polymer Processing Aid Process **(ID No. AS-A)**, VE-North Indoor Fugitives **(ID No. NS-B-2)**, VE-South Indoor Fugitives **(ID No. NS-C-2)**, and Semiworks Polymerization Operation, Semiworks Laboratory Hood, and VE Research Laboratory Hood and Chemical Storage Cabinet **(ID Nos. SW-1, SW-2, and I-05-2, respectively)** shall be controlled by Carbon Adsorbers **(ID Nos. ACD-A2, NCD-Q3, NCD-Q4, and SCD-SW1, respectively)**. To ensure compliance, the Permittee shall perform annual 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 annual inspection and maintenance shall include the following:

i. inspect and maintain the structural integrity of the carbon adsorber systems; and
ii. inspect and maintain the structural integrity of duct work and piping leading to the carbon adsorber.

Shutdown and Malfunction – Carbon Adsorbers [15A NCAC 02Q .0308(a)]

~~j.~~h. Except as specified in Section 2.2 D.1.~~g~~i, below, the Permittee shall:

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i. Operate the Carbon Adsorber **(ID No. ACD-A2)** at all times when the Polymer Processing Aid Process is operating.
ii. Operate the Carbon Adsorber **(ID No. NCD-Q3)** at all times when the VE-North Process is operating.
iii. Operate the Carbon Adsorber **(ID No. NCD-Q4)** at all times when the VE-South Process is operating.
iv. Operate the Carbon Adsorber **(ID No. SCD-SW1)** at all times when the Semiworks Process or VE Laboratory Processes are operating.

~~k.~~i. The Polymers Processing Aid Carbon Adsorber **(ID No. ACD-A2)** system shall be equipped with a differential pressure monitor on the primary blower and the scrubber blower. The VE-North Indoor Fugitives Carbon Adsorber **(ID No. NCD-Q3)** system shall be equipped with a differential pressure monitor on the blower and the tower. The VE-South Indoor Fugitives Carbon Adsorber **(ID No. NCD-Q4)** and Semiworks Carbon Adsorber **(ID No. SCD-SW1)** systems shall be equipped with a differential pressure monitor on the blower and an alarm on the exhaust blower to indicate whether the blower is running. Each monitor shall trigger an alarm in the control room when the differential pressure indicates improper operation of the carbon bed blower. The Permittee shall develop, and submit to DAQ for approval, a site-specific monitoring plan that addresses design, data collection, and quality assurance/quality control elements for operating each CMS installed on the carbon adsorbers. The monitoring plan shall, at a minimum, address the following:

i. ~~Initial and a~~Any ~~subsequent~~ Cealibrations of the CMS;

ii. Determination and adjustment of the calibration drift of the CMS;
iii. Preventive maintenance of the CMS, including spare parts inventory;
iv. Data recording, calculations, and reporting;
v. Accuracy audit procedures, including sampling and analysis methods;
vi. Program of corrective action for a malfunctioning CMS;
vii. Ongoing operation and maintenance procedures; and
viii. Ongoing data quality assurance procedures.

~~l.~~j. ~~No later than April 13, 2019, the Permittee shall develop, and submit to DAQ for approval.~~The Permittee shall ~~keep~~maintain a detailed shutdown and malfunction plan for the Polymer Processing Aid Process and VE-North Indoor Fugitive Carbon Adsorbers **(ID Nos. ACD-A2 and NCD-Q3)**, that contains specific procedures for initiating the shutdown of process emission sources during periods of control device shutdown and malfunction, and a program of corrective action for malfunctioning processes and control systems used to comply with the limits in Section 2.2 D.1.a, above. No later than June 12, 2020, the Permittee shall update, and submit to DAQ for approval, the detailed shutdown and

malfunction plan to include the VE-South Indoor Fugitives and Semiworks Carbon Adsorbers **(ID Nos. NCD-Q3 and SCD-SW1)**. The Permittee shall keep a copy of the approved plan onsite. At a minimum, the plan shall include:

i. To ensure that the control devices are well maintained to minimize malfunctions, a maintenance schedule for the carbon adsorbers that is consistent with, but not limited to the manufacturer's instructions and recommendations for routine and long-term maintenance, as specified in Section 2.2 D.1.~~fg~~g, above.
ii. An inspection schedule for each CMS installed on the carbon adsorbers to ensure, at least once in each 24-hour period, that each CMS is properly functioning.
iii. A determination of the alarm set point for the differential pressure monitors installed on the carbon adsorber systems specified in Section 2.2 D.1.~~gi~~i, above.
iv. At no time shall the emissions from the Polymer Processing Aid Process **(ID No. AS-A)**, the VE-North Indoor Fugitives **(ID No. NS-B-2)**, the VE-South Indoor Fugitives **(ID No. NS-C-2)**, and Semiworks Polymerization Operation, Semiworks Laboratory Hood, and VE Research Laboratory Hood and Chemical Storage Cabinet **(ID Nos. SW-1, SW-2, and I-05-2, respectively)** be allowed to vent to the atmosphere without being controlled in the associated Carbon Adsorbers **(ID Nos. ACD-A2, NCD-Q3, NCD-Q4, and SCD-SW1, respectively)**.

Inspections and Monitoring – Enhanced Leak Detection and Repair Program [15A NCAC 02Q .0308(a)]

~~m.~~k. ~~No later than May 13, 2019, the Permittee shall develop, and submit to DAQ for approval, an enhanced leak detection and repair program.~~ The Permittee shall conduct inspections and monitor to detect leaks from equipment identified in ~~the~~an approved enhanced leak detection and repair program. The program shall address the following.

i. *Pressure testing* for 30-minute intervals to detect a pressure drop rate up to 0.5 pounds per square inch (gauge) for those process lines with the potential to include 1 percent by weight of GenX Compounds, or greater.
ii. *Enhanced audial, visual, and olfactory (AVO) inspections*, including, but not limited to:
    (A) expanding the equipment subject to the inspection process;
    (B) conducting daily AVO inspections of all outdoor equipment containing at least 1 percent by weight, or greater, GenX Compounds; and
    (C) completing a checklist of all equipment to be inspected along with information such as date and time of inspection, the names of personnel conducting the inspection, and detailed descriptions of the areas or equipment inspected.
iii. *Routine Method 21 Instrument Monitoring* for all outdoor equipment on process lines with the potential to contain at least 1 percent GenX Compounds.
iv. *Enhanced area monitoring*, including but not limited to, increasing the number of area monitoring sampling locations, specifically those process streams with the potential to include 1 percent by weight of GenX Compounds and upgrading the monitoring system.
v. *Replacement or improvement program for valves and connectors*, using leak detection and repair monitoring to initiate replacement with low emission technology. The program shall address the following:
    (A) the leak definition, not to exceed 500 ppm, as measured by instrument monitoring;
    (B) the criteria for replacement of manual valves and gaskets and automated valves, including:
        (1) the procedure for the normal means of repair for the first leak and, at a minimum, will include tightening of flanges, packing, or bonnets; and
        (2) once repaired, the program shall specify how the repaired equipment will be tested and how the Permittee will treat equipment that is still leaking.
    (C) how the Permittee will address equipment is found to be leaking above 500 ppm twice during a rolling 12-month period, including a requirement to replace these components with low-emission technology during the next shutdown, regardless of whether a first attempt at repair succeeds in repairing a second leak.
vi. The maintenance and calibration of any instrumentation and equipment used to implement the enhanced leak detection and repair program in paragraphs i. through v., above.

Compliance Demonstration [15A NCAC 02Q .0308(a)]

~~n.~~l. The Permittee shall demonstrate initial compliance with the emission limitation specified in Section 2.2 D.1.a, above, by submitting a report to DAQ by February 28, 2021. The report shall include the following information for the 12-month period beginning December 31, 2019:

i. Emissions of GenX Compounds, in pounds per year, shall be quantified for process vents, fugitive emissions, maintenance emissions and accidental emissions. Emissions shall be calculated based on test data, or established emission factors where test data are not available, hours of operation, and production data.
ii. A summary of control device operating parameters throughout the year.

~~o.~~m. After the initial compliance report specified in Section 2.2 D.1.~~jl~~l, above, the Permittee shall demonstrate continuous compliance with the emission limitation specified in Section 2.2 D.1.a, above, by submitting quarterly reports

summarizing the information specified in Section 2.2 D.1.~~j~~l, above. The continuous compliance reports shall be submitted in accordance with the schedule specified in Section 2.2 D.1.~~m~~p, below, and the first report shall be postmarked on or before April 30, 2021.

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

~~p.~~n. The Permittee shall record the following information monthly in a logbook (written or electronic format) that shall be maintained on-site and made available to DAQ, upon request.

i. Records of all production data and hours of operation collected during performance tests.
ii. Records of the calculations, and all supporting documentation, of annual GenX Compound emissions to demonstrate compliance with the emissions limitation specified in Section 2.2 D.1.a, above.
iii. If the emission source is not operating, a record of this fact, along with the corresponding date and time.
iv. Records of all inspections and maintenance conducted for the Carbon Adsorbers **(ID Nos. ACD-A2, NCD-Q3, NCD-Q4, and SCD-SW1)** as specified in Section 2.2 D.1.~~q~~r, above.
v. Records of all instances of process shutdowns, including those triggered by the pressure differential alarms associated with carbon adsorber systems.
vi. Records of all inspections and calibrations of monitoring equipment as required in Section 2.2 D.1.~~s~~h and D.1.~~t~~k, above.

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~~q.~~o. The Permittee must keep each entry in the log and all required records on file for a minimum of five years. In addition to the records identified in Section 2.2 D.1.~~k~~n, above, the Permittee shall also keep the following records.

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i. A copy of each test report and compliance report submitted to DAQ to comply with Section 2.2 D.1, including all documentation supporting any compliance report.
ii. The most recent copy of the approved Carbon Adsorber shutdown and malfunction plan required in Section 2.2 D.1.~~g~~i, above. Records of instances where the differential pressure monitors or blower alarms required in Section 2.2 D.1.~~h~~j, above, have resulted in process shutdowns.
iii. The most recent copy of the approved Enhanced Leak Detection and Repair Program required in Section 2.2 D.1.~~t~~k, above, including the following:
   (A) Pressure testing records, including, but not limited to, the date of inspection, results of the inspection/pressure testing, repairs made to any equipment found to be leaking during pressure testing, and follow-up pressure testing to verify successful repair;
   (B) AVO inspection records, including the completed checklist specified in Section 2.2 D.1.~~t~~k.ii.C, above, and inspection results including any leaks found and repair actions taken;
   (C) Method 21 and enhanced area monitoring results; and
   (D) Replacement program for valves and connectors logs of leakers and repair attempts.

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

~~r.~~p. The Permittee shall submit a quarterly summary report, acceptable to the Regional Air Quality Supervisor, of monitoring and recordkeeping activities specified in Section 2.2 D.1, above, postmarked on or before January 30 of each calendar year for the preceding three-month period between October and December; April 30 of each calendar year for the preceding three-month period between January and March; July 30 of each calendar year for the preceding three-month period between April and June; and October 30 of each calendar year for the preceding three-month period between July and September. All instances of deviations from the requirements of this permit must be clearly identified.

i. The summary report shall include the information recorded as required in Section 2.2 D.1.~~k~~n and ~~l~~o, above.
ii. The Permittee shall include in the summary report any excess emissions that have occurred during the reporting period. Excess emissions are defined as any calculated annual rolling average GenX Compound emissions rate, calculated as required in Section 2.2 D.1.a, above, that exceeds the emission limit in Section 2.2 D.1.a, above.

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~~s.~~q. The Permittee shall have an ongoing duty to disclose to DAQ:

i. any identified previously undisclosed PFAS and emissions rates for those PFAS, and
ii. any new process or production that may lead to the addition of any previously undisclosed PFAS in the Facility's air emissions. For any such PFAS, the Permittee shall provide DAQ with any available analytical test methods and lab standards. The Permittee shall provide DAQ with all known test methods and lab standards for PFAS in air emissions at the facility by December 31, 2018.

2.3 Permit Shield for Nonapplicable Requirements

The Permittee is shielded from the following nonapplicable requirements [15A NCAC 02Q .0512(a)(1)(B)].

A. Temporary Boiler (ID No. PS-TEMP) – natural gas/No. 2 fuel oil-fired boiler

1. The NSPS for Small Industrial-Commercial-Institutional Steam Generating units (40 CFR Part 60, Subpart Dc) and 15A NCAC 02D .0524 are not applicable to the natural gas/No. 2 fuel oil-fired temporary boiler **(ID No. PS-Temp)** because the boiler is a temporary boiler, as defined in §60.41c, provided the following criteria are met:
   a. The boiler only fires natural gas and distillate oil;
   b. The potential SO_2 emissions are equal to or less than 0.060 lb/MMBtu;
   c. The boiler is designed to, and is capable of, being carried or moved from one location to another and isnot attached to a foundation; and
   d. The boiler remains at the location for 180 consecutive days or fewer (any temporary boiler that replaces a temporary boiler at a location and performs the same or similar function will be included incalculating the consecutive time period).

2. The National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters (40 CFR Part 63, Subpart DDDDD) and 15A NCAC 02D .1111 are not applicable to the natural gas/No. 2 fuel oil-fired temporary boiler **(ID No. PS-Temp)** because the boiler is a temporary boiler, as defined in §63.7575, provided the criteria in Section 2.3 A.1 through A.4 are met.

3. The Permittee shall maintain the following records documenting that the natural gas/No. 2 fuel oil-fired temporary boiler **(ID No. PS-Temp)** meets the criteria for a temporary boiler. These records shall be maintained in alogbook (written or electronic format) on-site and made available to an authorized representative upon request.
   a. the first, last and total number of days the boiler remains at the location;
   b. records of fuel usage in the boiler showing the type of fuel fired;
   c. records of fuel sulfur content of distillate oil fired in the boiler; and;
   d. the function of the boiler for each consecutive time period.

4. The Permittee shall submit a startup notification to the Fayetteville Regional Office within 15 days of startup of the temporary boiler **(ID No. PS-Temp)**.

SECTION 3 - GENERAL CONDITIONS (version 5.3, 08/21/2018)

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 and any information submitted in support of the application package. The permit and application shall be made available to an authorized representative of Department of Environmental Quality upon request.

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

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

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

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

E. **Duty to Comply** [15A NCAC 02Q.0508(i)(3)]
The Permittee shall comply with all terms, conditions, requirements, limitations and restrictions set forth in this permit. Noncompliance with any permit condition except conditions identified as state-only requirements constitutes a violation of the Federal Clean Air Act. Noncompliance with any permit condition is grounds for enforcement action, for permit termination, revocation and reissuance, or modification, or for denial of a permit renewal application.

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

G. **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
   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 and Permit Deviations** [15A NCAC 02D .0535(f) and 02Q .0508(f)(2)]
"Excess Emissions" - means an emission rate that exceeds any applicable emission limitation or standard allowed by any rule in Sections .0500, .0900, .1200, or .1400 of Subchapter 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.)*

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

Excess Emissions

1. If a source is required to report excess emissions under NSPS (15A NCAC 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.
2. 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).

Permit Deviations

3. Pursuant to 15A NCAC 02Q .0508(f)(2), the Permittee shall report deviations from permit requirements (terms and conditions) as follows:
   a. Notify the Regional Supervisor or Director of all other deviations from permit requirements not covered under 15A NCAC 02D .0535 quarterly. A written report to the Regional Supervisor shall include the probable cause of such deviation and any corrective actions or preventative actions taken. The responsible official shall certify all deviations from permit requirements.

I.B Other Requirements under 15A NCAC 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. **Emergency Provisions** [40 CFR 70.6(g)]
The Permittee shall be subject to the following provisions with respect to emergencies:

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

2. An emergency constitutes an affirmative defense to an action brought for noncompliance with such technology-based emission limitations if the conditions specified in 3. below are met.
3. The affirmative defense of emergency shall be demonstrated through properly signed contemporaneous operating logs or other relevant evidence that include information as follows:
   a. an emergency occurred and the Permittee can identify the cause(s) of the emergency;
   b. the permitted facility was at the time being properly operated;
   c. during the period of the emergency the Permittee took all reasonable steps to minimize levels of emissions that exceeded the standards or other requirements in the permit; and
   d. the Permittee submitted notice of the emergency to the DAQ within two working days of the time when emission limitations were exceeded due to the emergency. This notice must contain a description of the emergency, steps taken to mitigate emissions, and corrective actions taken.
4. In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.
5. This provision is in addition to any emergency or upset provision contained in any applicable requirement specified elsewhere herein.

K. **Permit Renewal** [15A NCAC 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 and EPCRA Enforcement Branch, EPA, Region 4, 61 Forsyth Street SW, Atlanta, GA 30303) postmarked on or before March 1 a compliance certification (for the preceding calendar year) by a responsible official with all federally-enforceable terms and conditions in the permit, including emissions limitations, standards, or work practices. It shall be the responsibility of the current owner to submit a compliance certification for the entire year regardless of who owned the facility during the year. The compliance certification shall

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

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

Q. **Certification by Responsible Official** [15A NCAC 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 itspermit.
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 asrequired.

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. **Prevention of Accidental Releases General Duty Clause - Section 112(r)(1)** – FEDERALLY-ENFORCEABLE ONLY
Although a risk management plan may not be required, if the Permittee produces, processes, handles, or stores any amount of a listed hazardous substance, the Permittee has a general duty to take such steps as are necessary to prevent the accidental release of such substance and to minimize the consequences of any release.

FF. **Title IV Allowances** [15A NCAC 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, .0912, .1110, .1111, or .1415 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, 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 this Section if the methods can be demonstrated to determine compliance of permitted emission sources or pollutants.
    b. The Director may authorize the Division of Air Quality to conduct independent tests of any source subject to a rule in this Subchapter 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 Section 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 Part 60, 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 (EPA - Air Planning Branch, 61 Forsyth Street SW, Atlanta, GA 30303) in writing at least seven days before the change is made. The written notification shall include:
   a. a description of the change at the facility;
   b. the date on which the change will occur;
   c. any change in emissions; and
   d. any permit term or condition that is no longer applicable as a result of the change.

In addition to this notification requirement, with the next significant modification or Air Quality Permit renewal, the Permittee shall submit a page "E5" of the application forms signed by the responsible official verifying that the

application for the 502(b)(10) change/modification, is true, accurate, and complete. Further note that modifications made pursuant to 502(b)(10) do not relieve the Permittee from satisfying preconstruction requirements.

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

ATTACHMENT

List of Acronyms

~~**AOS**~~	~~Alternative Operating Scenario~~
~~**BACT**~~	~~Best Available Control Technology~~
Btu	British thermal unit
CAA	Clean Air Act
~~**CAIR**~~	~~Clean Air Interstate Rule~~
CEM	Continuous Emission Monitor
CFR	Code of Federal Regulations
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
HAP	Hazardous Air Pollutant
MACT	Maximum Achievable Control Technology
NAA	Non-Attainment Area
NCAC	North Carolina Administrative Code
NCGS	North Carolina General Statutes
NESHAP	National Emission Standards for Hazardous Air Pollutants
NO_X	Nitrogen Oxides
NSPS	New Source Performance Standard
OAH	Office of Administrative Hearings
PM	Particulate Matter
PM_{10}	Particulate Matter with Nominal Aerodynamic Diameter of 10 Micrometers or Less
~~**POS**~~	~~Primary Operating Scenario~~
PSD	Prevention of Significant Deterioration
RACT	Reasonably Available Control Technology
RMP	**Risk Management Plan**
SIC	Standard Industrial Classification
SIP	State Implementation Plan
SO_2	Sulfur Dioxide
tpy	Tons Per Year
VOC	Volatile Organic Compound

APPENDIX C CAM PLAN

Compliance Assurance Monitoring Plan for the Lime Silo (ID No. NS-R1)

Emissions Unit Description: Lime Silo – NS-R2
Control Device Description: Pulse Jet Baghouse – NCD-R1

Applicable Regulation: 15A NCAC 02D .0515
Regulated Pollutant: Particulate Matter
Emission Limitation: $E = 4.10 \times P^{0.67}$
where:
E = allowable particulate emission rate in pounds per hour
P = process weight rate in tons per hour

	Indicator 1	Indicator 2
I. Indicator	Operating Parameter: Visible Emissions	Operating Parameter: Inspection and Maintenance Program
Measurement Approach	Visible emissions from the baghouse will be monitored to evaluate for the presence of visible emissions. If visible emissions are present, Chemours will determine visible emissions by conducting a Method 9 opacity reading for 12 minutes.	Monthly visual inspection of the system ductwork and material collection unit for leaks and annual internal inspection of baghouse's structural integrity.
II. Indicator Range	Indicator Level: Any visible emissions will trigger a 12 minute Method 9 evaluation. Opacity readings greater than 20% opacity will be an excursion. QIP Threshold: Excursions below the indicator range for no more than 3 days during the semi-annual report period.	Indicator Level: An excursion is identified as failure to conduct the monthly or annual inspections.
III. Performance Criteria		
a. Data Representativeness	Measurements will be taken at the emission release point (exhaust of the baghouse).	Baghouses and associated ductwork will be inspected visually for signs of deterioration.
b. QA/QC Practices and Criteria	The certified observer will perform any Method 9 evaluations, if required.	Maintenance, or other qualified personnel, will perform inspection and baghouse maintenance.
c. Monitoring Frequency	Data Collection Procedures: The visible emission observation will be conducted once per day when silo loading is occurring. The results will be maintained in a logbook. Averaging Period: Not applicable.	Data Collection Procedures: Monthly visual inspection and annual internal inspection. The results will be maintained in a logbook. Averaging Period: Not applicable.

APPENDIX D EMISSION CALCULATIONS FOR I-RICE-05

GAS & DIESEL INTERNAL COMBUSTION ENGINES EMISSIONS CALCULATOR REVISION S 6/22/2015 - OUTPUT SCREEN

NCDENR

Instructions: Enter emission source / facility data on the "INPUT" tab/screen. The air emission results and summary of input data are viewed/printed on the "OUTPUT" tab/screen. The different tabs are on the bottom of this screen.

This spreadsheet is for your use only and should be used with caution. DENR does not guarantee the accuracy of the information contained. This spreadsheet is subject to continual revision and updating. It is your responsibility to be aware of the most current information available. DENR is not responsible for errors or omissions that may be contained herein.

SOURCE / FACILITY / USER INPUT SUMMARY (FROM INPUT SCREEN)

COMPANY:	The Chemours Company FC, LLC					FACILITY ID NO.:	900009
						PERMIT NUMBER:	03735T48
EMISSION SOURCE DESCRIPTION:	540 HP POWER OUTPUT, DIESEL INTERNAL COMBUSTION ENGINE					FACILITY CITY:	Fayetteville
EMISSION SOURCE ID NO.:	I-RICE-05					FACILITY COUNTY:	Cumberland
SPREADSHEET PREPARED BY:	KME					POLLUTANT	CONTROL EFF.
ACTUAL THROUGHPUT	500	HRS OF OPERATION	FUEL HEATING VALUE:	140000	BTU/GAL	PM	0
REQUESTED ANNUAL LIMITATION	500	HRS OF OPERATION	CALCULATIONS:	0.138	mm BTU/GAL	PM10	0
SULFUR CONTENT OF DIESEL FUEL (%)	0					PM2.5	0
METHOD USED TO COMPUTE ACTUAL GHG EMISSIONS:	TIER 1: DEFAULT HIGH HEAT VALUE AND DEFAULT EF					SO2	0
CARBON CONTENT USED FOR GHGS (kg C/gal):	CARBON CONTENT NOT USED FOR CALCULATION TIER CHOSEN					NOX	0
						CO	0
						VOC	0

CRITERIA AIR POLLUTANT EMISSIONS INFORMATION

	ACTUAL EMISSIONS (AFTER CONTROLS / LIMITS)		POTENTIAL EMISSIONS (BEFORE CONTROLS/LIMITS)		POTENTIAL EMISSIONS (AFTER CONTROLS /LIMITS)		EMISSION FACTOR
AIR POLLUTANT EMITTED	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr	lb/hp-hr uncontrolled
PARTICULATE MATTER (PM)	1.19	0.30	1.19	5.20	1.19	0.30	2.20E-03
PARTICULATE MATTER<10 MICRONS (PM_{10})	1.19	0.30	1.19	5.20	1.19	0.30	2.20E-03
PARTICULATE MATTER<2.5 MICRONS ($PM_{2.5}$)	1.19	0.30	1.19	5.20	1.19	0.30	2.20E-03
SULFUR DIOXIDE (SO_2)	0.66	0.16	0.66	2.87	0.66	0.16	1.21E-03
NITROGEN OXIDES (NOx)	16.74	4.19	16.74	73.32	16.74	4.19	3.10E-02
CARBON MONOXIDE (CO)	3.61	0.90	3.61	15.80	3.61	0.90	6.68E-03
VOLATILE ORGANIC COMPOUNDS (VOC)	1.36	0.34	1.36	5.95	1.36	0.34	2.51E-03

TOXIC / HAZARDOUS AIR POLLUTANT EMISSIONS INFORMATION

		ACTUAL EMISSIONS (AFTER CONTROLS / LIMITS)		POTENTIAL EMISSIONS (BEFORE CONTROLS / LIMITS)		POTENTIAL EMISSIONS (AFTER CONTROLS /LIMITS)		EMISSION FACTOR
TOXIC / HAZARDOUS AIR POLLUTANT	CAS NUMBER	lb/hr	lb/yr	lb/hr	lb/yr	lb/hr	lb/yr	lb/hp-hr uncontrolled
Acetaldehyde (H,T)	75070	2.90E-03	1.45E+00	2.90E-03	2.54E+01	2.90E-03	1.45E+00	5.37E-06
Acrolein (H,T)	107028	3.50E-04	1.75E-01	3.50E-04	3.06E+00	3.50E-04	1.75E-01	6.48E-07
Arsenic unlisted compounds (H,T)	ASC-Other	1.51E-05	7.56E-03	1.51E-05	1.32E-01	1.51E-05	7.56E-03	2.80E-08
Benzene (H,T)	71432	3.53E-03	1.76E+00	3.53E-03	3.09E+01	3.53E-03	1.76E+00	6.53E-06
Benzo(a)pyrene (H,T)	50328	7.11E-07	3.55E-04	7.11E-07	6.23E-03	7.11E-07	3.55E-04	1.32E-09
Beryllium metal (unreacted) (H,T)	7440417	1.13E-05	5.67E-03	1.13E-05	9.93E-02	1.13E-05	5.67E-03	2.10E-08
1,3-Butadiene (H,T)	106990	1.48E-04	7.39E-02	1.48E-04	1.29E+00	1.48E-04	7.39E-02	2.74E-07
Cadmium metal (elemental unreacted) (H,T)	7440439	1.13E-05	5.67E-03	1.13E-05	9.93E-02	1.13E-05	5.67E-03	2.10E-08
Chromic Acid (VI) (H,T)	7738945	1.13E-05	5.67E-03	1.13E-05	9.93E-02	1.13E-05	5.67E-03	2.10E-08
Formaldehyde (H,T)	50000	4.46E-03	2.23E+00	4.46E-03	3.91E+01	4.46E-03	2.23E+00	8.26E-06
Lead unlisted compounds (H)	PBC-Other	3.40E-05	1.70E-02	3.40E-05	2.98E-01	3.40E-05	1.70E-02	6.30E-08
Manganese unlisted compounds (H,T)	MNC-Other	2.27E-05	1.13E-02	2.27E-05	1.99E-01	2.27E-05	1.13E-02	4.20E-08
Mercury vapor (H,T)	7439976	1.13E-05	5.67E-03	1.13E-05	9.93E-02	1.13E-05	5.67E-03	2.10E-08
Napthalene (H)	91203	3.21E-04	1.60E-01	3.21E-04	2.81E+00	3.21E-04	1.60E-01	5.94E-07
Nickel metal (H,T)	7440020	1.13E-05	5.67E-03	1.13E-05	9.93E-02	1.13E-05	5.67E-03	2.10E-08
Selenium compounds (H)	SEC	5.67E-05	2.84E-02	5.67E-05	4.97E-01	5.67E-05	2.84E-02	1.05E-07
Toluene (H,T)	108883	1.55E-03	7.73E-01	1.55E-03	1.35E+01	1.55E-03	7.73E-01	2.86E-06
Xylene (H,T)	1330207	1.08E-03	5.39E-01	1.08E-03	9.44E+00	1.08E-03	5.39E-01	2.00E-06
Highest HAP (Formaldehyde)	50000	4.46E-03	2.23E+00	4.46E-03	3.91E+01	4.46E-03	2.23E+00	8.26E-06
Total HAPs		1.45E-02	7.26E+00	1.45E-02	1.27E+02	1.45E-02	7.26E+00	

TOXIC AIR POLLUTANT EMISSIONS INFORMATION (FOR PERMITTING PURPOSES)

		EXPECTED ACTUAL EMISSIONS AFTER CONTROLS / LIMITATIONS			EMISSION FACTOR
					lb/hp-hr
TOXIC AIR POLLUTANT	CAS Num.	lb/hr	lb/day	lb/yr	uncontrolled
Acetaldehyde (H,T)	75070	2.90E-03	6.96E-02	1.45E+00	5.37E-06
Acrolein (H,T)	107028	3.50E-04	8.39E-03	1.75E-01	6.48E-07
Arsenic unlisted compounds (H,T)	ASC-Other	1.51E-05	3.63E-04	7.56E-03	2.80E-08
Benzene (H,T)	71432	3.53E-03	8.46E-02	1.76E+00	6.53E-06
Benzo(a)pyrene (H,T)	50328	7.11E-07	1.71E-05	3.55E-04	1.32E-09
Beryllium metal (unreacted) (H,T)	7440417	1.13E-05	2.72E-04	5.67E-03	2.10E-08
1,3-Butadiene (H,T)	106990	1.48E-04	3.55E-03	7.39E-02	2.74E-07
Cadmium metal (elemental unreacted) (H,T)	7440439	1.13E-05	2.72E-04	5.67E-03	2.10E-08
soluble chromate compounds, as chromium (VI) equivalent	SOLCR6	1.13E-05	2.72E-04	5.67E-03	2.10E-08
Formaldehyde (H,T)	50000	4.46E-03	1.07E-01	2.23E+00	8.26E-06
Manganese unlisted compounds (H,T)	MNC-Other	2.27E-05	5.44E-04	1.13E-02	4.20E-08
Mercury vapor (H,T)	7439976	1.13E-05	2.72E-04	5.67E-03	2.10E-08
Nickel metal (H,T)	7440020	1.13E-05	2.72E-04	5.67E-03	2.10E-08
Toluene (H,T)	108883	1.55E-03	3.71E-02	7.73E-01	2.86E-06
Xylene (H,T)	1330207	1.08E-03	2.59E-02	5.39E-01	2.00E-06

GREENHOUSE GAS EMISSIONS INFORMATION (FOR EMISSIONS INVENTORY PURPOSES) - CONSISTENT WITH EPA MANDATORY REPORTING RULE (MRR) METHOD				GHG - POTENTIAL TO EMIT NOT BASED ON EPA MRR METHOD			
DISTILLATE #2	ACTUAL EMISSIONS			POTENTIAL EMISSIONS - utilize max heat input capacity or horsepower and EPA MRR Emission Factors		POTENTIAL EMISSIONS With Requested Emission Limitation - utilize requested fuel limit and EPA MRR Emission Factors	
GREENHOUSE GAS EMITTED	WILL NOT USE EPA MRR METHOD IF ONLY HOURS OF OPERATION ARE GIVEN						
	metric tons/yr	metric tons/yr, CO2e	short tons/yr	short tons/yr	short tons/yr, CO2e	short tons/yr	short tons/yr, CO2e
CARBON DIOXIDE (CO_2)	no EPA method	no EPA method	no EPA method	2,699.58	2,699.58	154.09	154.09
METHANE (CH_4)	no EPA method	no EPA method	no EPA method	1.10E-01	2.74E+00	6.25E-03	1.56E-01
NITROUS OXIDE (N_2O)	no EPA method	no EPA method	no EPA method	2.19E-02	6.53E+00	1.25E-03	3.73E-01
	TOTAL	no EPA method		TOTAL	2,708.85	TOTAL	154.61

NOTE: CO2e means CO2 equivalent.

NOTE: The DAQ Air Emissions Reporting Online (AERO) system requires short tons be reported. The EPA MRR requires metric tons be reported.

NOTE: Do not use greenhouse gas emission estimates from this spreadsheet for PSD (Prevention of Significant Deterioration) purposes.