PAT MCCRORY
Governor

DONALD R. VAN DER VAART
Secretary

SHEILA C. HOLMAN
Director

DRAFT

Dr. David M. Peele, Ph.D.
President
Avoca Incorporated
P.O. Box 129
Merry Hill, North Carolina 27957

SUBJECT: Air Quality Permit No. 01819T47
Facility ID: 0800044
Avoca Incorporated
Merry Hill, Bertie County, North Carolina
Fee Class: Title V
PSD Status: Major

Dear Dr. Peele:

In accordance with your complete permit renewal application received October 31, 2014, we are forwarding herewith Air Quality Permit No. 01819T47 to Avoca Incorporated, 841 Avoca Farm Road, Merry Hill, 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(8) have been listed for informational purposes as an "ATTACHMENT." Please note the requirements for the annual compliance certification are contained in General Condition P in Section 3. The current owner is responsible for submitting a compliance certification for the entire year regardless of who owned the facility during the year.

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

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

Bertie County has been triggered for increment tracking under PSD for PM-10, SO_2, and NOx. However, no changes in actual emissions of these pollutants are associated with the permit renewal.

This Air Quality Permit shall be effective from XX until XX, 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 Kevin Godwin at (919) 707-8484.

Sincerely yours,

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

Enclosure

c: Heather Ceron, EPA Region 4
Rob Fisher, Supervisor, Washington Regional Office
Central Files
Connie Horne (cover letter only)

ATTACHMENT to Permit No. 01819T47

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

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
IWWTP-ET1	Wastewater treatment plant equalization tank No. 1 (65,500 gallon capacity)	N/A	N/A
IWWTP-ET2	Wastewater treatment plant equalization tank No. 2 (65,500 gallon capacity)	N/A	N/A
IWWTP-AT2	Wastewater treatment plant aeration tank No. 2 (63,500 gallon capacity)	N/A	N/A
IWWTP-AT3	Wastewater treatment plant aeration tank No. 3 (63,500 gallon capacity)	N/A	N/A
IWWTP-CLR	Wastewater treatment plant clarifier (1,310 gallon capacity)	N/A	N/A
ITK9238	No. 2 fuel oil storage tank (50,000 gallon capacity)	N/A	N/A
ITK9239	No. 2 fuel oil storage tank (50,000 gallon capacity)	N/A	N/A
ITK102	No. 2 fuel oil storage tank (495 gallon capacity)	N/A	N/A
ITK103	No. 2 fuel oil storage tank (495 gallon capacity)	N/A	N/A
ITKFP	No. 2 fuel oil storage tank (270 gallon capacity)	N/A	N/A
IECS	ECS process: batch preparation of ethylenediamine/ copper sulfate solution	CD-Z-9215 CD-Z-9216	One water spray fume scrubber (0.5 gallons per minute minimum water injection rate) One water spray fume scrubber (0.5 gallons per minute minimum water injection rate)
IES-PV	Propane vaporizer	N/A	N/A
I-Briquette	Sage Briquetting Machine	N/A	N/A
I-HB-1 through HB-5	Five steam heated hot boxes	N/A	N/A
I-SFG-PKG	SFG packaging area equipped with a bagfilter	N/A	N/A

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 02Q .0711 “Emission Rates Requiring a Permit”.
3. For additional information regarding the applicability of GACT and MACT ZZZZ see the NC DAQ website: http://daq.state.nc.us/toxics/areasources/.

Summary of Changes to Permit

The following changes were made to Avoca Incorporated, Merry Hill, Air Permit No 01819T46:

Pages	Section	Description of Changes
Cover and throughout	--	- Updated all dates and permit revision numbers. - Replaced the word ‘assure’ with ‘ensure’.
N/A	Insignificant Activities List	Moved four steam heated hot boxes (ID No. I-HB-1 through I-HB-4) from permitted equipment table to insignificant activities list and included I-HB-5. Also included SFG Packaging area equipped with bagfilter (ID No. I-SFG-PKG).
17, 19, 33, 34, 35, and 36	2.1 C., D., G., H., I., and 2.2 A.1.	Removed reference to regulation 15A NCAC 02Q .0958 and the related condition.
11	2.1 A.5.	Included MACT Subpart DDDDD language.
20	2.1 D.2.c.	Revised 15A NCAC 02D .0521 “Control of Visible Emissions” monitoring from monthly to semiannual observations.
25	2.1 E.6.	Included MACT Subpart DDDDD language.
52	2.2 C.	Included ID Nos. for eleven process tanks in the SDE-1 operations and removed four steam heated hot boxes.

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
01819T47	01819T46	DRAFT	DRAFT

Until such time as this permit expires or is modified or revoked, the below named Permittee is authorized 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:	**Avoca, Inc.**
Facility ID:	**0800044**
Facility Site Location:	**841 Avoca Farm Road**
City, County, State, Zip:	**Merry Hill, Bertie County, NC 27957**
Mailing Address:	**P.O. Box 129**
City, State, Zip:	**Merry Hill, NC 27957**
Application Number:	**0800044.12B, .14A, .14C, .15A, and .16A**
Complete Application Date:	**10/01/12, 05/30/14, 10/31/14, 09/04/15, and 01/13/16**
Primary SIC Code:	**2087**
Division of Air Quality, Regional Office Address:	**Washington Regional Office 943 Washington Square Mall Washington, NC 27889**

Permit issued this the XXth day of XX, XXXX.

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

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(Including specific requirements, testing, monitoring, recordkeeping, and reporting requirements)

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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
Rotocel Operations				
16, 37, 53	ES-1001-2-1-P1 **PSD** **CAM** **MACT FFFF**	Rotocel extractor, desolventizer, and solvent separation/recovery	CD-31209 CD-1001-2-S-1	One chilled water condenser One packed tower scrubber (8 gallons per minute minimum mineral oil injection rate)
16, 37, 53	ES-M-125A and M-125B **MACT FFFF**	Two storage and recycle tanks (19,500 gallons capacity each)	CD-1001-2-C-1 CD-1001-2-S-1[1]	One chilled water condenser One packed tower scrubber (8 gallons per minute minimum mineral oil injection rate)
16, 37, 53	ES-1001-2-1-F **PSD** **MACT FFFF**	Process equipment leaks	NA	NA
16, 37, 53	ES-1001-2-1-WW **PSD** **MACT FFFF**	Rotocel Operations wastewater stream	NA	NA
Recovery Operations				
16, 37, 53	ES-1001-1-1-P1 **PSD** **CAM** **MACT FFFF**	Arcon process tank M-1	CD-1001-1-3 CD-1001-2-S-1 [1]	One chilled water condenser One packed tower scrubber (8 gallons per minute minimum mineral oil injection rate)
16, 37, 53	ES-1001-1-1-P2 **PSD** **CAM** **MACT FFFF**	Stripper T-5 and receiver M-21	CD-1001-1-T5B CD-1001-2-S-1 [1]	One chilled water condenser One packed tower scrubber (8 gallons per minute minimum mineral oil injection rate)
16, 37, 53	ES-1001-1-1-P3 **PSD** **MACT FFFF**	Seven process tanks of various capacities and one fixed roof methanol storage tank (7,050 gallon capacity)		
16, 30, 46	ES-1001-1-1-F **PSD** **MACT FFFF**	Process equipment leaks	NA	NA
16, 37, 53	ES-1001-1-1-WW **PSD** **MACT FFFF**	Recovery Operations wastewater stream	NA	NA
Concrete Operations				
53	ES-1001-1-2-P **PSD** **MACT FFFF**	Six process tanks of various capacities	CD-1001-1-2	One chilled water condenser

Page Nos.	Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
53	ES-1001-1-2-F **MACT FFFF**	Process equipment leaks	NA	NA
53	ES-1001-1-2-WW **MACT FFFF**	Concrete Operations wastewater stream	NA	NA
Sclareol Recrystallization (SFG) Operations				
33	T-3001 **PSD**	One process tank (6,700 gallons capacity)	*Optional controls* CD-3003 CD-3004-S	*Optional controls* Chilled water condenser Mineral oil scrubber
33	T-3002 through 3005 **PSD**	Four process tanks (2,538 gallons capacity each)		
33	T-3006 **PSD**	One storage tank (12,500 gallons capacity)		
33	T-3007 **PSD**	One process tank (12,500 gallons capacity)		
33	C-3001 and C-3002 **PSD**	Two centrifuges		
33	R-3002 **PSD**	One reactor equipped with a chilled water process condenser (EX-3003)		
33	R-3003 **PSD**	One reactor equipped with a chilled water process condenser (EX-3004)		
33	R-3004 **PSD**	One reactor equipped with a chilled water process condenser (EX-3005)		
33	R-3001 **PSD**	One reactor equipped with two chilled water process condensers (EX-3001 and EX-3002)	CD-3001 *Optional controls* CD-3003 CD-3004-S	Chilled water condenser *Optional controls* Chilled water condenser Mineral oil scrubber
33	D-3001 **PSD**	One steam-heated dryer equipped with a chilled water process condenser (EX-3002)		
33	D-3002 **PSD**	One steam-heated dryer equipped with a chilled water process condenser (EX-3006)	CD-3002 *Optional controls* CD-3003 CD-3004-S	Chilled water condenser *Optional controls* Chilled water condenser Mineral oil scrubber
33	ES-1003-10-F **PSD**	Process equipment leaks	NA	NA
33	ES-1003-10-WW **PSD**	SFG Process wastewater stream	NA	NA

Page Nos.	Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
Sclareolide (SDE-1) Operations				
34, 52	ES-1001-1-3-P **MACT FFFF**	Eleven (11) process tanks of various capacities: • Hexane storage tank (M-2) • Process tank (M-4) with chilled water process condenser (T-6) • Process tank (M-4A) with chilled water process condenser (T-6A) • Receiver tank (M-39) for M-4/T-6 • Process tank (M-44) with two chilled water process condensers (T-13 and T-15) • Receiver tank (M-16) for T-13 and T-15 • Crystallizer tank (M-15) • Tank for cooled hexane for centrifuge (M-11) • Receiver tank for dryer condenser (TK-1210) • Process tank (M-17) • Process tank (M-17A)	NA	NA
34, 52	G-17 **MACT FFFF**	One centrifuge	NA	NA
34, 52	D-1202 **MACT FFFF**	One steam-heated dryer with condenser	NA	NA
34, 52	ES-1001-1-3-Filters **MACT FFFF**	Filters	NA	NA
34, 52	ES-1001-3-F **MACT FFFF**	SDE-1 process equipment leaks	NA	NA
34, 52	ES-1001-1-3-WW **MACT FFFF**	SDE-1 wastewater stream	NA	NA
Sclareolide (SDE-2) Operations				
35, 52	T-4001 **PSD** **MACT FFFF**	One 17,900 gallon virgin solvent tank	CD-4002 CD-4003-S	Chilled water condenser Mineral oil scrubber
35, 52	T-4017 and T-4018 **PSD** **MACT FFFF**	Two 6,000 gallon process tanks		
35, 52	R-4004 **PSD** **MACT FFFF**	One 4,200 gallon reactor with process condenser (EX-4001)		
35, 25	R-4005 **PSD** **MACT FFFF**	One 4,200 gallon reactor with process condenser (EX-4002)		
35, 52	R-4044 **PSD** **MACT FFFF**	One 4,200 gallon reactor with process condenser (EX-4003)		
35, 52	R-4015 **PSD** **MACT FFFF**	One 1,500 gallon reactor		
35, 52	C-4001 **PSD** **MACT FFFF**	One centrifuge		

Page Nos.	Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
35, 52	D-4001 **PSD** **MACT FFFF**	One dryer with process condenser (EX-4004)	CD-4001 CD-4002 CD-4003-S	Chilled water condenser Chilled water condenser Mineral oil scrubber
35, 52	ES-4000-F **PSD** **MACT FFFF**	SDE-2 process equipment leaks	NA	NA
35, 52	ES-4000-WW **PSD** **MACT FFFF**	SDE-2 process wastewater stream	NA	NA
Plant Nutrient Extraction (PNE) Operations				
53	D31214 **MACT FFFF**	One product extract reactor	EX2203 CD-Z-9215 [2] CD-Z-9216 [2]	One chilled water condenser One water spray fume scrubber (0.5 gallons per minute minimum water injection rate) One water spray fume scrubber (0.5 gallons per minute minimum water injection rate)
53	D31211 **MACT FFFF**	One waste solids separator vessel (1,333 gallon capacity)	EX2205 CD-Z-9215 [2] CD-Z-9216 [2]	One chilled water condenser One water spray fume scrubber (0.5 gallons per minute minimum water injection rate) One water spray fume scrubber (0.5 gallons per minute minimum water injection rate)
53	ES-TK-PNE-1 **MACT FFFF**	Solvent Process Tank (9,500 gallons capacity	NA	NA
53	ES-1003-2-1-F **MACT FFFF**	Process equipment leaks	NA	NA
53	ES-1003-2-1-WW **MACT FFFF**	PNE process wastewater stream	NA	NA
53	ES-1003-2-1-P **MACT FFFF**	Seven process tanks of various capacities	CD-Z-9215 [2]	One water spray fume scrubber (0.5 gallons per minute minimum water injection rate)
53	C-31203 **MACT FFFF**	One centrifuge		
53	D-1002 **MACT FFFF**	One dryer with a process chilled water condenser	CD-Z-9216 [2]	One water spray fume scrubber (0.5 gallons per minute minimum water injection rate)

Page Nos.	Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
Ethyl Vanillin Glucoside (EVG) Operations				
53	D-2202 **MACT FFFF**	One reactor	CD-Z-9215 [2]	One water spray fume scrubber (0.5 gallons per minute minimum water injection rate)
53	D-1215 **MACT FFFF**	One reactor		
53	D-1218 **MACT FFFF**	One reactor	CD-Z-9216 [2]	One water spray fume scrubber (0.5 gallons per minute minimum water injection rate)
53	D-1201 **MACT FFFF**	One steam-heated dryer		
53	ES-1003-2-2-F **MACT FFFF**	Process equipment leaks	NA	NA
53	ES-1003-2-2-WW **MACT FFFF**	EVG Operation wastewater stream	NA	NA
Botanical Extraction Operations				
18, 37, 53	ES-1001-11-P **PSD** **CAM** **MACT FFFF**	Immersion extractor Z-1001, desolventizer Z-1002, day tank 90024 (6,000 gallon capacity), first-stage evaporator EX-1012, second-stage evaporator EX-1013, distillation column EX-90008, and nine process tanks of various capacities	CD-1001-11-EX1002 CD-1001-11-EX1003	One chilled water condenser One cryogenic (nitrogen) condenser system (-40 °F maximum 24-hour average outlet temperature)
18, 37, 53	ES-1001-11-F **PSD** **MACT FFFF**	Process equipment leaks	NA	NA
18	MHZ-1002	One plant material grinder (1,011 pounds per hour nominal feed rate)	CD-1003-4-1	One bagfilter (244 square feet of filter area)
18, 37, 53	ES-1001-11-WW **PSD** **MACT FFFF**	Botanical extraction operation wastewater stream	NA	NA
Biomass Extraction Operations				
18, 37, 53	ES-1004-1 **PSD**	Biomass extraction debagging	CD-1004-1-FF1	One cartridge filter (6.7:1 maximum air-to-cloth ratio)
18, 37, 53	ES-1004-2-F **PSD**	Process equipment leaks	NA	NA
18, 37, 53	ES-1004-2-WW **PSD**	Biomass extraction operation wastewater stream	NA	NA
18, 37, 53	ES-1004-2-P **PSD** **CAM**	Immersion extractor Z-41001, desolventizer Z-41002, day tank 490025 (9,953 gallon capacity), iso-hexane storage tank 490024 (13,536 gallon capacity), first stage evaporator EX-41012, second stage evaporator EX-41013, distillation column EX-490008, and nine process tanks of various capacities	CD-1004-2EX1002 CD-1004-2EX1003	One chilled water condenser One cryogenic (nitrogen) condenser system (-40 °F maximum 24-hour average outlet temperature)
18	ES-1004-2Silo	Biomass silo loadout	CD-1004-2-FF2	One bagfilter (254 square feet of filter area)

Page Nos.	Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
18	ES-MSDU-1024	Molecular sieve	N/A	N/A
Miscellaneous Operations				
9, 37	H-101 **02D .1109 Case-by-Case MACT, MACT DDDDD**	One No. 2 fuel oil-fired boiler (20.3 million Btu per hour maximum heat input rate)[3, 4]	NA	NA
9, 37	H-102 **02D .1109 Case-by-Case MACT, MACT DDDDD**	One No. 2 fuel oil-fired boiler (20.3 million Btu per hour maximum heat input rate)[3, 4]	NA	NA
9, 37	H-103 **02D .1109 Case-by-Case MACT, MACT DDDDD**	One No. 2 fuel oil-fired boiler (25.2 million Btu per hour maximum heat input rate)[3, 4]	NA	NA
22	ES-BB1 and ES-BB2 **NSPS – Subpart Dc** **MACT – DDDDD**	Two biomass/bio-based solids-fired boilers (24 million Btu per hour maximum heat input rate each)	CD-BB1C CD-BB1BH	One simple cyclone (114 inches in diameter) One bagfilter (8,900 square feet of filter area)
22	ES-RD	One No. 2 fuel oil/propane-fired rotary dryer (30.0 million Btu per hour maximum heat input rate)	CD-BB1C CD-BB1BH	One simple cyclone (114 inches in diameter) One bagfilter (8,900 square feet of filter area)
14	ES-PkGen1 **MACT ZZZZ**	One No. 2 fuel oil-fired limited use emergency generator (2,935 kilowatt maximum rated power output)	CD-CatOx1	One catalytic oxidizer (695 °F minimum inlet temperature)
37, 53	WWTP-AT1 **PSD** **MACT FFFF**	Wastewater treatment plant aeration tank No. 1	NA	NA
32	E101 **MACT ZZZZ**	One No. 2 fuel oil-fired emergency generator (587 horsepower maximum rated power output)	N/A	N/A
32	E102 **MACT ZZZZ**	One No. 2 fuel oil-fired emergency generator (760 horsepower maximum rated power output)	N/A	N/A
32	E103 **MACT ZZZZ**	One No. 2 fuel oil-fired emergency generator (603 horsepower maximum rated power output)	N/A	N/A
32	E104 **MACT ZZZZ**	One No. 2 fuel oil-fired emergency generator (401 horsepower maximum rated power output)	N/A	N/A
32	FP **MACT ZZZZ**	One No. 2 fuel oil-fired emergency fire water pump (285 horsepower maximum rated power output)	N/A	N/A

[1] The Permittee is permitted to operate sources **(ID Nos ES-M-125A and 125B, ES-1001-1-1-P1, ES-1001-1-1-P2, and ES-1001-1-1-P3)** without the simultaneous operation of scrubber **(ID No. CD-1001-2-S-1)** under the conditions cited in Sections 2.2 B.1.c and e, below.

[2] The Permittee is allowed to operate PNE and EVG operations without operating the water spray fume scrubber **(ID No. CD-Z-9215)** and water spray scrubber **(ID NO. CD-Z-9216)** when using non-HAP solvents.

[3] The Permittee shall comply with this CAA §112(j) standard until **May 19, 2019**.

[4] The Permittee shall comply with 40 CFR Part 43, Subpart DDDDD, ‘‘National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters,” beginning **May 20, 2019**.

SECTION 2 – SPECIFIC LIITATIONS 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 No. 2 fuel oil-fired boilers (ID Nos. H-101, H-102, and H-103)

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
Particulate matter	0.37 pounds per million Btu heat input	15A NCAC 02D .0503
Sulfur dioxide	2.3 pounds per million Btu heat input	15A NCAC 02D .0516
Visible emissions	20 percent opacity: **H-103 only**	15A NCAC 02D .0521(d)
	40 percent opacity: **H-101 and H-102**	15A NCAC 02D .0521(c)
Hazardous Air Pollutants	Case-By-Case Maximum Achievable Control Technology (until May 19, 2019)	15A NCAC 02D .1109 (112(j) Case-by-Case MACT)
Hazardous Air Pollutants	HCL: 1.1E-03 pounds per million Btu heat input Mercury: 2.0E-06 pounds per million Btu heat input (starting May 20, 2019)	15A NCAC 02D .1111 [40 CFR 63 Subpart DDDDD]

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

a. Emissions of particulate matter from the combustion of No. 2 fuel oil that are discharged from these sources into the atmosphere shall not exceed 0.37 pounds per million Btu heat input. [15A NCAC 02D .0503(a)]

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

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

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

c. No monitoring, recordkeeping, or reporting is required for particulate emissions from the firing of No. 2 fuel oil in boilers (**ID Nos. H-101, H-102, or H-103).**

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

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

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

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

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

c. No monitoring, recordkeeping, or reporting is required for sulfur dioxide emissions from the firing of No. 2 fuel oil in boilers **(ID Nos. H-101, H-102, or H-103).**

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

a. Visible emissions from boilers **(ID Nos. H-101 and H-102)** 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. [15A NCAC 02D .0521(c)]

b. Visible emissions from boiler **(ID No. H-103)** shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity. [15A NCAC 02D .0521(d)]

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

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

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

d. No monitoring, recordkeeping, or reporting is required for visible emissions from the firing of No. 2 fuel oil in boilers **(ID Nos. H-101, H-102, or H-103)**.

4. 15A NCAC 02D .1109: 112(J) CASE-BY-CASE MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY

Clean Air Act Section 112(j) - Case-by-Case MACT for Boilers & Process Heaters

a. The Permittee shall use best combustion practices when operating affected boilers **(ID Nos.H-101, H-102, and H-103)**. The initial compliance date for this work practice standard and the associated monitoring, recordkeeping, and reporting requirements is August 17, 2013. These conditions need not be included on the annual compliance certification until after the initial compliance date. The 112(j) permit requirements that are listed in this permit condition expire on May 19, 2019.

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

b. To ensure compliance, the Permittee shall perform an annual boiler inspection and maintenance on boilers 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 for each boiler 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.

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

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

d. No reporting is required for the best combustion practices requirements for boilers.

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

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

a. For existing units designed to burn liquid fuel, the Permittee shall comply with all applicable provisions, including the monitoring, recordkeeping, and reporting contained in Environmental Management Commission Standard 15A NCAC 02D .1111 "Maximum Achievable Control Technology" (MACT) as promulgated in 40 CFR 63, Subpart DDDDD . "National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters" and Subpart A "General Provisions."

i. For the existing boilers, the Permittee must comply with this Subpart no later than May 20, 2019.

Definitions and Nomenclature [§63.7575]

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

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

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

Notifications [§63.7510, §63.7545]

d. Pursuant to §63.7510(e), for existing sources, the Permittee must
   1. complete initial compliance demonstrations in accordance with §63.7510 (a) through (d) no later than 180 days after the compliance date of May 20, 2019;
   2. complete an initial tune-up on or before May 20, 2019;
   3. complete the one-time energy assessment on or before May 20, 2019; and
   4. submit a Notification of Compliance Status for items d.1 through 3. above according to §63.9(h)(2)(ii) before the close of business on the 60th day following completion of the initial compliance demonstrations listed in d.1. above.

e. **Emission Limitations** [§63.7500]

	For the following pollutants	**The emissions must not exceed the following emission limits, except during startup and shutdown**
Units designed to burn liquid fuels	HCl	1.1E-03 pounds per million Btu of heat input
Units designed to burn liquid fuels	Mercury	2.0E-06 pounds per million Btu heat input
Units designed to burn light liquid fuel	CO	130 ppm by volume on a dry basis corrected to 3 percent oxygen
Units designed to burn light liquid fuel	Filterable PM (or TSM)	7.9E-03 lb per million BTU heat input; or (6.2E-05 lb per million BTU heat input)

Performance Testing Compliance Option [§63.7510, §63.7515, §63.7520, §63.7525, 63.7530, 15A NCAC 2Q.0508(f)]

f. Pursuant to §63.7510(a), if performance testing is used to demonstrate compliance, the Permittee's initial compliance requirement include the following:
   1. conduct performance tests according to §63.7520 and Table 5 of Subpart DDDDD;
   2. establish operating limits according to §63.7530 and Table 7 of Subpart DDDDD; and
   3. conduct CMS performance evaluations according to §63.7525.

   The facility must conduct all applicable performance tests according to §63.7520 on an annual basis, except as specified below. The annual tests must be conducted no more than 13 months after the previous performance test.

   Pursuant to §63.7515(h), and as the oil fired boilers burn ultra low sulfur fuel, the permittee is not required to conduct further performance tests (stack test or fuel analyses) if the pollutants measured during the initial compliance performance tests meet the above emission limits, provided that the permittee demonstrates ongoing compliance with the emission limits by monitoring and recording the type of fuel combusted on a monthly basis.

   If the initial performance test shows that emissions exceed the emissions limit for a pollutant, the permittee must conduct performance tests for that pollutant until the performance tests over a consecutive two year period are at or less than the emission limit. At such time, the permittee may petition the permitting agency for approval to comply with the requirements as outlined in §63.7515(h).

   Pursuant to §63.7510(c), the initial compliance demonstration for CO is to conduct a performance test for CO according to Table 5 of Subpart DDDDD. In accordance with §63.7525(a), the facility most install, operate, and maintain an oxygen analyzer system, as defined in §63.7575.

   Fuel analyses as specified under §63.7510(a)(2) are not required for these boilers as they fire a single fuel, unless the facility elects to demonstrate Subpart DDDD compliance as allowed within Condition g. below.

Fuel Analysis Compliance Option [§63.7510, §63.7515, §63.7521, 15A NCAC 02Q .0508 (f)]

g. Pursuant to §63.7510(b), if fuel analysis is used to demonstrate compliance with mercury, HCl, or TSM, the Permittee's initial compliance requirement is to conduct a fuel analysis for each type of fuel burned according to §63.7521 and Table 6 and establish operating limits according to §63.7530 Table 7.

   Pursuant to §63.7515(e), the Permittee must conduct monthly fuel analysis according to §63.7521 for each type of fuel burned. If each of 12 consecutive monthly fuel analysis demonstrates 75 percent or less of the compliance level, the fuel analysis requirement may be decreased to quarterly.

   Pursuant to §63.7521(a), the Permittee must conduct fuel analyses for chloride and mercury according to Table 6.

Work Practice Standards [§63.7530, §63.7540, 15A NCAC 02Q .0508 (f)]

h. For the existing boilers, the Permittee must have a one-time energy assessment performed by a qualified energy assessor. An energy assessment completed on or after January 1, 2008 satisfies this requirement. The energy assessment must include the following:

   i. a visual inspection of the boilers,
   ii. an evaluation of operating characteristics, specifications of energy using systems, operating and maintenance procedures,
   iii. an inventory of major energy use systems,
   iv. a review of available architecture 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,
vi. a list of cost-effective energy conservation measures that are within the facility's control,
vii. a list of energy savings potential of the energy conservation measures identified,
viii. a comprehensive report detailing ways to improve efficiency, the cost of specific improvements, benefits, and the time frame for recouping those investments.

Pursuant to §63.7530(h), during startup and shutdown, the Permittee must only follow the work practice standards according to items 5 and 6 of Table 3.

Pursuant to §63.7530(f), the Permittee must submit a Notification of Compliance Status containing the results of the initial compliance demonstration. The Notice of Compliance Status must include a signed certification that the energy assessment has been completed according to Table 3, and that the assessment is an accurate depiction of the facility at the time of the assessment.

The Permittee must perform tune-ups at the frequency specified in Table 3 of Subpart DDDDD to demonstrate continuous compliance.

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

i. If the Permittee switches fuels or makes a physical change to the boiler and the fuel switch or physical change results in the applicability of a different subcategory, the Permittee must provide notice of the date upon which the Permittee switched fuels or made the physical change within 30 days of the switch/change. The notification must identify:
   i. The name of the owner or operator of the affected source, as defined in §63.7490, the location of the source, the boiler(s) and process heater(s) that have switched fuels, were physically changed, and the date of the notice.
   ii. The currently applicable subcategory under this subpart.
   iii. The date upon which the fuel switch or physical change occurred.

j. The notification required in condition i. above shall be submitted with a permit application consistent with 15A NCAC 02Q .0500 to update the permit with the requirements for the applicable subcategory under 40 CFR 63 Subpart DDDDD.

General Compliance Requirements [§63.7505(a), §63.7500(f)]

k. The Permittee shall be in compliance with the work practice standards in this subpart. These standards apply at all times the affected unit is operating.

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

l. The Permittee must:
   i. maintain a copy of each notification and report submitted to comply with this Subpart,
   ii. maintain records of fuel analysis, or other compliance demonstrations,
   iii. keep records of monthly fuel use,
   iv. keep a copy or all calculations and supporting documentation of maximum chlorine fuel input, using Equation 7 of §63.7530, that were done to demonstrate continuous compliance with the HCl emission limit,
   v. keep a copy of all calculations and supporting documentation of maximum mercury fuel input, using Equation 8 of §63.7530, that were done to demonstrate continuous compliance with the mercury emission limit,
   vi. maintain records of the occurrence and duration of each malfunction of the boiler and records of actions taken to minimize emissions including corrective actions to restore the boiler to its normal operation,

vii. maintain records of the calendar date, time, occurrence, and duration of each startup and shutdown and type and amount of fuels used during each startup and shutdown,
viii. for each startup period, for units selecting paragraph (2) of the definition of startup, maintain records of the time that clean fuel combustion begins, the time you start feeding fuels that are not clean fuels, the time when useful thermal energy is first supplied,

Records must be kept for 5 years after the date of occurrence, measurement, maintenance, or corrective action in form suitable and readily available for expeditious review. Records must be kept on site for at least 2 years. If the above records are not maintained, the Permittee will be deemed in noncompliance with 15A NCAC 02D .1111.

Reporting [§63.7550 (b) and (c), 15A NCAC 02Q .0508 (f)]

m. Pursuant to §63.7550(b) and the Part 70 requirements as codified within 15A NCAC .0500, reporting as required under this permit condition shall begin on January 30, 2020. The first semiannual report shall be submitted for and shall include the time period between May 20, 2019 and December 31, 2019. Beginning on January 30, 2020, the Permittee shall submit semiannual reports for the following:
   i. company and facility name and address, process unit information, emissions limitations, and operating limitations, date of report and beginning and ending dates of reporting period,
   ii. a summary of any monthly fuel analysis conducted to demonstrate compliance with §63.7521 and §63.7530, if applicable,
   iii. a statement by a responsible official certifying the truth, accuracy, and completeness of the content of the report,
   iv. for each instance of startup or shutdown include the information required to be monitored, collected, or recorded according to §63.7555(d).

The Permittee must submit the results of any performance tests and the Notice of Compliance Status within 60 days of the completion of the performance test or compliance demonstration.

B. One diesel-fired limited use generator (ID No. ES-PkGen1) and one associated catalytic oxidizer (ID No. CD-CatOx1)

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
Sulfur dioxide	2.3 pounds per million Btu heat input	15A NCAC 02D .0516
Visible emissions	20 percent opacity	15A NCAC 02D .0521(d)
Hazardous Air Pollutants	Maximum Achievable Control Technology	15A NCAC 02D .1111 (40 CFR Part 63, Subpart ZZZZ)
Nitrogen Oxides	Emit less than 40 tons of NO_X per consecutive 12-month period	15A NCAC 02Q .0317 to avoid 15A NCAC 02D .0530

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

a. Emissions of sulfur dioxide from limited use generator **(ID No. ES-PkGen1)** shall not exceed 2.3 pounds per million Btu heat input. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard.

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

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

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

c. No monitoring, recordkeeping, or reporting is required for sulfur dioxide emissions from the firing of No. 2 fuel oil in limited use generator **(ID No. ES-PkGen1)**.

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

a. Visible emissions from limited use generator **(ID No. ES-PkGen1)** shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity. [15A NCAC 02D .0521(d)]

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

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

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

c. No monitoring, recordkeeping, or reporting is required for visible emissions from the firing of No. 2 fuel oil in limited use generator **(ID No. ES-PkGen1)**.

3. 15A NCAC 02D .1111: MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY [40 CFR Part 63, Subpart ZZZZ]

Applicability [40 CFR §63.6580 and §63.6585]

a. For the limited use generator **(ID No. ES-PkGen1)**, the Permittee shall comply with all applicable requirements of 15A NCAC 02D .1111 "Maximum Achievable Control Technology" pursuant to 40 CFR Part 63, Subpart ZZZZ "National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE)" including Subpart A "General Provisions."

Emission Limits and Operational Requirements [40 CFR §63.6590(b)(1)(ii) and §63.6675]

b. In accordance with 40 CFR §63.6590(a)(2)(i) this source is considered an existing Limited Use source for purposes of Subpart ZZZZ. To qualify as such, the Permittee must limit the operational hours of this source to less than 100 hours per consecutive 12-month period in accordance with 40 CFR §63.6590(b)(1)(ii). The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if this source operates for 100 hours or more per consecutive 12-month period.

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

c. The Permittee shall install and maintain a non-resettable hour meter, in accordance with manufacturer's recommendations, on limited use generator ES-PkGen1. The Permittee shall conduct monthly monitoring of hours of operation for this source as measured by the non-resettable hour meter. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if this monitoring is not performed.

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

d. The Permittee shall maintain monthly records of the hours of operation of limited use generator ES-PkGen1, as measured by the non-resettable hour meter, in a logbook (written or electronic format) on-site and made available to an authorized representative upon request.

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

e. No monitoring, recordkeeping, or reporting is required for hazardous air pollutant emissions from limited use generator ES-PkGen1.

4. 15A NCAC 02Q .0317: AVOIDANCE CONDITIONS to avoid 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,

limited use generator **(ID No. ES-PkGen1)** shall discharge into the atmosphere less than 40 tons of nitrogen oxides per consecutive 12-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 limit given in Section 2.1 B.4.a, above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530.

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

c. In order to ensure compliance with the limit given in Section 2.1 B.4.a, above, the operation of limited use generator **(ID No. ES-PkGen1)** shall not exceed 1,500 hours in a consecutive 12-month period. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530 if the rolling total hours of operation of the limited use generator exceed 1,500 hours per consecutive 12-month period.

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

d. The Permittee shall conduct monthly monitoring of hours of operation of this source as measured by the non-resettable hour meter and maintain monthly records of that monitoring 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 this monitoring is not conducted, these records are not maintained, or if the rolling total hours of operation for the limited use generator exceed 1,500 hours per consecutive 12-month period.

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

e. The Permittee shall submit a semiannual summary report of monitoring and recordkeeping activities postmarked or delivered 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 must clearly identify all instances of deviations from the requirements of this permit and include:
   i. The monthly hours of operation for the limited use generator for each of the previous 17 months; and
   ii. The total hours of operation for the limited use generator for each consecutive 12-month period ending during the reporting period.

C. Rotocel Operations, including:

- **Rotocel extractor, desolventizer, and solvent separation/recovery (ID No. ES-1001-2-1-P) and one associated chilled water condenser (ID No. CD-31209) venting to one packed tower scrubber (ID No. CD-1001-2-S-1);**
- **Two storage and recycle tanks (ID No. ES-M-125A and M-125B) and one associated chilled water condenser (ID No. CD-1001-2-C-1) venting to one packed tower scrubber (ID No. CD-1001-2-S-1);**
- **Process equipment leaks (ID No. ES-1001-2-1-F); and**
- **Rotocel Operations wastewater stream (ID No. ES-1001-2-1-WW)**

Recovery Operations, including:

- **Arcon process tank M-1 (ID No. ES-1001-1-1-P1) and one associated chilled water condenser (ID No. CD-1001-1-3) venting to one packed tower scrubber (ID No. CD-1001-2-S-1);**
- **One chilled water condenser (ID No. CD-1001-1-T5B) venting to packed tower scrubber (ID No. CD-1001-2-S-1) controlling emissions from:**
  - **Stripper T-5 and receiver M-21 (ID No. ES-1001-1-1-P2); and**
  - **Seven fixed roof process tanks of various capacities and one fixed roof methanol storage tank (ID No. ES-1001-1-1-P3);**
- **Process equipment leaks (ID No. ES-1001-1-1-F); and**
- **Recovery Operations wastewater stream (ID No. ES-1001-1-1-WW)**

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
Volatile organic compounds	Best Available Control Technology See Sections 2.2 B.1 and 2.2 B.2 Excluding two solvent recycle process tanks **(ID Nos. ES-M-125A and M-125B)**	15A NCAC 02D .0530
	Compliance Assurance Monitoring Rotocel and Recovery Operations only	15A NCAC 02D .0614
Hazardous Air Pollutants	Maximum Achievable Control Technology See Section 2.2 C.1	15A NCAC 02D .1111 (40 CFR Part 63, Subpart FFFF)
Toxic Air Pollutants	**State-Enforceable Only** See Sections 2.2 A.2	15A NCAC 02D .1100
Odorous emissions	**State-Enforceable Only** See section 2.2 A.3	15A NCAC 02D .1806

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

Applicability [15A NCAC 02D .0614 and 40 CFR §64.2]

a. For the Rotocel Operations and the Recovery Operations the Permittee shall comply with 40 CFR Part 64 and 15A NCAC 02D .0614 and shall ensure that this source complies with the volatile organic compound (VOC) emission limits of 15A NCAC 02D .0530 by complying with Section 2.1 C.1 of this permit.

Control Requirements/Parameter ranges [15A NCAC 02Q .0508(f)]

b. VOC emissions from the rotocel extractor, desolventizer, and solvent separation/recovery **(ID No. ES-1001-2-1-P)**, arcon process tank M-1 **(ID No. ES-1001-1-1-P1)**, stripper T-5 and receiver M-21 **(ID No. ES-1001-1-1-P2),** and eight process and storage tanks **(ID No. ES-1001-1-1-P3)** shall be controlled by the associated packed tower scrubber **(ID No. CD-1001-2-S-1)**, except as allowed pursuant to Sections 2.2 B.1.c and e, below. In addition, the Permittee shall maintain a daily average mineral oil temperature at the inlet of the packed scrubber **(ID No. CD-1001-2-S-1)** of less than or equal to 100 degrees Fahrenheit (100 °F) whenever the associated sources are operational.

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

c. **For VOC emissions:** The Permittee shall perform the monitoring requirements of Sections 2.1 C.1.c.i through iii, below. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0614 if the monitoring and recordkeeping requirements of Sections 2.1 C.1.c.i through iii, below, are not performed.
   i. The Permittee shall monitor the inlet mineral oil temperature of mineral oil packed tower scrubber **(ID No. CD-1001-2-S-1)** at least once each day that the sources listed in Section 2.1 C.1.b, above, operate;
   ii. The Permittee shall inspect, maintain, and operate mineral oil packed tower scrubber **(ID No. CD-1001-2-S-1)** in accordance with Section 2.2 B.1.j, below; and
   iii. The Permittee shall install, maintain, operate, and calibrate the temperature gauge associated with mineral oil packed tower scrubber **(ID No. CD-1001-2-S-1)** in accordance with Section 2.2 B.1.k, below.

d. **For excursions:** In the event of an excursion the Permittee shall take appropriate action to correct the excursion as soon as practicable. Further, if mineral oil packed tower scrubber **(ID No. CD-1001-2-S-1)** operates under conditions qualifying as an excursion for more than 5 percent of the operational time of the sources listed in Section 2.1 C.1.b, above, during a consecutive 6-month period, then the Permittee shall develop a Quality Improvement Plan (QIP) in accordance with 40 CFR §64.8.
   For the purposes of this permit condition excursions are defined as operation of mineral oil packed tower

scrubber **(ID No. CD-1001-2-S-1)** with an inlet mineral oil temperature that exceeds the limit cited in Section 2.1 C.1.b, above, while the associated emission sources are operating, except as allowed pursuant to Sections 2.2 B.1.c and e, below.

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

e. The results of monitoring, inspections, maintenance and calibrations conducted pursuant to Sections 2.1 C.1.c and d, above, shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:
   i. The date and time of each recorded action;
   ii. The results of the monitoring, noting any excursions along with any actions taken to correct the inlet mineral oil temperature of packed tower scrubber **(ID No. CD-1001-2-S-1)**;
   iii. The results of any inspections or maintenance performed on mineral oil packed tower scrubber **(ID No. CD-1001-2-S-1)** or the associated temperature and flow rate gauges; and
   iv. Any variance from manufacturer's recommendations, if any, and corrections made.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0614 if these records are not maintained.

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

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

D. Botanical Extraction Operations, including:

- **Immersion extractor Z-1001, desolventizer Z-1002, day tank 90024, first-stage evaporator EX-1012, second stage evaporator EX-1013, distillation column EX-90008 and nine process tanks of various capacities (ID No. ES-1001-11-1-P) and one associated chilled water condenser (ID No. CD-1001-11-EX1002) venting to one cryogenic (nitrogen) condenser system (ID No. CD-1001-11-EX1003);**
- **Plant Material Grinder (ID No. MHZ-1002) and one associated bagfilter (ID No.CD-1003-4-1);**
- **Process equipment leaks (ID No. ES-1001-11-1-F); and**
- **Botanical extraction operations wastewater stream (ID No. ES-1001-11-WW)**

Biomass Extraction Operations, including:

- **Biomass extraction debagging (ID No. ES-1004-1) and one associated cartridge filter (ID No. CD-1004-1-FF1);**
- **Immersion extractor Z-41001, desolventizer Z-41002, day tank 490025, iso-hexane storage tank 490024, first-stage evaporator EX-41012, second stage evaporator EX-41013, distillation column EX-490008 and nine process tanks of various capacities (ID No. ES-1004-2-P) and one associated chilled water condenser (ID No. CD-1004-2EX1002) venting to one cryogenic (nitrogen) condenser system (ID No. CD-1004-2EX1003);**
- **Process equipment leaks (ID No. ES-1004-2-F);**
- **Wastewater tanks and other similar vessels (ID No. ES-1004-2-WW);**
- **Biomass extraction operations wastewater stream (ID No. ES-1003-10-WW);**
- **Biomass silo loadout (ID No. ES-1004-2Silo) and one associated bagfilter (ID No. CD-1004-2-FF2); and**
- **Molecular sieve (ID No. ES-MSDU-1024)**

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	Plant material grinder, biomass extraction debagging, and biomass silo loadout: $E=4.10P^{0.67}$ Where: E = allowable emission rate in pounds per hour P = process weight in tons per hour	15A NCAC 02D .0515
Visible emissions	20 percent opacity	15A NCAC 02D .0521(d)
Volatile organic compounds	Best Available Control Technology See Sections 2.2 B.1 and 2.2 B.2	15A NCAC 02D .0530
	Compliance Assurance Monitoring	15A NCAC 02D .0614
Toxic Air Pollutants	**State-Enforceable Only** See Sections 2.2 A.2	15A NCAC 02D .1100
Odorous emissions	**State-Enforceable Only** See Section 2.2 A.3	15A NCAC 02D .1806
Hazardous Air Pollutants	Maximum Achievable Control Technology See Section 2.2 C.1	15A NCAC 02D .1111 (40 CFR Part 63, Subpart FFFF)

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

a. Emissions of particulate matter from the plant material grinder **(ID No. MHZ-1002)**, the biomass extraction debagging operation **(ID No. ES-1004-1),** and the biomass silo loadout **(ID No. ES-1004-2-Silo)** shall not exceed an allowable emission rate as calculated by the following equation: [15A NCAC 02D .0515(a)]

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

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

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

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

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

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

c. Particulate matter emissions from the plant material grinder, the biomass extraction debagging operation, and the biomass storage silo shall be controlled by a bagfilter **(ID No. CD-1003-4-1),** a cartridge filter **(ID No. CD-1004-1-FF1**), and a bagfilter **(ID No. CD-1004-2-FF2)**, respectively. 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 is 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 cartridge filter and bagfilters for structural integrity.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515 if the ductwork, cartridge

filter, and bagfilters are not inspected and maintained.

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

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

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

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

f. The Permittee shall submit a summary report of monitoring and recordkeeping activities postmarked or delivered 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 botanical extraction operations and the biomass extraction operations shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity. [15A NCAC 02D .0521(d)]

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

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 D.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 per semiannual period the Permittee shall observe the emission points of these sources for any visible emissions above normal. The semiannual observation must be made for each semiannual period of the calendar year period to ensure compliance with this requirement. If practicable, the observation must be made while the associated source is operating. If a source does not operate during a semiannual period, then a record documenting such non-operational status will satisfy this monitoring requirement for that source. If visible emissions from a source are observed to be above normal, the Permittee shall either:
   i. Take appropriate action to correct the above-normal emissions as soon as practicable and within the monitoring period and record the action taken as provided in the recordkeeping requirements below, or
   ii. Demonstrate that the percent opacity from the emission points of the emission source in accordance with 15A NCAC 02D .2610 (Method 9) for 12 minutes is below the limit given in Section 2.1 D.2.a, above.

   If the above-normal emissions are not corrected per (i) above or if the demonstration in (ii) above cannot be made, the Permittee shall be deemed to be in noncompliance with 15A NCAC 02D .0521.

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

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

ii. The results of each observation and/or test noting those sources with emissions that were observed to be in noncompliance along with any corrective actions taken to reduce visible emissions; and
iii. The results of any corrective actions performed.

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

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

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

3. 15A NCAC 02D .0614: COMPLIANCE ASSURANCE MONITORING

Applicability [15A NCAC 02D .0614 and 40 CFR §64.2]

a. For the immersion extractor **(ID No. Z-1001)**, desolventizer **(ID No. Z-1002)**, day tank **(ID No. 90024)**, first-stage evaporator **(ID No. EX-1012)**, second stage evaporator **(ID No. EX-1013)**, distillation column **(ID No. EX-90008)** and nine process tanks (**ID No. ES-1001-11-1-P**) and the immersion extractor **(ID No. Z-41001)**, desolventizer **(ID No. Z-41002)**, day tank **(ID No. 490025)**, isohexane storage tank **(ID No. 490024)**, first-stage evaporator **(ID No. EX-41012)**, second stage evaporator **(ID No. EX-41013)**, distillation column **(ID No. EX-490008)** and nine process tanks of various capacities (**ID No. ES-1004-2-P**), the Permittee shall comply with 40 CFR Part 64 and 15A NCAC 02D .0614 and shall ensure that this source complies with the volatile organic compound (VOC) emission limits of 15A NCAC 02D .0530 by complying with Section 2.1 D.3 of this permit.

Control Requirements/Parameter ranges [15A NCAC 02Q .0508(f)]

b. VOC emissions from the subject botanical extraction operations sources (**ID No. ES-1001-11-1-P**) shall be controlled by the associated cryogenic condenser system (**ID No. CD-1001-11-EX1003**). VOC emissions from the subject biomass extraction operations sources (**ID No. ES-1004-2-P**) shall be controlled by the associated cryogenic condenser system (**ID No. CD-1004-2EX1003**). In addition:
   i. The Permittee shall maintain a 12-hour average outlet temperature of less than or equal to -40 °F for cryogenic condenser system **CD-1001-11-EX1003** whenever the associated sources are operational when using non-water soluble solvents. The 12-hour average outlet temperature must be maintained at less than or equal to 17 degrees Fahrenheit (17 ºF) when using water soluble solvents; and
   ii. The Permittee shall maintain a 12-hour average outlet temperature of less than or equal to -40 °F for cryogenic condenser system **(ID No. CD-1004-2EX1003)** whenever the associated sources are operational when using non-water soluble solvents. The 12-hour average outlet temperature must be maintained at less than or equal to 17 degrees Fahrenheit (17 ºF) when using water-soluble solvents

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

c. **For VOC emissions:** The Permittee shall perform the monitoring requirements of Sections 2.1 D.3.c.i through iv, below. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0614 if the monitoring and recordkeeping requirements of Sections 2.1 D.3.c.i through iv, below, are not performed.
   i. The Permittee shall monitor the outlet temperature of cryogenic condenser system **(ID No. CD-1001-11-EX1003)** at least once each hour, and calculate the average outlet temperature for the consecutive 12-hour period ending with that hour, when the associated sources listed in Section 2.1 D.3.b, above, operate;
   ii. The Permittee shall monitor the outlet temperature of cryogenic condenser system **(ID No. CD-1004-2EX1003)** at least once each hour, and calculate the average outlet temperature for the consecutive 12-hour period ending with that hour, when the associated sources listed in Section 2.1 D.3.b, above, operate; and
   iii. The Permittee shall inspect, maintain, and operate cryogenic condenser systems **(ID Nos. CD-1001-**

11-EX1003 and CD-1004-2EX1003) in accordance with Section 2.2 B.1.h, below; and

iv. The Permittee shall install, maintain, operate, and calibrate the temperature sensors associated with cryogenic condenser systems **(ID Nos. CD-1001-11-EX1003 and CD-1004-2EX1003)** in accordance with Section 2.2 B.1.j, below.

d. **For excursions:** In the event of an excursion the Permittee shall take appropriate action to correct the excursion as soon as practicable. Further, if cryogenic condenser system **(ID No. CD-1001-11-EX1003 or CD-1004-2EX1003)** operate under conditions qualifying as an excursion for more than 5 percent of the operational time of their associated sources listed in Section 2.1 D.3.b, above, during a consecutive 6-month period, then the Permittee shall develop a Quality Improvement Plan (QIP) for that cryogenic condenser system in accordance with 40 CFR §64.8. For the purposes of this permit condition excursions are defined as operation of cryogenic condenser system **(ID No. CD-1001-11-EX1003 or CD-1004-2EX1003)** with a 12-hour average outlet temperature that exceeds the associated limit cited in Sections 2.1 D.3.b.i and ii, above, while the associated emission sources are operating.

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

e. The results of monitoring, inspections, maintenance and calibrations conducted pursuant to Sections 2.1 D.3.c and d, above, shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:

i. The date and time of each recorded action;

ii. The results of the monitoring, noting any excursions along with any actions taken to correct the outlet temperature of cryogenic condenser system **(ID No. CD-1001-11-EX1003 or CD-1004-2EX1003)**;

iii. The results of any inspections or maintenance performed on cryogenic condenser system **(ID No. CD-1001-11-EX1003)**, cryogenic condenser system **(ID No. CD-1004-2EX1003)**, or the associated temperature gauges; and

iv. Any variance from manufacturer's recommendations, if any, and corrections made.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0614 if these records are not maintained.

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

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

E. Two biomass boilers (ID Nos. ES-BB1 and ES-BB2) and an associated propane/No. 2 fuel oil-fired rotary dryer (ID No. ES-RD) operated in series controlled by a cyclone (ID No. CD-BB1C) in series with a bagfilter (ID No. CD-BB1BH)

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	Boilers **(ID Nos. ES-BB1 and BB2)**: 0.33 pounds per million Btu heat input	15A NCAC 02D .0503
Particulate matter	Rotary dryer **(ID No. ES-RD):** $E = 4.10(P)^{0.67}$	15A NCAC 02D .0515
Sulfur dioxide	2.3 pounds per million Btu heat input	15A NCAC 02D .0516
Visible emissions	20 percent opacity when averaged over a six-minute period	15A NCAC 02D .0521
N/A	Initial notification requirements, Notification of boiler size and fuel combusted, and Record and maintain amount of each fuel combusted	15A NCAC 02D .0524 (40 CFR Part 60, Subpart Dc)

Regulated Pollutant	Limits/Standards	Applicable Regulation
	during each calendar month.	
PM, HCl, CO, Hg	Boilers **(ID Nos. ES-BB1 and BB2)**: Emission limits as specified in 40 CFR Part 63, Subpart DDDDD	15A NCAC 02Q .1111 MACT (40 CFR Part 63, Subpart DDDDD)
Volatile Organic Compounds	Emissions of VOCs shall be less than 40 tons per consecutive 12-month period	15A NCAC 02Q .0317 (Avoidance of 15A NCAC 02D .0530)
Hazardous Air Pollutants	Rotary Dryer **(ID No. ES-RD):** n-hexane emissions shall be less than 10 tons per year	15A NCAC 02Q .0317 (Avoidance of 15A NCAC 02D .1112)

1. **15A NCAC 02D .0503: PARTICULATES FROM FUEL BURNING INDIRECT HEAT EXCHANGERS**
   a. Emissions of particulate matter from the combustion of sage or wood that are discharged from the boilers (**ID Nos. ES-BB1 and BB2**) into the atmosphere shall not exceed 0.33 pounds per million Btu heat input. [15A NCAC 02D .0503(a)]

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

   Monitoring [15A NCAC 02Q .0508(f)]
   c. Particulate matter emissions from the boilers **(ID Nos. ES-BB1 and ES-BB2)** shall be controlled by a cyclone **(ID No. CD-BB1C)** in series with a bagfilter **(ID No. CD-BB1BH)**. 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 is no manufacturer's inspection and maintenance recommendations, as a minimum, the inspection and maintenance requirement shall include the following:
      i. monthly external inspection of the ductwork, cyclone, and bagfilter noting the structural integrity; and
      ii. an annual internal inspection of the bagfilter's structural integrity.

      The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0503 if the cyclone, bagfilter, and ductwork is not inspected and maintained.

   Recordkeeping [15A NCAC 02Q .0508(f)]
   d. The results of inspection and maintenance shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:
      i. the date and time of each recorded action;
      ii. the results of each inspection;
      iii. a report of any maintenance performed on the cyclone and bagfilter; and
      iv. any variance from manufacturer's recommendations, if any, and corrections made.

      The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0503 if these records are not maintained.

   Reporting [15A NCAC 02Q .0508(f)]
   e. Within 30 days of a written request from the DAQ, the Permittee shall submit a report of any maintenance performed on the cyclone and bagfilter.
   f. The Permittee shall submit a summary report of monitoring and recordkeeping activities postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December

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

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

a. Emissions of particulate matter from the rotary dryer (**ID No. ES-RD**) shall not exceed an allowable emission rate as calculated by the following equation: [15A NCAC 02D .0515(a)]

$E = 4.10 \times P^{0.67}$ 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 E.2.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515.

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

c. The Permittee shall maintain production records such that the process rates "P" in tons per hour, as specified by the formulas contained above (or the formulas 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.

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

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

Testing [15A NCAC 02Q .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 .0516.

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

c. No monitoring/recordkeeping is required for sulfur dioxide emissions from the firing of wood or sage in this source.

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

a. Visible emissions from the boilers and rotary dryer **(ID Nos. ES-BB1, ES-BB2, and ES-RD)** shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity. [15A NCAC 02D .0521 (d)]

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

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

For boilers (ID Nos. ES-BB1 and ES-BB2)
Monitoring [15A NCAC 02Q .0508(f)]

c. To ensure compliance, once a day the Permittee shall observe the emission points of the boilers **(ID Nos. ES-BB1 and ES-BB2)** for any visible emissions above normal. The daily observation must be made for each day of the calendar year period to ensure compliance with this requirement. The Permittee shall be allowed three (3) days of absent observations per semiannual period. The Permittee shall establish "normal" for the boilers in the first 30 days following the effective date of the permit. If visible emissions from this source are observed to be above normal, the Permittee shall either:
   i. take appropriate action to correct the above-normal emissions as soon as practicable and within the monitoring period and record the action taken as provided in the recordkeeping requirements below, or
   ii. demonstrate that the percent opacity from the emission points of the emission source in accordance with 15A NCAC 02D .2610 (Method 9) for 12 minutes is below the limit given in Section 2.1 E.4.a. above.

   If the above-normal emissions are not corrected per (i) above or if the demonstration in (ii) above cannot be made, the Permittee shall be deemed to be in noncompliance with 15A NCAC 02D .0521.

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

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

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

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

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

   For Rotary Dryer (ID No. ES-RD):
   Monitoring/Recordkeeping/Reporting [15A NCAC 02Q .0508(f)]

f. No monitoring/recordkeeping/reporting is required for visible emissions from the firing of No. 2 fuel oil in the rotary dryer **(ID No. ES-RD)**.

5. 15A NCAC 02D .0524: NSPS 40 CFR PART 60 SUBPART Dc

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

b. **NSPS REQUIREMENTS** - In addition to any other required by 40 CFR 60.48c or notification requirements to the EPA, the Permittee is required to NOTIFY the DAQ in **writing** of the following:
   i. the date construction (40 CFR 60.7) or reconstruction (40 CFR 60.15) of an affected facility is commenced, postmarked no later than 30 days after such date, and
   ii. the date of actual initial start-up postmarked within 15 days of the actual date.

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

c. In addition to any other recordkeeping required by 40 CFR 60.48c or recordkeeping requirements of the EPA, the Permittee shall record and maintain records of the amounts of each fuel fired during each day. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524 if these records are not

maintained.

6. 15A NCAC 02D .1111 National Emission Standard for Hazardous Air Pollutants, 40 CFR Part 63, Subpart DDDDD – Boiler and Process Heaters

Applicability [40 CRF §63.7485, §63.7490(b), §63.7499(i)]

a. For the new sources designed to burn wet biomass/bio-based solids, the Permittee shall comply with all applicable provisions, including the monitoring, recordkeeping, and reporting contained in Environmental Management Commission Standard 15A NCAC 02D .1111 "Maximum Achievable Control Technology" (MACT) as promulgated in 40 CFR 63, Subpart DDDDD . "National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters" and Subpart A "General Provisions."

   i. If you have a new boiler or process heater, you must comply with this subpart upon startup of your boiler or process heater.

Definitions and Nomenclature [§63.7575]

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

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

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

Notifications [§63.7545, 15A NCAC 02Q .0508 (f)]

d. The Permittee must submit the following notifications:
   i. for required ongoing performance testing as required by Subpart DDDDD, a Notification of Intent to conduct a performance test at least 60 days before the performance test is scheduled to begin, and
   ii. for the ongoing compliance demonstrations, as required by Subpart DDDDD, submit the Notification of Compliance Status (NOCS), including all performance test results within 60 days of completion of ongoing testing. The NOCS shall include:

      (a) a description of the affected unit,
      (b) a summary of results and calculations conducted to demonstrate compliance including all established operating limits,
      (c) a signed certification that the Permittee has met all applicable emission limits and work practice standards, and
      (d) a signed certification of compliance stating, "This facility completed the required initial tune-up, no secondary materials that are solid waste were combusted in the affected unit."

Compliance Date [§63.7510(f) and (g)]

e. The biomass boilers are new affected sources. The compliance date for new affected sources is the startup date, or October 10, 2011 for the biomass boilers.

Emission Limitations [§63.7500]

f.

	For the following pollutants	The emissions must not exceed the following emission limits, except during startup and shutdown
Units in all subcategories designed to burn solid fuel	HCl	2.2E-02 pounds per million Btu of heat input
	Mercury	8.0E-07 pounds per million Btu heat input
Stokers/sloped grate designed to burn wet biomass fuel	CO	620 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average
	Filterable PM (or TSM)	3.0E-02 pounds per million Btu heat input or (2.6E-05 pounds per million Btu heat input

Testing [§63.7510, §63.7515, §63.7525, 15A NCAC 02Q .0508 (f)]

g. The Permittee has elected to demonstrate compliance through performance (stack) testing. For ongoing compliance testing, the Permittee must conduct performances tests according to §63.7520 and Table 5.

The Permittee has previously conducted two consecutive annual compliance tests that were less than 75 percent of the emission limit for each pollutant, and there were no changes in the operation of the boiler or air pollution control equipment. The Permittee has chosen to conduct performance tests for the pollutants every third year. Each such performance test must be conducted no more than 37 months after the previous performance test.

If a performance test shows that emissions exceed the emissions limit or 75 percent of the emission limit for a pollutant, the permittee must conduct performance tests for that pollutant until all performance tests over a consecutive two year period are at or less than 75% of the emission limit, at which time the facility may chose to return to every third year testing.

The Permittee must develop a site-specific stack test plan according to the requirements of §63.7(c). Performance testing must be conducted according to the requirements in Table 5.

The Permittee must operate the oxygen trim system with the oxygen level set no lower than the lowest hourly average oxygen concentration measured during the most recent CO performance test as the operating limit for oxygen according to Table 7.

The Permittee must maintain records of the 30 day rolling average hourly oxygen concentration.

Work Practice Standards [§63.7515, §63.7540, 15A NCAC 02Q .0508 (f)]

h. For the biomass boilers (*i.e.* the new affected soures) with a continuous oxygen trim system that maintains an optimum air-to-fuel ratio, the Permittee must conduct a tune-up of the boiler or process heater every 5 years as specified in §63.7515(d) and §63.7540. The initial tune-up must be no later than 61 months after initial startup. Each 5 year tune-up must be conducted no more than 61 months after the previous tune-up.

Start-up
The Permittee must operate all CMS during startup.

For startup of a boiler or process heater, the Permittee must use one or a combination of the following clean fuels: Natural gas, synthetic natural gas, propane, other Gas 1 fuels, distillate oil, syngas, ultra-low

sulfur diesel, fuel oil-soaked rags, kerosene, hydrogen, paper, cardboard, refinery gas, liquefied petroleum gas, clean dry biomass, and any fuels meeting the appropriate HCl, mercury and TSM emission standards by fuel analysis.

The Permittee has the option of complying using either of the following work practice standards.

(1) If you choose to comply using definition (1) of "startup" in §63.7575, once you start firing fuels that are not clean fuels, you must vent emissions to the main stack(s) and engage all of the applicable control devices except limestone injection in fluidized bed combustion (FBC) boilers, dry scrubber, fabric filter, and selective catalytic reduction (SCR). You must start your limestone injection in FBC boilers, dry scrubber, fabric filter, and SCR systems as expeditiously as possible. Startup ends when steam or heat is supplied for any purpose, OR

(2) If you choose to comply using definition (2) of "startup" in §63.7575, once you start to feed fuels that are not clean fuels, you must vent emissions to the main stack(s) and engage all of the applicable control devices so as to comply with the emission limits within 4 hours of start of supplying useful thermal energy. You must engage and operate PM control within one hour of first feeding fuels that are not clean fuels[a]. You must start all applicable control devices as expeditiously as possible, but, in any case, when necessary to comply with other standards applicable to the source by a permit limit or a rule other than this subpart that require operation of the control devices. You must develop and implement a written startup and shutdown plan, as specified in §63.7505(e).

The Permittee must comply with all applicable emission limits at all times except during startup and shutdown periods at which time you must meet this work practice. The Permittee must collect monitoring data during periods of startup, as specified in §63.7535(b). The Permittee must keep records during periods of startup. The Permittee must provide reports concerning activities and periods of startup, as specified in §63.7555.

Shut-down
The Permittee must operate all CMS during shutdown.

While firing fuels that are not clean fuels during shutdown, the Permittee must vent emissions to the main stack(s) and operate all applicable control devices, except limestone injection in FBC boilers, dry scrubber, fabric filter, and SCR but, in any case, when necessary to comply with other standards applicable to the source that require operation of the control device.
If, in addition to the fuel used prior to initiation of shutdown, another fuel must be used to support the shutdown process, that additional fuel must be one or a combination of the following clean fuels: Natural gas, synthetic natural gas, propane, other Gas 1 fuels, distillate oil, syngas, ultra-low sulfur diesel, refinery gas, and liquefied petroleum gas.

The Permittee must comply with all applicable emissions limits at all times except for startup or shutdown periods conforming with this work practice. The Permittee must collect monitoring data during periods of shutdown, as specified in §63.7535(b). The Permittee must keep records during periods of shutdown. The Permittee must provide reports concerning activities and periods of shutdown, as specified in §63.7555.

Operating Limits [§63.7525]

i. For the fabric filter, the Permittee must install and operate a bag leak detection system according to §63.7525 and operate the fabric filter such that the bag leak detection system alert is not activated more than 5 percent of the operating time during each 6-month period.

The steam load shall not exceed 110 percent of the highest hourly average operating load recorded during the most recent performance test. The Permittee must monitor steam load and maintain records of the 30 day rolling average steam production.

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

j. If the Permittee switches fuels or makes a physical change to the boiler and the fuel switch or physical change results in the applicability of a different subcategory, the Permittee must provide notice of the date upon which the Permittee switched fuels or made the physical change within 30 days of the switch/change. The notification must identify:
   i. The name of the owner or operator of the affected source, as defined in §63.7490, the location of the source, the boiler(s) and process heater(s) that have switched fuels, were physically changed, and the date of the notice.
   ii. The currently applicable subcategory under this subpart.
   iii. The date upon which the fuel switch or physical change occurred.

k. The notification required in condition j. above shall be submitted with a permit application consistent with 15A NCAC 02Q .0500 to update the permit with the requirements for the applicable subcategory under 40 CFR 63 Subpart DDDDD.

General Compliance Requirements [§63.7505(a), §63.7500(f)]

l. The Permittee shall be in compliance with the work practice standards in this subpart. These standards apply at all times the affected unit is operating.

The Permittee must maintain a site-specific monitoring plan according to the requirements in paragraphs (1) through (4) below.

(1) For each CMS required in this section (including CEMS, COMS, or CPMS), you must develop, and submit to the Administrator for approval upon request, a site-specific monitoring plan that addresses design, data collection, and the quality assurance and quality control elements outlined in §63.8(d) and the elements described in paragraphs (d)(1)(i) through (iii) of this section. The Permittee must submit this site-specific monitoring plan, if requested, at least 60 days before your initial performance evaluation of your CMS. This requirement to develop and submit a site specific monitoring plan does not apply to affected sources with existing CEMS or COMS operated according to the performance specifications under appendix B to part 60 of this chapter and that meet the requirements of §63.7525. Using the process described in §63.8(f)(4), you may request approval of alternative monitoring system quality assurance and quality control procedures in place of those specified in this paragraph and, if approved, include the alternatives in your site-specific monitoring plan.
   (i) Installation of the CMS sampling probe or other interface at a measurement location relative to each affected process unit such that the measurement is representative of control of the exhaust emissions (e.g., on or downstream of the last control device);
   (ii) Performance and equipment specifications for the sample interface, the pollutant concentration or parametric signal analyzer, and the data collection and reduction systems; and
   (iii) Performance evaluation procedures and acceptance criteria (e.g., calibrations, accuracy audits, analytical drift).

(2) In your site-specific monitoring plan, you must also address the following requirements.
   (i) Ongoing operation and maintenance procedures in accordance with the general requirements of §63.8(c)(1)(ii), (c)(3), and (c)(4)(ii);

(ii) Ongoing data quality assurance procedures in accordance with the general requirements of §63.8(d); and

(iii) Ongoing recordkeeping and reporting procedures in accordance with the general requirements of §63.10(c) (as applicable in Table 10 to this subpart), (e)(1), and (e)(2)(i).

(3) The Permittee must conduct a performance evaluation of each CMS in accordance with your site-specific monitoring plan.

(4) The Permittee must operate and maintain the CMS in continuous operation according to the site-specific monitoring plan.

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

m. The Permittee must:

i. maintain a copy of each notification and report submitted to comply with this Subpart,

ii. maintain records of performance tests, or other compliance demonstrations,

iii. keep records of monthly fuel use,

iv. keep a copy or all calculations and supporting documentation of maximum chlorine fuel input, using Equation 7 of §63.7530, that were done to demonstrate continuous compliance with the HCl emission limit,

v. keep a copy of all calculations and supporting documentation of maximum mercury fuel input, using Equation 8 of §63.7530, that were done to demonstrate continuous compliance with the mercury emission limit,

vi. if you choose to stack test less frequently than annually, keep a record that documents emissions from the previous stack test were less than 75 percent of the applicable emission limit and document that there was no change in source operations including fuel consumption and operation of air pollution control equipment that would cause emissions of the relevant pollutant to increase within the past year,

vii. maintain records of the occurence and duration of each malfunction of the boiler or associated air pollution control and monitoring equipment and records of actions taken to minimize emissions including corrective actions to restore the boiler or associated equipment to its normal operation,

viii. maitain a copy of all calculations and supporting documentation of maximum TSM fuel input, using Equation 9 of §63.7530 that were done to demonstrate continuous compliance with the TSM emission limit,

ix. maintain records of the calendar date, time, occurrence, and duration of each startup and shutdown and type and amount of fuels used during each startup and shutdown,

x. for each startup period, for units selecting paragraph (2) of the definition of startup, maintain records of the time that clean fuel combustion begins, the time you start feeding fuels that are not clean fuels, the time when useful thermal energy is first supplied, and the time the PM controls are engaged,

Records must be kept for 5 years after the date of occurrence, measurement, maintenance, or corrective action in form suitable and readily available for expeditious review. Records must be kept on site for at least 2 years. If the above records are not maintained, the Permittee will be deemed in noncompliance with 15A NCAC 02D .1111.

Reporting [§63.7550(c), 15A NCAC 02Q .0508 (f)]

n. The Permittee shall submit semiannual reports for the following:

i. company and facility name and address, process unit information, emissions limitations, and operating limitations, date of report and beginning and ending dates of reporting period, total operating time during reporting period, the CMS monitoring equipment manufacturer and model numbers and the date of the last CMS certification or audit,

ii. the date of the most recent tune-up and burner inspection,

iii. a statement by a responsible official certifying the truth, accuracy, and completeness of the content of the report,

iv. if there were no deviations from the monitoring requirements including no periods during which the CMS were out of control as specified in 63.8(c)(7), a statement that there were no deviations and no

periods during which the CMS were out of control during the reporting period. If a malfunction occurred, the report must include the number, duration, and a brief description of each type of malfunction which may have caused any applicable emission limit to be exceeded. The report must also include a description of actions taken to minimize emissions including actions to correct the malfunction.

v. for each instance of startup or shutdown include the information required to be monitored, collected, or recorded according to §63.7555(d).

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

a. In order to avoid applicability of this regulation, the above emission sources shall discharge into the atmosphere less than 40 tons of VOCs per consecutive 12-month period.

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

b. For any sage sent to the rotary dryer (**ID No. ES-RD**) the Permittee shall:
   i. Measure the sage input on a daily basis,
   ii. Measure the hexane content of the sage exiting the process on a weekly basis. The sampling shall include collecting sage material as it exits the desolventizer before it enters the rotary dryer every hour for a 24-hour period each week.
   iii. Calculate daily VOC emissions by using the daily sage input and the hexane content (lb hexane/lb sage) determined weekly for the sage drying until the next weekly result is obtained.
c. The facility has determined the potential VOC emissions from both boilers to be 3.57 tons per 12 months or 0.30 tons per month. The Permittee has requested to use 0.15 tons per month of VOC emitted per boiler for any month in which the boiler(s) operate to determine compliance with this permit condition.
d. Calculations and the total amount of VOC emissions shall be recorded monthly in a logbook (written or electronic format).
e. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530 if the monitoring and recordkeeping are not conducted and maintained as specified in Sections 2.1. E.7.b through d or if the emissions exceed the limit specified in Section 2.2. E.7.a.

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

f. The Permittee shall submit a semiannual 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 monthly VOC emissions for the previous 17 months. The emissions must be calculated for each of the 12-month periods over the previous 17 months.

8. 15A NCAC 02Q. 0317: AVOIDANCE CONDITIONS
LIMITATION TO AVOID 15A NCAC 02D .1112: 112(g) Case by Case Maximum Achievable Control Technology

a. In order to avoid applicability of 112(g), n-hexane emissions from the rotary dryer **(ID No. ES-RD)** shall be less than 10 tons per year.

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

b. The Permittee shall maintain monthly consumption records of each material containing n-hexane as follows:
   i. Maintain a quantity of n-hexane in pounds used in the rotocel operations each month and for the 12-month period ending on that month.
   ii. Maintain a record of purchase orders and invoices of materials containing n-hexane that are used in the rotocel operations.
   iii. Utilize the calculations specified in Permit Condition No. 2.1 E.8.b. above and calculate n-hexane

emissions based on the n-hexane content utilized in the rotocel operations as determined at the desolventizer as the emissions from the rotary dryer.

c. The Permittee shall keep a record of the applicability determination on site at the source for a period of five years after the determination, or until the source becomes an affected source. The determination must include the analysis demonstrating why the Permittee believes the source is unaffected pursuant to 40 CFR 63.10(b)(3)

d. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530 if the monitoring and recordkeeping are not conducted and maintained as specified in Sections 2.1.E.8.b and c. or if the emissions exceed the limit specified in Section 2.1. E.8.a.

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

e. The Permittee shall submit a semiannual 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 monthly n-hexane emissions for the previous 17 months. The emissions must be calculated for each of the 12-month periods over the previous 17 months.

F. Four Emergency Generators and Fire Water Pump (ID Nos. E101, E102, E103, E104, and FP)

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
Sulfur dioxide	2.3 pounds per million Btu heat input	15A NCAC 02D .0516
Visible emissions	20 percent opacity	15A NCAC 02D .0521
N/A	N/A	15A NCAC 02D .1111 (40 CFR Part 63, Subpart ZZZZ)

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

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

Testing [15A NCAC 02Q .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 .0516.

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

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

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

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

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

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

deemed in noncompliance with 15A NCAC 02D .0521.

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

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

3. 15A NCAC 02D .1111 [40 CFR Part 63, Subpart ZZZZ]:
NESHAP for Stationary Reciprocating Internal Combustion Engines

a. The Permittee shall comply with all applicable provisions contained in Environmental Management Commission Standard 15A NCAC 02D .1111, "Maximum Achievable Control Technology" as promulgated in 40 CFR Part 63, Subpart ZZZZ, "National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines," by December 13, 2004.

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

b. No monitoring/recordkeeping/reporting requirements.

G. Sclareol Recrystallization (SFG) Operations, including:

- **One process tank (ID No. T-3001)***
- **Four process tanks (ID Nos. T-3002 through 3005)***
- **One storage tank (ID No. T-3006)***
- **One process tank (ID No. T-3007)***
- **Two centrifuges (ID Nos. C-3001 and C-3002)***
- **One reactor (ID No. R-3001) equipped with two process chilled water condensers (EX-3001 and EX-3002) with control chilled water condenser (ID No. CD-3001)***
- **One reactor (ID No. R-3002) equipped with a process chilled water condenser (EX-3003)***
- **One reactor (ID No. R-3003) equipped with a process chilled water condenser (EX-3004)***
- **One reactor (ID No. R-3004) equipped with a process chilled water condenser (EX-3005)***
- **One steam heated dryer (ID No. D-3001) equipped with a process chilled water condenser (EX-3002) with control chilled water condenser (ID No. CD-3001)***
- **One steam heated dryer (ID No. D-3002) equipped with a process chilled water condenser (EX-3006) with control chilled water condenser (ID No. CD-3002)***
- **Process equipment leaks (ID No. ES-1003-10-F)**
- **SFG Operations wastewater stream (ID No. ES-1003-10-WW)**

* These emission sources may be controlled with a chilled water condenser **(ID No. CD-3003)** in series with a mineral oil scrubber **(ID No. CD-3004-S)**. These control devices are optional controls. The Permittee has the option to construct or not construct these devices and has the option to operate or not operate these devices.

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
Volatile organic compounds	Best Available Control Technology	15A NCAC 02D .0530
Toxic Air Pollutants	**State-Enforceable Only** See Sections 2.2 A.2	15A NCAC 02D .1100
Odorous emissions	**State-Enforceable Only** See section 2.2 A.3	15A NCAC 02D .1806

1. 15A NCAC 02D .0530: PREVENTION OF SIGNIFICANT DETERIORATION

a. In order to comply with Best Available Control Technology (BACT), the SFG operations shall discharge no more than 217.4 tons volatile organic compounds per consecutive 12 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 limit given in Section 2.1 G.1.a, above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530.

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

c. Calculations of VOC emissions per month shall be made at the end of each month. VOC emissions shall be determined by multiplying the total amount of each type of VOC-containing material consumed during the month by the VOC content of the material.
d. Calculations and the total amount of VOC emissions shall be recorded monthly in a logbook (written or electronic format).
e. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530 if the amounts of VOC containing materials or the VOC emissions are not monitored and recorded as specified in Sections 2.1.G.1. c and d or if the VOC emissions exceed the limit in Section 2.1. G.1.a.

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

f. The Permittee shall submit a semiannual report of the monitoring and recordkeeping activities postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. The report shall contain the following:
   i. the monthly volatile organic compound emissions for each of the previous 17 months; and
   ii. the yearly volatile organic compound emissions for each consecutive 12-month period ending on each month of the previous six-month period.

H. Sclareolide (SDE-1) Operations, including:

- **Eleven (11) process tanks of various capacities (ID No. ES-1001-1-3-P, Tank ID Nos. M-2, M-4, M-4A, M-39, M-44, M-15, M-17, M-17A, M-16, M-11, and TK-1210);**
- **One centrifuge (ID No. G-17);**
- **One steam-heated dryer with process condenser (ID No. D-1202);**
- **Filters (ID No. ES-1001-1-3-Filters);**
- **SDE-1 process equipment leaks (ID No. ES-1001-3-F); and**
- **SDE-1 wastewater stream (ID No. ES-1001-1-3-WW)**

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
Odorous emissions	**State-Enforceable Only** See section 2.2 A.3	15A NCAC 02D .1806
Hazardous Air Pollutants	Maximum Achievable Control Technology See Section 2.2 C.1	15A NCAC 02D .1111 (40 CFR Part 63, Subpart FFFF)

I. Sclareolide (SDE-2) Operations, including:

- **One chilled water condenser (ID No. CD-4002) in series with a mineral oil scrubber (ID No. CD-4003-S) controlling emissions from the following:**
  - **One 17,900 gallon virgin solvent tank (ID No. T-4001);**
  - **Two 6,000 gallon process tanks (ID Nos. T-4017 and T-4018);**
  - **One 4,200 gallon reactor with process condenser (EX-4001) (ID No. R-4004);**
  - **One 4,200 gallon reactor with process condenser (EX-4002) (ID No. R-4005);**
  - **One 4,200 gallon reactor with process condenser (EX-4003) (ID No. R-4044);**
  - **One 1,500 gallon reactor (ID No. R-4015); and**
  - **One centrifuge (ID No. C-4001)**
- **One dryer with process condenser (EX-4004) with associated chilled water condenser (ID No. CD-4001) in series with a chilled water condenser (ID No. CD-4002) and mineral oil scrubber (ID No. CD-4003-S)**
- **SDE-2 process equipment leaks (ID No. ES-4000-F); and**
- **SDE-2 wastewater stream (ID No. ES-4000-WW)**

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
Volatile organic compounds	Best Available Control Technology	15A NCAC 02D .0530
Odorous emissions	**State-Enforceable Only** See section 2.2 A.3	15A NCAC 02D .1806
Hazardous Air Pollutants	Maximum Achievable Control Technology See Section 2.2 C.1	15A NCAC 02D .1111 (40 CFR Part 63, Subpart FFFF)

1. 15A NCAC 02D .0530: PREVENTION OF SIGNIFICANT DETERIORATION

a. In order to comply with Best Available Control Technology (BACT), the SDE-2 operations shall discharge no more than 354.4 tons volatile organic compounds per consecutive 12 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 limit given in Section 2.1 I.1.a, above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530.

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

c. Calculations of VOC emissions per month shall be made at the end of each month. VOC emissions shall be determined by multiplying the total amount of each type of VOC-containing material consumed during the month by the VOC content of the material.

d. Calculations and the total amount of VOC emissions shall be recorded monthly in a logbook (written or electronic format).

e. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530 if the amounts of VOC containing materials or the VOC emissions are not monitored and recorded as specified in Sections 2.1.I.1. c and d or if the VOC emissions exceed the limit in Section 2.1. I.1.a.

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

f. The Permittee shall submit a semiannual report of the monitoring and recordkeeping activities postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. The report shall contain the following:
   i. the monthly volatile organic compound emissions for each of the previous 17 months; and
   ii. the yearly volatile organic compound emissions for each consecutive 12-month period ending on each

month of the previous six-month period.

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

A. Facility-Wide Affected Sources [all permitted sources except for limited use emergency generator ES-PkGen1 and boilers H-101, H-102, and H-103]

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
Toxic Air Pollutants	**State-Enforceable Only** Air Toxics evaluation for non-NESHAP emission sources	15A NCAC 02D .1100
Odorous emissions	**State-Enforceable Only** Odorous emissions must be controlled	15A NCAC 02D .1806

STATE-ENFORCEABLE ONLY

1. **15A NCAC 02D .1100: CONTROL OF TOXIC AIR POLLUTANTS**
   a. For any non-NESHAP source, any increase in toxic air pollutants must be evaluated.

STATE-ENFORCEABLE ONLY

2. **15A NCAC 02D .1806: CONTROL AND PROHIBITION OF ODOROUS EMISSIONS**
   a. The Permittee shall not operate the facility without implementing management practices or installing and operating odor control equipment sufficient to prevent odorous emissions from the facility from causing or contributing to objectionable odors beyond the facility's boundary.

B. Three No. 2 fuel oil-fired boilers, as described in Section 2.1 A, above; Rotocel Operations, as described in Section 2.1 C, above; Recovery Operations, as described in Section 2.1 C, above; Biomass Extraction Operations, as described in Section 2.1 D, above; Botanical Extraction Operations, as described in Section 2.1 D, above; and Wastewater Treatment Plant Aeration Tank No. 1 (63,500 gallon capacity; ID No. WWTP-AT1)

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
Volatile organic compounds (VOC)	Best Available Control Technology	15A NCAC 02D .0530

1. **15A NCAC 02D .0530: PREVENTION OF SIGNIFICANT DETERIORATION**

   a. The following Best Available Control Technology (BACT) limits shall not be exceeded:

Emission Source	Pollutant	BACT Emission Limits		Control Technology
Rotocel extractor, desolventizer, and solvent separation/recovery **(ID No. ES-1001-2-1-P1)**	VOC	10.8 pounds per hour	47.31 tons per consecutive 12-month period	Condenser CD-31209 and packed tower scrubber CD-1001-2-S-1
Rotocel equipment leaks **(ID No. ES-1001-2-1-F)**	VOC (Fugitive)	N/A		Leak detection and repair (LDAR)

Emission Source	Pollutant	BACT Emission Limits		Control Technology
Rotocel wastewater stream **(ID No. ES-1001-2-1-WW)**	VOC	N/A		Fixed roofs on wastewater treatment tanks
Recovery arcon tank M-1 **(ID No. ES-1001-1-1-P1)**	VOC	*When Rotocel is Operating*: 0.80 pounds per hour and 3.50 tons per consecutive 12-month period *When Rotocel is NOT Operating and Recovery Process is processing Concrete*: 8.76 pounds per hour and 0.63 tons per consecutive 12-month period		Condenser CD-1001-1-3 and packed tower scrubber CD-1001-2-S-1 Condenser CD-1001-1-3
Recovery stripper T-5 and receiver M-21 **(ID No. ES-1001-1-1-P2)**	VOC	*When Rotocel is Operating*: 0.85 pounds per hour and 3.72 tons per consecutive 12-month period *When Rotocel is NOT Operating and Recovery Process is processing Concrete*: 4.89 pounds per hour and 1.99 tons per consecutive 12-month period		Condenser CD-1001-1-T5B and packed tower scrubber CD-1001-2-S-1 Condenser CD-1001-1-T5B
Recovery process/storage tanks **(ID No. ES-1001-1-1-P3)**	VOC	N/A		Fixed roofs
Recovery equipment leaks **(ID No. ES-1001-1-1-F)**	VOC (Fugitive)	N/A		LDAR
Recovery wastewater stream **(ID No. ES-1001-1-1-WW)**	VOC	95% mass removal from wastewater stream consisting of methanol-wash		Fixed roofs on wastewater treatment tanks and biological treatment
Botanical extraction immersion extractor, desolventizer, first and second stage evaporators, distillation column, day tank, and multiple process tanks **(ID No. ES-1001-11-P)**	VOC	14.1 pounds per hour	61.76 tons per consecutive 12-month period	Condenser CD-1001-11-EX1002 and condenser CD-1001-11-EX1003
Botanical extraction equipment leaks **(ID No. ES-1001-11-F)**	VOC (Fugitive)	N/A		LDAR

Emission Source	Pollutant	BACT Emission Limits		Control Technology
Botanical extraction wastewater stream **(ID No. ES-1001-11-WW)**	VOC	N/A		Fixed roofs on wastewater treatment tanks
Biomass extraction immersion extractor, desolventizer, day tank, isohexane storage tank, first and second stage evaporators, distillation column, and multiple process tanks **(ID No. ES-1004-2-P)**	VOCs	14.1 pounds per hour	61.8 tons per consecutive 12-month period	Condenser CD-1004-2EX1002 and condenser CD-1004-2EX1003
Biomass extraction equipment leaks **(ID No. ES-1004-2-F)**	VOCs	N/A		LDAR
Biomass extraction wastewater stream **(ID No. ES-1004-2-WW)**	VOCs	N/A		Fixed roofs on wastewater treatment tanks
No. 2 fuel-oil fired boilers **(ID Nos. H-101, H-102, H-103)**	VOC	0.2 pounds per 1,000 gallons		Combustion control

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 2.2 B.1.a, above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530.

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

c. The Permittee shall only fill the Rotocel solvent recycle tanks (**ID No. M125A and M125B**) from tanker trucks when emission source **ES-1001-2-1-P1** is operating.
d. The Permittee shall limit the operation of the recovery stripper T-5 and receiver M-21 **(ID No. ES-1001-1-1-P2)** while source **(ID No. ES-1001-2-1-P1)** is not operating to no greater than 34 days in any consecutive 12-month period.
e. The Permittee shall limit the total number of days during which the liquid flow into the recovery arcon tank M-1 **(ID No. ES-1001-1-1-P1)** exceeds the liquid flow out of the arcon tank (i.e., days when the liquid level in the tank rises) while source **(ID No. ES-1001-2-1-P1)** is not operating to no greater than 6 days in any consecutive 12-month period.
f. The Permittee shall implement the leak detection and repair (LDAR) program of 40 CFR Part 63, Subpart UU, as per the requirements Section 2.2 B.2, below. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530, if the LDAR program requirements are not implemented.
g. The Permittee shall determine once a week, the mass removal efficiency of the on-site biological wastewater treatment plant (i.e. Wastewater Treatment Plant Aeration Tank No. 1; **ID No. WWTP-AT1**) for volatile organic compounds (VOC), when the wastewater stream consisting of methanol-wash from the recovery operations **(ID No. ES-1001-1-1-WW)** is discharged to it.
   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530 if the mass removal efficiency of the on-site biological wastewater treatment plant **(ID No. WWTP-AT1)** for VOC is not determined every week or if the mass removal efficiency is less than 95%.
h. Volatile organic compound (VOC) emissions from the emission sources listed in Section 2.2 B.1.a, above,

shall be controlled by the associated condensers. To ensure compliance, the Permittee shall perform periodic inspections and maintenance as recommended by the equipment manufacturer. In addition, the Permittee shall perform an annual inspection of each condenser system, including the following:

i. The Permittee shall inspect and maintain the structural integrity of each condenser, including inspection for leakage of coolant and, if the system is under positive gauge pressure, leakage of the contaminated gas stream. In order to monitor leakage of the coolant, the condensate shall be inspected for the presence of coolant; and

ii. The Permittee shall inspect and maintain the structural integrity of ductwork and piping leading to and coming from each condenser.

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

i. To ensure compliance, the Permittee shall install, maintain, operate, and calibrate, in accordance with manufacturer's recommendations, a sensor to continuously measure the outlet temperature of each condenser listed in Section 2.2 B.1.a, above. Each sensor shall be installed in an accessible location and shall be maintained by the Permittee such that it is in proper working order at all times. The temperatures output from the sensors shall be continuously monitored and hourly values used to determine the 24-hour average temperature at the condenser outlets. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530 if the outlet temperatures of the condensers are not maintained below the limits in the table below; or the condensers are not equipped with sensors to continuously measure the outlet temperatures; or if those sensors are not inspected and maintained.

Emission Source	Condenser ID No.	Required Outlet Temperature
Recovery arcon tank M-1 **(ID No. ES-1001-1-1-P1)**	CD-1001-1-3	45 ^{0}F, 24-hour average, when source ES-1001-2-1-P1 is not operating and the tanks are used for concrete processing in the recovery operation
Recovery stripper T-5 and receiver M-21 **(ID No. ES-1001-1-1-P2)**	CD-1001-1-T5B	
Botanical extraction operations **(ID No. ES-1001-11-P)**	CD-1001-11-EX1003	-40 ºF, 24-hour average for non water soluble solvents, and 17 ºF, 24-hour average for water soluble solvents
Biomass extraction operations **(ID No. ES-1004-2-P)**	CD-1004-2EX1003	-40 ºF, 24-hour average for non water soluble solvents, and 17 ºF, 24-hour average for water soluble solvents

j. Volatile organic compound (VOC) emissions from the emission sources listed in Section 2.2 B.1.a, above, shall also be controlled by the associated packed tower scrubber **(ID No. CD-1001-2-S-1),** except as allowed pursuant to Sections 2.2 B.1.c and e, above. To ensure compliance, the Permittee shall perform periodic inspections and maintenance as recommended by the equipment manufacturer. In addition to the manufacturer's inspection and maintenance recommendations, or if there is no manufacturer's inspection and maintenance recommendations, as a minimum, the inspection and maintenance requirement shall include the following:

i. An annual inspection of spray nozzles and packing materials, chemical feed system (if so equipped), and perform maintenance and repair when necessary to ensure proper operation of the packed tower scrubber; and

ii. An annual inspection, cleaning, and calibration of all associated instrumentation.

iii. Additionally, whenever the packing is replaced, the Permittee shall inspect for nozzle plugging and settling of the packing.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530 if the packed tower scrubber is not inspected and maintained.

k. The Permittee shall install, maintain, operate, and calibrate a scrubbing liquid flow meter, a scrubbing liquid inlet temperature sensor, and an emission stream inlet temperature sensor for packed tower scrubber CD-1001-2-S-1 in accordance with manufacturer's recommendations. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530 if the flow meter and temperature sensors are not installed, maintained, and calibrated, or if, except as allowed pursuant to Sections 2.2 B.1.c and e, above:
   i. The scrubbing liquid injection rate is not maintained at or above eight gallons per minute;
   ii. The scrubbing liquid inlet temperature exceeds 105 °F;
   iii. The emission stream inlet temperature exceeds 90 °F; or
   iv. The flow meter and temperature sensors are not operated.

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

l. The Permittee shall maintain the following records:
   i. VOC emissions for each calendar month, and for the consecutive 12-month period ending with each calendar month, from the following sources:
      (A) Rotocel and recovery operations **(ID Nos. ES-1001-2-1-P1, ES-1001-1-1-P1, ES-1001-1-1-P2, and ES-1001-1-1-P3)** when source ES-1001-2-1-P1 is operating;
      (B) Rotocel and recovery operations **(ID Nos. ES-1001-2-1-P1, ES-1001-1-1-P1, ES-1001-1-1-P2, and ES-1001-1-1-P3)** when source ES-1001-2-1-P1 is not operating and the recovery process is processing concrete;
      (C) Botanical extraction operations **(ID No. ES-1001-11-P);** and
      (D) Biomass extraction operations **(ID No. ES-1004-2-P).**
   ii. Results of any inspections, maintenance, and monitoring conducted pursuant to Sections 2.2 B.1.c through k, above, shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall be updated at least monthly and record the following:
      (A) The date and time of each recorded action;
      (B) The actual hours of operation of the recovery arcon tank M-1 **(ID No. ES-1001-1-1-P1)**, and recovery stripper T-5 and receiver M-21 **(ID No. ES-1001-1-1-P2),** when source ES-1001-2-1-P1 is not operating;
      (C) The actual hours of operation of recovery arcon tank M-1 **(ID No. ES-1001-1-1-P1)**, when the liquid flow into the arcon tank exceeds the liquid flow out of recovery arcon tank M-1 and source **(ID No. ES-1001-2-1-P1)** is not operating;
      (D) The mass removal efficiency of the on-site biological wastewater treatment plant **(ID No. WWTP-AT1)** for VOC calculated once a week at a minimum when the wastewater stream consisting of methanol-wash from the recovery operation **(ID No. ES-1001-1-1-WW)** is discharged to it;
      (E) The 24-hour average outlet temperature of the associated condenser(s) listed in Section 2.2 B.1.i, above:
         (1) When source **(ID No. ES-1001-2-1-P1)** is not operating and the Concrete Operations tanks **(ID No. ES-1001-1-2-P)** are used for concrete processing in the recovery operation; and/or
         (2) When the biomass extraction operations **(ID No. ES-1004-2-P)** is operating.
      (F) The scrubbing liquid injection rate, scrubbing liquid inlet temperature, and emission stream inlet temperature of scrubber **(ID No. CD-1001-2-S-1)** at least once each day that source **(ID No. ES-1001-2-1-P1)** operates;
      (G) The results of maintenance performed on the condensers and scrubber listed in Section 2.2 B.1.a, above, and the associated temperature sensors and flow rate gauges; and
      (H) Any variance from manufacturer's recommendations, if any, and corrections made.

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

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

m. Within 30 days of a request from the DAQ, the Permittee shall submit a report of any maintenance performed on the condensers and scrubber listed in Section 2.2 B.1.a, above.

n. The Permittee shall submit a summary report of monitoring and recordkeeping activities postmarked or received 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. In addition, the semiannual reports shall also contain the following:

i. The monthly VOC emissions from each of the following sources for each of the previous 17 months; and

(A) Rotocel and recovery operations **(ID Nos. ES-1001-2-1-P1, ES-1001-1-1-P1, ES-1001-1-1-P2, and ES-1001-1-1-P3)** when source **(ID No. ES-1001-2-1-P1)** is operating;

(B) Rotocel and recovery operations **(ID Nos. ES-1001-2-1-P1, ES-1001-1-1-P1, ES-1001-1-1-P2, and ES-1001-1-1-P3)** when source **(ID No. ES-1001-2-1-P1)** is not operating and the recovery process is processing concrete;

(C) Botanical extraction operations **(ID No. ES-1001-11-P)**; and

(D) Biomass extraction operations **(ID No. ES-1004-2-P)**.

ii. The cumulative total VOC emissions from each of the sources listed in Section 2.2 B.1.n.i, above, for each of the consecutive 12-month periods ending during the reporting period.

2. Leak Detection and Repair

[**15A NCAC 02D .0530: Prevention of Significant Deterioration**]

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

a. Affected process equipment shall be identified. 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. In addition to the above, the following equipment shall be specifically identified:

i. Connectors that are:

(A) Buried, insulated in a manner that prevents access by a monitor probe,

(B) Obstructed by equipment or piping that prevents access by a monitoring probe,

(C) Unable to be reached by a lift up to 25 feet above ground level,

(D) Inaccessible because it would require elevating the monitoring personnel more than seven feet above a permanent support surface or would require the erection of scaffolding, or

(E) Not able to be accessed in a safe manner to perform monitoring;

(Connectors need not be individually identified if all connectors in a designated area or length of pipe are identified as a group, and the number of connectors subject is indicated.)

ii. Pressure relief devices that are equipped with rupture disk upstream of the pressure device;

iii. Valves, pumps, and connectors that are designated unsafe-to-monitor (i.e., Permittee has determined that monitoring personnel would be exposed to an immediate danger as a consequence of complying with the monitoring requirements); and

iv. Valves that are difficult-to-monitor (i.e., Permittee has determined that the valve cannot be monitored without elevating the monitoring personnel more than seven feet above a support surface or it is not accessible in a safe manner when it is in regulated material service.

b. The Permittee shall record the identity of equipment designated as unsafe-to-monitor and/or difficult-to-monitor and the planned schedule for monitoring this equipment. The Permittee shall include an explanation why the equipment is unsafe or difficult-to-monitor. These records must be kept at the plant and be available for review by an inspector.

i. The Permittee shall have 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 of the equipment if a leak is detected.

ii. The Permittee shall have a written plan that requires monitoring of difficult to monitor equipment at least once per calendar year and repair of the equipment if a leak is detected.

c. Connectors that are designated as unsafe-to-repair will be repaired before the end of the next process unit shutdown. The identity of connectors designated as unsafe-to-repair and an explanation why the connector is unsafe-to-repair shall be recorded.

Instrument and sensory monitoring for leaks [15A NCAC 02Q .0508(f)]

d. Instrument monitoring shall be conducted for
   i. Valves in gas/vapor or light liquid service;
   ii. Pumps in light liquid service;
   iii. Connectors in gas/vapor or light liquid service; and
   iv. Pressure relief devices in gas/vapor service.

e. Sensory monitoring for leaks shall be conducted for pumps in light liquid service. Sensory monitoring consists of visual, audible, olfactory, or any other detection method used to determine a potential leak to the atmosphere.

f. Instrument monitoring shall comply with the following requirements,
   i. Monitoring shall comply with Method 21 of 40 CFR part 60, appendix A.
   ii. The detection instrument shall meet the performance criteria of Method 21 of 40 CFR part 60, appendix A, except the instrument response factor criteria in section 3.1.2, paragraph (a) of Method 21 shall be for the representative composition of the process fluid not each individual VOC in the stream. For process streams that contain nitrogen, air, water or other inerts that are not VOC, the representative stream response factor shall be determined on an inert-free basis. The response factor may be determined at any concentration for which monitoring for leaks will be conducted. If there is no instrument commercially available that will meet the performance criteria specified above, the instrument readings may be adjusted by multiplying by the representative response factor of the process fluid, calculated on an inert-free basis.
   iii. The detection instrument shall be calibrated annually by the manufacturer by the procedures specified in Method 21 of 40 CFR part 60, appendix A.
   iv. Calibration gases shall be zero air (less than 10 parts per million of hydrocarbon in air); and the gases shall be mixtures of methane in air at a concentration no more than 2,000 parts per million greater than the leak definition concentration of the equipment monitored. If the monitoring instrument's design allows for multiple calibration scales, then the lower scale shall be calibrated with a calibration gas that is no higher than 2,000 parts per million above the concentration specified as a leak, and the highest scale shall be calibrated with a calibration gas that is approximately equal to 10,000 parts per million. A calibration gas other than methane in air may be used if the instrument does not respond to methane or if the instrument does not meet the performance criteria specified Method 21 of 40 CFR part 60, appendix A. In such cases, the calibration gas may be a mixture of one or more of the compounds to be measured in air.
   v. Monitoring shall be performed when the equipment is in VOC service.

g. The Permittee may elect to adjust or not to adjust the instrument readings for background.
   i. If the Permittee elects not to adjust instrument readings for background, the Permittee shall monitor the equipment according to the procedures specified above in Section 2.2 B.2.f of this permit, above. In such cases, all instrument readings shall be compared directly to the applicable leak definition for the monitored equipment to determine whether there is a leak or to determine compliance with operational standards for pressure relief devices.
   ii. If the Permittee elects to adjust instrument readings for background, the Permittee shall
      (A) Monitor the equipment according to the procedures specified above in Section 2.2 B.2.f, above;
      (B) Determine the background level using the procedures in Method 21 of 40 CFR part 60, appendix A;
      (C) Traverse the potential leak interfaces with the instrument probe as close to the interface as possible as described in Method 21 of 40 CFR part 60, appendix A; and

(D) Compare the arithmetic difference between the maximum concentration indicated by the instrument and the background level to the applicable leak definition for the monitored equipment to determine whether there is a leak or to determine compliance operational standards for pressure relief devices.

h. When a leak is detected:
   i. A weatherproof and readily visible identification, shall be attached to the leaking equipment, and
   ii. Leak repair records shall be made that include the following:
      (A) The date of first attempt to repair the leak;
      (B) The date of successful repair of the leak;
      (C) The 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;
      (D) Dates of process unit shutdowns that occur while the equipment is unrepaired; and
      (E) Any delay of repair and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak.
         (1) The Permittee may develop a written procedure that identifies the conditions that justify a delay of repair. The written procedures may be included as part of the startup, shutdown, and malfunction plan, or may be part of a separate document that is maintained at the plant site. In such cases, reasons for delay of repair may be documented by citing the relevant sections of the written procedure (i.e. season operation).
         (2) 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.

<u>Leak Repair</u> [15A NCAC 02Q .0508(f)]

i. The Permittee shall repair each leak detected as soon as practical, but not later than 15 calendar days after it is detected, except as provided for in delay of repair and/or unsafe to repair connectors. A first attempt at repair shall be made no later than 5 calendar days after the leak is detected. 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. 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.

j. The leak identification on a valve in gas/vapor or light liquid service may be removed after it has been monitored as specified in this permit and no leak has been detected during that monitoring. The leak identification on a connector in gas/vapor or light liquid service may be removed after it has been monitored as specified in this permit and no leak has been detected during that monitoring. Identification that has been placed on equipment determined to have a leak, except for a valve or for a connector in gas/vapor or light liquid service, may be removed after it is repaired.

k. Delay of repair is allowed for any of the conditions specified 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 of equipment for which leaks have been detected 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 shutdown. However, delay of repair beyond a process unit shutdown will be allowed for a valve if valve assembly replacement is necessary during the process unit 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 shutdown will not be allowed unless the third process unit shutdown occurs sooner than six months after the first process unit shutdown.
   ii. Delay of repair of equipment for which leaks have been detected is allowed for equipment that is isolated from the process and that does not remain in VOC service.
   iii. Delay of repair for valves and connectors is also allowed if:

(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 effected, the purged material cannot be collected and destroyed or reused in the process.

iv. Delay of repair for pumps is also allowed if repair requires replacing the existing seal design with a new system that the Permittee has determined under a quality improvement program (Sections 2.2 B.2.bb through 2.2 B.2.gg, below) will provide better performance, or the repair is completed as soon as practical, but not later than 6 months after the leak was detected and one of the following is used;
(A) A dual mechanical seal system;
(B) A pump that meets has no external shaft penetrating the pump housing; or
(C) A system that routes emissions to a process or a fuel gas system or a closed vent system and control device;

Valves in Gas/Vapor/Light Liquid Service [15A NCAC 02Q .0508(f)]

l. The Permittee shall monitor all valves using the method specified in this permit at the intervals, except unsafe to monitor valves and maintain records as specified below. The instrument reading that defines a leak is 500 parts per million or greater.
i. If at least the greater of two valves or two percent of the valves in a process unit leak, the Permittee shall monitor each valve once per month.
ii At process units with less than the greater of two leaking valves or two percent leaking valves, the Permittee shall monitor each valve once each quarter, except as provided below.
(A) The Permittee may elect to monitor each valve once every two quarters for process units with less than one percent leaking valves.
(B) The Permittee may elect to monitor each valve once every four quarters for process units with less than 0.5 percent leaking valves.
(C) The Permittee may elect to monitor each valve once every two years for process units with less than 0.25 percent leaking valves.
iii. The Permittee shall keep a record of the monitoring schedule for each process unit.

m. The Permittee may choose to subdivide the valves in the group of process units and apply the monitoring frequency provisions to each subgroup. If the Permittee subdivides the valves in the group of process units, then the following provisions apply.
i. The overall performance of total valves in the group of process units to be subdivided shall be less than two percent leaking valves.
ii. The initial assignment or subsequent reassignment of valves to subgroups shall be governed as follows.
(A) The Permittee shall determine which valves are assigned to each subgroup. Valves with less than one year of monitoring data or valves not monitored within the last twelve months must be placed initially into the most frequently monitored subgroup until at least one year of monitoring data have been obtained.
(B) Any valve or group of valves can be reassigned from a less frequently monitored subgroup to a more frequently monitored subgroup provided that the valves to be reassigned were monitored during the most recent monitoring period for the less frequently monitored subgroup. The monitoring results must be included with that less frequently monitored subgroup's associated percent leaking valves calculation for that monitoring event.
(C) Any valve or group of valves can be reassigned from a more frequently monitored subgroup to a less frequently monitored subgroup provided that the valves to be reassigned have not leaked for the period of the less frequently monitored subgroup (e.g., for the last 12 months, if the valve or group of valves is to be reassigned to a subgroup being monitored annually). Non-repairable valves may not be reassigned to a less frequently monitored subgroup.
iii. The Permittee shall determine every six months if the overall performance of total valves in the applicable process unit or group of process units is less than two percent leaking valves and so indicate the performance in the next periodic report. If the overall performance of total valves in the applicable

process unit or group of process units is two percent leaking valves or greater, the Permittee shall no longer subgroup and shall revert to the program required in Section 2.2 B.2.p. for that group of process units. The Permittee can again elect to comply with the valve subgrouping procedures if future overall performance of total valves in the process unit or group of process units is again less than two percent. The overall performance of total valves in the applicable process unit or group of process units shall be calculated as a weighted average of the percent leaking valves of each subgroup according to following equation:

$$\%V_{LO} = \left[\frac{\sum_{i=1}^{n} \left(\%V_{Li} \times V_i \right)}{\sum_{i=1}^{n} V_i} \right]$$

Where: $\%V_{LO}$ = Overall performance of total valves in the applicable process unit or group of process units
$\%V_{Li}$ = Percent leaking valves in subgroup i, most recent value
V_i = Number of valves in subgroup i
n = Number of subgroups.

iv. The Permittee shall maintain the following records:
(A) Which valves are assigned to each subgroup;
(B) Monitoring results and calculations made for each subgroup for each monitoring period;
(C) Which valves are reassigned, the last monitoring result prior to reassignment, and when they were reassigned; and
(D) The results of the semiannual overall performance calculation.

v. The Permittee shall notify the DAQ no later than 30 days prior to the beginning of the next monitoring period of the decision to subgroup valves. The notification shall identify the participating process units and the number of valves assigned to each subgroup, if applicable, and may be included in the next semiannual periodic report.

vi. The Permittee shall submit in the semiannual periodic reports the following information:
(A) Total number of valves in each subgroup, and
(B) The results of the semiannual overall performance calculation.

n. The Permittee perform percentage calculations for each process group (i.e., botanical extraction, biomass extraction, and Rotocel/recovery) for comparison with the sub grouping criteria specified in Section 2.2 B.2.m, above, and the percent leaking valves for each monitoring period for each process unit or valve subgroup shall be calculated using the following equation:

$$\%V_L = \left(\frac{V_L}{V_T} \right) \times 100$$

Where: $\%V_L$ = Percent leaking valves.
V_L = Number of valves found leaking, excluding non-repairable valves and including those valves found whose repair was not confirmed with both post leak repair monitoring and periodic monitoring.
V_T = The sum of the total number of valves monitored.

o. When determining monitoring frequency for each process unit or valve subgroup subject to monthly, quarterly, or semiannual monitoring frequencies, the percent leaking valves shall be the arithmetic average of the percent leaking valves from the last two monitoring periods. When determining monitoring frequency for each process unit or valve subgroup subject to annual or biennial (once every 2 years) monitoring frequencies, the percent leaking valves shall be the arithmetic average of the percent leaking valves from the last three monitoring periods.

i. Non-repairable valves shall be included in the calculation of percent leaking valves the first time the valve is identified as leaking and non-repairable. Otherwise, a number of non-repairable valves (identified and included in the percent leaking valves calculation in a previous period) up to a maximum of one percent of the total number of valves in VOC service at a process unit may be excluded from calculation of percent leaking valves for subsequent monitoring periods.

ii. If the number of non-repairable valves exceeds one percent of the total number of valves in regulated material service at a process unit or affected facility, the number of non-repairable valves exceeding one percent of the total number of valves in regulated material service shall be included in the calculation of percent leaking valves.

p. If a leak is determined, then the leak shall be repaired. After a leak has been repaired, the valve shall be monitored at least once within the first three months after its repair.

i. This monitoring is in addition to the monitoring required to satisfy the definition of repaired and first attempt at repair. The monitoring shall be conducted to determine whether the valve has resumed leaking.

ii. Periodic monitoring may be used to satisfy this if the timing of the monitoring period coincides with the time specified. Alternatively, other monitoring may be performed to satisfy the requirement regardless of whether the timing of the monitoring period for periodic monitoring coincides with the time above.

iii. If a leak is detected by monitoring that is conducted after leak repair, the Permittee shall:

(A) Use periodic monitoring to satisfy the requirement above, then the valve shall be counted as a leaking valve, or

(B) If the Permittee elected to use other monitoring, prior to the periodic monitoring, to satisfy the above requirement, then the valve shall be counted as a leaking valve unless it is repaired and shown by periodic monitoring not to be leaking.

q. Any valve that is designated as an unsafe-to-monitor or difficult to monitor valve is exempt from the requirements of Section 2.2 B.2.l, above, and the Permittee shall monitor the valve according to the written plan specified in Section 2.2 B.2.b, above.

<u>Pumps in light liquid service standards</u> [15A NCAC 02Q .0508(f)]

r. The pumps shall be instrumentally monitored monthly to detect leaks by the method specified in this permit. The instrument reading that defines a leak is 1,000 parts per million or greater. Repair is not required unless an instrument reading of 2,000 parts per million or greater is detected. Any pump that is designated as an unsafe-to-monitor pump is exempt from this requirement and shall be monitored and inspected according to the written plan specified in Section 2.2 B.2.b, above.

s. Each pump shall be checked by visual inspection each calendar week for indications of liquids dripping from the pump seal. 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, the Permittee shall:

i. Monitor the pump as specified in this permit and if the instrument reading indicates a reading of 2,000 parts per million (ppm) or greater it shall be repaired using the procedures in Sections 2.2 B.2.i through 2.2 B.2.k, above; or

ii. Eliminate the visual indications of liquids dripping.

Any pump that is located within the boundary of an unmanned plant site is exempt from the weekly visual inspection provided that each pump is visually inspected as often as practical and at least monthly.

t. If, when calculated on a 6-month rolling average for the percent leaking pumps, at least the greater of either 10 percent of the pumps in a process unit or three pumps in a process unit leak, the Permittee shall implement a quality improvement program for pumps Sections 2.2.B.2.bb through 2.2 B.2.gg, below. The Permittee shall not alter the process grouping used in calculating this percentage.

i. The number of pumps at a process unit shall be the sum of all the pumps in VOC service, except that pumps found leaking in a continuous process unit within one month after start-up of the pump shall not count in the percent leaking pumps calculation for that one monitoring period only.

ii. Percent leaking pumps shall be determined by the following equation:

$$\%P_L = \left[\frac{(P_L - P_S)}{P_T} - P_S \right] \times 100$$

Where: $\%P_L$ = Percent leaking pumps
P_L = Number of pumps found leaking as determined through monthly monitoring. Do not include results from inspection of unsafe-to-monitor pumps.
P_S = Number of pumps leaking within one month of start-up during the current monitoring period.
P_T = Total pumps in VOC, including pumps with duel mechanical seals, pumps with no external shaft penetrating the pump housing, and unsafe to monitor pumps.

<u>Connectors in gas and vapor service and in light liquid service standards</u> [15A NCAC 02Q .0508(f)]

u. The Permittee shall monitor all connectors in gas and vapor and light liquid using instrumentation as specified in this permit. If an instrument reading greater than or equal to 500 parts per million is measured, a leak is detected. Any connector that is designated as unsafe-to-monitor is exempt from this requirement and shall be monitored and inspected according to the written plan specified in Section 2.2 B.2.b, above.

v. The Permittee shall perform monitoring as specified below.
   i. If the percent leaking connectors in the process unit was greater than or equal to 0.5 percent, then monitor within 12 months (one year).
   ii. If the percent leaking connectors in the process unit was greater than or equal to 0.25 percent but less than 0.5 percent, then monitor within four years. The Permittee may comply with this requirement by monitoring at least 40 percent of the connectors within two years of the start of the monitoring period, provided all connectors have been monitored by the end of the four year monitoring period.
   iii. If the percent leaking connectors in the process unit was less than 0.25 percent the Permittee shall monitor at least 50 percent of the connectors within four years of the start of the monitoring period and
      (A) Monitor as soon as practical, but within the next six months, all connectors that have not yet been monitored during the monitoring period if the percent leaking connectors is greater than or equal to 0.35 percent of the monitored connectors [At the conclusion of monitoring, a new monitoring period shall be started based on the percent leaking connectors of the total monitored connectors.], or
      (B) Monitor all connectors that have not yet been monitored within eight years of the start of the monitoring period if the percent leaking connectors is less than 0.35 percent of the monitored connectors.
   iv. If, during the monitoring, a connector is found to be leaking, it shall be re-monitored once within 90 days after repair to confirm that it is not leaking.
   v. The Permittee shall keep a record of the start date and end date of each monitoring period under this section for each process unit.

w. Monitoring frequency shall be determined based on the percent leaking connectors and calculated as follows:

$$\%C_L = \frac{C_L}{C_T} \times 100$$

Where: $\%C_L$ = Percent leaking connectors as determined through periodic monitoring.
C_L = Number of connectors measured at 500 parts per million or greater.
C_t = Total number of monitored connectors in the process unit.

x. Connectors that are:
   i. Buried, insulated in a manner that prevents access by a monitor probe,

ii. Obstructed by equipment or piping that prevents access by a monitoring probe,
iii. Unable to be reached by a lift up to 25 feet above ground level,
iv. Inaccessible because it would require elevating the monitoring personnel more than seven feet above a permanent support surface or would require the erection of scaffolding, or
v. Not able to be accessed in a safe manner to perform monitoring

are exempt from monitoring requirements. However, 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.

Pressure relief devices in gas and vapor service standards [15A NCAC 02Q .0508(f)]

y. Except during pressure releases as specified below, each pressure relief device in gas and vapor service shall be operated with an instrument reading of less than 500 parts per million.
z. After each pressure release:
   i. 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 five calendar days after each pressure release, except as provided for in delay of repair provisions of this permit;
   ii. The pressure relief device shall be monitored no later than five calendar days after the restoration to confirm the condition indicated by an instrument reading of less than 500 parts per million above background, and
   iii. The Permittee shall record the dates and results of the monitoring following a pressure release including the background level measured and the maximum instrument reading measured during the monitoring.
aa. Any pressure relief device that is equipped with a rupture disk upstream of the pressure relief device is exempt from monitoring 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 five calendar days after each pressure release, except as provided for in delay of repair.

Quality improvement program for pumps [15A NCAC 02Q .0508(f)]

bb. If, on a 6-month rolling average, at least the greater of either 10 percent of the pumps in a process unit or three pumps in a process unit leak, the Permittee shall implement a quality improvement plan until the number of leaking pumps is less than the greater of either 10 percent of the pumps or three pumps in the process unit, calculated as a 6-month rolling average. Once the performance level is achieved, the Permittee shall comply with the requirements in Sections 2.2 B.2.r through 2.2 B.2.t, above.
cc. The Permittee shall collect the following data and maintain records for each pump in each process unit subject to the quality improvement program. The data may be collected and the records may be maintained on a process unit, affected facility, or plant site basis.
   i. Pump type (e.g., piston, horizontal or vertical centrifugal, gear, bellows); pump manufacturer; seal type and manufacturer; pump design (e.g., external shaft, flanged body); materials of construction; if applicable, barrier fluid or packing material; and year installed.
   ii. Service characteristics of the stream such as discharge pressure, temperature, flow rate, and annual operating hours.
   iii. The maximum instrument readings observed in each monitoring observation before repair, response factor for the stream if appropriate, instrument model number, and date of the observation.
   iv. If a leak is detected, the repair methods used and the instrument readings after repair.

   The Permittee shall continue to collect data on the pumps as long as the process unit or affected facility (or plant site) remains in the quality improvement program.
dd. The Permittee shall inspect all pumps or pump seals that exhibited frequent seal failures and were removed from the process unit due to leaks. The inspection shall determine the probable cause of the pump seal failure or of the pump leak and shall include recommendations, as appropriate, for design changes or changes in specifications to reduce leak potential.
ee. The Permittee shall analyze the data collected to comply with the requirements of Section 2.2 B.2.cc, above, to determine the services, operating or maintenance practices, and pump or pump seal designs or

technologies that have poorer than average emission performance and those that have better than average emission performance. The analysis shall determine if specific trouble areas can be identified on the basis of service, operating conditions or maintenance practices, equipment design, or other process-specific factors.

i. The analysis shall also be used to determine if there are superior performing pump or pump seal technologies that are applicable to the service(s), operating conditions, or pump or pump seal designs associated with poorer than average emission performance. A superior performing pump or pump seal technology is one with a leak frequency of less than 10 percent for specific applications in the process unit. A candidate superior performing pump or pump seal technology is one demonstrated or reported in the available literature or through a group study as having low emission performance and as being capable of achieving less than 10 percent leaking pumps in the process unit.

ii. The analysis shall include consideration of the following information:

(A) The data obtained from the inspections of pumps and pump seals removed from the process unit due to leaks;

(B) Information from the available literature and from the experience of other plant sites that will identify pump designs or technologies and operating conditions associated with low emission performance for specific services; and

(C) Information on limitations on the service conditions for the pump seal technology operating conditions as well as information on maintenance procedures to ensure continued low emission performance.

iii. The data analysis may be conducted through an inter- or intra-company program (or through some combination of the two approaches) and may be for a single process unit, a plant site, a company, or a group of process units.

iv. The first analysis of the data shall be completed no later than 18 months after the start of the quality improvement program. The first analysis shall be performed using data collected for a minimum of six months. An analysis of the data shall be done each year the process unit or affected facility is in the quality improvement program.

ff. The Permittee shall prepare and implement a pump quality assurance program that details purchasing specifications and maintenance procedures for all pumps and pump seals in the process unit. The quality assurance program may establish any number of categories, or classes, of pumps as needed to distinguish among operating conditions and services associated with poorer than average emission performance as well as those associated with better than average emission performance. The quality assurance program shall be developed considering the findings of the data analysis required under paragraph Section 2.2B.2.ee, above, and the operating conditions in the process unit. The quality assurance program shall be updated each year as long as the process unit has the greater of either 10 percent or more leaking pumps or has three leaking pumps.

i. The quality assurance program shall implement the following procedures.

(A) Establish minimum design standards for each category of pumps or pump seal technology. The design standards shall specify known critical parameters such as tolerance, manufacturer, materials of construction, previous usage, or other applicable identified critical parameters.

(B) Require that all equipment orders specify the design standard (or minimum tolerances) for the pump or the pump seal.

(C) Provide for an audit procedure for quality control of purchased equipment to ensure conformance with purchase specifications.

(D) Detail off-line pump maintenance and repair procedures. These procedures shall include provisions to ensure that rebuilt or refurbished pumps and pump seals will meet the design specifications for the pump category and will operate so that emissions are minimized.

ii. The quality assurance program shall be established no later than the start of the third year of the quality improvement program.

gg. Three years after the start of the quality improvement program, the Permittee shall replace the pumps or pump seals that are not superior emission performance technology with pumps or pump seals that have been identified as superior emission performance technology and that comply with the quality assurance

standards for the pump category. Superior emission performance technology is that category or design of pumps or pump seals with emission performance that when combined with appropriate process, operating, and maintenance practices, will result in less than 10 percent leaking pumps for specific applications in the process unit. Superior emission performance technology includes material or design changes to the existing pump, pump seal, seal support system, installation of multiple mechanical seals or equivalent, or pump replacement.

i. Pumps or pump seals shall be replaced at the rate of 20 percent per year based on the total number of pumps in light liquid service. The calculated value shall be rounded to the nearest nonzero integer value. The minimum number of pumps or pump seals shall be one. Pump replacement shall continue until all pumps subject to the requirements of Sections 2.2 B.2.r through 2.2 B.2.t, above, are pumps determined to be superior performance technology.
ii. The Permittee may delay replacement of pump seals or pumps with superior technology until the next planned process unit shutdown, provided the number of pump seals and pumps replaced is equivalent to the 20 percent or greater annual replacement rate.
iii. The pumps shall be maintained as specified in the quality assurance program.

hh. The Permittee shall maintain records for the period of the quality improvement program for the process unit prescribed below.
i. When using a pump quality improvement program, the Permittee shall record:
(A) The rolling average percent leaking pumps;
(B) Documentation of all inspections conducted under the requirements of Section 2.2 B.2.dd, above, and any recommendations for design or specification changes to reduce leak frequency; and
(C) The beginning and ending dates while meeting the quality improvement plan requirements.
ii. If a leak is not repaired within 15 calendar days after discovery of the leak, the reason for the delay and the expected date of successful repair.
iii. Records of all analyses required in the quality improvement plan including a list identifying areas associated with poorer than average performance and the associated service characteristics of the stream, the operating conditions and maintenance practices.
iv. All records documenting the quality assurance program for pumps as specified in the quality assurance program, including records indicating that all pumps replaced or modified during the period of the quality improvement program are in compliance with the quality assurance.
v. Records documenting compliance with the 20 percent or greater annual replacement rate for pumps as specified in Section 2.2 B.2.gg, above.

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

ii. The Permittee shall keep general and specific equipment identification if the equipment is not physically tagged and the Permittee is electing to identify the equipment through written documentation such as a log or other designation.
jj. The Permittee shall keep a written plan for any equipment that is designated as unsafe- or difficult-to-monitor.
kk. The Permittee shall maintain a record of the identity and an explanation for any equipment that is designated as unsafe-to-repair.
ll. The Permittee shall keep records for leak repair and records for delay of repair.
mm. For valves, the Permittee shall maintain the monitoring schedule for each process unit and the valve subgrouping records.
nn. For pumps, the Permittee shall maintain documentation of pump visual inspections.
oo. For connectors, the Permittee shall maintain the monitoring schedule for each process.
pp. For pressure relief devices in gas and vapor or light liquid service, the Permittee shall keep records of the dates and results of monitoring following a pressure release.
qq. For a pump QIP program, the Permittee shall maintain the following records:
i. Individual pump records as specified in Section 2.2 B.2.cc, above;
ii. Quality assurance program documentation as specified in Section 2.2 B.2.ff, above; and
iii. Quality improvement program records as specified in Section 2.2 B.2.hh, above.

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

rr. The Permittee shall submit a summary report of monitoring and recordkeeping activities postmarked or received 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 in summary format by equipment type (i.e., valves in gas/vapor/light liquid service, Pumps in light liquid service, and connectors in gas/ vapor/light liquid):
   i. The number of components for which leaks were detected
   ii. The percent leakers for valves, pumps and connectors, and
   iii. The total number of components monitored

   The report shall also include the number of leaking components that were not repaired, and for valves and connectors, identify the number of components that are determined to be non-repairable.

ss. Where any delay of repair is utilized, report that delay of repair has occurred and report the number of instances of delay of repair.

tt. Report the valve subgrouping information.

uu. For pressure relief devices in gas and vapor service that are to be operated at a leak detection instrument reading of less than 500 parts per million, report the results of all monitoring to show compliance conducted within the semiannual reporting period.

vv. Report, if applicable, the initiation of a monthly monitoring program for valves.

ww. Report, if applicable, the initiation of a quality improvement program for pumps.

C. Sclareolide (SDE-1) Operations, including:

- **Eleven (11) process tanks of various capacities (ID No. ES- 1001-1-3-P; Tank ID Nos. M-2, M-4, M-4A, M-39, M-44, M-15, M-17, M-17A, M-16, M-11, and TK-1210);**
- **One centrifuge (ID No. G-17);**
- **One steam-heated dryer with process condenser (ID No. D-1202);**
- **Filters (ID No. ES-1001-1-3-Filters);**
- **SDE-1 process equipment leaks (ID No. ES-1001-3-F); and**
- **SDE-1 wastewater stream (ID No. ES-1001-1-3-WW)**

Sclareolide (SDE-2) Operations, including:

- **A chilled water condenser (ID No. CD-4002) in series with a mineral oil scrubber (ID No. CD-4003-S) controlling emissions from the following:**
  - **One 17,900 gallon virgin solvent tank (ID No. T-4001);**
  - **Two 6,000 gallon process tanks (ID Nos. T-4017 ant T-4018);**
  - **One 4,200 gallon reactor with process condenser (EX-4001) (ID No. R-4004);**
  - **One 4,200 gallon reactor with process condenser (EX-4002) (ID No. R-4005);**
  - **One 4,200 gallon reactor with process condenser (EX-4003) (ID No. R-4044);**
  - **One 1,500 gallon reactor (ID No. R-4015); and**
  - **One centrifuge (ID No. C-4001)**
- **One dryer with process condenser (EX-4004) (ID No. D-4001) associated with a chilled water condenser (ID No. CD-4001), in series with a chilled water condenser (ID No. CD-4002) in series with a mineral oil scrubber (ID No. CD-4003-S);**
- **SDE-2 process equipment leaks (ID No. ES-4000-F); and**
- **SDE-2 process wastewater stream (ID No. ES-4000-WW)**

Ethyl Vanillin Glucoside (EVG) Operations, including:

- **One water spray fume scrubber (0.5 gallon per minute minimum water injection rate; ID No. CD-Z-9215) venting to one water spray fume scrubber (0.5 gallon per minute minimum water injection rate; ID No. CD-Z-9216) controlling emissions from the following:**
  - **Three reactors (ID Nos. D-2202, D-1215, and D-1218); and**

- **One steam-heated dryer (ID No. D-1201);**
- **Process equipment leaks (ID No. ES-1003-2-2-F); and**
- **EVG Operations wastewater stream (ID No. ES-1003-2-2-WW)**

Plant Nutrient Extraction (PNE) Operations, including one water spray fume scrubber (0.5 gallon per minute minimum water injection rate; ID No. CD-Z-9215) venting to one water spray fume scrubber (0.5 gallon per minute minimum water solution injection rate; ID No. CD-Z-9216) controlling emissions from the following:

- **One product extract reactor (ID No. D31214) and one associated chilled water condenser (ID No. EX2203);**
- **Seven processing tanks of various capacities (ID No. ES-1003-2-1-P);**
- **One centrifuge (ID No. C-31203);**
- **One dryer equipped with a process condenser (ID No. D-1002);**
- **One process solvent tank (ID No. ES-TK-PNE-1)**
- **Process equipment leaks (ID No. ES-1003-2-1-F);**
- **One waste solids separator vessel (1,333 gallon capacity; ID No. D31211) and one associated chilled water condenser (ID No. EX2205); and**
- **PNE Process wastewater stream (ID No. ES-1003-2-1-WW)**

Concrete Operations, including:

- **Process equipment leaks (ID No. ES-1001-1-2-F);**
- **Six process tanks of various capacities (ID No. ES-1001-1-2-P) and one associated chilled water condenser (ID No. CD-1001-1-2); and**
- **Concrete Operations wastewater stream (ID No. ES-1001-1-2-WW)**

Rotocel Operations, as described in Section 2.1 C, above;
Two Storage and Recycle Tanks (ID No. ES-M-125A and M-125B)
Recovery Operations, as described in Section 2.1 C, above;
Biomass Extraction Operations, as described in Section 2.1 D, above;
Botanical Extraction Operations, as described in Section 2.1 D, above; and
Wastewater Treatment Plant Aeration Tank No. 1 (63,500 gallon capacity; ID No. WWTP-AT1)

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
Hazardous Air Pollutants (HAP)	Maximum Achievable Control Technology	15A NCAC 02D .1111 (40 CFR Part 63, Subpart FFFF)

1. 15A NCAC 02D .1111 "MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY"
[40 CFR Part 63, Subpart FFFF]

a. The Permittee shall comply with all applicable provisions, including the notification, testing, recordkeeping, monitoring, and reporting requirements contained in Environmental Management Commission Standard 15A NCAC 02D .1111 "Maximum Achievable Control Technology" as promulgated in 40 CFR Part 63, Subpart FFFF, "NESHAP for Miscellaneous Organic Chemical Manufacturing," including Subpart A "General Provisions."

Definitions and Nomenclature [40 CFR 63.2550]

b. For the purpose of this permit condition, the definitions and nomenclature contained in 40 CFR 63.2550 shall apply.

40 CFR Part 63, Subpart A General Provisions [40 CFR 63.2540]

c. The Permittee shall comply with the requirements of 40 CFR Part 63, Subpart A, "General Provisions," as specified in Table 12 to 40 CFR Part 63, Subpart FFFF.

Compliance Date [40 CFR 63.2445(a), 40 CFR 63.56(b)]

d. The Permittee shall be in compliance with the requirements of 40 CFR Part 63, Subpart FFFF for the SDE-2 operations upon startup. [40 CFR 63.2445(a)(2)]

Notifications [40 CFR 63.2515, 40 CFR 63.2520]

e. The Permittee shall submit a notification of intent to conduct a performance test at least 60 calendar days before the performance test is scheduled to begin as required in 40 CFR 63.7(b)(1). For any performance test required as part of the initial compliance procedures for batch process vents in Table 2 of 40 CFR Subpart FFFF, the Permittee shall also submit the test plan required by 40 CFR 63.7(c) and the emission profile with the notification of the performance test. [40 CFR 63.2515(c)]

f. The Permittee shall submit a Notification of Compliance Status (NOCS) Report for the SDE-2 operations no later than 150 days after startup. The NOCS must include the following information, as applicable:
   i. The results of any applicability determinations, emission calculations, or analyses used to identify and quantify HAP usage or HAP emissions from the affected source.
   ii. The results of emissions profiles, performance tests, engineering analyses, design evaluations, inspections and repairs, and calculations used to demonstrate initial compliance according to 40 CFR 63.2445 through 63.2485. For performance tests, results must include descriptions of sampling and analysis procedures and quality assurance procedures.
   iii. Descriptions of monitoring devices, monitoring frequencies, and the operating limits established during the initial compliance demonstrations, including data and calculations to support the established levels.
   iv. All operating scenarios.
   v. Descriptions of worst-case operating and/or testing conditions for control devices.
   vi. The information specified in 40 CFR 63.1039(a)(1) through (3) for each process subject to the work practice standards for equipment leaks in Table 6 to 40 CFR Part 63, Subpart FFFF.

   [40 CFR 63.985(c)(1), 40 CFR 63.2520(d)]

g. The Permittee must submit a NOCS Report for the Concrete Operations, the Biomass Extraction Operations, and/or the PNE Operations prior to the operation of those operations in organic HAP service (as defined at 40 CFR 63.2250) and such that provisions of 40 CFR Part 63, Subpart FFFF apply to those operations, pursuant to 40 CFR 63.2520(d). The NOCS must include the information referenced above in Section 2.2.C.1.f, as applicable.

h. The Permittee shall notify DAQ at least 60 days before operating Group 2 batch process vents as Group 1 batch process vents in accordance with 40 CFR 63.2460(b)(6)(ii) and 40 CFR 63.2520(e)(10)(ii).

i. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the notification requirements in Sections 2.2.C.1.e through h are not met.

General Compliance Requirements [40 CFR 63.2450, 40 CFR 63.2445]

j. The Permittee shall be in compliance with the emission limits and work practice standards in Tables 1 through 7 to 40 CFR Part 63, Subpart FFFF at all times, except during periods of startup, shutdown, and malfunction. [40 CFR 63.2450(a)]

k. The Permittee shall comply with the applicable control requirements found in 40 CFR 63.2455 through 63.2490 for the affected sources. [40 CFR 63.2450(a)]

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

m. If a Group 2 emission point becomes a Group 1 emission point, the Permittee shall 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 in group status occurs. [40 CFR 63.2445(d)]

n. The Permittee shall develop a written startup, shutdown, and malfunction plan (SSM Plan) that complies with 40 CFR 63.6(e) for the affected sources. The Permittee is not, however, required to address equipment leaks (except for control devices) or Group 2 emission points in the SSM Plan. The SSM Plan must describe, in detail, procedures for operating and maintaining the affected sources during periods of startup, shutdown, and malfunction; and corrective actions for malfunctioning process, control, and monitoring equipment used to comply with Subpart FFFF. The SSM Plan does not need to address any scenario that would not cause an affected source to exceed an applicable emission limit in Subpart FFFF. The SSM Plan must be maintained on site and made available for inspection by authorized personnel. [40 CFR 63.6(e)(3) and 63.2525(j)]

o. The Permittee shall be deemed in non-compliance with 15A NCAC 02D .1111 if the requirements in Sections 2.2 C.1.j through n, above are not met.

Emission Limits [15A NCAC 02Q .0508(f), 40 CFR 63.2450, 40 CFR 63.2460, Table 2]

p. The Permittee has elected to combine organic HAP emissions from different emission types in the SDE-2 operations (e.g., storage tanks and batch process vents). In accordance with 40 CFR 63.2450(c)(2)(i), the Permittee shall comply with the requirements for Group 1 batch process vents in Table 2 of 40 CFR Part 63, Subpart FFFF and 40 CFR 63.2460 for the combined streams, including applicable monitoring, recordkeeping, and reporting.

q. In accordance with Table 2 of 40 CFR Part 63, Subpart FFFF, the Permittee shall reduce collective uncontrolled organic HAP emissions from the sum of all vents within SDE-2 operations by ≥95 percent by weight by venting emissions from a sufficient number of the vents through one or more closed-vent systems to the chilled water condenser **(ID No. CD-4002)** in series with the mineral oil scrubber **(ID No. CD-4003-S)** (recovery devices as defined in 40 CFR 63.2550(i)). [40 CFR 63.2450(c)(2)(i), 40 CFR 63.2460(a), Table 2 (1)(a) in 40 CFR Part 63, Subpart FFFF]

Testing [15A NCAC 02Q .0508(f), 40 CFR 63.2460]

r. The Permittee shall conducted a performance test to demonstrate initial compliance with the emission limit in Section 2.2.C.1.q within 150 days of initial startup of the SDE-2 operations. The Permittee shall conduct the testing under worst-case conditions. The testing shall be performed in accordance with 40 CFR 63.2460(c)(2), 40 CFR 63.997,[1] 15A NCAC 02D .2601, and General Condition JJ. If the results of this test are above the emission limits as specified in Section 2.2.C.1.q above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111.

s. The Permittee shall establish operating limits for the chilled water condenser **(ID No. CD-4002)** in series with the mineral oil scrubber **(ID No. CD-4003-S)** in accordance with 40 CFR 63.2460(c)(3) within 150 days of initial startup of the SDE-2 operations. The operating limits shall be established under the conditions required for the initial compliance demonstration. If the Permittee fails to establish operating limits in accordance with these requirements, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111.

Monitoring Requirements [15A NCAC 02Q .0508(f), 40 CFR 63.2460]

t The Permittee shall comply with the specific requirements of Sections 2.2 C.1.t.i through vii, below:

i. **Continuous process vents:** To ensure compliance, the Permittee shall perform the monitoring of Sections 2.2 C.1. t.i(A) and (B), below, for the affected continuous process vents:

(A) For the continuous process vents associated with the Rotocel Operations and the Recovery Operations, the Permittee shall perform the monitoring found in Sections 2.2 B.1.h through k, above.

(B) For continuous process vent associated with the Botanical Extraction Operations and Biomass Extraction Operations, the Permittee shall perform the monitoring found in Sections 2.2 B.1.h

[1] With the exceptions specified in 40 CFR 63.2450(g)(1)-(5).

and i, above.

ii. **Group 1 batch process vents**: To ensure compliance, the Permittee shall perform the following monitoring for the process vents and storage tanks (i.e., combined process streams) in the SDE-2 operations:

(A) The Permittee shall monitor the mineral oil scrubber temperature and specific gravity of the mineral oil. Each monitoring device shall be capable of providing a continuous record. [40 CFR 63.990(c)(1)]

(B) The Permittee shall monitor the condenser exit temperature using a monitoring device capable of providing a continuous record. [40 CFR 63.990(c)(2)]

(C) Because flow to the chilled water condenser **(ID No. CD-4002)** in series with the mineral oil scrubber **(ID No. CD-4003-S)** could be intermittent, the Permittee shall install, calibrate, and operate a flow indicator at the inlet or outlet of the control device to identify periods of no flow. Periods of no flow may not be used in daily averages or in fulfilling a minimum data availability requirement [40 CFR 63.2460(c)(7)]

(D) Upon DAQ's approval of the operating limits for the chilled water condenser **(ID No. CD-4002)** and mineral oil scrubber **(ID No. CD-4003-S)**, the Permittee shall attach the approval memorandum to this permit and shall maintain the parameters within the associated operating limits contained therein.

iii. **Group 2 batch process vents:** To ensure compliance, the Permittee shall perform the monitoring of Sections 2.2 C.1.t.iii(A) and (B), below, for the affected batch process vents:

(A) For the batch process vents associated the EVG Operations and SDE-1 operations, the Permittee shall comply with the requirements of 40 CFR 63.2460. To maintain Group 2 classification for these emission sources, the organic HAP emissions must be less than 10,000 pounds per consecutive 365-day period, each source. The Permittee shall monitor the organic HAP emissions from each of these emission sources, monthly, as follows:

(1) Organic HAP emissions from the EVG Operations shall calculated using the following equation:

$$OrganicHAP = \left[1.0\left(\frac{pounds}{batch}\right) \times B\right]$$

Where: B = The number of batches processed in the EVG Operations

(2) Organic HAP emissions from the SDE-1 operations shall calculated using the following equation:

$$OrganicHAP = \left[2.27\left(\frac{pounds}{\tan kfill}\right) \times Btf\right] + \left[4.80\left(\frac{pounds}{batch}\right) \times B_{reg}\right] + \left[3.66\left(\frac{pounds}{batch}\right) \times B_{rec}\right] + \left[4.19\left(\frac{pounds}{batch}\right) \times B_{tc}\right]$$

Where: B_{reg} = The number of regular batches processed in the SDE-1 Operations; and
B_{rec} = The number of recrop batches processed in the SDE-1 Operations
Btc = The number of third crop batches processed in the SDE-1 Operations; and
Btf = The number of hexane tank (M-2) fills.

(B) Upon DAQ's approval of revised organic HAP emission factors cited in the equations in Sections 2.2 C.1.t.iii(A)(1) and (2), above, the Permittee shall attach the approval memorandum to this permit and shall use the revised emission factors in calculating the organic HAP emissions from the EVG Operations and the SDE-1 Operations.

iv. **Storage tanks (except those associated with the SDE-2 operations):** For the storage tanks that are part of the affected source, the Permittee shall comply with the requirements of 40 CFR 63.2470 and Table 4 of 40 CFR Part 63, Subpart FFFF.

v. **Equipment leaks:** For the process equipment leaks from the affected sources, the Permittee shall comply with the requirements of 40 CFR 63.2480 and Table 6 of 40 CFR Part 63, Subpart FFFF. The Permittee shall comply with the monitoring requirements of the leak detection and repair (LDAR) program found in Section 2.2 B.2, above, for the equipment associated with the affected sources.

vi. **Wastewater streams:** For the wastewater streams associated with the affected miscellaneous organic chemical manufacturing processes (MCPU), the Permittee shall comply with the requirements of 40 CFR 63.2485 and Table 7 of 40 CFR Part 63, Subpart FFFF, including:
(A) Identifying any operations that may generate maintenance wastewater and the procedures for properly managing that maintenance wastewater in the SSM Plan developed for this Avoca, Inc. facility [40 CFR 63.105]; and
(B) Maintaining the conditions necessary for classification of the process wastewater from the affected sources as Group 2, unless the conditions of Section 2.2 C.1.m, above, have been met.

vii. **Heat exchangers:** For the heat exchangers associated with the affected sources, the Permittee shall comply with the requirements of 40 CFR 63.2490 and Table 10 of Subpart FFFF, including:
(A) Preparation and implementation of a monitoring plan that documents the procedures that will be used to detect leaks of process fluids into cooling water. This 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:
(1) 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;
(2) 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;
(3) The monitoring frequency which shall be no less frequent than monthly for the first 6 months and quarterly thereafter to detect leaks;
(4) The records that will be maintained to document compliance with the requirements of 40 CFR 63.104.
(B) If a substantial leak is identified by methods other than those described in the heat exchanger 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.
(C) The Permittee shall maintain a copy of the heat exchanger monitoring plan on-site. If the monitoring plan is superseded, retain the most recent superseded plan at least until 5 years from the date of its creation.
(D) If a leak is detected in any heat exchanger system, it shall be repaired 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, except where the Permittee appropriately applies the delay of repair provisions found in Section 2.2 C.1.t.vii.(E), below.
(E) 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 (2) is met.

[40 CFR 63.2490, 40 CFR 63.104]

The Permittee shall be deemed in non-compliance with 15A NCAC 02D .1111 if the Permittee does not meet the requirements of Sections 2.2 C.1.t.i through vii, above.

<u>Recordkeeping Requirements</u> [15A NCAC 02Q .0508(f)]

u. The Permittee shall comply with the following requirements:
i. Create and retain a record of each time a safety device is opened to avoid unsafe conditions.
ii. Create and retain the following records on each affected MCPU:
(A) A description of the process and the type of process equipment used;

(B) An identification of related process vents (including associated emissions episodes), wastewater points of determination (PODs), and storage tanks;
(C) The applicable control requirements pursuant to 40 CFR Part 63, Subpart FFFF, including the level of required control, and for vents, the level of control for each vent;
(D) The control device or treatment process used, as applicable, including a description of operating and/or testing conditions for any associated control device;
(E) The process vents, wastewater POD, transfer racks, and storage tanks (including those from other processes) that are simultaneously routed to the control device or treatment process;
(F) The applicable monitoring requirements of this subpart and any parametric level that ensures compliance for all emissions routed to the control device or treatment process; and,
(G) Calculations and engineering analyses required to demonstrate compliance.
[40 CFR 63.2525(b)]

iii. Create and retain a schedule or log of operating scenarios for the batch operations updated each time a different operating scenario is put into effect. [40 CFR 63.2525(c)]

iv. For each affected MPCU with a Group 1 batch process vent (i.e., combined process streams in the SDE-2 Operations), the Permittee shall keep records of daily averages of each continuously monitored parameter specified in Section 2.2.C.1.t.ii, above. The Permittee shall calculate and/or maintain records of the following:
(A) The Permittee shall maintain records of values as specified in 40 CFR 63.998(b)(1);
(B) Except as specified in Section 2.2.C.1.u.iv.(E) below, daily average values of each continuously monitored parameter shall be calculated from data meeting the specifications of 40 CFR 63.998(b)(2) for each operating day and retained for 5 years.
(C) The daily averages shall be calculated as the average of all values for a monitored parameter recorded during the operating day. The average shall cover a 24-hour period if operation is continuous, or the period of operation per operating day if operation is not continuous. If values are measured more frequently than once per minute, a single value for each minute may be used to calculate the daily average instead of all measured values. [40 CFR 63 63.998(b)(3)]
(D) Periods of no flow may not be used in daily averages, and they may not be used in fulfilling a minimum data availability requirement. [40 CFR 63.2460(c)(7)]
(E) The Permittee shall not exclude monitoring data during periods of startup, shutdown, and malfunction. [40 CFR 63.2450(l)]
(F) Actual concentration for supplemental gases must be corrected using Equation 1 of 40 CFR Part 63, Subpart FFFF. [40 CFR 63.2460(c)(6)]
(G) The operating day shall be the period defined in the operating permit or in the NOCS. It may be from midnight to midnight or another daily period. [40 CFR 63.988(b)(3)]
(H) If all recorded values for a monitored parameter during an operating day are within the limits established in the NOCS or in the operating permit, the Permittee may record that all values were within the range and retain this record for 5 years rather than calculating and recording a daily average. [40 CFR 63 63.998(b)(3)]
(I) The Permittee shall maintain records of the results of each continuous parameter monitoring system calibration check and the maintenance performed, as specified in 40 CFR 63.2450(k)(1).
[40 CFR 63.2450, 40 CFR 63.2525, 40 CFR 63.998(b)(1) through (3)]

v. For each affected MPCU with a Group 2 batch process vent, the Permittee shall retain the following records:
(A) A record of the day each batch was completed;
(B) A record of whether each batch operated was considered a standard batch;
(C) The estimated uncontrolled and controlled emissions for each batch that is considered to be a non-standard batch; and
(D) Records of the daily 365-day rolling summations of emissions, or alternative records that correlate to the emissions (e.g., number of batches), calculated no less frequently than monthly.
[40 CFR 63.2525(e)]

vi. For the process equipment leaks from the affected sources, the Permittee shall retain each applicable record required by 40 CFR Part 63, Subpart UU. The Permittee shall comply with the recordkeeping requirements of the LDAR program found in Sections 2.2 B.2.ii. through jj, above, for the equipment associated with the affected sources. [40 CFR 63.2525(a)]

vii. For each affected Group 2 wastewater stream, the Permittee shall retain the following records:
(A) MPCU identification and description;
(B) Stream identification code;
(C) Concentration of compounds listed in Table 8 and Table 9 of 40 CFR Part 63, Subpart FFFF (in ppmw), including documentation of the methodology used to determine concentration; and,
(D) Stream flow rate (in liters/min).
[40 CFR 63.147(b)(8)]

viii. For each affected heat exchanger system, the Permittee shall retain the following records:
(A) Monitoring data indicating a leak, the date when the leak was detected, and if demonstrated not to be a leak, the basis for that determination;
(B) Records of any leaks detected by procedures other than those provided in the written heat exchanger monitoring plan, including the date the leak was discovered;
(C) The dates of efforts to repair leaks; and,
(D) The method or procedure used to confirm repair of a leak and the date repair was confirmed.
[40 CFR 63.104(f)(1)]

The Permittee shall be deemed in non-compliance with 15A NCAC 02D .1111 if the Permittee does not meet the requirements of Sections 2.2 C.1.u.i through viii, above.

Reporting [15A NCAC 02Q .0508(f), 40 CFR 63.2520]

v. Advanced Notification of a Process Change. The Permittee shall submit a report 60 days before the scheduled implementation date of any of the changes identified below:
i. Any change to the information contained in the precompliance report.
ii. A change in the status of a control device from small to large.
iii. A change from Group 2 to Group 1 for any emission point except for batch process vents batch process vents that meet the conditions specified in 40 CFR 63.2460(b)(6)(i).
[40 CFR 63.2520(e)(10)]

w. The Permittee shall submit a semiannual compliance report, acceptable to the Regional Air Quality Supervisor, of monitoring and recordkeeping activities postmarked or delivered 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. 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 deviations from any emission limit, operating limit or work practice standard specified in this subpart, include a statement that there were no deviations from the emission limits, operating limits, or work practice standards during the reporting period.
v. For each deviation 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 deviations (including unknown cause, if applicable), as applicable, and the corrective action taken.
vi. Identification 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 the purposes of this paragraph, 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, 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.

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.

xi. For each affected heat exchanger system for which the Permittee invokes the delay of repair, include the following information:
   (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.
   (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.
   [40 CFR 63.104(f)(2)]

SECTION 3 - GENERAL CONDITIONS (version 4.0 12/17/15)

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

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

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

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

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

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

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

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

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

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

   Nothing in this condition shall limit the ability of the EPA to inspect or enter the premises of the Permittee under Section 114 or other provisions of the Federal Clean Air Act.
2. No person shall refuse entry or access to any authorized representative of the DAQ who requests entry for purposes of inspection, and who presents appropriate credentials, nor shall any person obstruct, hamper, or

interfere with any such authorized representative while in the process of carrying out his official duties. Refusal of entry or access may constitute grounds for permit revocation and assessment of civil penalties.

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

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

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

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

Y. **Confidential Information** [15A NCAC 02Q .0107 and 02Q. 0508(i)(9)]

Whenever the Permittee submits information under a claim of confidentiality pursuant to 15A NCAC 02Q .0107, the Permittee may also submit a copy of all such information and claim directly to the EPA upon request. All requests for confidentiality must be in accordance with 15A NCAC 02Q .0107.

Z. **Construction and Operation Permits** [15A NCAC 02Q .0100 and .0300]

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

AA. **Standard Application Form and Required Information** [15A NCAC 02Q .0505 and .0507]

The Permittee shall submit applications and required information in accordance with the provisions of 15A NCAC 02Q .0505 and .0507.

BB. **Financial Responsibility and Compliance History [**15A NCAC 02Q .0507(d)(4)]

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(e)]

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

DD. **Prevention of Accidental Releases - Section 112(r)** [15A NCAC 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 assure 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. During operation the monitoring recordkeeping and reporting requirements as prescribed by the permit shall be implemented within the monitoring period.

MM. **Fugitive Dust Control Requirement** [15A NCAC 02D .0540] - STATE ENFORCEABLE ONLY

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

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

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

1. For modifications made pursuant to 15A NCAC 02Q .0501(c)(2), the Permittee shall file a Title V Air Quality Permit Application for the air emission source(s) and associated air pollution control device(s) on or before 12 months after commencing operation.
2. For modifications made pursuant to 15A NCAC 02Q .0501(d)(2), the Permittee shall not begin operation of the air emission source(s) and associated air pollution control device(s) until a Title V Air Quality Permit Application is filed and a construction and operation permit following the procedures of Section .0500 (except for Rule .0504 of this Section) is obtained.
3. For modifications made pursuant to 502(b)(10), in accordance with 15A NCAC 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	Alternate 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
SIC	Standard Industrial Classification
SIP	State Implementation Plan
SO_2	Sulfur Dioxide
tpy	Tons Per Year
VOC	Volatile Organic Compound