North Carolina Department of Environment and Natural Resources
Division of Air Quality
Michael F. Easley, Governor

William G. Ross, Jr., Secretary
B. Keith Overcash, P.E., Director

PROPOSED, 2006

Dr. David M. Peele, PhD
President
Avoca, Inc.
Box 129
Merry Hill, NC 27957

SUBJECT: Air Quality Permit No. 1819T33
Facility ID: 0800044
Avoca, Inc.
Merry Hill, Bertie County
Fee Class: Title V

Dear Dr. Peele:

In accordance with your completed Air Quality Permit Application for significant modifications to your a Title V permit received May 9, 2006, we are forwarding herewith Air Quality Permit No. 01819T33 to Avoca, Inc., Merry Hill, Bertie County, North Carolina authorizing the operation, as outlined in Part I, and the construction, as outlined in Part II of the emission source(s) and associated air pollution control device(s) specified herein. Additionally, any emissions activities determined from your Air Quality Permit Application as being insignificant per 15A North Carolina Administrative Code 2Q .0503 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 of Part I. **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. Unless a request for a hearing is made pursuant to NCGS 150B-23, this Air Quality Permit shall be final and binding.

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

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

This Air Quality Permit shall be effective from PROPOSED, 2006 until October 31, 2008, 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 Michael Brandon, P.E. (919) 715-6243.

Sincerely yours,

Donald D. Redmond, Jr.
Acting Chief

Enclosure

c: Gregg Worley, EPA Region IV
Washington Regional Office
Central Files

Changes to your Title V permit are as follows:

PAGE	CONDITION	CHANGE
NA	Insignificant Activities	The following insignificant activities were added: 1. wastewater treatment plant equalization tank No. 1 (ID No. IWWTP-ET1) 2. wastewater treatment plant equalization tank No. 2 (ID No. IWWTP-ET2) 3. wastewater treatment plant aeration tank No. 2 (ID No. IWWTP-AT2) 4. wastewater treatment plant aeration tank No. 3 (ID No. IWWTP-AT3) 5. wastewater treatment plant clarifier (ID No. IWWTP-CLR) 6. distillate fuel oil tank for boilers; 50,000 gallons (ID No. ITK9238) 7. distillate fuel oil tank for boilers; 50,000 gallons (ID No. ITK9239) 8. distillate fuel oil tank for generator; 350 gallons (ID No. ITK102) 9. distillate fuel oil tank for generator; 350 gallons (ID No. ITK103) 10. distillate fuel oil tank for fire pump; 285 gallons (ID No. ITKFP) 11. distillate fuel oil-fired engine for fire pump; 285 hp (ID No. IFP)
4	Section 1 Equipment List	The operating scenarios for the concrete operations were removed and the equipment (six tanks) specifically listed as in IBEAM. The operating scenarios were placed into the permit under a review for concentration and dissolution. The scenarios did not invoke any new regulation and are not addressed in any enforceable permit requirement. This information on the scenarios is necessary as the basis of review only and does not need to be included in the equipment list. The botanical extraction cryogenic condenser system description was modified to include the coupled condenser system for control and defrost cycles.
5	Section 1 Equipment List	The biomass extraction cryogenic condenser system description was modified to include the coupled condenser system for control and defrost cycles. Distillation column ID No. A2 is an emission source, not a control device. Condenser control devices on the plant nutrient extraction processes have condensate receivers that were listed as control equipment. These condensate receivers are integral to the condenser and, apparently, used for solvent reclaim. They are, in fact, emission sources. However, they were listed as part of the condenser system until such time that they become subject to a standard (MON) that may classify the recovery condenser as process equipment.
6	Section 1 Equipment List	The wastewater treatment plant aeration tank No. 1 was determined to be a significant source whose emissions are included in the PSD/BACT determination for the Rotocel operations. This source was moved from the insignificant activities list.
7-27	Section 2.1	Sections 2.1 C. D. and E. were combined under Section 2.1 C. because all the sources listed have identical applicable requirements. Section 2.1 F. was recodifed to 2.1 D. Section 2.1 G. was recodifed to 2.1 E. Section 2.1 H. was recodifed to 2.1 F. Section 2.1 I. was combined with 2.1 C. (Same applicable requirements) Section 2.1 J. was recodifed to 2.1 G. Section 2.1 K. was recodifed to 2.1 H. Section 2.1 L. was recodifed to 2.1 I. Section 2.1 M. was recodifed to 2.1 J. Section 2.1 N. was combined with 2.1 C. (Same applicable requirements) Section 2.1 O. was recodifed to 2.1 K. Section 2.1 P. was recodifed to 2.1 L.

PAGE	CONDITION	CHANGE
13	Section 2.1 E.2.c.	Compliance with the MACT avoidance condition is now contingent on a 24-hour average condenser outlet temperature rather than a once daily temperature measurement. This is consistent with most MACT requirements when the regulations are applicable.
13	Section 2.1 E.2.d.	Concentration of n-hexane is to be determined by supplier certification rather than material safety data sheets. This provides for an accurate account of solvent content as opposed to a generic description.
13	Section 2.1 E.2.e.	The Permittee is now required to submit an engineering evaluation showing the methodology of efficiency determination for the Botanical extract operations control condensers.
22	Section 2.1 K.3.e (recodified from 2.1 K.3.f.)	Compliance with the PSD BACT limitation is now contingent on a 24-hour average condenser outlet temperature rather than a once daily temperature measurement. The BACT limit is hourly and annual and should have been based on the 1-hour and 8-hour ozone ambient standards and the monitoring required accordingly. The once per day measurement is deemed to ensure compliance with the one hour or eight hour standards with less accuracy than the proposed 24-hour average because a mean value will at least take into account any temperatures above the cutoff, whereas the once a day measurement may not. The relationship of hexane emissions on ozone impact is not ideal; therefore an ideal compliance averaging time is not necessary.
23	Section 2.1 K.4.c	Compliance with the MACT avoidance condition is now contingent on a 24-hour average condenser outlet temperature rather than a once daily temperature measurement. This is consistent with most MACT requirements when the regulations are applicable.
23	Section 2.1 K.4.d	Concentration of n-hexane is to be determined by supplier certification rather than material safety data sheets. This provides for an accurate account of solvent content as opposed to a generic description.
22	Section 2.1 K.3.h.	The testing requirement for Biomass extract operations control condensers (old Section 2.1 O.3.c.) was removed as efficiency is best obtained from thermodynamic parameters (i.e., inlet and outlet temperature for vapor pressure determination). The Permittee is now required to submit an engineering evaluation showing the methodology of efficiency determination.
27	Section 2.1 L.4.d.	The peak generator operational limitation for PSD avoidance was reduced from 2,500 hours per consecutive month period to 1,500 hours per consecutive month period to reflect new emissions data.
27-37	Section 2.2	Section 2.2 A. was renamed "FACILITY WIDE" and now incorporates facility wide provisions for MACT "MON" applicability- 2.2 A.4 (old 2.2 E.), last MACT TAP assessment requirements-2.2 A.5, odor control requirements- 2.2 A.3. (old 2.2 D), and TPER requirements-2.2 A.2 (old 2.2 E.) as well as VOC work practice standards- 2.2 A.1. Section 2.2 A.5. is new. Section 2.2 A.4. is revised. Section 2.2 C. was updated with a requirement for the Permittee to provide a study to demonstrate that modeled TAP limits for n-hexane from the Rotocel operations will never be exceeded based on the inherent characteristics of the process's emissions. Sections 2.1D and 2.2 E. were deleted as noted above.

PAGE	CONDITION	CHANGE
	Section 2.2 A.2.d.	Prohibition of dryer operation is removed based on the following review for permit revision R23. "The completed application, received on May 22, 2001, is made to request a revision to the existing permit for the processes in Building No. 1003-2. Currently, both the ethyl vanillin glucoside (EVG) and Plant Nutrient Extraction (PNE) processes are permitted to operate in this building. Also currently, these two processes share three tanks. This application seeks to replace these tanks, with tanks already in the building but not currently in use, for one of the processes. The end result will be that the two processes will be physically able to operate simultaneously. The existing permit limits the two processes to not run simultaneously by stating *the dryer may not be used during the concentrated plant extracts production (PNE).* Because the dryer is used during the EVG process the stipulation limits the facility to operating either, but not both, of the processes. The application also seeks to remove this language and presents the case that no existing limits would be violated..... The facility has stated that simultaneous operation of the two processes would not exceed any applicable emission limits nor require any new emission limits in the air permit. Their reasons follow. (1) The facility currently operates under a 250 tpy limit on VOC emissions to avoid PSD. According to IMPAQ, 1999 VOC emissions were only 211 tons facility-wide. Therefore the facility could increase VOC emissions significantly and stay under the limit. They request continued recordkeeping to verify that VOC emissions remain below 250 tpy. (2) The EVG process has an 2D .1100 TAP limit on chloroform. The PNE process emits ethyl acetate, for which the facility operates under a 2Q .0711 facility-wide limit. Because the processes emit different TAP's, there will be no problem with joint emissions exceeding a short-term limit for a TAP that is emitted in common. The facility again requests continued record-keeping to demonstrate that the existing limits for each pollutant are not exceeded."
31	Section 2.2 B.1.a	PSD BACT condition was clarified to make it clear that BACT apples to Rotocel recycle tanks are being used for concrete to be processed in the recovery operations.
32	NA	The testing requirement for botanical extraction condenser (old Section 2.2 B.1.c.ii.) was removed as efficiency is best obtained from thermodynamic parameters (i.e., inlet and outlet temperature for vapor pressure determination). The remainder of the testing requirement for the Rotocel operation was removed as the testing was completed. The Permittee is now required to submit an engineering evaluation showing the methodology of efficiency determination (see new Section 2.1 E.2.e). Further testing may be required under 2.2 B.1.b. if the DAQ deems it necessary.
33	Section 2.2 B.1.i (recodified from 2.2 B.1.j.)	Compliance with the PSD BACT limitations are now contingent on a 24-hour average condenser outlet temperature rather than a once daily temperature measurement. The BACT limit is hourly and annual and should have been based on the 1-hour and 8-hour ozone ambient standards and the monitoring required accordingly. The once per day measurement is deemed to ensure compliance with the one hour or eight hour standards with less accuracy than the proposed 24-hour average because a mean value will at least take into account any temperatures above the cutoff, whereas the once a day measurement may not. The relationship of hexane emissions on ozone impact is not ideal; therefore an ideal compliance averaging time is not necessary.
34	Section 2.2 B.1.k. (recodified from 2.2 B.1.l.)	Scrubber operating parameters were changed to reflect the fact that warmer temperature are less conducive to absorption (not cooler temperatures) and to reflect actual source test conditions.
35-43	Section 2.2 B.2.	LDAR requirements of 40 CFR 63, Subpart UU were summarized in this new section. The only deviation was that the FID is required to be calibrated by the manufacturer every year instead of before any monitoring. This was determined to be allowable as this is not a MACT requirement and the original citation was purely for convenience. References in Section 2.1 K.3.c and 2.2 B.1.f were changed from reference to 40 CFR 63, Subpart UU to Section 2.2 B.2.

PAGE	CONDITION	CHANGE
44	Section 2.2 C.1.c.	The table was revised to include a requirement for the Permittee to provide a study to demonstrate that modeled TAP limits for n-hexane from the Rotocel operations will never be exceeded based on the inherent characteristics of the process's emissions. Sections 2.1D and 2.2 E. were deleted as noted above.
47	General Conditions	The General Conditions were updated.

Insignificant Activities

12. wastewater treatment plant equalization tank No. 1 (ID No. IWWTP-ET1)
13. wastewater treatment plant equalization tank No. 2 (ID No. IWWTP-ET2)
14. wastewater treatment plant aeration tank No. 2 (ID No. IWWTP-AT2)
15. wastewater treatment plant aeration tank No. 3 (ID No. IWWTP-AT3)
16. wastewater treatment plant clarifier (ID No. IWWTP-CLR)
17. distillate fuel oil tank for boilers; 50,000 gallons (ID No. ITK9238)
18. distillate fuel oil tank for boilers; 50,000 gallons (ID No. ITK9239)
19. distillate fuel oil tank for generator; 350 gallons (ID No. ITK102)
20. distillate fuel oil tank for generator; 350 gallons (ID No. ITK103)
21. distillate fuel oil tank for fire pump; 285 gallons (ID No. ITKFP)
22. distillate fuel oil-fired engine for fire pump; 285 hp (ID No. IFP)

State of North Carolina,
Department of Environment,
and Natural Resources

Division of Air Quality

NCDENR
NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES

AIR QUALITY PERMIT

Permit No.	Replaces Permit No.	Effective Date	Expiration Date
01819T32	01819T31	PROPOSED, 2006	October 31, 2008

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

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

Permittee:	**Avoca, Inc.**
Facility ID:	**0800044**
Facility Site Location:	**State Road 1502**
City, County, State, Zip:	**Merry Hill, Bertie County, NC 27957**
Mailing Address:	**Box 129**
City, State, Zip:	**Merry Hill, NC 27957**
Application Number:	**0800044.06A**
Complete Application Date:	**May 9, 2006**
Renewal Application Due Date:	**January 31, 2008**
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 PROPOSED day of PROPOSED, 2006.

Donald D. Redmond, Jr., Acting Chief, Air Permits Section
By Authority of the Environmental Management Commission

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SECTION 3: GENERAL PERMIT CONDITIONS

PART II

This permit has no Part II.

ATTACHMENT

List of Acronyms

PART I

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

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

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

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

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
Sclareolide Operations			
TK-9228	solvent storage tank	NA	NA
M-2	solvent storage tank	NA	NA
M-17	solvent storage tank	NA	NA
M-17A	solvent storage tank	NA	NA
M-20	acetic acid storage tank		
M-10	batch reactor; flavorant/fragrant process in building No. 1001-1	CD-M-34	jet ejector venturi-type wet scrubber; 10 gallons per minute liquid injection
M-10A	batch reactor flavorant/fragrant process in building No. 1001-1		
D-1231A	batch reactor flavorant/fragrant process in Building No. 1001-1		
D-1231B	batch reactor flavorant/fragrant process in building No. 1001-1		
Rotocel Operations			
ES-1001-2-1-P **PSD**	rotocel extractor, desolventizer, and solvent separation/recovery	CD-31209 CD-1001-2-S-1	chilled water condenser venting to packed tower scrubber; 10 gallons per minute mineral oil injection
ES-1001-2-1-T **PSD**	solvent recycle tanks; M124A and M124B	CD-1001-2-C-1 CD-1001-2-S-1	chilled water condenser venting to packed tower scrubber; 10 gallons per minute mineral oil injection
ES-1001-2-1-F **PSD**	process equipment leaks	NA	NA
ES-1001-2-1-WW **PSD**	wastewater tanks and other similar vessels	NA	NA

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
Recovery Operations			
ES-1001-1-1-P1 **PSD**	Arcon tank M-1	CD-1001-1-3 CD-1001-2-S-1	chilled water condenser venting to packed tower scrubber; 10 gallons per minute mineral oil injection rate)
ES-1001-1-1-P2 **PSD**	stripper T-5 and receiver M-21	CD-1001-1-T5B CD-1001-2-S-1	chilled water condenser venting to packed tower scrubber; 10 gallons per minute mineral oil injection rate)
ES-1001-1-1-P3 **PSD**	fixed roof storage tanks	NA	NA
ES-1001-1-1-F **PSD**	equipment leaks	NA	NA
ES-1001-1-1-WW **PSD**	wastewater tanks and other similar vessels	NA	NA
Concrete Operations			
TK-9003, TK-9004 TK-9005, TK-9006 TK-9007, TK-9009	six processing tanks for further extraction and concentration or for dissolution of plant extract concentrate with hexane prior to extraction in the "Recovery Operations"	CD-1001-1-2	chilled water condenser
Botanical Extraction Operation			
ES-1001-11-1-P **PSD**	immersion extractor Z-1001, desolventizer Z-1002, day tank 90024, first-stage evaporator EX-1012, second-stage evaporator EX-1013, and distillation column EX-90008.	CD-1001-11-EX1002 CD-1001-11-EX1003	chilled water condenser venting to cryogenic (nitrogen) condenser system
	The cryogenic condenser system consists of two surface condensers with 66.8 square feet of surface area each. One is on line and the alternate offline during the defrost cycle.		
ES-1001-11-1-F **PSD**	process equipment leaks	NA	NA
ES-1001-11-1-WW **PSD**	wastewater fixed roof tanks and other similar vessels	NA	NA
MHZ-1002	plant material grinder; 1,011 pounds per hour nominal feed	CD-1003-4-1	bagfilter; 244 square feet of filter area
Ethyl Vanillin Glucoside (EVG) Operation; batch flavorant process in Building No. 1003-2)			
D-2202	reactor	CD-Z-9215 CD-Z-9216	water spray fume scrubber; 50 gallons per minute water injection venting to caustic fume scrubber; 50 gallons per minute caustic solution injection
D-1215	reactor		
D-1218	reactor		
D-1201	dryer		

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
Sclareol Recrystallization Process in Building No. 1003-10			
T-3001	hexane storage tank; 6,700 gallons	NA	NA
T-3002	hexane storage tank; 2,500 gallons	NA	NA
T-3004	hexane storage tank; 2,500 gallons	NA	NA
T-3005	hexane storage tank; 2,500 gallons	NA	NA
T-3006	hexane storage tank; 50 gallons	NA	NA
C-3001	centrifuge	CD-3001	condenser
D-3001	1,000 gallon reactor		
D-3001d	heat exchanger dryer		
Plant Nutrient Extraction Process in Bldg. No. 1003-2			
D1214	product extract reactor	EX2203/D1213	chilled water condenser with condensate receiver
TK1204, TK1205, TK1206, TK1208	four processing tanks	NA	NA
C-1203	centrifuge	NA	NA
D1211	waste solids separator vessel	EX2205/D1212	chilled water condenser condensate receiver
Biological Conversion Equipment for Purification of Sclareolide			
M-4, M-44, M-11, M-14, M-15, M-16, TK-1007, TK-1202, TK-1202A, TK 1205, TK-1208, TK 9231, G-17 and D1202	12 tanks	NA	NA
G17	centrifuge	NA	NA
D1202	dryer	NA	NA
A2	distillation column; six gallons per minute nominal process rate	NA	NA
Biomass Extraction Operation			
ES-1004-1 **PSD**	biomass extraction debagging	CD-1004-1-FF1	Cartridge Filter (6.7:1 air-to-cloth ratio)
ES-1004-2-P **PSD**	immersion extractor Z-41001, desolventizer Z-41002, day tank 490024, isohexane storage tank 490025, first stage evaporator EX-41012, second stage evaporator EX-41013, and, distillation column EX-490008.	CD-1004-2EX1002 CD-1004-2EX1003	chilled water condenser venting to cryogenic (nitrogen) condenser system
	The cryogenic condenser system consists of two surface condensers with 66.8 square feet of surface area each. One is on line and the alternate offline during the defrost cycle.		
ES-1004-2-F	equipment leaks	NA	NA

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
PSD			
ES-1004-2-WW **PSD**	fixed roof wastewater tanks and other similar vessels	NA	NA
Miscellaneous			
HB-1, HB-2, HB-3 and HB-4	four hot boxes (Bldg. No. 1001-1) for heating of concrete or mother liquor prior to extraction in the Recovery Operation	NA	NA
H-101	No. 2 fuel oil-fired boiler; 20.3 million Btu per hour heat input in Building No. 1001-4	NA	NA
H-102	No. 2 fuel oil-fired boiler; 20.3 million Btu per hour heat input in Building No. 1001-4	NA	NA
H-103	No. 2 fuel oil-fired boiler; 25.2 million Btu per hour heat input in Building No. 1001-4	NA	NA
E101	No. 2 fuel oil-fired 400 kilowatt emergency generator; 4.1 million Btu per hour heat input	NA	NA
E102	No. 2 fuel oil-fired 500 kilowatt emergency generator; 5.2 million Btu per hour heat input	NA	NA
E103	No. 2 fuel oil-fired 400 kilowatt emergency generator; 4.5 million Btu per hour heat input	NA	NA
ES-PkGen1	1,960 kilowatt diesel fired peaking generator	CD-CatOx1	catalytic reduction; 17,070 acfm inlet flow rate at 695° F - 835° F
WWTP-AT1	wastewater treatment plant aeration tank No. 1	NA	NA

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 2D .0503
sulfur dioxide	2.3 pounds per million Btu heat input	15A NCAC 2D .0516
visible emissions	20 percent opacity	15A NCAC 2D .0521
toxic air pollutants	**State-enforceable only** - See Section 2.2 C	15A NCAC 2D .1100

1. 15A NCAC 2D .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 this source into the atmosphere shall not exceed 0.37 pounds per million Btu heat input. [15A NCAC 2D .0503(a)]

Testing [15A NCAC 2D .0501(c)(3)]

b. If emissions testing is required, the testing shall be performed in accordance General Condition JJ. If the results of this test are above the limit given in Section 2.1 A. 1. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0503.

c. No monitoring/recordkeeping/reporting is required for particulate emissions from the firing of No. 2 fuel oil in this source.

2. 15A NCAC 2D .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. [15A NCAC 2D .0516]

Testing [15A NCAC 2D .0501(c)(4)]

b. If emissions testing is required, the testing shall be performed in accordance with 15A NCAC 2D .0501(c)(4) and General Condition JJ found in Section 3. If the results of this test are above the limit given in Section 2.1. A. 2. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0516.

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

c. No monitoring, recordkeeping, or reporting is required for sulfur dioxide emissions from the firing of No. 2 fuel oil in these boilers.

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

a. Visible emissions from these boilers **(ID Nos. H-101, H-102 and 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 2D .0521 (d)]

Testing [15A NCAC 2D .0501(c)(8)]

b. If emissions testing is required, the testing shall be performed in accordance with 15A NCAC 2D .0501(c)(8) and General Condition JJ. If the results of this test are above the limit given in Section 2.1 A. 3. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0521.
Monitoring/Recordkeeping/Reporting [15A NCAC 2Q .0508(f)]

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

B. Three No. 2 fuel oil-fired emergency generators (ID Nos. E101, E102 and E103)

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 2D .0516
visible emissions	20 percent opacity	15A NCAC 2D .0521

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

a. Emissions of sulfur dioxide from these generators 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. [15A NCAC 2D .0516]

Testing [15A NCAC 2D .0501(c)(4)]

b. If emissions testing is required, the testing shall be performed in accordance with 15A NCAC 2D .0501(c)(4) and General Condition JJ found in Section 3. If the results of this test are above the limit given in Section 2.1 B. 1. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0516.

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

c. No monitoring, recordkeeping, or reporting is required for sulfur dioxide emissions from the firing of No. 2 fuel oil in these generators.

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

a. Visible emissions from these generators **(ID Nos. ES-E101, E102, and E103)** shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity. [15A NCAC 2D .0521 (d)]

Testing [15A NCAC 2D .0501(c)(8)]

b. If emissions testing is required, the testing shall be performed in accordance with 15A NCAC 2D .0501(c)(8) and 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 2D .0521.

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

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

C. Sclareolide Operations:

Four solvent storage tanks (ID Nos. TK-9228, M-2, M-17, and M-17A),
Acetic acid storage tank (ID No. M-20), and
jet ejector venturi type wet scrubber (ID No. CD-M-34) Sclareolide Operation reactors (ID Nos. M-10, M10A, D-1231A and D-1231B).

Concrete Operations:

Six processing tanks (ID Nos. TK-9003, TK-9004, TK-9005, TK-9006, TK-9007 and TK-9009) with condenser (ID No. CD-1001-1-2).

Biological Conversion Equipment for purification of Scalareolide:

12 tanks (ID No. M-4, M-44,M-11, M-14, M-15, M-16, TK-1202, TK-1202A, TK -1205, TK-1208, and TK 9231),
centrifuge (G-17), and
dryer (D1202).

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	work practice standards - See Section 2.2 A.1.	15A NCAC 2D .0958
toxic air pollutants	TPER -See Section 2.2 A.2 **State-enforceable only**	15A NCAC 2Q .0711
odors	odorous emissions see section 2.2 A.3. **State-enforceable only**	15A NCAC 2D .1806
HAP	Future MACT for Miscellaneous Organic Chemical Manufacture see Section 2.2 A.4.	15A NCAC 2D .1111 40 CFR 63, Subpart FFFF
TAP	Future TAP assessment of facility wide sources due with permit application to comply with last applicable MACT (i.e., FFFF) see Section 2.2 A.5. **State Only Requirement**	15A NCAC 2Q. 0705(a)(1) 15A NCAC 2Q .0711 15A NCAC 2D .1100
toxic air pollutants	State-enforceable only See Section 2.2 C.	15A NCAC 2D .1100

D. Rotocel Operations:

Condenser (ID No. CD-31209) and Packed Tower Scrubber (ID No. CD-1001-2-S-1) on extractor, desolventizer, and solvent separation/recovery (ID No. ES-1001-2-1-P),
Condenser (ID No. CD-1001-2-C-1) and Packed Tower Scrubber (ID No. CD-1001-2-S-1) on solvent recycle tanks (ID No. ES-1001-2-1-T),
Equipment Leaks (ID No. ES-1001-2-1-F), and
Wastewater Tanks and Other Similar Vessels (ID No. ES-1001-2-1-WW).

Recovery Operations:

Condenser (ID No. CD-1001-1-3) and Packed Tower Scrubber (ID No. CD-1001-2-S-1) on Arcon Tank (ID No. ES-1001-1-1-P),
Condenser (ID No. CD-1001-1-T5B) and Packed Tower Scrubber (ID No. CD-1001-2-S-1) on stripper / receiver (ID No. ES-1001-1-1-P2),
Fixed roof storage tanks (ID No. ES-1001-1-1-P3),
Equipment Leaks (ID No. ES-1001-1-1-F), and
Wastewater Tanks and Other Similar Vessels (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
visible emissions	20 percent opacity	15A NCAC 2D .0521
volatile organic compounds	work practice standards See Section 2.2 A.1.	15A NCAC 2D .0958
toxic air pollutants	TPER -See Section 2.2 A.2 **State-enforceable only**	15A NCAC 2Q .0711
odors	odorous emissions see section 2.2 A.3. **State-enforceable only**	15A NCAC 2D .1806
HAP	Future MACT for Miscellaneous Organic Chemical Manufacture see Section 2.2 A.4.	15A NCAC 2D .1111 40 CFR 63, Subpart FFFF
TAP	Future TAP assessment of facility wide sources due with permit application to comply with last applicable MACT (i.e., FFFF) see Section 2.2 A.5. **State Only Requirement**	15A NCAC 2Q. 0705(a)(1) 15A NCAC 2Q .0711 15A NCAC 2D .1100
volatile organic compounds	as defined in permit conditions of Section 2.2 B.1.	15A NCAC 2D .0530
toxic air pollutants	State-enforceable only - See Section 2.2 C.	15A NCAC 2D .1100

1. 15A NCAC 2D .0521: CONTROL OF VISIBLE EMISSIONS

a. Visible emissions from the emission 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 2D .0521 (d)]

Testing [15A NCAC 2D .0501(c)(8)]

b. If emissions testing is required, the testing shall be performed in accordance with 15A NCAC 2D .0501(c)(8) and 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 2D .0521.

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

c. To assure compliance, once every six months the Permittee shall observe the emission points of this source for any visible emissions above normal. If visible emissions from this source are observed to be above normal, the Permittee shall either: (a) be deemed to be in noncompliance with 15A NCAC 2D .0521 or (b) demonstrate that the percent opacity from the emission points of the emission source in accordance with 15A NCAC 2D .0501(c)(8) is below the limit given in Section 2.1 D.1. a. above. If the demonstration in (b) above cannot be made, the Permittee shall be deemed to be in noncompliance with 15A NCAC 2D .0521.

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

d. The results of the monitoring shall be maintained in a log (written or electronic format) on-site and made available to an authorized representative upon request. The log 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 2D .0521 if these records are not maintained.

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

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

E. Botanical Extraction Operations

chilled water condenser (ID No. CD-1001-11-EX1002) venting to cryogenic condenser system (ID No. CD-1001-11-EX1003) on process equipment (Immersion Extractor Z-1001, Desolventizer Z-1002, Day Storage Tank 90024, First-stage evaporator EX-1012, Second-stage evaporator EX-1013, and distillation column EX-90008; ID No. ES-1001-11-1-P),
equipment leaks (ID No. ES-1001-11-1-F), and
wastewater tanks and other similar vessels (ID No. ES-1001-11-1-WW).

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
visible emissions	20 percent opacity	15A NCAC 2D .0521
n-hexane	Emissions must be less than 10 tons per consecutive 12 month period	15A NCAC 2Q .0317 (Avoidance of 15A NCAC 2D .1112 "Case by Case MACT")
volatile organic compounds	work practice standards See Section 2.2 A.1.	15A NCAC 2D .0958
toxic air pollutants	TPER -See Section 2.2 A.2 **State-enforceable only**	15A NCAC 2Q .0711
odors	odorous emissions see section 2.2 A.3. **State-enforceable only**	15A NCAC 2D .1806
HAP	Future MACT for Miscellaneous Organic Chemical Manufacture see Section 2.2 A.4.	15A NCAC 2D .1111 40 CFR 63, Subpart FFFF

Regulated Pollutant	Limits/Standards	Applicable Regulation
TAP	Future TAP assessment of facility wide sources due with permit application to comply with last applicable MACT (i.e., FFFF) see Section 2.2 A.5. **State Only Requirement**	15A NCAC 2Q. 0705(a)(1) 15A NCAC 2Q .0711 15A NCAC 2D .1100
volatile organic compounds	as defined in specific conditions - See Section 2.2 B.1.	15A NCAC 2D .0530 (PSD)
toxic air pollutants	**State-enforceable only** - See Section 2.2 C.	15A NCAC 2D .1100

1. 15A NCAC 2D .0521: CONTROL OF VISIBLE EMISSIONS

a. Visible emissions from the emission 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 2D .0521 (d)]

Testing [15A NCAC 2D .0501(c)(8)]

b. If emissions testing is required, the testing shall be performed in accordance with 15A NCAC 2D .0501(c)(8) and 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 2D .0521.

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

c. To assure compliance, once every six months the Permittee shall observe the emission points of this source for any visible emissions above normal. If visible emissions from this source are observed to be above normal, the Permittee shall either: (a) be deemed to be in noncompliance with 15A NCAC 2D .0521 or (b) demonstrate that the percent opacity from the emission points of the emission source in accordance with 15A NCAC 2D .0501(c)(8) is below the limit given in Section 2.1 E.1. a. above. If the demonstration in (b) above cannot be made, the Permittee shall be deemed to be in noncompliance with 15A NCAC 2D .0521.

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

d. The results of the monitoring shall be maintained in a log (written or electronic format) on-site and made available to an authorized representative upon request. The log 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 2D .0521 if these records are not maintained.

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

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

2. 15A NCAC 2Q .0317 AVOIDANCE OF 15A NCAC 2D .1112: 112(G) "CASE BY CASE MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY"

a. To comply with this permit and to avoid applicability of Section 112(g) of the Clean Air Act "Case by Case Maximum Achievable Control Technology (MACT)" as requested by the Permittee, n-hexane emissions from the Botanical Extraction Operation **(Building No. 1001-11)** shall be less than 10 tons per consecutive 12-month period. To ensure compliance with this limit the following conditions shall be met:
   i. Solvents used in this section shall contain no more than 5% n-hexane by weight
   ii. The cryogenic condenser **(ID No. CD-1001-11EX1003)** outlet temperature shall be maintained at -40 ºF or less when the process is operating.

Testing [15A NCAC 2D .0501(c)(8)]

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 2Q .0317(a)(6).

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

c. To ensure compliance with the condition given in Section 2.1.E.2.a.ii above, a temperature sensor shall be placed in the outlet gas stream of the cryogenic condenser. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530 if the condenser is not equipped with a device to continuously measure the outlet temperature. The temperature output from the sensor shall be continuously monitored and hourly values used to determine the 24-hour average temperature at the condenser outlet. Operation of the botanical extraction process shall be deemed in non-compliance with 15A NCAC 2D .1112(G) when the average daily temperature is above -40 F. The hourly and daily temperature average values shall be maintained in a logbook (written or electronic form). The logbook shall be on-site and made available to an authorized representative upon request. Failure to maintain the logbook shall be deemed non-compliance with 15A NCAC 2Q .0317(a)(6).

d. To ensure compliance with the condition given in Section 2.1.E.2.a.i above, shall maintain a file containing the certificate of analysis for each shipment of solvent used in this process. The file shall be on-site and made available to an authorized representative upon request. Failure to maintain the file shall be deemed non-compliance with 15A NCAC 2Q .0317(a)(6).

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

e. The Permittee shall submit an engineering evaluation showing the methodology of efficiency determination for the condenser operation based on vapor pressure and inlet and outlet temperature to the Regional DAQ by (30 days of permit effective date).

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.

F. plant material grinder (ID No. MHZ-1002) with fabric filter (ID No. CD-1001-1-2)

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	$E=4.10P^{0.67}$ where E = allowable emission rate in pounds per hour P = process weight in tons per hour	15A NCAC 2D .0515
visible emissions	20 percent opacity	15A NCAC 2D .0521

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

a. Emissions of particulate matter from this source shall not exceed an allowable emission rate as calculated by the following equation: [15A NCAC 2D .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 2D .0501 (c)(3)]

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 2D .0515.

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

c. Particulate matter emissions from the plant material grinder shall be controlled by the bagfilter. To assure 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 internal inspection of the bagfilter's structural integrity.

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0515 if the ductwork and bagfilters are not inspected and maintained.

d. The results of inspection and maintenance shall be maintained in a log (written or electronic format) on-site and made available to an authorized representative upon request. The log 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 bagfilter; and
iv. any variance from manufacturer's recommendations, if any, and corrections made.

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0515 if these records are not maintained.

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

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

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

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

a. Visible emissions from this plant material grinder **(ID No. MHZ-1002)** shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity. [15A NCAC 2D .0521(d)]

Testing [15A NCAC 2D .0501(c)(8)]

b. If emissions testing is required, the testing shall be performed in accordance with 15A NCAC 2D .0501(c)(8) and 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 2D .0521.

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

c. To assure compliance, once a month the Permittee shall observe the emission points of this source for any visible emissions above normal. If visible emissions from this source are observed to be above normal, the Permittee shall either: (a) be deemed to be in noncompliance with 15A NCAC 2D .0521 or (b) demonstrate that the percent opacity from the emission points of the emission source in accordance with 15A NCAC 2D .0501(c)(8) is below the limit given in Section 2.1 F.2. a. above. If the demonstration in (b) above cannot be made, the Permittee shall be deemed to be in noncompliance with 15A NCAC 2D .0521.

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

d. The results of the monitoring shall be maintained in a log (written or electronic format) on-site and made available to an authorized representative upon request. The log 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 2D .0521 if these records are not maintained.

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

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

G. Ethyl Vanillin Glucoside Operation three reactor (ID Nos. D-2202, D-1215, D-1218) with water spray fume scrubber (ID No. Z-9215) and caustic solution fume scrubber (ID No. Z-9216)

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
visible emissions	20 percent opacity	15A NCAC 2D .0521
volatile organic compounds	work practice standards See Section 2.2 A.1.	15A NCAC 2D .0958
toxic air pollutants	TPER -See Section 2.2 A.2 **State-enforceable only**	15A NCAC 2Q .0711
odors	odorous emissions see section 2.2 A.3. **State-enforceable only**	15A NCAC 2D .1806
HAP	Future MACT for Miscellaneous Organic Chemical Manufacture see Section 2.2 A.4.	15A NCAC 2D .1111 40 CFR 63, Subpart FFFF
TAP	Future TAP assessment of facility wide sources due with permit application to comply with last applicable MACT (i.e., FFFF) see Section 2.2 A.5. **State Only Requirement**	15A NCAC 2Q. 0705(a)(1) 15A NCAC 2Q .0711 15A NCAC 2D .1100
toxic air pollutants	State-enforceable only - See Section 2.2 C.	15A NCAC 2D .1100

1. 15A NCAC 2D .0521: CONTROL OF VISIBLE EMISSIONS

a. Visible emissions from this EVG Operation shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity. [15A NCAC 2D .0521 (d)]

Testing [15A NCAC 2D .0501(c)(8)]

b. If emissions testing is required, the testing shall be performed in accordance with 15A NCAC 2D .0501(c)(8) and 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 2D .0521.

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

c. To assure compliance, once every six months the Permittee shall observe the emission points of this source for any visible emissions above normal. If visible emissions from this source are observed to be above normal, the Permittee shall either: (a) be deemed to be in noncompliance with 15A NCAC 2D .0521 or (b) demonstrate that the percent opacity from the emission points of the emission source in accordance with 15A NCAC 2D .0501(c)(8) is below the limit given in Section 2.1 G.1. a. above. If the demonstration in (b) above cannot be made, the Permittee shall be deemed to be in noncompliance with 15A NCAC 2D .0521.

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

d. The results of the monitoring shall be maintained in a log (written or electronic format) on-site and made available to an authorized representative upon request. The log 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 2D .0521 if these records are not

maintained.

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

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

H. Sclareol Recrystallization Process five hexane storage tanks (ID Nos. T-3001, T-3002, T-3004, T-3005, T-3006), and condenser (ID No. CD-3001) on: reactor (ID No. D-3001), centrifuge (ID No. C-3001), and heat exchanger/dryer (ID D-3001).

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
visible emissions	20 percent opacity	15A NCAC 2D .0521
volatile organic compounds	work practice standards See Section 2.2 A.1.	15A NCAC 2D .0958
toxic air pollutants	TPER -See Section 2.2 A.2 **State-enforceable only**	15A NCAC 2Q .0711
odors	odorous emissions see section 2.2 A.3. **State-enforceable only**	15A NCAC 2D .1806
HAP	Future MACT for Miscellaneous Organic Chemical Manufacture see Section 2.2 A.4.	15A NCAC 2D .1111 40 CFR 63, Subpart FFFF
TAP	Future TAP assessment of facility wide sources due with permit application to comply with last applicable MACT (i.e., FFFF) see Section 2.2 A.5. **State Only Requirement**	15A NCAC 2Q. 0705(a)(1) 15A NCAC 2Q .0711 15A NCAC 2D .1100
toxic air pollutants	**State-enforceable only** - See Section 2.2 C.	15A NCAC 2D .1100

1. 15A NCAC 2D .0521: CONTROL OF VISIBLE EMISSIONS

a. Visible emissions from this Scalareol Recrystallization Process shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity. [15A NCAC 2D .0521 (d)]

Testing [15A NCAC 2D .0501(c)(8)]

b. If emissions testing is required, the testing shall be performed in accordance with 15A NCAC 2D .0501(c)(8) and General Condition JJ. If the results of this test are above the limit given in Section 2.1 H.1. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0521.

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

c. To assure compliance, once every six months the Permittee shall observe the emission points of this source for any visible emissions above normal. If visible emissions from this source are observed to be above normal, the Permittee shall either: (a) be deemed to be in noncompliance with 15A NCAC 2D .0521 or (b) demonstrate that the percent opacity from the emission points of the emission source in accordance with 15A NCAC 2D

.0501(c)(8) is below the limit given in Section 2.1 H.1. a. above. If the demonstration in (b) above cannot be made, the Permittee shall be deemed to be in noncompliance with 15A NCAC 2D .0521.

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

d. The results of the monitoring shall be maintained in a log (written or electronic format) on-site and made available to an authorized representative upon request. The log 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 2D .0521 if these records are not maintained.

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

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

I. Four hot boxes (ID Nos. HB-1, 2, 3 & 4)

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	work practice standards See Section 2.2 A.1.	15A NCAC 2D .0958
toxic air pollutants	TPER -See Section 2.2 A.2 **State-enforceable only**	15A NCAC 2Q .0711
odors	odorous emissions see section 2.2 A.3. **State-enforceable only**	15A NCAC 2D .1806
HAP	Future MACT for Miscellaneous Organic Chemical Manufacture see Section 2.2 A.4.	15A NCAC 2D .1111 40 CFR 63, Subpart FFFF
TAP	Future TAP assessment of facility wide sources due with permit application to comply with last applicable MACT (i.e., FFFF) see Section 2.2 A.5. **State Only Requirement**	15A NCAC 2Q. 0705(a)(1) 15A NCAC 2Q .0711 15A NCAC 2D .1100
toxic air pollutants	**State-enforceable only**-See Section 2.2 C.	15A NCAC 2D .1100

J. Plant nutrient extraction (PNE) process condenser/condensate receiver (ID No. EX2203/D1213) on product extract reaction vessel (ID No. D1214), four processing tanks (ID Nos. TK1204, TK1205, TK1206 and TK1208), centrifuge (ID No. C-1203), and condenser (ID No. EX 2005)on waste solids separator (ID No. D1211)

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
visible emissions	20 percent opacity	15A NCAC 2D .0521
volatile organic compounds	work practice standards See Section 2.2 A.1.	15A NCAC 2D .0958
toxic air pollutants	TPER -See Section 2.2 A.2 **State-enforceable only**	15A NCAC 2Q .0711
odors	odorous emissions see section 2.2 A.3. **State-enforceable only**	15A NCAC 2D .1806
HAP	Future MACT for Miscellaneous Organic Chemical Manufacture see Section 2.2 A.4.	15A NCAC 2D .1111 40 CFR 63, Subpart FFFF
TAP	Future TAP assessment of facility wide sources due with permit application to comply with last applicable MACT (i.e., FFFF) see Section 2.2 A.5. **State Only Requirement**	15A NCAC 2Q. 0705(a)(1) 15A NCAC 2Q .0711 15A NCAC 2D .1100
toxic air pollutants	State-enforceable only - See Section 2.2 C.	15A NCAC 2D .1100

1. 15A NCAC 2D .0521: CONTROL OF VISIBLE EMISSIONS

a. Visible emissions from this PNE Operation shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity. [15A NCAC 2D .0521 (d)]

Testing [15A NCAC 2D .0501(c)(8)]

b. If emissions testing is required, the testing shall be performed in accordance with 15A NCAC 2D .0501(c)(8) and General Condition JJ. If the results of this test are above the limit given in Section 2.1 J.1. a, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0521.

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

c. To assure compliance, once every six months the Permittee shall observe the emission points of this source for any visible emissions above normal. If visible emissions from this source are observed to be above normal, the Permittee shall either: (a) be deemed to be in noncompliance with 15A NCAC 2D .0521 or (b) demonstrate that the percent opacity from the emission points of the emission source in accordance with 15A NCAC 2D .0501(c)(8) is below the limit given in Section 2.1 J.1. a. above. If the demonstration in (b) above cannot be made, the Permittee shall be deemed to be in noncompliance with 15A NCAC 2D .0521.

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

d. The results of the monitoring shall be maintained in a log (written or electronic format) on-site and made available to an authorized representative upon request. The log 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 2D .0521 if these records are not maintained.

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

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

K. Biomass Extraction Operation:

debagging (ID No. ES-1004-1),
chilled water condenser (ID No. CD-1004-2-EX1002) venting to cryogenic condenser system (ID No. CD-1004-2-EX1003) on process equipment (Immersion Extractor Z-41001, Desolventizer Z-41002, Isohexane Storage Tank 490025, Day Storage Tank 490024, First Stage Evaporator EX-41012, Second Stage Evaporator EX-41013), and Distillation Column EX-490008; ID No. ES-1004-2-P).
Equipment Leaks (ID No. ES-1004020F), and
Wastewater Tanks and Other Similar Vessels (ID No. ES-1004-2-WW).

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
particulate matter	*Affected Source: ES-1004-1, only* $E = 4.10P^{0.67}$ where E = allowable emission rate in pounds per hour P = process weight in tons per hour	15A NCAC 2D .0515
visible emissions	20 percent opacity	15A NCAC 2D .0521
volatile organic compounds	as defined in specific conditions	15A NCAC 2D .0530(PSD)
n-hexane	Emissions must be less than 10 tons per consecutive twelve (12) month period	15A NCAC 2Q .0317 (Avoidance of 15A NCAC 2D .1112 "Case by Case MACT")
volatile organic compounds	work practice standards See Section 2.2 A.1.	15A NCAC 2D .0958
toxic air pollutants	TPER -See Section 2.2 A.2 **State-enforceable only**	15A NCAC 2Q .0711
odors	odorous emissions see section 2.2 A.3. **State-enforceable only**	15A NCAC 2D .1806
HAP	Future MACT for Miscellaneous Organic Chemical Manufacture see Section 2.2 A.4.	15A NCAC 2D .1111 40 CFR 63, Subpart FFFF
TAP	Future TAP assessment of facility wide sources due with permit application to comply with last applicable MACT (i.e., FFFF) see Section 2.2 A.5. **State Only Requirement**	15A NCAC 2Q. 0705(a)(1) 15A NCAC 2Q .0711 15A NCAC 2D .1100
toxic air pollutants	State-enforceable only - See Section 2.2 C.	15A NCAC 2D .1100

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

a. Emissions of particulate matter from the biomass extraction debagging operation **(ID No. ES-1004-1)** shall not exceed an allowable emission rate as calculated by the following equation: [15A NCAC 2D .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 2D .0501 (c)(3)]

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 K. 1. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0515.

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

c. Particulate matter emissions from the biomass extraction debagging operation **(ID No. ES-1004-1)** shall be controlled by the cartridge filter. To assure 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 internal inspection of the cartridge filter's structural integrity.
   The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0515 if the ductwork and cartridge filter are not inspected and maintained.

d. The results of inspection and maintenance shall be maintained in a log (written or electronic format) on-site and made available to an authorized representative upon request. The log shall record the following:
   i. the date and time of each recorded action;
   ii. the results of each inspection;
   iii. the results of any maintenance performed on the cartridge filter; and
   iv. any variance from manufacturer's recommendations, if any, and corrections made.
   The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0515 if these records are not maintained.

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

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

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

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

a. Visible emissions from the emission 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 2D .0521 (d)]

Testing [15A NCAC 2D .0501(c)(8)]

b. If emissions testing is required, the testing shall be performed in accordance with 15A NCAC 2D .0501(c)(8) and General Condition JJ. If the results of this test are above the limit given in Section 2.1 K.2. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0521.

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

c. To assure compliance, once every month, the Permittee shall observe the emission points of the emission sources for any visible emissions above normal. The Permittee shall establish "normal" for the source within 30 days of initial startup of the biomass extraction operation. If visible emissions from this source are observed to be above normal, the Permittee shall either: (a) be deemed to be in noncompliance with 15A NCAC 2D .0521 or (b) demonstrate that the percent opacity from the emission points of the emission source in accordance with 15A NCAC 2D .0501(c)(8) is below the limit given in Section 2.1 K.2. a. above. If the demonstration in (b) above cannot be made, the Permittee shall be deemed to be in noncompliance with 15A NCAC 2D .0521.

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

d. The results of the monitoring shall be maintained in a log (written or electronic format) on-site and made available to an authorized representative upon request. The log 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 2D .0521 if these records are not maintained.

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

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

3. 15A NCAC 2D .0530: PREVENTION OF SIGNIFICANT DETERIORATION

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

EMISSION SOURCE	POLLUTANT	BACT EMISSION LIMIT[1]		CONTROL TECHNOLOGY
Biomass Extraction Processes:(ID No. ES-1004-2-P): immersion extractor Z-41001, desolventizer Z-41002, day tank 490024, isohexane storage tank 490025, first stage evaporator EX-41012, second stage evaporator EX-41013, and distillation column EX-490008.	VOCs	14.1 lbs/hr	61.8 tons/yr	chilled water condenser and cryogenic condenser system
Biomass Extraction Equipment Leaks	VOCs	-		LDAR
Biomass Extraction Wastewater Tanks and Other Similar Vessels	VOCs	-		Fixed Roofs
Three No. 2 Fuel-Oil Fired Boilers	VOCs	0.2 lb/1000 gal No. 2 fuel oil		Combustion Control

[1] BACT limits in tons per year is determined using a rolling consecutive 12-month total.

Testing [15A NCAC 2D .0501(c)(8)]

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 K.3.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530.

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

c. The Permittee shall implement the LDAR program as per the requirements of Section 2.2 B.2. for biomass extraction equipment leaks. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530, if the LDAR program requirements are not implemented.

d. Volatile organic compounds emissions from the biomass extraction process vents shall be controlled by a chilled water-cooled condenser **(ID No. CD-1004-2-EX1002)** followed by a liquid nitrogen-cooled condenser **(ID No. CD-1004-2-EX1003)**, as included in Section 2.1 K.3.a. above. To assure 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 indicate 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 2D .0530 if the condensers are not inspected and maintained.

e. The Permittee shall ensure the proper performance of the condenser by equipping the condenser (ID No. CD-1004-2EX1003) with a device to continuously measure the outlet temperature. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530 if the condenser is not equipped with a device to continuously measure the outlet temperature. The device 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 temperature output from the sensor shall be continuously monitored and hourly values used to determine the 24-hour average temperature at the condenser outlet. Operation of the biomass extraction operations shall be deemed in non-compliance with 15A NCAC 2D .0530 when the average daily temperature is above -40 F. The hourly and daily temperature average values shall be maintained in a logbook (written or electronic form).

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

f. Results of any inspection and maintenance, and 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. hourly and daily average temperature values (when the biomass extraction operation is operating),
   iii. the results of any maintenance performed on condensers, and
   iv. any variance from manufacturer's recommendations, if any, and corrections made.

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

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

g. Within 30 days of a request from the DAQ, the Permittee shall submit a report of any maintenance performed on the chilled water-cooled condenser **(ID No. CD-1004-2-EX1002)** and/or liquid nitrogen-cooled condenser **(ID No. CD-1004-2-EX1003)**.

h. The Permittee shall submit an engineering evaluation showing the methodology of efficiency determination for the condenser operation based on vapor pressure and inlet and outlet temperature to the Regional DAQ by (30 days of permit effective date).

i. The Permittee shall submit a summary report of monitoring and recordkeeping activities postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. The report shall also contain the following:
   i. The monthly VOC emissions for the previous 17 months for biomass extraction process vents (immersion extractor, desolventizer, first and second stage evaporators, distillation column, isohexane storage tank, and day storage tank). The emissions shall be calculated for each of the 12-month periods over the previous 17 months, and
   ii. All instances of deviations from the requirements of this permit must be clearly identified.

4. 15A NCAC 2Q .0317 AVOIDANCE OF 15A NCAC 2D .1112: 112(G) "CASE BY CASE MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY"

a. To comply with this permit and to avoid applicability of Section 112(g) of the Clean Air Act "Case by Case Maximum Achievable Control Technology (MACT)" as requested by the Permittee, n-hexane emissions from the Biomass Extraction Operation **(ID Nos. ES-1004-1 and ES-1004-2)** shall be less than 10 tons per consecutive 12-month period. To ensure compliance with this limit the following conditions shall be met.
   i. Solvents used in Biomass Extraction Operation **(ID Nos. ES-1004-1 and ES-1004-2)** shall contain no more than 5% n-hexane by weight.
   ii. The cryogen condenser system **(ID No. CD-1004-2-EX1003)** 24 -hour average outlet temperature shall be maintained at -40 ºF or less when the process is operating.

Testing [15A NCAC 2D .0501(c)(8)]

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 K.4. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2Q .0317(a)(6).

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

c. To ensure compliance with the condition given in Section 2.1 K.4.a.ii. above, the Permittee shall equip the condenser (ID No. CD-1004-2EX1003) with a device to continuously measure the outlet temperature. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1112(G) if the condenser is not equipped with a device to continuously measure the outlet temperature. The device 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 temperature output from the sensor shall be continuously monitored and hourly values used to determine the 24-hour average temperature at the condenser outlet. Operation of the biomass extraction operations shall be deemed in non-compliance with 15A NCAC 2D .1112(G) when the average daily temperature is above -40 F. The hourly and daily temperature average values shall be maintained in a logbook (written or electronic form).

d. To ensure compliance with the condition given in Section 2.1 K.4.a.i. above, the Permittee shall maintain a file containing the certification of analysis for each shipment of solvent used in this process. The file shall be on-site and made available to an authorized representative upon request. Failure to maintain the file shall be deemed non-compliance with 15A NCAC 2Q .0317(a)(6).

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

e. 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.

L. Diesel fired peaking generator (ID No. ES-PkGen1)

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 2D .0516
visible emissions	20 percent opacity	15A NCAC 2D .0521
hazardous air pollutants	MACT for Reciprocation Internal Combustion Engines	15A NCAC 2Q .1111 40 CFR 63, Subpart ZZZZ
nitrogen oxides	emissions must be less than 40 tons per consecutive 12 month period	15A NCAC 2Q .0317 (Avoidance of 15A NCAC 2D .0530 "Prevention of Significant Deterioration")

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

a. Emissions of sulfur dioxide from this source **(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. [15A NCAC 2D .0516]

Testing [15A NCAC 2D .0501(c)(4)]

b. If emissions testing is required, the testing shall be performed in accordance with 15A NCAC 2D .0501(c)(4) and General Condition JJ found in Section 3. If the results of this test are above the limit given in Section 2.1 L.1.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0516.

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

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

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

a. Visible emissions from this source **(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 2D .0521 (d)]

Testing [15A NCAC 2D .0501(c)(8)]

b. If emissions testing is required, the testing shall be performed in accordance with 15A NCAC 2D .0501(c)(8) and General Condition JJ. If the results of this test are above the limit given in Section 2.1 L. 2. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0521.

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

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

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

a. For the peaking generator **(ID No. ES-PkGen1)**, the Permittee shall demonstrate compliance upon start up with all applicable requirements of 15A NCAC 2D .1111 "Maximum Achievable Control Technology" and 40 CFR Part 63 Subpart ZZZZ "National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE) ".

b. The Permittee shall reduce carbon monoxide (CO) emissions by 70 percent or more.[40 CFR 63.6600(b)]

c. The Permittee shall comply with the following operating limits for the RICE of peaking generator **(ID No. ES-PkGen1)**:

i. The Permittee shall maintain the oxidation catalyst such that the pressure drop across the catalyst does not change by more than 2 inches of water at 100 percent load ± 10 percent from the pressure drop across the catalyst that was measured during the initial performance test.

ii. The Permittee shall maintain the temperature of the stationary RICE exhaust, so that the catalyst inlet temperature is greater than or equal to 450 ^{0}F and less than or equal to 1350 ºF. [40 CFR 63.6600(b)]

Testing [15A NCAC 2D .1111]

d. The Permittee shall conduct the initial performance tests or other initial compliance demonstrations in Table 4 of the Subpart, to demonstrate compliance with the emission limitation for CO in Section 2.1 L.3.b. above, within 180 days of startup of RICE of peaking generator **(ID No. ES-PkGen1)**, in accordance with §63.7(a)(2), §§63.6620(b) through (e) and (i), and General Condition JJ. If the results of this test are above the limit given in Section 2.1 L.3.b. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111 [40 CFR 63.6610(a) and 63.6620].

e. The initial compliance with the emission limitations and operating limitations in Section 2.1 L.3.b. and c. above, is deemed to be achieved, if:

i. The Permittee has demonstrated that the average reduction of emissions of CO determined from the initial performance test is at least 70 percent, and

ii. The Permittee has installed a continuous parameter monitoring system (CPMS) to continuously monitor catalyst inlet temperature, and

iii. The Permittee has recorded catalyst pressure drop and catalyst inlet temperature during the initial performance test.

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111, if the initial compliance requirements in Section 2.1 L. 3. e. above are not performed/completed or any initial compliance demonstration exceeds the emission limitation in Section 2.1 Q.3.b. above. [40 CFR 63.6630(a)]

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

f. The Permittee shall demonstrate continuous compliance with the emission standards and operating limits in Section 2.1 L.3.b. and c. above by:

i. Conducting semiannually performance tests to demonstrate that at least 70 percent CO reduction is achieved, [After Permittee has demonstrated compliance for two consecutive tests, the Permittee may request from the DAQ to reduce the frequency of subsequent performance tests to annually. If the results of any subsequent annual performance test indicate the stationary RICE is not in compliance with the CO emission limitation, or Permittee deviates from any operating limitations, Permittee shall resume semiannual performance tests.]

ii. Collecting the catalyst inlet temperature according to §63.6625(b) and reducing the data to 4-hr rolling averages,

iii. Maintaining the 4-hr rolling averages of catalyst temperatures within the operating limitation of 450 ºF – 1350 ºF, and

iv. Measuring the pressure drop across the catalyst once a month and demonstrating that the pressure drop across the catalyst is within the 2 inches of water at 100 percent load ± 10 percent from the pressure drop across the catalyst that was measured during the initial performance test.

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111, if the continuous compliance requirements in Section 2.1 L.3.f. above are not performed/completed or any continuous compliance demonstration exceeds the emission or operating limitations in Section 2.1 L.3.b. or c. above. [40 CFR 63.6635 and 63.6640]

g. The Permittee shall be in compliance with the emission and operating limitations in Section 2.1 L.3.b. and c. above, at all times except during periods of startup, shutdown, and malfunction. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111, if the emission and operating limitations are not complied at all times except during periods of startup, shutdown, and malfunction [40 CFR 63.6605(a)].

h. The Permittee shall operate and maintain the stationary RICE of the peaking generator **(ID No. ES-PkGen1)** including the oxidation catalyst and any associated monitoring equipment in a manner consistent with the good air pollution control practices at all times, including during startup, shutdown, and malfunction. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111, if the Permittee does not operate and maintain the emission source and control device including any associated monitoring equipment in accordance with the with the good air pollution control practices at all times, including during startup, shutdown, and malfunction [40 CFR 63.6605(b)].

i. The Permittee shall install, operate, and maintain a CPMS to continuously monitor catalyst inlet temperature, according to the requirements in §63.8. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111, if a CPMS to continuously monitor catalyst inlet temperature is not installed, operated or maintained [40 CFR 63.6625(b)].

j. The Permittee shall monitor continuously the catalyst inlet temperature to assure compliance with the emission and operating limitations in Section 2.1 L.3.b. and c. above at all times that the stationary RICE is operating, except for monitor malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments). The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111, if the monitoring requirements of this Section are not complied [40 CFR 63.6635(b)].

k. The Permittee may not use data recorded during monitor malfunctions, associated repairs, and required quality assurance or control activities in data averages and calculations used to report emission or operating levels. The Permittee shall however, use all the valid data collected during all other periods [40 CFR 63.6635(c)].

l. If the Permittee changes the catalyst of the RICE of the peaking generator **(ID No. ES-PkGen1)**, the Permittee shall reestablish the values of the operating parameters measured during the initial performance test. In addition, the Permittee shall conduct a performance test to demonstrate the compliance with the emission limitation in Section 2.1 L.3.b. above. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111, if the requirements of this Section are not complied [40 CFR 63.6640(b)].

m. During the periods of start-up, shutdown, and malfunction the Permittee shall operate the RICE of peaking generator **(ID No. ES-PkGen1)** in accordance with the start-up, shutdown, and malfunction plan developed pursuant to 40 CFR 63.6(e)(3). The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111, if the Permittee does not develop and implement a startup, shutdown, and malfunction plan or the Permittee does not operate the RICE of peaking generator **(ID No. ES-PkGen1)** in accordance with the developed start-up, shutdown, and malfunction plan during the periods of start-up, shutdown, and malfunction [40 CFR 63.6640(c)].

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

n. The Permittee shall keep a copy of each notification and report submitted to comply with the Subpart, including all documentation supporting any Initial Notification or Notification of Compliance Status the Permittee submitted according to the requirement of 40 CFR 63.10(b)(2)(xiv), as per 40 CFR 63.6655(a)(1).

o. The Permittee shall keep records for any event related to start-up, shutdown, and malfunctions as per 40 CFR 63.6655(a)(2).

p. The Permittee shall keep records of performance tests and performance evaluations as required in 40 CFR

63.10(b)(2)(viii), as per 40 CFR 63.6655(a)(3).

q. The Permittee shall keep records of CPMS for catalyst inlet temperature, as per 40 CFR 63.6655(b).

r. The Permittee shall keep records required in Table 6 of 40 CFR 63, Subpart ZZZZ to show compliance with each emission limitation and operating limits of Section 2.1 L.3.b. and c. above, as per 40 CFR 63.6655(d).

s. The Permittee shall keep records in a form suitable and readily available for expeditious review according to the requirement of 40 CFR 63.10(b)(1), as per 40 CFR 63.6660(a).

t. As specified in 40 CFR 63.10(b)(1), the Permittee shall keep each record for five years following the date of each occurrence, measurement, maintenance, corrective action, report, or record, as per 40 CFR 63.6660(b).

u. Out of five years, the Permittee shall keep each record readily accessible in hard copy or electronic form on-site for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to the requirement of 40 CFR 63.10(b)(1). For the remaining 3 years, the Permittee can keep the records off-site [40 CFR 63.6660(c)].

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111 if the recordkeeping requirements of the Section 2.1 L.3.n. through u. above, are not complied or any record indicate exceedance of the emission or operating limitations of Section 2.1 L.3.b. or c. above.

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

v. For the RICE of peaking generator **(ID No. ES-PkGen1)**, the Permittee shall submit all of the notifications in 40 CFR 63.7(b) and (c), 40 CFR 63.8(e), (f)(4) and (f)(6), 40 CFR 63.9(b) through (e), and (g) and (h), as applicable, by the dates specified [40 CFR 63.6645(a)].

w. The Permittee shall submit the Initial Notification required for RICE of peaking generator **(ID No. ES-PkGen1)**, no later than 120 days after startup [40 CFR 63.6645(c)].

x. The Permittee shall submit the Notification of Intent to conduct a performance test at least 60 calendar days before the performance test is scheduled to begin for the RICE of peaking generator **(ID No. ES-PkGen1)** [40 CFR 63.6645(e)].

y. For each initial compliance demonstration required for RICE of peaking generator **(ID No. ES-PkGen1)** in Table 5 of 40 CFR 63, Subpart ZZZZ that includes a performance test conducted according to the requirements in Table 4 to Subpart ZZZZ, the Permittee shall submit the Notification of Compliance Status, including the performance test results, before the close of business on the 60th day following the completion of the performance test according to 40 CFR 63.10(d)(2) [40 CFR 63.6645(f)(2)].

z. For the RICE of peaking generator **(ID No. ES-PkGen1)**, the Permittee shall submit each report by the date in Table 7 of 40 CFR 63, Subpart ZZZZ as applicable and according to the requirements of 40 CFR 63.6650(b).

aa. For the RICE of peaking generator **(ID No. ES-PkGen1)**, the Permittee shall submit each compliance report containing the information in 40 CFR 63.6650(c).

bb. The Permittee shall comply with the reporting requirements of 450 CFR 63.6650(d) for each deviation from an emission limitation or operating limitation in Section 2.1 L.3.b. or c. above that occurs for the RICE of peaking generator **(ID No. ES-PkGen1)**, if the Permittee is not using a continuous monitoring system (CMS) to comply with the emission limitation or operating limitation in Section 2.1 L.3.b. or c. above.

cc. The Permittee shall comply with the reporting requirements of 40 CFR 63.6650(e) for each deviation from an emission limitation or operating limitation in Section 2.1 L.3.b. or c. above that occurs for the RICE of peaking generator **(ID No. ES-PkGen1)**, if the Permittee is using a CMS to comply with the emission limitation or operating limitation in Section 2.1 L.3.b. or c. above.

dd. The Permittee shall comply with the reporting requirements of 40 CFR 63.6650(f).

ee. The Permittee shall report each instance in which the compliance with the applicable requirements in Table 8 of 40 CFR 63, Subpart ZZZZ was not achieved, as per 40 CFR 63.6640(e).

ff. The Permittee shall submit a summary report of monitoring and record keeping 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.

4. 15A NCAC 2Q .0317: AVOIDANCE CONDITIONS
for 15A NCAC 2D .0530: PREVENTION OF SIGNIFICANT DETERIORATION

a. In order to avoid applicability of 15A NCAC 2D .0530 (g) for major sources and major modifications, peaking generator **(ID No. ES-PkGen1)** shall discharge into the atmosphere less than 40 tons of nitrogen oxides per consecutive 12-month period [15A NCAC 2D .0530].

Testing [15A NCAC 2D .0501(c)(8)]

b. If emissions testing is required, the testing shall be performed in accordance with 15A NCAC 2D .0501(c)(7) and General Condition JJ. If the results of this test are above the limit given in Section 2.1 L.4.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530.

c. Under the provisions of NCGS 143-215.108, the Permittee shall demonstrate compliance with the emission limit above by testing the peaking generator **(ID No. ES-PkGen1)** for nitrogen oxides, in accordance with a testing protocol approved by the DAQ. Details of the emissions testing and requirements can be found in Section 3 - General Condition JJ. Testing shall be completed within 180 days of startup of this emission source unless an alternate date is approved by the DAQ. The results shall be submitted before the close of 60th day following the completion of the performance test. If the results of this test are above the limit given in Section 2.1 L. 4. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530.

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

d. In order to ensure compliance with the above limit, peaking generator **(ID No. ES-PkGen1)** operation shall not exceed 1,500 hours in a 12 consecutive month period and determined using a rolling total. The Permittee shall record monthly hours of operation for this generator. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530 if the above records are not kept or if the rolling total hours of operation for the peaking generator exceed 1,500 hours per consecutive 12-month period.

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

e. The Permittee shall submit a semi-annual summary report, acceptable to the Regional Air Quality Supervisor, of monitoring and recordkeeping activities postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December, and July 30 of each calendar year for the preceding six-month period between January and June. The report shall contain the monthly hours of operation for the peaking generator for the previous 17 months.

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

A. Facility Wide

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
volatile organic compounds	work practice standards	15A NCAC 2D .0958
toxic air pollutants	TPER **State-enforceable only**	15A NCAC 2Q .0711
odors	odorous emissions **State-enforceable only**	15A NCAC 2D .1806
HAP	Future MACT for Miscellaneous Organic Chemical Manufacture -2.2 A.4.	15A NCAC 2D .1111 40 CFR 63, Subpart FFFF
TAP	Future TAP assessment of facility wide sources due with permit application to comply with last applicable MACT (i.e., FFFF) - 2.2 A.5. **State Only Requirement**	15A NCAC 2Q. 0705(a)(1) 15A NCAC 2Q .0711 15A NCAC 2D .1100

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

a. Pursuant to 15A NCAC 2D .0958 and 2D .0902, for all sources that use volatile organic compounds (VOC) as solvents, carriers, material processing media, or industrial chemical reactants, or in similar uses that mix, blend, or manufacture volatile organic compounds, or emit volatile organic compounds as a product of chemical reactions, and whose emissions of VOC are greater than 15 pounds per day**;** the Permittee shall:

i. store all material, including waste material, containing volatile organic compounds in tanks or in

containers covered with a tightly fitting lid that is free of cracks, holes, or other defects, when not in use,

ii. clean up spills of volatile organic compounds as soon as possible following proper safety procedures,

iii. store wipe rags containing volatile organic compounds in closed containers,

iv. not clean sponges, fabric, wood, paper products, and other absorbent materials with volatile organic compounds,

v. transfer solvents containing volatile organic compounds used to clean supply lines and other coating equipment into closable containers and close such containers immediately after each use, or transfer such solvents to closed tanks, or to a treatment facility regulated under section 402 of the Clean Water Act,

vi. clean mixing, blending, and manufacturing vats and containers containing volatile organic compounds by adding cleaning solvent and close the vat or container before agitating the cleaning solvent. The spent cleaning solvent shall then be transferred into a closed container, a closed tank or a treatment facility regulated under section 402 of the Clean Water Act. [15A NCAC 2D .0958(c)]

b. When cleaning parts with a solvent containing a volatile organic compound, the Permittee shall:

i. flush parts in the freeboard area,

ii. take precautions to reduce the pooling of solvent on and in the parts,

iii. tilt or rotate parts to drain solvent and allow a minimum of 15 seconds for drying or until all dripping has stopped, whichever is longer,

iv. not fill cleaning machines above the fill line,

v. not agitate solvent to the point of causing splashing.

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

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

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

d. The results of the inspections shall be maintained in a log (written or electronic format) on-site and made available to an authorized representative upon request. The log shall record the following:

i. the date and time of each inspection; and

ii. the results of each inspection noting whether or not noncompliant conditions were observed.

If the required records are not maintained the Permittee shall be deemed to be in noncompliance with 15A NCAC 2D .0958.

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

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

STATE-ONLY REQUIREMENT

2. 15A NCAC 2Q .0711 - Facility Wide Toxic Air Pollutant Exemption Rate Emissions Limitations

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

a. A permit to emit any of the below listed TAPs shall be required for this facility if actual emissions from all sources will become greater than the corresponding TPERs.

b. PRIOR to exceeding any of these listed TPERs, the Permittee shall be responsible for obtaining a permit to emit TAPs and for demonstrating compliance with the requirements of 15A NCAC 2D.1100 "Control of Toxic Air Pollutants".

c. In accordance with the approved application, the Permittee shall maintain records of operational information demonstrating that the TAP emissions do not exceed the TPERs as listed below:

Toxic Air Pollutant	TPER
Ethyl Acetate	36 lb/hr
Toluene	98 lb/day and 14.4 lb/hr

d. Operational Requirements for Plant Nutrient Extracts Process
   i. The source may be operated for the production of concentrated plant extracts when a scrubber (water spray fume scrubber and caustic solution fume scrubber) is not required; however, during the production of concentrated plant extracts, solvents will be limited to water or VOC solvents that have:
      (A) no hazardous air pollutants,
      (B) no toxic air pollutants pursuant to 15A NCAC 2Q .0711 (except that ethanol denatured with ethyl acetate may be used), and
      (C) have a vapor pressure less than or equal to methanol.
   ii. The Permittee shall maintain record specifying the particular product produced (e.g., EVG flavorants, Kava Kava, Saint Johnswort etc.), and the quantity and type of solvent used.
   iii. The Permittee shall certify compliance with the criteria for solvents (Section 2.2 A.2.d.i.) that may be used when scrubbers are not operated.

STATE-ONLY REQUIREMENT

3. 15A NCAC 2D .1806: CONTROL AND PROHIBITION OF ODOROUS EMISSIONS

The Permittee 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.

4. 15A NCAC 2D .1111 [40 CFR Part 63 Subpart FFFF]:
NESHAP for Miscellaneous Chemical Manufacture

The Permittee shall comply with all applicable provisions contained in Environmental Management Commission Standard 15A NCAC 2D .1111, "Maximum Achievable Control Technology" (MACT) as promulgated in 40 CFR Part 63, Subpart FFFF by November 10, 2006, or May 10, 2008 as may be promulgated in accordance with the proposed revisions of December 8, 2005. [40 CFR 63.2445].

Notification Requirements

a. The Permittee shall submit notification of intent to conduct a performance test (if one is required) at least 60 calendar days before the performance test is scheduled to begin. For any performance test required as part of the initial compliance procedures for batch process vents, the Permittee must also submit a test plan pursuant to 40 CFR 63.7(c) and the emission profile with the notification of the performance test. The Notifications shall be submitted to the DAQ regional and central offices.

Reporting Requirements

b. *Precompliance report.* The Permittee must submit a precompliance report to request approval for any of the items in paragraphs i. through vii. below. The DAQ will either approve or disapprove the report within 90 days after we receive it. If the report is disapproved, the Permittee must still be in compliance with the emission limitations and work practice standards in this subpart by the compliance date. To change any of the information submitted in the report, you must notify The DAQ 60 days before the planned change is to be implemented.
   i. Requests for approval to set operating limits for parameters other than those specified in 40 CFR 63.2455 through 63.2485 and referenced therein. Alternatively, the Permittee may make these requests according to 40 CFR 63.8(f).
   ii. Descriptions of daily or per batch demonstrations to verify that control devices subject to 40 CFR 63.2460(c)(5) are operating as designed.
   iii. A description of the test conditions, data, calculations, and other information used to establish operating limits according to 40 CFR 63.2460(c)(3).
   iv. Data and rationale used to support an engineering assessment to calculate uncontrolled emissions in accordance with 40 CFR 63.1257(d)(2)(ii).
   v. The pollution prevention demonstration plan required in 40 CFR 63.2495(c)(1), if you are complying with the pollution prevention alternative.

vi. Documentation of the practices that you will implement to minimize HAP emissions from streams that contain energetics and organic peroxides, and rationale for why meeting the emission limit specified in Tables 1 through 7 of 40 CFR 63, Subpart FFFF would create an undue safety hazard.

vii. For fabric filters that are monitored with bag leak detectors, an operation and maintenance plan that describes proper operation and maintenance procedures, and a corrective action plan that describes corrective actions to be taken, and the timing of those actions, when the PM concentration exceeds the set point and activates the alarm.

c. *Notification of Compliance Status*

Notification of compliance status is due by April 10, 2007, or October 10, 2008 as may be promulgated in accordance with the proposed revisions of December 8, 2005. [40 CFR 63.2521(d)(1)] and shall consist of: consist of both a test report and a permit application to amend the Title V operating permit to incorporate all applicable standards, monitoring, recordkeeping and reporting requirements. The notification of compliance status report must include the following information.

i. The results of any applicability determinations, emission calculations, or analyses used to identify and quantify HAP emissions from the affected source.

ii. The results of emissions profiles, performance tests, engineering analyses, design evaluations, flare compliance assessments, inspections and repairs, and calculations used to demonstrate initial compliance according to 40 CFR 63.2455 through 40 CFR 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 levels you establish.

iv. All operating scenarios.

v. Descriptions of worst-case operating and/or testing conditions for control devices.

vi. Identification of parts of the affected source subject to overlapping requirements described in 40 CFR 63.2535 and the authority under which you will comply.

vii. 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 of 40 CFR 63, Subpart FFFF.

viii. Identify storage tanks for which you are complying with the vapor balancing alternative in 40 CFR 63.2470(g).

ix. Records as specified in 40 CFR 63.2535(i)(1) through (3) of process units used to create a PUG and calculations of the initial primary product of the PUG.

x. compliance test results or other initial compliance demonstration, as appropriate, submitted to the DAQ regional office, and

xi. a permit application submitted to the DAQ central office for the incorporation of all work practice standards, emission limits, and monitoring, recordkeeping, and reporting requirements to this permit.

STATE-ONLY REQUIREMENT

5. 15A NCAC 2D .0705: EXISTING SOURCES AND SIC CALLS

For sources at a facility subject to a MACT or GACT standard, or that may be subject to a MACT or GACT standard based on studies required by Section 112 (n)(1) of the Clean Air Act, 42 U.S.C. Section 7412 (n)(1), the Permittee shall comply with 15A NCAC 2D .1100 as follows:

a. When the Permittee submits a permit application to comply with the last MACT or GACT, excluding the MACT or GACT for combustion sources, known to apply to the facility, a permit application to comply with 15A NCAC 2D .1100 shall also be submitted. The facility shall comply with 15A NCAC 2D .1100 by the same deadline that it is required to comply with the last MACT or GACT.

b. If the Permittee does not have to submit a permit application to comply with the last MACT or GACT, excluding the MACT or GACT for combustion sources, a permit application to comply with 15A NCAC 2D .1100 shall be submitted within six months after the promulgation of the last MACT or GACT, excluding the MACT or GACT for combustion sources, known to apply to the facility or by January 1, 1999, whichever is later. The facility shall comply with 15A NCAC 2D .1100 by the same deadline that it is required to comply with the last MACT or GACT.

c. If the Permittee submitted a permit application for the last MACT or GACT, excluding the MACT or GACT for combustion sources, known to apply to the facility before July 1, 1998, a permit application to comply with

15A NCAC 2D .1100 shall be submitted by January 1, 1999. The facility shall comply with 15A NCAC 2D .1100 within three years from the date that the permit is issued.

B. Rotocel Operations:

Condenser (ID No. CD-31209) and Packed Tower Scrubber (ID No. CD-1001-2-S-1) on extractor, desolventizer, and solvent separation/recovery (ID No. ES-1001-2-1-P),
Condenser (ID No. CD-1001-2-C-1) and Packed Tower Scrubber (ID No. CD-1001-2-S-1) on solvent recycle tanks (ID No. ES-1001-2-1-T),
Equipment Leaks (ID No. ES-1001-2-1-F), and
Wastewater Tanks and Other Similar Vessels (ID No. ES-1001-2-1-WW).

Recovery Operations:

Condenser (ID No. CD-1001-1-3) and Packed Tower Scrubber (ID No. CD-1001-2-S-1) on Arcon Tank (ID No. ES-1001-1-1-P),
Condenser (ID No. CD-1001-1-T5B) and Packed Tower Scrubber (ID No. CD-1001-2-S-1) on stripper / receiver (ID No. ES-1001-1-1-P2),
Fixed roof storage tanks (ID No. ES-1001-1-1-P3),
Equipment Leaks (ID No. ES-1001-1-1-F), and
Wastewater Tanks and Other Similar Vessels (ID No. ES-1001-1-1-WW).

Botanical Extraction Operations

chilled water condenser (ID No. CD-1001-11-EX1002) and cryogenic condenser (ID No. CD-1001-11-EX1003) on process Vents (Immersion Extractor Z-1001, Desolventizer Z-1002, Day Storage Tank 90024, First-stage evaporator EX-1012, Second-stage evaporator EX-1013, and distillation column EX-90008: ID No. ES-1001-11-1-P),
equipment leaks (ID No. ES-1001-11-1-F), and
wastewater tanks and other similar vessels (ID No. ES-1001-11-1-WW).

Three No. 2 Fuel-Oil Fired Boilers (ID Nos. H-101, H-102, and H-103)

Wastewater Treatment Plant Aeration Tank No. 1 (ID No. WWTP-AT1)

1. 15A NCAC 2D .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 Operation Processes: Rotocel extractor, desolventizer, and solvent separation/recovery	VOCs	10.8 lbs/hr	47.31 tons/12-consecutive month period	chilled water-cooled condenser and packed tower scrubber
Rotocel solvent recycle tanks	VOCs	*When Rotocel Operating*: 0.94 lb/hr and 4.11 tons/12-consecutive month period, combined total *When Rotocel is NOT Operating and Recovery Process is processing Concrete*: 0.47 lb/hr and 0.19 tons/12-consecutive month period, combined total		chilled water condenser and packed tower scrubber chilled water condenser
Rotocel operations equipment leaks	(Fugitive) VOCs	-		leak detection and repair (LDAR)
Rotocel operations wastewater tanks and other similar vessels	VOCs	-		fixed roofs

EMISSION SOURCE	POLLUTANT	BACT EMISSION LIMITS	CONTROL TECHNOLOGY
recovery Arcon tank	VOCs	*When Rotocel is Operating*: 0.80 lb/hr and 3.50 tons/12-consecutive month period *When Rotocel is NOT Operating and Recovery Process is processing Concrete*: 8.76 lbs/hr and 0.63 tons/12-consecutive month period	chilled water condenser and packed tower scrubber chilled water condenser
recovery stripper/stripper receiver	VOCs	*When Rotocel is Operating*: 0.85 lb/hr and 3.72 tons/12-consecutive month period *When Rotocel is NOT Operating and Recovery Process is processing Concrete*: 4.89 lbs/hr and 1.99 tons/12-consecutive month period	chilled water condenser and packed tower scrubber chilled water condenser
recovery process/storage tanks	VOCs	-	fixed roofs
recovery operations equipment leaks	(Fugitive) VOCs	-	LDAR
recovery operations wastewater tanks and other similar vessels	VOCs	95% Mass Removal from Wastewater Stream Consisting of Methanol-Wash	fixed roofs and biological treatment
botanical extraction process vents: immersion extractor, desolventizer, first and second stage evaporators, distillation column, and day tank	VOCs	14.1 lbs/hr; 61.76 tons/12-consecutive month period	chilled water condenser and cryogenic condenser system
botanical extraction process equipment leaks	(Fugitive) VOCs	-	LDAR
botanical extraction wastewater tanks and other similar vessels	VOCs	-	fixed roofs
three no. 2 fuel-oil fired boilers	VOCs	0.2 lb/1000 gal	combustion control

Testing [15A NCAC 2D .0501(c)(8)]

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 2D .0530.

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

c. The Permittee shall fill the Rotocel operation solvent recycle tanks from the tanker trucks, only when the Rotocel operation is operating.

d. When the Rotocel operation is not operating, the Permittee shall limit the operation of the Rotocel operation solvent recycle tanks, recovery operation Arcon tank, and recovery operation stripper/stripper receiver to no greater than 34 days in any consecutive 12-month period.

e. When the Rotocel operation is not operating, the Permittee shall limit the total number of days during which

the liquid flow into the Arcon tank **(ID No. M-1)** exceeds the liquid flow out of the Arcon tank (i.e., days when the liquid level in the tank rises) to no greater than 6 days in any consecutive 12-month period.

f. The Permittee shall implement the LDAR program as per the requirements Section 2.2 B.2.. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .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 for volatile organic compounds, when the wastewater stream consisting of methanol-wash from the recovery operation is discharged to it. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530 if the mass removal efficiency of the on-site biological wastewater treatment plant for volatile organic compounds is not determined every week or the mass removal efficiency of the on-site biological wastewater treatment plant for volatile organic compounds is less than 95% for methanol-wash wastewater stream from the recovery operation.

h. Volatile organic compounds emissions from the emission sources shall be controlled by the respective condensers, as included in Section 2.2 B.1.a. above. To assure 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 indicate 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 2D .0530 if the condensers are not inspected and maintained.

i. The Permittee shall ensure the proper performance of the condenser by equipping each condenser with a device to continuously measure the outlet temperature. The device 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 temperature output from the sensor shall be continuously monitored and hourly values used to determine the 24-hour average temperature at the condenser outlet. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530 if the outlet temperatures of the following condensers are not maintained below the prescribed limits in the Table below or the condensers are not equipped with devices to continuously measure the outlet temperatures.

Emission source	Type of condenser	Outlet temperature
Rotocel Solvent Recycle Tanks	chilled water condenser	45º F average 24-hour temperature - when the Rotocel is not operating and the tanks are used for concrete processing in the recovery operation
Recovery Arcon Tank Process Vent		
Recovery Stripper/Stripper Receiver Process Vent		
Botanical Extraction Process Vents: immersion extractor, desolventizer, first and second stage evaporators, distillation column, and day tank	cryogenic condenser system	-40 ºF average 24-hour temperature

j. Volatile organic compounds emissions from the emission sources in Section 2.2 B.1.a. above, shall also be controlled by the associated packed tower scrubber. To assure 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 assure 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 2D .0530 if the packed tower scrubber is not inspected and maintained.

k. The Permittee shall install, operate, and maintain a scrubbing liquid flow meter for the packed tower scrubber. In addition, the Permittee shall install, operate, and maintain monitors for scrubbing liquid inlet temperature and emission stream inlet temperature. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530 if:
   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 monitors are not installed and operated.

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

l. Results of any inspection and maintenance, and 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. actual time for tanker truck, filling the Rotocel operation solvent recycle tanks v/s the operating status of Rotocel operation;
   iii. actual hours of operation for the Rotocel operation solvent recycle tanks, recovery operation Arcon tank, and recovery operation stripper/stripper receiver, when the Rotocel operation is not operating;
      (A) actual hours of operation for the recovery operation Arcon tank, when the liquid flow into the Arcon tank exceeds the liquid flow out of the Arcon tank;
      (B) mass removal efficiency of the on-site biological wastewater treatment plant for volatile organic compounds for methanol-wash wastewater stream from the recovery operation, once a week at a minimum;
      (C) outlet temperature of the condensers as included in Section 2.2 B.1.i. above, 24-hour average, when the Rotocel is not operating and the tanks are used for concrete processing in the recovery operation; or when the botanical extraction process is operating.
      (D) scrubbing liquid injection rate, scrubbing liquid inlet temperature, and emission stream inlet temperature, once a day at a minimum, when the Rotocel operation is operating;
      (E) the results of any maintenance performed on condensers and packed tower scrubber; and
      (F) any variance from manufacturer's recommendations, if any, and corrections made.

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

Reporting [15A NCAC 2Q .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 packed tower scrubber.

n. 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. The report shall also contain the following:
   i. The monthly VOC emissions for the previous 17 months for (i) Rotocel operation process vents (Rotocel extractor, desolventizer and solvent separation/recovery), Rotocel operation solvent recycle tanks, recovery operation Arcon tank process vent, and recovery operation stripper/stripper receiver process vent, while the Rotocel operation is operating, (ii) Rotocel operation solvent recycle tanks, recovery operation Arcon tank process vent, and recovery operation stripper/stripper receiver process vent, while the Rotocel operation is not operating, and (iii) botanical extraction process vents (immersion extractor, desolventizer, first and second stage evaporators, distillation column, and day storage tank). The emissions shall be calculated for each of the 12-month periods over the previous 17 months, and
   ii. All instances of deviations from the requirements of this permit must be clearly identified.

2. Leak Detection and Repair

Equipment identification

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

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 2.2 B.2.f., 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 2.2 B.2.f.;

(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 nonrepairable,

(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.

Leak Repair

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 can not 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 (Section 2.2 B.2.bb. through 2.2 B.2.gg.) will provide better performance, or one of the following is used;

(A) a dual mechanical seal system;

(B) 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;

and the repair is completed as soon as practical, but not later than 6 months after the leak was detected.

Valves in Gas/Vapor/Light Liquid Service

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). Nonrepairable 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:

$$\%V_{LO} = [\sum_{x=1}^{x}(\%V_{Li} \times V_i)/\sum_{x=1}^{x}V_i\ ]$$

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 semi-annual periodic report.

vi. The Permittee shall submit in the semi-annual 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. and the percent leaking valves for each monitoring period for each process unit or valve subgroup shall be calculated using the following equation:

$$\%V_L = (V_L/V_T) \times 100$$

where:

$\%V_L$ = Percent leaking valves.

V_L = Number of valves found leaking, excluding nonrepairable 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. Nonrepairable valves shall be included in the calculation of percent leaking valves the first time the valve is identified as leaking and nonrepairable. Otherwise, a number of nonrepairable 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 nonrepairable valves exceeds one percent of the total number of valves in regulated material service at a process unit or affected facility, the number of nonrepairable 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 2.2 B.2.l. and the Permittee shall monitor the valve according to the written plan specified in 2.2 B.2.b..

<u>Pumps in light liquid service standards.</u>

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 2.2 B.2.b.

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 a reading of 2,000 parts per million or greater it shall be repaired using the procedures in 2.2 B.2.i through 2.2 B.2.k.; 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 Section 2.2.B.2.bb. through 2.2 B.2.gg. 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:

$\%P_L = [(P_L-P_S)/P_T-P_S)] \times 100$

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.

Connectors in gas and vapor service and in light liquid service standards.

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 2.2 B.2.b.

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
$\%C_L = C_L/C_T \times 100$
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.

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.

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 2.2 B.2.r through 2.2 B.2.t..

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. 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. 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 Section 2.2 B.2.r through 2.2 B.2.t. 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. 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..

Recordkeeping requirements.

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.

oo. For pumps, the Permittee shall maintain documentation of pump visual inspections.

pp. For connectors, the Permittee shall maintain the monitoring schedule for each process.

tt. 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.;

ii. quality assurance program documentation as specified in Section 2.2 B.2.ff.; and

iii. quality improvement program records as specified in Section 2.2 B.2.hh..

Reporting requirements.

rr. 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. The report 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

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 nonrepairable.

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 Operations:

**Four solvent storage tanks (ID Nos. TK-9228, M-2, M-17, and M-17A),
Acetic acid storage tank (ID No. M-20), and
jet ejector venturi type wet scrubber (ID No. CD-M-34) Sclareolide Operation reactors (ID Nos. M-10, M10A, D-1231A and D-1231B).** **EVG Operation (Bldg. No. 1003-2)**

Sclareol Recrystallization Process

**five hexane storage tanks (ID Nos. T-3001, T-3002, T-3004, T-3005, T-3006), and
condenser (ID No. CD-3001) on:**
- **reactor (ID No. D-3001),**
- **centrifuge (ID No. C-3001), and**
- **heat exchanger/dryer (ID D-3001).**

Biological Conversion Equipment for purification of Scalareolide:

**12 tanks (ID No. M-4, M-44,M-11, M-14, M-15, M-16, TK-1202, TK-1202A, TK -1205, TK-1208, and TK 9231),
centrifuge (G-17), and
dryer (D1202).**

Rotocel Operations:

**Condenser (ID No. CD-31209) and Packed Tower Scrubber (ID No. CD-1001-2-S-1) on extractor, desolventizer, and solvent separation/recovery (ID No. ES-1001-2-1-P),
Condenser (ID No. CD-1001-2-C-1) and Packed Tower Scrubber (ID No. CD-1001-2-S-1) on solvent recycle tanks (ID No. ES-1001-2-1-T),
Equipment Leaks (ID No. ES-1001-2-1-F), and
Wastewater Tanks and Other Similar Vessels (ID No. ES-1001-2-1-WW).**

Recovery Operations:

**Condenser (ID No. CD-1001-1-3) and Packed Tower Scrubber (ID No. CD-1001-2-S-1) on Arcon Tank (ID No. ES-1001-1-1-P),
Condenser (ID No. CD-1001-1-T5B) and Packed Tower Scrubber (ID No. CD-1001-2-S-1) on stripper / receiver (ID No. ES-1001-1-1-P2),
Fixed roof storage tanks (ID No. ES-1001-1-1-P3),
Equipment Leaks (ID No. ES-1001-1-1-F), and
Wastewater Tanks and Other Similar Vessels (ID No. ES-1001-1-1-WW).**

Botanical Extraction Operations

**chilled water condenser (ID No. CD-1001-11-EX1002) and cryogenic condenser (ID No. CD-1001-11-EX1003) on process Vents (Immersion Extractor Z-1001, Desolventizer Z-1002, Day Storage Tank 90024, First-stage evaporator EX-1012, Second-stage evaporator EX-1013, and distillation column EX-90008: ID No. ES-1001-11-1-P),
equipment leaks (ID No. ES-1001-11-1-F), and
wastewater tanks and other similar vessels (ID No. ES-1001-11-1-WW).**

Four Hot Boxes (ID Nos. HB-1, 2, 3 & 4)
Boilers (ID No. H-101, H-102 and H-103)

1. TOXIC AIR POLLUTANT EMISSIONS LIMITATION AND REPORTING REQUIREMENT - Pursuant to 15A NCAC 2D .1100 and in accordance with the approved application for an air toxic compliance demonstration, the following permit limits shall not be exceeded:

EMISSION SOURCE(S)	POLLUTANTS	HOURLY	DAILY	ANNUAL
Sclareolide Operation	n-hexane		241 lb/day	

EMISSION SOURCE(S)	POLLUTANTS	HOURLY	DAILY	ANNUAL
(Building No. 1001-1)	hexane isomers except n-hexane	100.4 lb/hr		
	Acetic acid	8.0 lb/hr		
Recovery Operation (Building No. 1001-1)	n-hexane		223.5 lb/day	
	hexane isomers except n-hexane	93.1 lb/hr		
Rotocel Operation plus recovery (combined) (Building No. 1001-2)	n-hexane		1683.4 lb/day	
	hexane isomers except n-hexane	701.4 lb/hr		
Distillation Operation (ID No. A-2)	n-hexane		31.8 lb/day	
	hexane isomers except n-hexane	13.3 lb/hr		
Recrystallization Operation (Building No. 1003-10)	n-hexane		360.7 lb/day	
	hexane isomers except n-hexane	150.3 lb/hr		
Botanical Extraction Operation (Building No. 1001-11)	n-hexane		54.10 lb/day	
	hexane isomers except n-hexane	180.3 lb/hr		
Hot boxes	n-hexane		31.0 lb/day	
	hexane isomers except n-hexane	12.8 lb/hr		
Sage Jar	n-hexane		0.64 lb/day	
	hexane isomers except n-hexane	0.27 lb/hr		
EVG operation (Building No. 1003-2)	chloroform			19,195 lb/yr
Boilers (ID No. H-101, H-102, and H-103	nickel metal arsenic and inorganic arsenic compounds		1.98 lb/day	0.656 lb/yr
	beryllium			0.76 lb/yr
	cadmium			2.83 lb/yr
	chromium (VI)			0.02 lb/yr
Biomass Extraction Operation (ID Nos. ES-1004-1 and 2)	n-hexane	54.1 lb/day		
	hexane isomers except n-hexane		180.3 lb/hr	

a. To ensure compliance with the above limits, the following restrictions shall apply:
   i. The arsenic emissions from the combustion of No. 2 fuel oil in the three oil-fired boilers **(ID Nos. H-101, H-102, and H-103)** shall be calculated by the following formula:

(gal No. 2)(5.92E-04 lb/1,000 gal)

ii. The exhaust stacks for the three boilers **(ID Nos.H-101, H-102, and H103)** shall be maintained at a height of 45 feet from the ground-level elevation from the base of the stack.

iii. No more than two batches per day shall be run in the Recrystallization Operation, unless the Permittee demonstrates that n-hexane emissions are less than 360.7 pounds per day by using hexane solvent that contains less than 95 percent by weight n-hexane. Record of this determination shall be maintained for each occasion when more than two batches per day are processed.

iv. The solvent used in the Botanical Extraction Operation and the Biomass Extraction Operation shall each contain no more than five percent n-hexane by weight.

v. The Botanical Extraction Operation shall not use n-hexane solvent unless its condensers **(ID No. 1001-11EX1002 and 1001-11EX1003)** are properly operating.

vi. The Biomass Operation shall not use n-hexane solvent unless its condensers **(ID No. 1004-2EX1002 and 1004-2EX1003)** are properly operating.

vii. For the above processes that have n-hexane limits, the facility will use production throughput emissions factors to ensure that each process stays within the appropriate n-hexane limit (e.g., a hypothetical operation emits 10 pounds of n-hexane for each 100 pounds of production. Therefore, if the limit is 7 pounds of n-hexane per day, this operation may only process 70 pounds per day.) The facility will keep records of the following for the above processes that have n-hexane limits: production records and the production limits based on the emissions factors. These records will be kept on site and made available to the Division of Air Quality upon request.

b. For compliance purposes, within thirty (30) days after each calendar year quarter the monthly No. 2 fuel oil consumption and arsenic emissions from the three oil-fired boilers **(ID Nos. H-101, H-102, and H-103)** for the previous fourteen (14) months and used to determine compliance with specific condition C.1.a.i., ii., and iii. shall be reported to the Regional Supervisor, Division of Air Quality.

c. The Permittee shall provide facility wide modeling of hexane emissions and a study to demonstrate that modeled TAP limits for n-hexane from the Rotocel operations will never be exceeded based on the inherent characteristics of the process's emissions. This ambient impact analysis and the emission study must be submitted to the DAQ and postmarked not later than September 1, 2006.

SECTION 3 - GENERAL CONDITIONS

This section describes terms and conditions applicable to this Title V facility. All references to the "permit" in this section apply only to Part I of the permit.

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

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

B. **Permit Availability** [15A NCAC 2Q .0507(k) and .0508(aa)] The Permittee shall have available at the facility a copy of this permit and shall retain for the duration of the permit term one complete copy of the application and any information submitted in support of the application package. The permit and application shall be made available to an authorized representative of Department of Environment and Natural Resources upon request.

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

D. **Submissions** [15A NCAC 2Q .0507(c)] 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

E. **Duty to Comply** [15A NCAC 2Q .0508(j)] The Permittee shall comply with all terms, conditions, requirements, limitations and restrictions set forth in this permit. Noncompliance with any permit condition except conditions identified as state-only requirements constitutes a violation of the Federal Clean Air Act. Noncompliance with any permit condition is grounds for enforcement action, for permit termination, revocation and reissuance, or modification, or for denial of a permit renewal application.

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

G. **Permit Modifications**

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

H. **Changes Not Requiring Permit Modifications**

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

I.A. **Reporting Requirements for Excess Emissions and Permit Deviations** [15A NCAC 2D .0535(f) and 2Q .0508(f)(2)]
"Excess Emissions" - means an emission rate that exceeds any applicable emission limitation or standard allowed by any rule in Sections .0500, .0900, .1200, or .1400 of Subchapter 2D; or by a permit condition; or that exceeds an emission limit established in a permit issued under 15A NCAC 2Q .0700. *(Note: Definitions of excess emissions under 2D .1110 and 2D .1111 shall apply where defined by rule.)*
"Deviations" - for the purposes of this condition, any action or condition not in accordance with the terms and conditions of this permit including those attributable to upset conditions as well as excess emissions as defined above lasting less than four hours.

Excess Emissions

1. If a source is required to report excess emissions under NSPS (15A NCAC 2D .0524), NESHAPS (15A NCAC 2D .1110 or .1111), or the operating permit provides for periodic (e.g., quarterly) reporting of excess emissions, reporting shall be performed as prescribed therein.
2. If the source is not subject to NSPS (15A NCAC 2D .0524), NESHAPS (15A NCAC 2D .1110 or .1111), or these rules do NOT define "excess emissions," the Permittee shall report excess emissions in accordance with 15A NCAC 2D .0535, 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:

a. 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:
   i. name and location of the facility;
   ii. nature and cause of the malfunction or breakdown;
   iii. time when the malfunction or breakdown is first observed;
   iv. expected duration; and
   v. estimated rate of emissions;
b. notify the Regional Supervisor or Director immediately when corrective measures have been accomplished; and
c. submit to the Regional Supervisor or Director within 15 days a written report as described in 15A NCAC 2D .0535(f)(3).

Permit Deviations

3. Pursuant to 15A NCAC 2Q .0508(f)(2), the Permittee shall notify the Regional Supervisor or Director of all other deviations from permit requirements not covered under 15A NCAC 2D .0535 on the next business day after becoming aware of the deviation. A written report shall be submitted within two business days to the Regional Supervisor and shall include the probable cause of such deviation and any corrective actions or preventative actions taken. All reports of deviations from permit requirements shall be certified by a responsible official.

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

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

J. **Emergency Provisions** [40 CFR 70.6 (g)] The Permittee shall be subject to the following provisions with respect to emergencies:

1. An emergency means any situation arising from sudden and reasonably unforeseeable events beyond the control of the facility, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the facility to exceed a technology-based emission limitation under the permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventive maintenance, careless or improper operation, or operator error.
2. An emergency constitutes an affirmative defense to an action brought for noncompliance with such technology-based emission limitations if the conditions specified in 3. below are met.
3. The affirmative defense of emergency shall be demonstrated through properly signed contemporaneous operating logs or other relevant evidence that include information as follows:
   a. an emergency occurred and the Permittee can identify the cause(s) of the emergency;
   b. the permitted facility was at the time being properly operated;
   c. during the period of the emergency the Permittee took all reasonable steps to minimize levels of emissions that exceeded the standards or other requirements in the permit; and
   d. the Permittee submitted notice of the emergency to the DAQ within two working days of the time when emission limitations were exceeded due to the emergency. This notice must contain a description of the emergency, steps taken to mitigate emissions, and corrective actions taken.
4. In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.
5. This provision is in addition to any emergency or upset provision contained in any applicable requirement specified elsewhere herein.

K. **Permit Renewal** [15A NCAC 2Q .0513(b)] This permit is issued for a fixed term of five years for facilities subject to Title IV requirements and for a term not to exceed five years in the case of all other facilities. This permit shall expire at the end of its term. Permit expiration terminates the facility's right to operate unless a complete renewal application is submitted at least nine months before the date of permit expiration. If the Permittee or applicant has complied with 15A

NCAC 2Q .0512(b)(1), this permit shall not expire until the renewal permit has been issued or denied. All terms and conditions of this permit shall remain in effect until the renewal permit has been issued or denied.

L. **Need to Halt or Reduce Activity Not a Defense** [15A NCAC 2Q.0508(k)] It shall not be a defense for a Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

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

N. **Duty to Supplement** [15A NCAC 2Q .0507(f)] The Permittee, upon becoming aware that any relevant facts were omitted or incorrect information was submitted in the permit application, shall promptly submit such supplementary facts or corrected information to the DAQ. The Permittee shall also provide additional information as necessary to address any requirement that becomes applicable to the facility after the date a complete permit application was submitted but prior to the release of the draft permit.

O. **Retention of Records** [15A NCAC 2Q .0508(f)] The Permittee shall retain records of all required monitoring data and supporting information for a period of at least five years from the date of the monitoring sample, measurement, report, or application. Supporting information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring information, and copies of all reports required by the permit. These records shall be maintained in a form suitable and readily available for expeditious inspection and review. Any records required by the conditions of this permit shall be kept on site and made available to DAQ personnel for inspection upon request.

P. **Compliance Certification** [15A NCAC 2Q .0508(t)] The Permittee shall submit to the DAQ and the EPA (Air and EPCRA Enforcement Branch, EPA, Region 4, 61 Forsyth Street, Atlanta, GA 30303) postmarked on or before **March 1** a compliance certification (for the preceding calendar year) by a responsible official with all federally-enforceable terms and conditions in the permit, including emissions limitations, standards, or work practices. It shall be the responsibility of the current owner to submit a compliance certification for the entire year regardless of who owned the facility during the year. The compliance certification shall comply with additional requirements as may be specified under Sections 114(a)(3) or 504(b) of the Federal Clean Air Act. The compliance certification shall specify:
1. the identification of each term or condition of the permit that is the basis of the certification;
2. the compliance status (with the terms and conditions of the permit for the period covered by the certification);
3. whether compliance was continuous or intermittent; and
4. the method(s) used for determining the compliance status of the source during the certification period.

Q. **Certification by Responsible Official** [15A NCAC 2Q .0520] A responsible official shall certify the truth, accuracy, and completeness of any application form, report, or compliance certification required by this permit. All certifications shall state that based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

R. **Permit Shield for Applicable Requirements** [15A NCAC 2Q .0512]
1. Compliance with the terms and conditions of this permit shall be deemed compliance with applicable requirements, where such applicable requirements are included and specifically identified in the permit as of the date of permit issuance.
2. A permit shield shall not alter or affect:
   a. the power of the Commission, Secretary of the Department, or Governor under NCGS 143-215.3(a)(12), or EPA under Section 303 of the Federal Clean Air Act;
   b. the liability of an owner or operator of a facility for any violation of applicable requirements prior to the effective date of the permit or at the time of permit issuance;
   c. the applicable requirements under Title IV; or
   d. the ability of the Director or the EPA under Section 114 of the Federal Clean Air Act to obtain information to determine compliance of the facility with its permit.
3. A permit shield does not apply to any change made at a facility that does not require a permit or permit revision

made under 15A NCAC 2Q .0523.

4. A permit shield does not extend to minor permit modifications made under 15A NCAC 2Q .0515.

S. **Termination, Modification, and Revocation of the Permit** [15A NCAC 2Q .0519] The Director may terminate, modify, or revoke and reissue this permit if:

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

T. **Insignificant Activities** [15A NCAC 2Q .0503] Because an emission source or activity is insignificant does not mean that the emission source or activity is exempted from any applicable requirement or that the owner or operator of the source is exempted from demonstrating compliance with any applicable requirement. The Permittee shall have available at the facility at all times and made available to an authorized representative upon request, documentation, including calculations, if necessary, to demonstrate that an emission source or activity is insignificant.

U. **Property Rights** [15A NCAC 2Q .0508(m)] This permit does not convey any property rights in either real or personal property or any exclusive privileges.

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

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

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

W. **Annual Fee Payment** [15A NCAC 2Q .0508(o)]

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

X. **Annual Emission Inventory Requirements** [15A NCAC 2Q .0207] The Permittee shall report by **June 30 of each year** the actual emissions of each air pollutant listed in 15A NCAC 2Q .0207(a) from each emission source within the facility during the previous calendar year. The report shall be in or on such form as may be established by the Director. The accuracy of the report shall be certified by a responsible official of the facility.

Y. **Confidential Information** [15A NCAC 2Q .0107 and 2Q. 0508(n)] Whenever the Permittee submits information under a claim of confidentiality pursuant to 15A NCAC 2Q .0107, the Permittee may also submit a copy of all such information and claim directly to the EPA upon request. All requests for confidentiality must be in accordance with 15A NCAC 2Q .0107.

Z. **Construction and Operation Permits** [15A NCAC 2Q .0100 and .0300] A construction and operating permit shall be obtained by the Permittee for any proposed new or modified facility or emission source that is not exempted from having a permit prior to the beginning of construction or modification, in accordance with all applicable provisions of 15A NCAC 2Q .0100 and .0300.

AA. **Standard Application Form and Required Information** [15A NCAC 2Q .0505 and .0507] The Permittee shall submit applications and required information in accordance with the provisions of 15A NCAC 2Q .0505 and .0507.

BB. **Financial Responsibility and Compliance History** [15A NCAC 2Q .0507(d)(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 2Q .0501(e)]

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

DD. **Prevention of Accidental Releases - Section 112(r)** [15A NCAC 2Q .0508(g)] If the Permittee is required to develop and register a Risk Management Plan with EPA pursuant to Section 112(r) of the Clean Air Act, then the Permittee is required to register this plan in accordance with 40 CFR Part 68.

EE. **Prevention of Accidental Releases General Duty Clause - Section 112(r)(1)** - FEDERALLY-ENFORCEABLE ONLY Although a risk management plan may not be required, if the Permittee produces, processes, handles, or stores any amount of a listed hazardous substance, the Permittee has a general duty to take such steps as are necessary to prevent the accidental release of such substance and to minimize the consequences of any release.

FF. **Title IV Allowances** [15A NCAC 2Q .0508(h)] This permit does not limit the number of Title IV allowances held by the Permittee, but the Permittee may not use allowances as a defense to noncompliance with any other applicable requirement. The Permittee's emissions may not exceed any allowances that the facility lawfully holds under Title IV of the Federal Clean Air Act.

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

HH. **Registration of Air Pollution Sources** [15A NCAC 2D .0200] The Director of the DAQ may require the Permittee to register a source of air pollution. If the Permittee is required to register a source of air pollution, this registration and required information will be in accordance with 15A NCAC 2D .0202(b).

II. **Ambient Air Quality Standards** [15A NCAC 2D .0501(e)] In addition to any control or manner of operation necessary to meet emission standards specified in this permit, any source of air pollution shall be operated with such control or in such manner that the source shall not cause the ambient air quality standards in 15A NCAC 2D .0400 to be exceeded at any point beyond the premises on which the source is located. When controls more stringent than named in the applicable emission standards in this permit are required to prevent violation of the ambient air quality standards or are required to create an offset, the permit shall contain a condition requiring these controls.

JJ. **General Emissions Testing and Reporting Requirements** [15A NCAC 2Q .0508(aa)] If emissions testing is required by this permit or the DAQ or if the Permittee submits emissions testing to the DAQ in support of a permit application, the Permittee shall perform such testing in accordance with the appropriate EPA reference method(s) as approved by the

DAQ and follow the procedures outlined below. The Permittee must request **in writing** and receive approval from the DAQ for an alternate test method or procedure.

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

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

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

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

ATTACHMENT

List of Acronyms

AOS	Alternate Operating Scenario
BACT	Best Available Control Technology
Btu	British thermal unit
CEM	Continuous Emission Monitor
CFR	Code of Federal Regulations
CAA	Clean Air Act
DAQ	Division of Air Quality
DENR	Department of Environment and Natural Resources
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
NCAC	North Carolina Administrative Code
NCGS	North Carolina General Statutes
NESHAPS	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
SIC	Standard Industrial Classification
SIP	State Implementation Plan
SO_2	Sulfur Dioxide
tpy	Tons Per Year
VOC	Volatile Organic Compound