



North Carolina Department of Environment and Natural Resources

Division of Air Quality

Pat McCrory
Governor

Sheila C. Holman
Director

John E. Skvarla, III
Secretary

January 22, 2014

Mr. Rick Bayless
Site Manager
INVISTA, S.à.r.l.
P.O. Box 327
Wilmington, North Carolina 28402-0327

SUBJECT: Air Quality Permit No. 00164T51
Facility ID: 6500083
INVISTA, S.à.r.l.
Wilmington, New Hanover County
Fee Class: Title V

Dear Mr. Bayless:

In accordance with your completed Air Quality Permit Application for a minor modification of the Title V permit received December 9, 2013, we are forwarding herewith Air Quality Permit No. 00164T51 to INVISTA, S.à.r.l. at 4600 Hwy 421 North in Wilmington, North Carolina authorizing the construction and operation, of the emission source(s) and associated air pollution control device(s) specified herein. Additionally, any emissions activities determined from your Air Quality Permit Application as being insignificant per 15A North Carolina Administrative Code 2Q .0503(8) have been listed for informational purposes as an "ATTACHMENT." Please note the requirements for the annual compliance certification are contained in General Condition P in Section 3. The current owner is responsible for submitting a compliance certification for the entire year regardless of who owned the facility during the year.

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

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

1641 Mail Service Center, Raleigh, North Carolina 27699-1641
217 West Jones Street, Raleigh, North Carolina 27603
Phone: 919-707-8401 / Fax: 919-715-0718
Internet: www.ncair.org

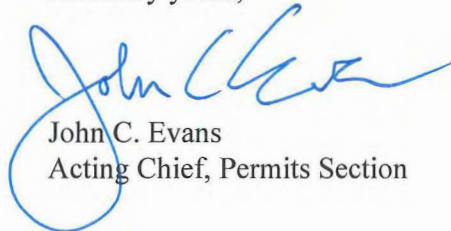
NCGS 150B-23, this Air Quality Permit shall be final and binding 30 days after issuance.

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

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

This Air Quality Permit shall be effective from January 22, 2014 until October 31, 2018 is nontransferable to future owners and operators, and shall be subject to the conditions and limitations as specified therein. Should you have any questions concerning this matter, please contact Ms. Jenny Kelvington, P.E. at (919) 707-8481.

Sincerely yours,



John C. Evans
Acting Chief, Permits Section

Enclosure

cc: Heather Ceron, EPA Region 4
Wilmington Regional Office
Central Files

ATTACHMENT I:

Summary of Changes to the Previous Permit (00164T50)

Page(s)	Section	Description of Change(s)
N/A	Insignificant Activities Attachment	Added Submerged Fill Methanol Loading (IMEOHLOAD) as an insignificant activity. Removed "alternative operating scenario" designation for IT6522, IT1417A-C, IT1417-3, and IDMTLOAD.
1	Permit Cover Page	Revised dates and permit revision number.
3 to 14	Permit Sources	Removed references to the "HON" MACT and NSPS Subparts VV, III, NNN, and RRR. Added MACT FFFF reference for WWTP1940. Removed water separator tank (T6109) and the A to D line equipment leaks and the raw material equipment leaks as permitted sources. Added wastewater tank (T6109R) Identified wastewater truck loading is controlled vapor balance back into wastewater tank (T6109R); natural gas/propane-fired flare (G-4904R) or natural gas/propane-fired flare (G-1955) Removed the routing of emissions from tanks (ID Nos. T-2106, T2106, and T-106) through scrubbers prior to being sent to the flare via the methanol recovery header. Removed "primary operating scenario" for T417-A & C, DMTLOAD, and T1417-3.
Throughout	Throughout	Removed all permit requirements effective through December 31, 2013. Removed all effective date references for permit requirements effective January 1, 2014.
29 to 32	2.1 I	Added T6109R to this section and identified all applicable permit requirements for this source.
N/A	Former 2.3	Removed section entitled "OTHER APPLICABLE REQUIREMENTS."

ATTACHMENT II: Insignificant Activities Pursuant to 15A NCAC 2Q .0503(8)

Source ID No.	Source Description	No.
IT6409R	DMT residue burn tank; 30,400 gallon capacity	1.
IA49203	liquid drain line collection; 2,800 gallon with condenser (ID No. E49203)	2.
ICLBU	closed loop barge unloading	3.
ICT-1	Polyester polyols cooling tower; 3,750 gpm capacity	4.
ICTS5, ICTS6	two cooling towers located in the wastewater treatment plant	5.
IH210810	PTA rework drum dump station with fabric filter (36 square feet of filter area) (ID No. S-2108-6)	6.
ILABWASTE	laboratory wastes	7.
ILIQADD	liquid additives loading	8.
IMEBZDRLD	Methyl benzoate drum loading	9.
IMEBZTRLD	Methyl benzoate truck loading	10.
IMEOHLOAD	Submerged Fill Methanol Loading	11.
IMPTDRLD	Methyl p-toluate drum loading	12.
IMPTTRLD	Methyl p-toluate truck loading	13.
IPARTWASH	Parts washers	14.
IR1972	Wastewater treatment plant anaerobic reactor	15.
IR1982	Wastewater treatment plant anaerobic reactor	16.
IRESTRAN	Polyester polyols product transfer	17.
IS19341	Wastewater treatment plant #2 clarifier	18.
IS1959	Wastewater treatment plant #3 clarifier	19.
IS1985	Wastewater treatment plant reactor clarifier	20.
IS1986A	Wastewater treatment plant sand filter	21.
IS1986B	Wastewater treatment plant sand filter	22.
IS1986C	Wastewater treatment plant sand filter	23.
IS40656	PTA clarifier	24.
ISOLIDADD	solid adhesive unloading	25.
IT1035	evaporator distillate receiver; 30 gallons	26.
IT10524	Methyl benzoate still barometric tank; 280 gallon capacity recycled to process	27.
IT1101	sodium hypochlorite tank	28.
IT1106R	sulfuric acid tank	29.
IT120017	brine storage tank; 42,000 gallons	30.
IT130026R	DMT residue burn tank; 37,000 gallon capacity	31.
IT1301	Fuel oil tank	32.
IT13058	Fuel oil rework tank	33.
IT136	Fuel oil additive injection tank	34.
IT139	Fuel oil additive injection tank; 6,000 gallon capacity	35.
IT1500A	Fuel oil tank	36.
IT1500B	Fuel oil tank	37.
IT1500C	Fuel oil tank	38.
IT1500D	Fuel oil tank	39.

Source ID No.	Source Description	No.
IT1500E	Fuel oil tank	40.
IT1500F	Fuel oil tank	41.
IT1500G	Fuel oil tank	42.
IT1500H	Fuel oil tank	43.
IT153	Contaminated methanol catch tank	44.
IT172	Fuel oil catch tank	45.
IT1417-A	storage tank (vented through T1417-3)	46.
IT1417-B	storage tank (vented through T1417-3)	47.
IT1417-C	storage tank (vented through T1417-3)	48.
IDMTLOAD	truck loading (vented through T1417-3)	49.
IT1417-3	Scrubber	50.
IT1916	Waste treatment phosphoric acid tank	51.
IT1917	Waste treatment ammonia tank	52.
IT1919	Lime storage silo	53.
IT19351	Wastewater treatment plant clear well	54.
IT1941	Wastewater treatment plant #2 aeration basin	55.
IT1955	Wastewater treatment plant #3 aeration basin	56.
IT1964	Wastewater treatment plant clear well	57.
IT1975	Wastewater treatment plant yeast slurry mix tank	58.
IT1977	Wastewater treatment plant nutrient storage tank	59.
IT1979	Wastewater treatment plant conditioning tank	60.
IT1983	Waste treatment sulfuric acid tank	61.
IT1991	Wastewater treatment plant clear well	62.
IT2411	Barometric tank; 235 gallon capacity recycled to process	63.
IT24113	Barometric tank; 235 gallon capacity recycled to process	64.
IT29003	Therminol receiver	65.
IT30029A	Sulfuric acid tank	66.
IT303	98% methyl benzoate fixed roof storage tank; 65,000 gallon capacity	67.
IT308	98% methyl benzoate fixed roof storage tank; 56,000 gallon capacity	68.
IT31006	Sulfuric acid tank	69.
IT3101	Sodium hypochlorite tank	70.
IT3223	aluminum sulfate tank; 10,000 gallons	71.
IT39003	Therminol receiver	72.
IT402010R	Sulfuric acid tank	73.
IT4021	Sodium hypochlorite tank	74.
IT4062	PTA filtered mother liquor storage tank; 27,000 gallon capacity	75.
IT4063	Recycle "bottoms" water tank	76.
IT4064	Recycle "bottoms" water tank	77.
IT40656	PTA clean purge water surge tank; 960 gallon capacity	78.
IT40702A	Centrifuge wash recycle tank (surge control vessel)	79.

Source ID No.	Source Description	No.
IT40702B	Centrifuge wash recycle tank (surge control vessel)	80.
IT4071	PTA centrifuge mother liquor tank; 11,000 gallon capacity	81.
IT410	methanol injection tank; 294 gallon capacity	82.
IT411	Catechol injection tank; 147 gallon capacity	83.
IT422018	Barometric tank; 280 gallon capacity recycled to process	84.
IT430	Potassium injection tank	85.
IT440626	Barometric tank; 500 gallon capacity recycled to process	86.
IT49003	Therminol receiver	87.
IT4903	Fuel oil tank	88.
IT502	Methyl benzoate neutralization tank for drying operations	89.
IT510	Methyl benzoate fixed roof storage tank; 19,907 gallon capacity	90.
IT51213A	Soda ash tank; 6,000 gallons	91.
IT601213	Contaminated methanol catch tank	92.
IT602010R2	Sulfuric acid tank	93.
IT6021	Sodium hypochlorite tank	94.
IT610514	Pure MPT (p-methyl toluate) fixed roof storage tank, A Line; 17,000 gallon capacity	95.
IT610520	MPT (p-methyl toluate) fixed roof storage tank; 2,538 gallon capacity	96.
IT610614	99% MPT (p-methyl toluate) fixed roof storage tank; 10,000 gallon capacity	97.
IT61128	Acid water storage; 8,400 gallons	98.
IT622018	Barometric tank; 500 gallon capacity recycled to process	99.
IT6311	Raw material fixed roof storage tank; 42,298 gallon capacity	100.
IT6404	Barometric tank; 500 gallon capacity recycled to process	101.
IT641219	Barometric tank; 570 gallon capacity recycled to process	102.
IT6417	Diethylene glycol fixed roof storage tank; 65,000 gallon capacity	103.
IT64173	Diethylene glycol fixed roof storage tank; 56,000 gallon capacity	104.
IT6516A	Triethylene glycol fixed roof tank; 20,000 gallon capacity	105.
IT6522	Tank	106.
IT6900	Diethylene glycol storage tank	107.
IT69003	Therminol receiver	108.
IT69004	DMT residue burn tank; 29,000 gallon capacity	109.
IT6903	No. 6 fuel oil tank	110.
IT692021	No. 2 fuel oil tank	111.
IT7002B	Residue fixed roof storage tank; 30,292 gallon capacity	112.
IT7002C	Residue fixed roof storage tank; 30,292 gallon capacity	113.
IT7003	Diethylene glycol fixed roof storage tank; 30,292 gallon capacity	114.
IT7004	Tall oil fatty acid fixed roof storage tank; 30,400 gallon capacity	115.
IT7005	Surfactant fixed roof tank; 9,971 gallon capacity	116.
IT7007	Raw material fixed-roof slurry tank; 3,870 gallon capacity	117.
IT7009	Additive fixed roof storage tank; 25,250 gallon capacity	118.
IT70106	LCT bottoms receiver	119.

Source ID No.	Source Description	No.
IT70012	Additive fixed roof storage tank; 500 gallon capacity	120.
IT70013	Additive fixed roof storage tank; 500 gallon capacity	121.
IT70015	Additive fixed roof storage tank; 30,400 gallon capacity	122.
IT7101	Residue weigh tank; 3,675 gallon capacity	123.
IT71024	Polyester polyols rework tank; 25 gallon capacity	124.
IT710313	Evaporator bottoms tank; 30 gallons	125.
IT71044	Polyester polyols rework tank; 40 gallon capacity	126.
IT7200	Slurry Tank	127.
IT76003	Therminol receiver	128.
IT7601	Therminol fixed roof storage tank; 10,486 gallon capacity	129.
IT76017	Therminol receiver	130.
IT76022	Therminol receiver	131.
IT7603	Fuel oil tank	132.
IT7604	Therminol catch tank; 430 gallons	133.
IT7906	Closed loop dry raw material unloading silo; 20 Tons/hr capacity (vented through IH7905, IT7200)	134.
IH7905	Closed loop dry raw material unloading; 30MMlb/yr capacity (vented through IT7200)	135.
IH7907	Closed loop dry raw material unloading; 6000 lb/hr capacity (vented through IT7007)	136.
IT9003	Therminol receiver	137.
IT901	Used Therminol tank	138.
IWCU	Water treatment chemical usage	139.
ISB01	Sandblasting activities	140.
IT01	Gasoline storage tank (145 gallon capacity)	141.
IL01	Gasoline dispensing station	142.
IL02	Diesel dispensing station	143.
IL03	Fuel oil dispensing station	144.
IT02	Diesel storage tank (506 gallon capacity)	145.
IT03	Highway Fuel A diesel storage tank (262 gallon capacity)	146.
IT04	Highway Fuel B diesel storage tank (262 gallon capacity)	147.
IT1993	Diesel storage tank (506 gallon capacity)	148.
IR01	Polyester Polyols blending operations	149.
IR02	Polyester Polyols transloading operations	150.
IWTT	Foamrol water treatment tote (400 gallon capacity)	151.

1. Because an activity is insignificant does not mean that the activity is exempted from an applicable requirement or that the owner or operator of the source is exempted from demonstrating compliance with any applicable requirement.
2. When applicable, emissions from stationary source activities identified above shall be included in determining compliance with the permit requirements for toxic air pollutants under 15A NCAC 2D .1100, "Control of Toxic Air Pollutants," or 15A NCAC 2Q .0711, "Emission Rates Requiring a Permit."
3. For additional information regarding the applicability of GACT see the DAQ page titled, "The Regulatory Guide for Insignificant Activities/Permits Exempt Activities." The link to this site is as follows: <http://daq.state.nc.us/permits/insig/>



AIR QUALITY PERMIT

Permit No.	Replaces Permit No.	Effective Date	Expiration Date
00164T51	00164T50	January 22, 2014	October 31, 2018

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

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

Permittee: **INVISTA, S.à.r.l. – Wilmington**

Facility ID: **6500083**
Facility Site Location: **4600 Hwy 421 North**
City, County, State, Zip: **Wilmington, New Hanover County, North Carolina, 28401**

Mailing Address: **P.O. Box 327**
City, State, Zip: **Wilmington, North Carolina 28402-0327**

Application Number: **6500083.13C**
Complete Application Date: **December 13, 2013**
Primary SIC Code: **2869**

Regional Office Address: **127 Cardinal Drive Extension**
Wilmington, North Carolina 28405-3845

Permit issued this the 22nd day of January, 2014

John C. Evans, Acting Chief, Permits Section
By Authority of the Environmental Management Commission

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SECTION 3: GENERAL PERMIT CONDITIONS

ATTACHMENT

List of Acronyms

SECTION 1 – PERMITTED EMISSION SOURCES AND ASSOCIATED AIR POLLUTION CONTROL DEVICES 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	Recovery/Control Device ID No.	Recovery/Control Equipment Description
A Line Oxidizer Header (AOXHEAD)			
R100A to R100C	three air oxidation reactors (oxidizers) via condensers to phase separation tank	A102A A102B	Reactor Xylene Recovery Equipment Carbon adsorber in parallel with carbon adsorber for xylene recovery [Tank emissions may vent to the process heater or flare via methanol recovery header as a Group 1 process vent. Xylene stripped during regeneration is sent through a condenser and non-condensibles are sent to the methanol recovery header as a Group 1 process vent.]
T106	process tank (49,489 gal)		
T111 T107, T103A	acid water phase separator with condenser, storage tank (21,000 gal), and storage tank (40,710 gal)		
A101/T101-5R-POS	Primary Operating Scenario: steam stripper via condenser to overheads catch tank		
T2025	all via scrubber with condensers		
A Line Methanol Recovery Header (VS520)			
A110/T110-4 A102A/A102B	wastewater still, via still condenser and wastewater vent condenser, and overheads tank A-line oxidizer header carbon adsorbers during stripping cycle via recovered condenser	E2520-3 A2520	Methanol recovery equipment: Pre-condenser venting to packed bed scrubber (methanol recovery column) with water injection venting to Control Equipment: No. 4 process heater and/or natural gas/propane-fired flare (170 million Btu per hour heat input)
A112/T112-4 T104 T109 T1016	oxidizer still feed tank (129,000 gallons) and overheads tank oxidizer feed tank (49,493 gallons) water separator tank, and feed tank (22,843 gal) each via water separator vent condenser all venting through condenser		
T112-7A	oxidizer acid water still feed tank and overhead condenser	HTR4 G4904R	
A201A/T201-3-POS	Primary Operating Scenario: stripper (A201A) routed to an overheads tank (T201-3)		
A206/T206-6	still with condensers and reflux tank with vent condenser.		

Emission Source ID No.	Emission Source Description	Recovery/Control Device ID No.	Recovery/Control Equipment Description
T405 T300 A620615/T620618	storage tank (11,000 gal), storage tank (56,000 gal), via the Primary Operating Scenario: recovery still/condenser and overheads tank all via	E2520-3 A2520	Methanol recovery equipment: Pre-condenser venting to packed bed scrubber (methanol recovery column) with water injection venting to Control Equipment: No. 4 process heater and/or natural gas/propane-fired flare (170 million Btu per hour heat input)
T206-18/T300-4	extraction tank (4000 gal) with scrubber with condenser	HTR4 G4904R	
T301-B	test tank (29,000 gal)		
T518-7	separator (2,500 gal)		
T307	tank (56,000 gal)		
T309	purge tank (56,000 gal)		
T310-A and T310-B	two storage tanks (12,300 gal each)		
T415	feed tank (28,764 gal) with condenser		
T422-2	purge evaporator feed tank (56,000 gal) via vent condenser on purge scrubber tank T416		
T409, T421, and T424	three storage tanks, via		
T416	purge scrubber tank with condenser		
T419	purge centrifuge filtrate storage (28,000 gal) with vent condenser.		
A420	stripper with condenser.		
T203-36 R203	bottoms flash tank and reactor via		
A203-30 A422/T422-4	overhead column via purge evaporator/condenser and overheads tank		
T304	storage tank (56,000 gal)		
T417 T417-3	"A" line crystallizer via condensers via slurry feed tank (57,000 gal) (vacuum jets may be used)		
T503	overhead tank		
T505-3B, T507-B	melter via scrubber with condensers		
A105R/T105-5R	still/condenser and overheads tank via vacuum jets		
A406/T406-5	utility still/condenser and overheads tank venting to		
A406-7	scrubber venting via vacuum jets		

Emission Source ID No.	Emission Source Description	Recovery/Control Device ID No.	Recovery/Control Equipment Description
A412/T412-5 A412-8	still/condenser with overheads tank venting to scrubber venting via vacuum jets	E2520-3 A2520 HTR4 G4904R	Methanol recovery equipment: Pre-condenser venting to packed bed scrubber (methanol recovery column) with water injection venting to Control Equipment: No. 4 process heater and/or natural gas/propane-fired flare (170 million Btu per hour heat input)
B Line Oxidizer Header (BOXHEAD)			
R2100A to R2100C T2106 T2107	three air oxidation reactors (oxidizers) via condensers to phase separation tank storage tank (38,400 gallons), rework tank	A2102A A2102B	Reactor Xylene Recovery Equipment Carbon adsorber in parallel with carbon adsorber for xylene recovery [Emissions from tanks and stripping columns may bypass the carbon adsorption system and vent directly to the process heater/flare via methanol recovery header as a Group 1 process vent. The xylene stripped from the carbon during regeneration is sent through a condenser and the non-condensibles are sent to the methanol recovery header as a Group 1 process vent.]
T2202 T2108 A2201A A2201B/T2201-3 T2103A, T2103B T2202-5	storage tank (38,400 gallons), tank (56,000 gallon), storage tank (20,600 gallon), stripper and condenser, stripper with condenser and overheads tank, two storage tanks (40,710 gallon each) all via scrubber with condensers.		
B Line Methanol Recovery Header (VS2520)			
A2102A, A2102B	B-line oxidizer header carbon adsorbers during stripping cycle via condenser.	E2520-3 A2520	Methanol recovery equipment: Pre-condenser venting to packed bed scrubber (methanol recovery column) with water injection venting to
R2203 A2414 A2204 T220314, A2203-19 A2205/T2205-5	esterification reactor, evaporator, feed prestill, esterifier product tank, product prestill, and still/condenser all via reflux tank/condenser	HTR4 G4904R	Control Equipment No. 4 process heater and/or natural gas/propane-fired flare (170 million Btu per hour heat input)
A2403/A24038 A413/T413-6	still with MPT scrubber, and still/condenser with overheads tank both venting to		
A413-7	scrubber venting via vacuum jets		
T4406-24, S440640	utility still feed tank (23,000 gal) via heat treatment tank scrubber		
T1800, T1800-12	rework tank (2,600 gal) via rework scrubber tank (1,000)		
T117	scrubber tank (2,500) via condenser		

Emission Source ID No.	Emission Source Description	Recovery/Control Device ID No.	Recovery/Control Equipment Description	
T113 T113-9, T119 T120	separation tank (4,900 gal), mix tank (6,000 gal), and dryer tank (6,000); all via recovery scrubber with condenser.	E2520-3 A2520	Methanol recovery equipment: Pre-condenser venting to packed bed scrubber (methanol recovery column) with water injection venting to Control Equipment No. 4 process heater and/or natural gas/propane-fired flare (170 million Btu per hour heat input)	
T413-2 A413-9	storage tank via scrubber and condenser			
T2300, T2304 T2303 T2405 T2300-4	two storage tanks (56,000 gal each), storage tank (53,000 gal) and hold tank (11,000 gal); all via tank scrubber with condenser	HTR4 G4904R		
T2301A	test tank (28,764 gal).			
T2301B	storage tank (28,765 gal).			
T2306 , T2307	two storage tanks (56,000 gal each) via condenser.			
T2308, T2309	two storage tanks (56,000 gal each) via condenser.			
A4406-21/T4406-5 A4406-7	stripper with condenser and vacuum receiver and stripper scrubber with vacuum jets			
T2104, T2109	oxidizer feed tank (22,000 gal) and water separator tank via condenser.			
A2113-7 T2424, T2117 T2119, T2113-7	karr liquid/liquid extractor, residue tank/condenser, wash tank, and raffinate dryer tank/ separator; all via vent collection tank			
C LINE				
R4100A and R4100B T4100-5	two air oxidation reactors (oxidizers) through condenser, and separator tank with condensers	A4102		Recovery Equipment: Regenerative carbon bed adsorption system with three carbon beds. (System may operate while adsorbing in a single bed, two beds in parallel, or two beds in series.)
C Line Methanol Recovery Header (VS4520)				
A4102 T4102-11	regenerative carbon bed adsorption system (during regeneration cycle), and catch tank	E4520-5 A4520/E4520-3	Methanol recovery equipment condenser venting to packed bed scrubber (methanol recovery column with water injection) and condenser venting to Control Equipment No. 4 process heater and/or natural gas/propane-fired flare (170 million Btu per hour heat input)	
A4065-10 A4061/T4061-4	prestill via still with condenser and reflux tank via condenser	HTR4 G4904R		
T4504	preheat tank (35,000 gal)			
T4511	pure solution tank (45,000 gal)			

Emission Source ID No.	Emission Source Description	Recovery/Control Device ID No.	Recovery/Control Equipment Description
A4220/T4220-6 T4220-10	vacuum oxidizer stripper with condenser and overheads catch tank through vent condenser separator via vacuum jets	E4520-5 A4520/E4520-3	Methanol recovery equipment condenser venting to packed bed scrubber (methanol recovery column with water injection) and condenser venting to
R4203 A4204A and A4204B, A4414 T4204-4, T4203-14, A4203-19 A4205/T4205-5	esterification reactor, feed prestill A and feed prestill B, evaporator separator tank, ester bottoms receiver; via bottoms flash still; all via still/condenser with reflux tank/condenser	HTR4 G4904R	
A4400/T4400-9 A4403/T4403-6 A4403-8	still through condenser and vacuum receiver with condenser and crude still through condenser and vacuum receiver through crude scrubber via vacuum jets		
T4516A, T4516B T4513-3A/3B, S4516-3, T4515	test tank A and test tank B (20,000 gal each), and two melters all via pure scrubber, pure melter scrubber tank and condenser		
T4106, T4107 T4207 A4201 T4201-3 T4202, T4300 T4202-5	storage tank (56,000 gal), residue tank (28,000 gal), wastewater vaporizer through oxidate stripper with condenser and stripper receiver, stripped oxidate tank (132,183 gal), and storage tank (56,000 gal); all via scrubber tank with condenser		
T4104, T4109	oxidizer feed tank (56,000 gal) and water separator tank (23,600 gal) via condenser		
T4305 S4305-3 T4301 T4306 T4309	storage tank (99,500 gal) via tank scrubber, test tank (68,000 gal), storage tank (68,000 gal) and storage tank (52,500 gal) all via condenser		
T4501 T4502 T4509 T4510	crystallizer with condenser via slurry tank and crystallizer with condenser via slurry tank all via vacuum jet condenser		
T4503	head tank (200 gal)		
T4505	seal flush tank (240 gal)		

Emission Source ID No.	Emission Source Description	Recovery/Control Device ID No.	Recovery/Control Equipment Description
C Line Methanol Recovery Header (VS4520)			
T4517-2A, T4517-2B, and T4517-2C	three crude re-pulp tank A (10,000 gal each)	E4520-5 A4520/E4520-3 HTR4 G4904R	Methanol recovery equipment condenser venting to packed bed scrubber (methanol recovery column with water injection) and condenser venting to Control Equipment: No. 4 process heater and/or natural gas/propane-fired flare (170 million Btu per hour heat input)
T4522 S4522-3	feed tank (1,000,000 gal) via scrubber		
T4060	overhead blend tank (54,000 gal) via sparge B/T condenser E40603		
Alternative Operating Scenario (AOS) Under the primary operating scenario (POS), the equipment will be configured and operated as described in other subsections of the table. Each emission source listed below may be operated in either the POS or AOS at any time. Equipment not listed below will be operated in the same configuration in both the POS and AOS.			
T4420	High-pressure flash drum that is only operated during the alternative operating scenario and vented to the C-line methanol recovery header (VS4520)	E4520-5 A4520/E4520-3 HTR4 G4904R	Methanol recovery equipment condenser venting to packed bed scrubber (methanol recovery column with water injection) and condenser venting to Control Equipment: No. 4 process heater and/or natural gas/propane-fired flare (170 million Btu per hour heat input)
T4422	Low-pressure flash drum that is only operated during the alternative operating scenario and vented to the C-line methanol recovery header (VS4520)		
A101/T101-5R-AOS	Alternative Operating Scenario: steam stripper via condenser to overheads catch tank (bypassing T-202-5 scrubber)		
A620615/T620618-AOS	Alternative Operating Scenario: recovery still/condenser and overheads tank (bypassing T-300-4 scrubber)		
T206-18-AOS	Alternative Operating Scenario: extraction tank (4000 gal; bypassing T-300-4 scrubber with condenser)		
T112-7B-AOS	Alternative Operating Scenario: In-process aqueous stream containing organics and vented to B-line methanol recovery during the alternative operating scenario		
A201A/T201-3-AOS	Alternative Operating Scenario: stripper (A201A) is idle. storage tank (T201-3)		

Emission Source ID No.	Emission Source Description	Recovery/Control Device ID No.	Recovery/Control Equipment Description
D Line Methanol Recovery Header (VS6520)			
T6106 , T6300 T6207 A6201/T6201-3 T6107 T6202 T6202-5	storage and ester tank (66,000 gal), wastewater evaporator through oxidate stripper through condenser and receiver, storage tank, and stripped oxidate tank (132,183 gal) all via scrubber tank with condenser	E6520-5 A6520/E6520-3 HTR4 G4904R	Methanol recovery equipment Pre-condenser venting to packed bed scrubber (methanol recovery column with water injection) and condenser venting to Control Equipment: No. 4 process heater and/or natural gas/propane-fired flare (170 million Btu per hour heat input)
A6220 T6220-6/T6220-10	vacuum oxidate stripper through condenser and overheads catch tank with condenser through condenser separator via vacuum jets		
T6104	feed via condenser		
A6110, S6110-11, T6110-4	wastewater still through condenser, separator, and reflux tank with condenser		
R6203 A6204 and A6204A T6204-4 T6203-14, A6203-19 A6205/T6205-5	esterification reactor, two feed prestills, separator tank, bottoms receiver, via bottoms flash still, all via still/condenser with reflux tank/condenser		
T6306 and T6309	two storage tanks (each 68,000 gal) all via condenser		
A6400/T64009 A6403 T6403-6/A6403-8	still through condenser and vacuum receiver with condenser and still through condenser and vacuum receiver and crude scrubber, all via vacuum jets.		
A6422/T6422-6	purge still through condenser and reflux tank with condenser		
T6503	head tank		
T6504	preheat tank (35,000 gal)		
T6501 T6502 T6509 T6510	crystallizer with condenser via crude slurry tank (56,000 gal) and crystallizer with condenser via slurry tank (56,000 gal) or vacuum jet and condenser		
T6513A, T6513B T6515	melters through scrubber and condenser		
T6511	slurry tank (45,000 gal)		

Emission Source ID No.	Emission Source Description	Recovery/Control Device ID No.	Recovery/Control Equipment Description
T6509-5, T6517-2A	seal flush tank through reslurry tank (10,000 gal)	E6520-5 A6520/E6520-3	Methanol recovery equipment Pre-condenser venting to packed bed scrubber (methanol recovery column with water injection) and condenser venting to
T6517-2B and T6517-2C	two re-slurry tanks (10,000 gal each)		
T6112-7	still feed tank (127,000 gal)		
T6111	D-line water phase separator through condenser	HTR4 G4904R	Control Equipment: No. 4 process heater and/or natural gas/propane-fired flare (170 million Btu per hour heat input)
T6523 S6522-3	Primary Operating Scenario: , tank, all venting through tank scrubber and condenser	E6520-5 A6520/E6520-3 E4520-5 A4520/E4520-3 HTR4 G4904R	Methanol recovery equipment pre-condenser venting to packed bed scrubber (methanol recovery column with water injection) and condenser; or, pre-condenser venting to packed bed scrubber (methanol recovery column with water injection) and condenser; venting to Control Equipment: No. 4 process heater and/or natural gas/propane-fired flare (170 million Btu per hour heat input)
Polyester Polyols Production Collection Header (VS7100 – MACT FFFF Process Vent)			
R7100A A7100-2A T7100-4A R7100B A7100-2B T7100-4B T7105 R7100C A7100-2C T7100-4C R7100D A7100-2D T7100-4D T-7102 All MACT FFFF, Gpv1 T7100-12 MACT FFFF, Gpv1	Reactor System: polyester polyols reactor via reactor reflux column with vent condenser via reactor cooling vessel, and polyester polyols reactor via reactor reflux column with vent condenser via reactor cooling vessel both via cooling tank, polyester polyols reactor via reactor reflux column with vent condenser via reactor cooling vessel, and polyester polyols reactor via reactor reflux column with vent condenser via reactor cooling vessel molten feed tank; 8,000 gallon capacity all via polyester polyols VOC catch tank	HTR4, G4904R, and/or G-1955	Control Equipment: No. 4 process heater, natural gas/propane-fired flare (170 million Btu per hour heat input), and/or natural gas/propane-fired flare (36 million Btu per hour heat input)
E7103 MACT FFFF, Gpv1	WFE Evaporator (and steam jets and receivers)	T7100-12 to HTR4 G4904R	Control Equipment: No. 4 process heater and/or natural gas/propane-fired flare (170 million Btu per hour heat input)
A7010/T7010-4 MACT FFFF, Gpv1	LCT Evaporator with overheads receiver via vacuum jets (C701015/15/17/19)		

Emission Source ID No.	Emission Source Description	Recovery/Control Device ID No.	Recovery/Control Equipment Description
A-7230 MACT FFFF, Gpv1 T-7230-7 MACT FFFF, Gpv1 A-6105 MACT FFFF, Gpv1 T-6105-5 MACT FFFF, Gpv1 T-6109R MACT FFFF, Gww1	Water Distillation Operations: Process water distillation column; 2,600 gallon capacity Process water distillation reflux tank; 1,175 gallon capacity Process water distillation column; 3,600 gallon capacity Process water distillation reflux tank; 620 gallon capacity Wastewater tank; 20,000 gallon capacity	G-4904R or G-1955	natural gas/propane-fired flare (170 million Btu per hour heat input), or natural gas/propane-fired flare (36 million Btu per hour heat input)
T-6106-6 MACT FFFF, Gsv2	Polyester polyols process water tank; 22,000 gallon capacity	N/A	N/A
T-6516B MACT FFFF, Gww2	Recycle tank; 20,000 gallon capacity	N/A	N/A
Wastewater Truck Loading MACT FFFF, Gww1 container	Wastewater submerged fill truck loading; 325 gpm	Vapor Balance back into T-6109R; G-4904R or G-1955	Vapor Balance back into wastewater tank; natural gas/propane-fired flare (170 million Btu per hour heat input), or natural gas/propane-fired flare (36 million Btu per hour heat input)
T-7001 MACT FFFF, Gsv2	Raw material fixed-roof storage tank; 30,000 gallon capacity	N/A, or-	N/A, or
T-7002-A MACT FFFF, Gsv2	Raw material fixed-roof storage tank; 30,292 gallon capacity	S-7001-4	Raw material scrubber tank; 100 gallon capacity for odor control
Material Handling			
T4051	slurry tank; 32,904 gallons	E4051-3	condenser; 1,890 square feet surface area
L1401A through L1401E	five flake makers; 13 tons per hour process weight rate each	N/A	N/A
H1413-22	re-melt hopper; 11 tons per hour process weight rate	N/A	N/A
T4084A	bulk loading silo; 40 tons per hour process weight rate	S4084-2A	fabric filter; 117 square feet of filter area
T4084B	bulk loading silo; 40 tons per hour process weight rate	S4084-2B	fabric filter; 117 square feet of filter area
T4084C	bulk loading silo; 40 tons per hour process weight rate	S4084-2C	fabric filter; 117 square feet of filter area
T4084D	bulk loading silo; 40 tons per hour process weight rate	S4084-2D	fabric filter; 117 square feet of filter area
T4084E	bulk loading silo; 40 tons per hour process weight rate	S4084-2E	fabric filter; 117 square feet of filter area
T4084F	bulk loading silo; 40 tons per hour process weight rate	S4084-2F	fabric filter; 117 square feet of filter area
DMTRAIL	rail car loading	T6550 E6550-4	venturi scrubber (20 gallons per minute water injection) and condenser
EGTRANS	tank truck transfer rack	N/A	N/A

Emission Source ID No.	Emission Source Description	Recovery/Control Device ID No.	Recovery/Control Equipment Description
TANKS			
T11	internal floating roof storage tank with secondary seal; one million gallon capacity	N/A	N/A
T12	internal floating roof storage tank with secondary seal; 500,000 gallon capacity	N/A	N/A
T6012	external floating roof tank with secondary seal; 500,000 gallon capacity	N/A	N/A
T10	fixed roof storage tank; two million gallon capacity	N/A	N/A
T13	storage tank; two million gallon capacity (HON applicability during Group 2 service only)	N/A	N/A
T14	fixed roof storage tank; four million gallon capacity	N/A	N/A
T105-7	storage tank; 21,846 gallon capacity	N/A	N/A
T105-13	fixed roof tank; 18,600 gallon capacity (tank idled during the alternative operating scenario)	N/A	N/A
T112-7B-POS	Primary Operating Scenario: fixed roof storage tank; 129,000 gallon capacity	N/A	N/A
T114	tank; 22,500 gallon capacity	N/A	N/A
T115	tank; 17,500 gallon capacity	N/A	N/A
T206-8	fixed roof storage tank; 56,000 gallon capacity	N/A	N/A
T301A	fixed roof storage tank; 28,500 gallon capacity	N/A	N/A
T306	test fixed roof storage tank; 56,000 gallon capacity	N/A	N/A
T501	decant tank	N/A	N/A
T509	fixed roof storage tank; 46,000 gallon capacity	N/A	N/A
T517-2A and T517-2B	two neutralization tanks	N/A	N/A
T1107	wastewater still feed tank; 27,350 gallon capacity	N/A	N/A
T2502	fixed roof storage tank; 56,000 gallon capacity	N/A	N/A
T4110-7	wastewater still feed tank	N/A	N/A
T6013	fixed roof storage tank; two million gallon capacity	N/A	N/A
T6101-6	fixed roof tank; 15,230 gallon capacity	N/A	N/A
T6110-7	wastewater still feed tank	N/A	N/A

Emission Source ID No.	Emission Source Description	Recovery/Control Device ID No.	Recovery/Control Equipment Description
T6421	fixed roof storage tank; 19,461 gallon capacity	N/A	N/A
T404	barometric tank; 510 gallon capacity recycled to process	N/A	N/A
T406-15	barometric tank; 280 gallon capacity recycled to process	N/A	N/A
T4404	barometric tank; 500 gallon capacity recycled to process	N/A	N/A
T1939AR MACT FFFF, Gww2	enclosed water equalization fixed roof tank; 120,000 gallon capacity	N/A	N/A
T1922A and T1922B	two wastewater (sumps, spills, maintenance) equalization open top tanks; 230,000 gallon capacity each	N/A	N/A
T1922C and T1922D MACT FFFF, Gww2	two wastewater (sumps, spills, maintenance) equalization open top tanks; two million gallon capacity each	N/A	N/A
T1922E MACT FFFF, Gww2	wastewater equalization fixed roof tank; two million gallon capacity	N/A	N/A
T7010-21 MACT FFFF, Gww2	Polyester polyols barometric tank; 175 gallon capacity	N/A	N/A
T7103-12 MACT FFFF, Gww2	Polyester polyols barometric tank	N/A	N/A
PPAREA*	Polyester polyols tanks, including T1219, T1220, T2305, T5400, T5420A-C, T5700, T7000, T7006, T7008, T7011, T7014, T7016, T7017, T7019, and T7104A-B	N/A	N/A
WWTP1940 MACT FFFF ww2	wastewater treatment plant (includes 1922A,B,C,D, Aeration Basin, Cooling Tower, Clarifier No. 2, Clarifier No. 3, Reactor Clarifier, default trickling filter)	N/A	N/A
Utilities			
B7600	hot oil medium polyester polyols heater; 22 million Btu per hour heat input, No. 2 fuel oil, natural gas, and propane, fired	N/A	N/A
B7602	Polyester polyols heater; 4 million Btu per hour heat input, natural gas-fired	N/A	N/A
BLR1	boiler; 200 million Btu per hour heat input, No. 2 fuel oil, natural gas, and propane, fired	N/A	N/A
BLR4	boiler; 246 million Btu per hour heat input, No. 2 fuel oil, natural gas, propane, and organic byproduct (sulfur free) fired	N/A	N/A
BLR5	boiler; 246 million Btu per hour heat input, No. 2 fuel oil, natural gas, propane, and organic byproduct (sulfur free) fired	N/A	N/A

Emission Source ID No.	Emission Source Description	Recovery/Control Device ID No.	Recovery/Control Equipment Description
HTR3	hot oil medium process heater; 140 million Btu per hour heat input, No. 2 fuel oil, natural gas, and propane fired	N/A	N/A
HTR4	hot oil medium process heater; 167 million Btu per hour heat input, No. 2 fuel oil, natural gas, propane, biogas, and VOC gas-fired	N/A	N/A
EG125 NSPS III, MACT ZZZZ	No. 2 fuel oil-fired emergency generator; 125 kW	N/A	N/A
EG20 NSPS III, MACT ZZZZ	No. 2 fuel oil-fired emergency generator; 20 kW	N/A	N/A
FP-1500-B to FP-1500-D MACT ZZZZ	three No. 2 fuel oil-fired fire pumps; 200 BHP each	N/A	N/A
FP-1500-E to FP-1500-H MACT ZZZZ	four No. 2 fuel oil -fired fire pumps; 300 BHP each	N/A	N/A
CTS1, CTS2, CTS3	three cooling towers	N/A	N/A
G-1955 MACT FFFF	Polyester polyols natural gas/propane-fired flare; 36 million Btu per hour heat input capacity	N/A	N/A
G4904R MACT FFFF	Natural gas/propane-fired flare (170 million Btu per hour heat input)	N/A	N/A
Fugitive Emissions Sources			
RESEQLK MACT FFFF	Polyester polyols plant equipment leaks	N/A	N/A
Miscellaneous			
ES-01 MACT GGGGG	Site remediation activities	N/A	N/A
CLRMU MACT EEEE	OLD MACT-affected organic liquid unloading stations	N/A	N/A

*These sources are insignificant activities under the Title V permitting requirements pursuant to 15A NCAC 2Q .0503(8), but the sources are included on the air quality permit to provided state-enforceable TAP requirements pursuant to 15A NCAC 2D .1100.

SECTION 2 – SPECIFIC LIMITATIONS AND CONDITIONS

2.1 - Emission Sources and Control Devices Specific Limitations and Conditions

The emission sources and associated air pollution control devices 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. Material Handling

Railcar loading (ID No. DMTRAIL) with venturi scrubber (ID No. T6550) and condenser (ID No. E6550-4); Six bulk loading silos (ID Nos. T4084A through T4084F) each with a fabric filter (ID Nos. S4084-2A through SC4084-2F);

Four flake makers (ID Nos. L1401A through L1401D); and

Re-melt hopper (ID No. H1413-22).

The following table provides a summary of limits and standards for the emission sources described above:

Regulated Pollutant	Limits/Standards	Applicable Regulation
PM	Particulate emissions shall not exceed the rate prescribed by the process weight equations: For process rates up to 30 tph: $E = 4.10 \times P^{0.67}$ For process rates greater than 30 tph: $E = 55.0 \times P^{0.11} - 40$ Where: E = allowable emission rate in pounds per hour, and P = process weight in tons per hour	15A NCAC 2D .0515
Visible emissions	<p>For IF Nos. DMTRAIL and T4084A through T4084F Visible emissions shall not exceed 20 percent opacity</p> <p>For ID Nos. L1401A through L1401D and H1413-22 Visible emissions shall not exceed 40 percent opacity</p>	15A NCAC 2D .0521
CO, NO _x , SO ₂ , PM, VOC and CO ₂ e	<p>PSD Avoidance See Section 2.2 C.5 "Multiple Emission Sources"</p>	15A NCAC 2Q .0317 (Avoidance 15A NCAC 2D .0530 and .0544)

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

- a. Emissions of particulate matter from each source listed above shall not exceed an allowable emission rate as calculated by the following equation:

For process rates up to 30 tons per hour: $E = 4.10 \times P^{0.67}$
 For process rates greater than 30 tons per hour: $E = 55.0 \times P^{0.11} - 40$

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

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

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

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

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

- c. Particulate matter emissions from railcar loading (ID No. DMTRAIL) shall be controlled by a scrubber (ID No. T6550) and particulate emissions from the bulk loading silos (ID Nos. T4084A through T4084F) shall be controlled by with a fabric filter (ID Nos. S4084-2A through SC4084-2F). To assure compliance, the Permittee shall perform inspections and maintenance. Inspection and maintenance shall include:

- i. A monthly visual inspection of the system ductwork and control device for leaks; and
- ii. An annual (for each 12 month period following the initial inspection) internal inspection of each control device for structural integrity and filter fabric condition.

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

- d. The results of inspection and maintenance shall be maintained in a logbook (written or electronic format) onsite and made available to an authorized representative upon request. The logbook shall record the following for each control device:
 - i. The date and time of each recorded action;
 - ii. The results of each inspection; and
 - iii. The results of any maintenance performed on the control device;
 The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0515 if these records are not maintained.
- e. The Permittee shall maintain production records that specify the types of materials processed through the flake makers and re-melt hopper and shall make these records available to a DAQ authorized representative upon request. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0515 if the production records are not maintained or the types of materials and finishes are not monitored.

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

- f. The Permittee shall submit the results of any maintenance performed on each control system within 30 days of a written request by the DAQ.

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

- a. Visible emissions from emission sources (**ID Nos. DMTRAIL and S4084-2A through SC4084-2F**) 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 24hour period. In no event shall the six-minute average exceed 87 percent opacity.
- b. Visible emissions from emission sources (**ID Nos. L1410A through L1401D and H1413-22**) shall not be more than 40 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 40 percent not more than once in any hour and not more than four times in any 24hour period. In no event shall the six-minute average exceed 90 percent opacity.

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

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

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

- d. To assure compliance, each month the Permittee shall observe the emission point of each source above for any visible emissions above normal. The Permittee shall establish normal for the source's emission point. If visible emissions from this source are observed to be above normal, the Permittee shall either:
 - i. Take appropriate action to correct the above normal emissions as soon as practicable and within the monitoring period and record the action taken as provided in the recordkeeping requirements below, or
 - ii. Demonstrate that the percent opacity from the emission points of the emission source in accordance with 15A NCAC 2D .2601 (Method 9) for 12 minutes, is below the applicable limit given in Section 2.1 A.2.a or b above.

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

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

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

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

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

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

B. TANKS

Internal floating roof storage tanks (ID No. T11 and T12);

External floating roof tank (ID No. T6012);

Tanks venting to A Line Methanol Recovery Header (ID Nos. T103A, T104, T107, T109, T112-7A, T112-7B-AOS, T301B, T304, T309, T405, T409, T415, T417-3, T419, T421, T422-2, T424, T503, T1417-A, T1417-B, and T1417-C);

Tanks venting to B Line Methanol Recovery Header (ID Nos. T413-2, T2103A, T2103B, T2106, T2107, T2202, T2300, T2301A, T2301B, 2303, 2304, T2306 to T2309, and T4406-24);

Tanks venting to C Line Methanol Recovery Header (ID Nos. T112-7B-AOS, T4104, T4106, T4107, T4109, T4202, T4300, T4301, T4305, T4306, T4309, T4502, T4504, T4510, T4511, T4516A, T4516B, and T4522); and

Tanks venting to D Line Methanol Recovery Header (T6104, T6112-7, T6306, T6309, T6502, T6504, T6510, T6511, and T6523).

The following table provides a summary of limits and standards for the emission sources described above:

Regulated Pollutant	Limits/Standards	Applicable Regulation
VOC	Floating roof tank or vapor capture and control required	15A NCAC 2D .0949
Odor	State Enforceable only See Section 2.2 C.1 "Multiple Emission Sources"	15A NCAC 2D .1806
TAPs	State Enforceable only See Sections 2.2 C.2 and 2.2 C.3 "Multiple Emission Sources"	15A NCAC 2Q .0705 15A NCAC 2D .1100
HAPs	MACT Avoidance Condition See Section 2.2 C.4 "Multiple Emission Sources"	15A NCAC 2Q .0317 <i>(Avoidance of 15A NCAC 2D .1109 and .1100)</i>
CO, NO _x , SO ₂ , PM, VOC and CO ₂ e	PSD Avoidance See Section 2.2 C.5 "Multiple Emission Sources"	15A NCAC 2Q .0317 <i>(Avoidance of 15A NCAC 2D .0530 and .0544)</i>

1. 15A NCAC 2D .0949: STORAGE OF MISCELLANEOUS VOLATILE ORGANIC COMPOUNDS

- a. The Permittee shall not place, store, or hold in any stationary tank, reservoir, or other container with a capacity greater than 50,000 gallons (189.3 m³), any liquid volatile organic compound that has a vapor pressure of 1.5 pounds per square inch absolute (10.34 kPa) or greater under actual storage conditions unless such tank, reservoir, or other container:
 - i. Is a pressure tank capable of maintaining working pressures sufficient at all times to prevent vapor gas loss into the atmosphere; or
 - ii. Is designed and equipped with one of the following vapor loss control devices:
 - (A) a floating pontoon, double deck type floating roof or internal pan type floating roof equipped with closure seals to enclose any space between the cover's edge and compartment wall; this control equipment shall not be permitted for volatile organic compounds with a vapor pressure of 11.0 pounds per square inch absolute (75.8 kPa) or greater under actual storage conditions; all tank gauging or sampling devices shall be gastight except when tank gauging or sampling is taking place;
 - (B) a vapor recovery system or other equipment or means of air pollution control that reduces the emission of organic materials into the atmosphere by at least 90 percent by weight; all tank gauging or sampling devices shall be gas tight except when tank gauging or sampling is taking place.

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

- b. Monitoring, recordkeeping, and reporting requirements for the Hazardous Organic NESHAP (40 CFR 63, Subpart G) are provided in Section 2.2.B of this permit. Group 1 storage vessel requirements for the affected storage

vessels listed above satisfy the requirements of 15A NCAC 2D .0949.

- c. Should the Permittee no longer be subject to the Hazardous Organic NESHAP as provided in Section 2.2 G.6 of this permit, the following recordkeeping requirements shall apply: The Permittee shall keep readily accessible records showing the dimensions and contents of the storage vessel, and an analysis showing the capacity of the storage vessel, and the vapor control device employed.

C. UTILITIES

- Polyester Polyols Heater (22 million Btu per hour heat input; ID No. B7600).**
- Polyester Polyols Heater (4 million Btu per hour heat input; ID No. B7602).**
- Boiler No. 1 (200 million Btu per hour heat input; ID No. BLR1).**
- Boiler No. 4 (246 million Btu per hour heat input; ID No. BLR4).**
- Boiler No. 5 (246 million Btu per hour heat input; ID No. BLR5).**
- Process Heater No. 3 (140 million Btu per hour heat input; ID No. HTR3).**
- Process Heater No. 4 (167 million Btu per hour heat input; ID No. HTR4).**

The following table provides a summary of limits and standards for the emission sources described above:

Regulated Pollutant	Limits/Standards	Applicable Regulation
PM	<p><u>For ID Nos. BLR1, BLR4, BLR5, HTR3, and HTR4</u> Particulate emission shall not exceed 0.18 pounds per million Btu heat input.</p> <p><u>For ID Nos. B7600 and B7602:</u> Particulate emission shall not exceed 0.47 pounds per million Btu heat input.</p>	15A NCAC 2D .0503
SO ₂	Sulfur dioxide emissions shall not exceed 2.3 pounds per million Btu heat input.	15A NCAC 2D .0516
Visible Emissions	<p><u>For ID Nos. B7600, BLR4, BLR5, HTR3, and HTR4</u> Visible emissions shall not exceed 20 percent opacity</p> <p><u>For ID Nos. B7602 and BLR1</u> Visible emissions shall not exceed 40 percent opacity</p>	15A NCAC 2D .0521
SO ₂	<ul style="list-style-type: none"> - Sulfur content of fuel oils fired at the facility shall not exceed 0.1% by weight. - The stack height for Boiler No. 1, ID No. BLR1, shall be increased to 155 feet (47.24 meters) prior to firing fuel oil in Boiler No. 1. 	15A NCAC 2D .0501(e)
NOx and VOC	See Section 2.2 D "Multiple Emission Sources"	15A NCAC 2D .0530(u)
HAPs	<u>Boiler Nos. 1, 4, and 5 (BLR1, BLR4, and BLR5)</u> GACT Avoidance Condition	15A NCAC 2Q .0317 (Avoidance of 15A NCAC 2D .1111; 40 CFR Part 63, Subpart JJJJJ)
TAPs	State Enforceable only See Sections 2.2 C.2 and 2.2 C.3 "Multiple Emission Sources"	15A NCAC 2Q .0705 15A NCAC 2D .1100
HAPs	<u>MACT Avoidance Condition</u> See Section 2.2 C.4 "Multiple Emission Sources"	15A NCAC 2Q .0317 (Avoidance of 15A NCAC 2D .1109 and .1100)
CO, NOx, SO ₂ , PM, VOC and CO ₂ e	<u>PSD Avoidance</u> See Section 2.2 C.5 "Multiple Emission Sources"	15A NCAC 2Q .0317 (Avoidance of 15A NCAC 2D .0530 and .0544)

1. 15A NCAC 2D .0503: PARTICULATES FROM FUEL BURNING INDIRECT HEAT EXCHANGERS

- a. Emissions of particulate matter from the combustion of natural gas, No. 2 fuels, sulfur free organic byproducts, dimethyl ether, biogas, and VOC gas that are discharged from these sources into the atmosphere shall not exceed the following emissions limitations:
 - i. 0.18 lbs/MMBtu for heat exchangers in the DMT area (**ID Nos. BLR1, BLR4, BLR5, HTR3, and HTR4**); and,
 - ii. 0.47 lbs/MMBtu for heat exchangers in the polyester polyols production area (**ID Nos. B7600 and B7602**).

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

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

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

- c. No monitoring/recordkeeping/reporting is required for particulate emissions from the firing of natural gas, propane, No. 2 fuel oil, sulfur free organic byproducts, dimethyl ether, biogas, and VOC gas in the affected sources.

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

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

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

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

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

- c. No monitoring, recordkeeping, or reporting is required for sulfur dioxide emissions from natural gas, propane, No. 2 fuel oil, sulfur free organic byproducts, dimethyl ether, biogas, and VOC gas combusted in these sources.

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

- a. Visible emissions from three process heaters (**ID Nos. B7600, HTR3, and HTR4**) and two boilers (**ID Nos. BLR4 and BLR5**) 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 24hour period. In no event shall the six-minute average exceed 87 percent opacity.
- b. Visible emissions from the process heater (**ID No. B7602**) and the boiler (**ID No. BLR1**) shall not be more than 40 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 40 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 90 percent opacity.

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

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

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

- d. No monitoring/recordkeeping/reporting is required for visible emissions from the firing of natural gas, propane, No. 2 fuel oil, sulfur free organic byproducts, dimethyl ether, biogas, or VOC gas in these sources.

4. 15A NCAC 2D .0501(e): NATIONAL AMBIENT AIR QUALITY STANDARDS

- a. The Permittee shall not combust any No. 2 fuel oil with a sulfur content greater than 0.1% by weight.
- b. The Permittee shall not combust any No. 2 fuel oil in Boiler No. 1 (**ID No. BLR1**) until the stack height is increased to 155 feet (47.24 meters).

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

- c. The Permittee shall monitor the sulfur content of the No. 2 fuel oil fired at the facility by collecting and retaining the fuel oil supplier certifications for each shipment received. The results of the fuel oil supplier certifications

shall be recorded in a logbook (written or electronic format) on a quarterly basis and include the following information:

- i. The name of the fuel oil supplier;
- ii. The maximum sulfur content of the fuel oil received during the quarter;
- iii. The method used to determine the maximum sulfur content of the fuel oil; and
- iv. A certified statement signed by the responsible official that the records of fuel oil supplier certification submitted represent all of the fuel oil fired during the period.

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0501(e) if the sulfur content of the oil is not monitored and recorded, or if the sulfur content exceeds the limit in Section 2.1 C.4.a above.

- d. Until the stack height of Boiler No. 1 (**ID No. BLR1**) is increased to 155 feet (47.24 meters), the Permittee shall retain records the type(s) of fuel actually fired at the source. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0501(e) if fuel oil is fired in the boiler before the stack height is increased as required in Section 2.1 C.4.b above.

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

- e. The Permittee shall submit a summary report of the fuel oil supplier certifications 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.

6. 15A NCAC 2Q. 0317: AVOIDANCE CONDITIONS

for 15A NCAC 2D .1111: Area Sources Subject to 40 CFR 63 Subpart JJJJJ (6J)

- a. In order to avoid the applicability of 40 CFR 63 Subpart JJJJJ (6J) "Industrial, Commercial, and Institutional Boilers Area Sources," the Permittee shall operate the existing No. 2 fuel oil, natural gas, propane, and organic byproduct (sulfur free) fired boilers (**ID Nos. BLR1, BLR4, and BLR5**) as natural gas-fired boilers defined in 40 CFR 63.11237 on or after March 21, 2014. To maintain the exemption from this Subpart per 40 CFR 63.11195(e), the Permittee may fire liquid fuel in these boilers only during periods of gas curtailment, gas supply interruptions, startups, or for periodic testing on liquid fuel (periodic testing not to exceed a combined total of 48 hours during any calendar year).
- b. If liquid fuel is fired in the boiler(s) on or after March 21, 2014 for reasons other than gas curtailment, gas supply interruptions, startups, or for periodic testing on liquid fuel, the Permittee shall provide written notice within 30 days of the fuel switch as required by 40 CFR 62.11225(g). The notification must identify:
 - i. The name of the owner or operator of the affected source, the location of the source, the boiler(s) that have switched fuels, and the date of the notice; and
 - ii. The date upon which the fuel switch occurred.

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111 if notification is not provided within 30 days of the effective date of the fuel switch.
- c. As required by 40 CFR 63.11210(h), the Permittee must demonstrate compliance with 40 CFR 63 Subpart JJJJJ "Industrial, Commercial, and Institutional Boilers Area Sources" as an existing source within 180 days of the effective date of the fuel switch after which the boiler no longer meets the definition of a gas-fired boiler in 40 CFR 63.11237. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111 if compliance is not demonstrated within 180 days of the effective date of the fuel switch.

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

- d. The Permittee shall maintain records documenting each period liquid fuel is fired in the boiler(s). These records shall include the number of hours liquid fuel is fired during each period, the cumulative hours liquid fuel is fired for testing during the calendar year, and reason liquid fuel is fired. The records shall be maintained for a period of five years during which time the records shall be kept onsite for at least the first two years, and made available to DAQ personnel upon request. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111 if these records are not maintained.

D. UTILITIES

Emergency Generator; 125 kW (ID No. EG125)

Emergency Generator; 20 kW (ID No. EG20)

Fire Pumps; 200 BHP each (ID Nos. FP-1500-B to FP-1500-D)

Fire Pumps; 300 BHP each (ID Nos. FP-1500-E to FP-1500-H)

The following table provides a summary of limits and standards for the emission sources described above:

Regulated Pollutant	Limits/Standards	Applicable Regulation
SO ₂	Sulfur dioxide emission shall not exceed 2.3 pounds per million Btu heat input.	15A NCAC 2D .0516
Visible emissions	Visible emissions shall not exceed 20 percent opacity	15A NCAC 2D .0521
HAPs	<p><u>Emergency Generators (ID Nos. EG125 and EG20)</u> Meet the requirements of the NSPS for new Compression Injection Engines pursuant to 40 CFR 60, Subpart IIII</p> <p><u>Fire Pumps (ID Nos. FP-1500-B to FP-1500-H)</u> Comply with work practices beginning May 3, 2013 for existing Compression Injection emergency engines with a site rating no more than 500 hp</p>	15A NCAC 2D .1111 (40 CFR 63, Subpart ZZZZ)
NO _x , CO, VOC, SO ₂ , PM	<p><u>Emergency Generators (ID Nos. EG125 and EG20)</u> Certify engines meet the manufacturer's emissions limitations. Limit operation for maintenance and readiness testing to no more than 100 hours per year.</p>	15A NCAC 2D .0524 (40 CFR 60, Subpart IIII)
HAPs	<p><u>MACT Avoidance Condition</u> See Section 2.2 C.4 "Multiple Emission Sources"</p>	15A NCAC 2Q .0317 (Avoidance of 15A NCAC 2D .1109 and .1111)
CO, NO _x , SO ₂ , PM, VOC and CO _{2e}	<p><u>PSD Avoidance</u> See Section 2.2 C.5 "Multiple Emission Sources"</p>	15A NCAC 2Q .0317 (Avoidance of 15A NCAC 2D .0530 and .0544)

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

- a. Emissions of sulfur dioxide from these combustion sources (**ID Nos. EG125, EG20, and FP-1500-B through FP-1500-H**) shall not exceed 2.3 pounds per million Btu heat input. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard.

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

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

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

- c. No monitoring/recordkeeping/reporting is required to demonstrate compliance with the sulfur dioxide emissions limitation when firing No. 2 fuel oil.

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

- a. Visible emissions from these combustion sources (**ID Nos. EG125, EG20, and FP-1500-B through FP-1500-H**) 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 24hour period. In no event shall the six-minute average exceed 87 percent opacity.

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

- b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the respective limit given in Section 2.1 D.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 to demonstrate compliance with the visible emissions standards when firing No. 2 fuel oil.

3. 15A NCAC 2D 1111: MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY**40 CFR Part 63, Subpart ZZZZ "National Emission Standards for Hazardous Air Pollutants for New Stationary Reciprocating Internal Combustion Emergency Engines (RICE).**

- a. The affected emergency generators (**ID Nos. EG125 and EG20**) shall comply with the requirements of the New Source Performance Standard (NSPS) for compression injections engines as described in Section 2.1 D.5 of this permit.

4. 15A NCAC 2D 1111: MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY**40 CFR Part 63, Subpart ZZZZ "National Emission Standards for Hazardous Air Pollutants for Existing Stationary Reciprocating Internal Combustion Emergency Engines (RICE)****Applicability** [40 CFR 63.6585, 63.6590, 63.6595(a)(1), and 63.6625(f)]

- a. Beginning May 3, 2013, the Permittee shall comply with the operating restrictions, work practices, monitoring, recordkeeping, and reporting requirements identified in Conditions 2.1 D.4.c through 2.1 D.4.n below and shall install a non-resettable hour meter if one is not already installed for each fire pumps (**ID Nos. FP-1500-B through FP-1500-H**).
- b. Pursuant to 40 CFR 63.6590(c), the Permittee shall meet the requirements of Section 2.1 D.5 below for the emergency generators (**ID Nos. EG125 and EG20**).

Operating Requirements [15A NCAC 2Q .0508(b)]

- c. The Permittee shall operate and maintain each engine in a manner consistent with safety and good air pollution control practices for minimizing emissions. [40 CFR 63.6605(b)]
- d. During periods of startup, the Permittee shall minimize the engine's time spent at idle and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes. [40 CFR 63.6602, 63.6625(h), and Table 2C]
- e. The Permittee may operate each engine in emergency situations as necessary with no restrictions on the number of operating hours. [40 CFR 63.6640(f)(1)]
- f. The Permittee shall restrict non-emergency operation of each engine to the operations and the number of hours specified in 40 CFR 63.6640(f).
- g. If a fire pump operates in non-emergency situations more than the allowable number of hours in Condition 2.1 D.4.e above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111 and shall begin meeting all the applicable requirements for non-emergency engines in 40 CFR 63 Subpart ZZZZ for the affected engine. [40 CFR 63.6640(f)]

Maintenance Requirements [15A NCAC 2Q .0508(b)]

- h. The Permittee shall operate and maintain each fire pump according to the manufacturer's emission-related operation and maintenance instructions; or develop and follow a site specific maintenance plan which provides to the extent practicable for the maintenance and operation of the engine in a manner consistent with good practice for minimizing air emissions maintenance checks and readiness testing. [40 CFR 63.6625(e) and 63.6640(a), Table 6]
- i. The Permittee shall inspect and maintain each fire pump engine as follows:
 - i. Change oil and filter every 500 hours of operation or annually, whichever comes first;
 - ii. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first and replace as necessary; and
 - iii. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary. [40 CFR 63.6602, Table 2C, Item 1]
- j. The Permittee may choose to utilize the oil analysis program as described in 40 CFR 63.6625(i) in order to extend the time between each oil change required in Condition 2.1 D.3.h.i above. [40 CFR 63.6602, Table 2C, 63.6625(i)]

- k. If the fire pump(s) is(are) operating during an emergency and it is not possible to shut down the engine(s) in order to perform the management practice requirements on the schedule required in Condition 2.1 D.4.h above., or if performing the management practice on the required schedule would otherwise pose an unacceptable risk under Federal, State, or local law, the management practice can be delayed until the emergency is over or the unacceptable risk under Federal, State, or local law has abated. The management practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under Federal, State, or local law has abated. The Permittee must report any failure to perform the management practice on the schedule required and the Federal, State or local law under which the risk was deemed unacceptable. [40 CFR 63.6602, Table 2C]

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

- l. The Permittee shall keep each of the following records readily accessible in written or electronic format for a period of at least 5 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record:
- i. Records of all required maintenance performed on the fire pump engines, air pollution control and monitoring equipment; and
 - ii. Records of the operating hours for each engine as recorded through a non-resettable hour meter documenting how many hours are spent for emergency operation, including what classified the operation as emergency, and for non-emergency operation. If the engines are used for emergency demand response, the Permittee shall keep records of the Energy Emergency Alert Level 2 notification. [40 CFR 63.6655]
- m. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111 if the records required in 2.1 D.4.k.i through 2.1 D.4.k.ii are not maintained. [40 CFR 63.6660(c)]

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

- 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. All instances of noncompliance must be clearly identified. [40 CFR 63.63.6650]

5. 15A NCAC 2D .0524: NEW SOURCE PERFORMANCE STANDARDS

40 CFR 60, Subpart IIII, "Compression Injection Engines"

- a. The affected emergency generators (**ID Nos. EG125 and EG20**) must be:
- i. Certified to meet the manufacturer's emissions standards for new non-road compression injection (CI) engines as provided in 40 CFR 60.4202; and,
 - ii. Installed and configured according to the manufacturer's specifications.
- The Permittee shall be deemed in non-compliance with 15A NCAC 2D .0524 if the engines are not certified to meet the emissions standards applicable to the model year and maximum engine power or if the Permittee fails to install and configure the engine according to the manufacturer's specifications. [40 CFR 60.4205(b), 40 CFR 60.4211(c)]

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

- b. The affected emergency generators (**ID Nos. EG125 and EG20**) may be operated for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by Federal, State, or local government, the manufacturer, the vendor, or the insurance company associated with the engine.
- i. Maintenance checks and readiness testing of the emergency generators is limited to 100 hours per year. Anyone may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the Permittee maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency generator beyond 100 hours per year.
 - ii. There is no time limit on the use of emergency stationary engines in emergency situations.
 - iii. Any operation other than emergency operation, maintenance, and testing as permitted herein, is prohibited. The Permittee shall be deemed in non-compliance with 15A NCAC 2D .0524 if it fails to meet the operating standards listed above. [40 CFR 60.4211(e)]
- c. The Permittee must operate and maintain the affected emergency generators (**ID Nos. EG125 and EG20**) according to the manufacturer's written instructions or procedures developed by the Permittee that are approved by the engine manufacturer, over the entire life of the engine. The Permittee shall be deemed in non-compliance with 15A NCAC 2D .0524 if it fails to operate and maintain the generators as described above. [40 CFR 60.4206, 40 CFR 60.4211(a)]
- d. Any fuel oil purchased to be fired in the affected EG emergency generators (**ID Nos. EG125 and EG20**) must meet the following specifications:

- i. Sulfur content shall not exceed 15 parts per million (ppm); and,
- ii. Either the cetane index or the aromatic content must meet one of the following standards:
 - (A) The cetane index may not be less than 40; or
 - (B) The aromatic content may not exceed 35% by volume.

The Permittee shall be deemed in non-compliance with 15A NCAC 2D .0524 if it purchases fuel oil that does not meet the specifications listed above. [40 CFR 60.4207]

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

- e. The Permittee must install a non-resettable hour meter on the affected emergency generators (**ID Nos. EG125 and EG20**) prior to startup of the engines. The Permittee shall be deemed in non-compliance with 15A NCAC 2D .0524 if it fails to install the required non-resettable hour meter. [40 CFR 60.4209(a)]

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

- f. If either affected emergency generator (**ID No. EG125 or EG20**) does not meet the standards applicable to non-emergency engines in the applicable model year, the Permittee must keep records of the operation of the engine in emergency and non-emergency service that are recorded through the non-resettable hour meter, including the time of operation of the engine and the reason the engine was in operation during that time. The Permittee shall be deemed in non-compliance with 15A NCAC 2D .0524 if it fails to keep the required records. [40 CFR 60.4214(b)]

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

- g. There are no reporting requirements for the affected emergency generator (**ID No. EG125 or EG20**).

6. 15A NCAC 2D .0501(e): NATIONAL AMBIENT AIR QUALITY STANDARDS

- a. Emergency generators (**ID Nos. EG125 and EG20**) and fire pumps (**ID Nos. FP-1500-B through FP-1500-H**) shall only fire ultra-low sulfur diesel fuel with a sulfur content equal to or less than 15 ppmw.

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

- b. The Permittee shall monitor the sulfur content of the diesel fuel fired at the facility by collecting and retaining the fuel oil supplier certifications for each shipment received. The results of the fuel oil supplier certifications shall be recorded in a logbook (written or electronic format) on a quarterly basis and include the following information:
 - i. The name of the fuel oil supplier;
 - ii. The maximum sulfur content of the fuel oil received during the quarter;
 - iii. The method used to determine the maximum sulfur content of the fuel oil; and
 - iv. A certified statement signed by the responsible official that the records of fuel oil supplier certification submitted represent all of the fuel oil fired during the period.

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0501(e) if the sulfur content of the oil is not monitored and recorded, or if the sulfur content exceeds the limit in Section 2.1 D.6.a above.

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

- c. The Permittee shall submit a summary report of the fuel oil supplier certifications 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.

E. UTILITIES**Cooling Towers (ID Nos. CTS1, CTS2, and CTS3)**

The following table provides a summary of limits and standards for the emission sources described above:

Regulated Pollutant	Limits/Standards	Applicable Regulation
PM	Particulate emissions shall not exceed the rate prescribed by the process weight equation: For process rates greater than 30 tph: $E = 55.0 \times P^{0.11} - 40$ Where: E = allowable emission rate in pounds per hour, and P = process weight in tons per hour	15A NCAC 2D .0515
Visible emissions	Visible emissions shall not exceed 20 percent opacity	15A NCAC 2D .0521
HAPs	MACT Avoidance Condition See Section 2.2 C.4 "Multiple Emission Sources"	15A NCAC 2Q .0317 (Avoidance of 15A NCAC 2D .1109 and .1111)
CO, NO _x , SO ₂ , PM, VOC and CO ₂ e	PSD Avoidance See Section 2.2 C.5 "Multiple Emission Sources"	15A NCAC 2Q .0317 (Avoidance of 15A NCAC 2D .0530 and .0544)

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

- a. Emissions of particulate matter from each cooling tower listed above shall not exceed an allowable emission rate as calculated by the following equation:

$$\text{For process rates greater than 30 tons per hour: } E = 55.0 \times P^{0.11} - 40$$

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

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

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

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

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

- c. No monitoring, recordkeeping, or reporting is required to demonstrate compliance with 15A NCAC 2D .0515.

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

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

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

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

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

- c. No monitoring, recordkeeping, or reporting is required to demonstrate compliance with 15A NCAC 2D .0521.

F. UTILITIES

**Polyester Polyols Flare (ID No. G-1955)
Flare (ID No. G4904R)**

The following table provides a summary of limits and standards for the emission sources described above:

Regulated Pollutant	Limits/Standards	Applicable Regulation
SO ₂	Sulfur dioxide emission shall not exceed 2.3 pounds per million Btu heat input.	15A NCAC 2D .0516
Visible emissions	Visible emissions shall not exceed 20 percent opacity	15A NCAC 2D .0521
HAPs	<u>MACT Avoidance Condition</u> See Section 2.2 C.4 "Multiple Emission Sources"	15A NCAC 2Q .0317 (Avoidance of 15A NCAC 2D .1109 and .1111)
CO, NO _x , SO ₂ , PM, VOC and CO ₂ e	<u>PSD Avoidance</u> See Section 2.2 C.5 "Multiple Emission Sources"	15A NCAC 2Q .0317 (Avoidance of 15A NCAC 2D .0530 and .0544)

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

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

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

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

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

- c. No monitoring, recordkeeping, or reporting is required to demonstrate compliance with 15A NCAC 2D .0516.

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

- a. Visible emissions from these flares listed above 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 24hour period. In no event shall the six-minute average exceed 87 percent opacity.

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

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

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

- c. No monitoring, recordkeeping, or reporting is required to demonstrate compliance with 15A NCAC 2D .0516.

G. Site-Remediation Activities (ID No. ES-01)

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
HAPs	Recordkeeping Requirement	15A NCAC 2D .1111 (40 CFR 63, Subpart GGGGG)
Odor	State Enforceable only See Section 2.2 C.1 "Multiple Emission Sources"	15A NCAC 2D .1806
TAPs	State Enforceable only See Sections 2.2 C.2 and 2.2 C.3 "Multiple Emission Sources"	15A NCAC 2Q .0705 15A NCAC 2D .1100
HAPs	MACT Avoidance Condition See Section 2.2 C.4 "Multiple Emission Sources"	15A NCAC 2Q .0317 (Avoidance of 15A NCAC 2D .1109 and .1111)
CO, NO _x , SO ₂ , PM, VOC and CO ₂ e	PSD Avoidance See Section 2.2 C.5 "Multiple Emission Sources"	15A NCAC 2Q .0317 (Avoidance of 15A NCAC 2D .0530 and .0544)

1. 15A NCAC 2D .1111: Maximum Available Control Technology (40 CFR 63, Subpart GGGGG, "Site Remediation")

- a. To be subject to limited requirements under the Site Remediation MACT, the Permittee shall limit the total, facility-wide quantity of HAP listed in Table 1 of 40 CFR 63, Subpart GGGGG that is contained in remediation material that is excavated, extracted, pumped, or otherwise removed during all site remediation activities conducted at the facility to less than 1 megagram (Mg) per calendar year. If the threshold of 1 Mg is reached in any calendar year, the Permittee must also meet the applicable standards and requirements provided in 40 CFR 60, Subpart GGGGG for all site remediation activities conducted at the facility from the date that the threshold is reached.

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

- b. Prepare and maintain written documentation to support the determination that the total, facility-wide HAP contained in the remediation material for the calendar year is less than 1 Mg. The documentation must include a description of the methodology and data used for determining the total, facility-wide HAP content of the remediation material. If the 1 Mg threshold is reached in any calendar year, the Permittee shall also:
- i. Create and maintain a record of all applicable standards and requirements that apply to the on-site remediation activities;
 - ii. Create and maintain records showing the compliance status of the on-site remediation activities with the applicable standards and requirements; and,
 - iii. Submit a permit application to the NC DAQ within 30 days of reaching the 1 Mg threshold to incorporate the applicable standards and requirements into the permit.

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111 if these records are not created and maintained, if the Permittee fails to meet the additional requirements of 40 CFR 63, Subpart GGGGG if the 1 Mg threshold is reached, or if the Permittee fails to submit an application to the NC DAQ within 30 days of reaching the 1 Mg threshold.

H. OLD MACT-Affected Organic Liquid Unloading Stations (ID No. CLRMU)

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
HAPs	Recordkeeping Requirement	15A NCAC 2D .1111 (40 CFR 63, Subpart EEEE)
Odor	State Enforceable only See Section 2.2 C.1 "Multiple Emission Sources"	15A NCAC 2D .1806
HAPs	MACT Avoidance Condition See Section 2.2 C.4 "Multiple Emission Sources"	15A NCAC 2Q .0317 (Avoidance of 15A NCAC 2D .1109 and .1111)
CO, NO _x , SO ₂ , PM, VOC and CO _{2e}	PSD Avoidance See Section 2.2 C.5 "Multiple Emission Sources"	15A NCAC 2Q .0317 (Avoidance of 15A NCAC 2D .0530 and .0544)

1. 15A NCAC 2D .1111: Maximum Available Control Technology (40 CFR 63, Subpart EEEE, "Organic Liquid Distribution MACT")

- a. The Permittee shall create and maintain documentation that verifies that the organic liquid unloading stations (**ID No. CLRMU**) only unload organic liquids (i.e., that no organic liquids are loaded at the affected transfer racks).
- i. For the purposes of this condition, "organic liquid" shall be defined by 40 CFR §63.2343.
 - ii. The documentation must be kept up-to-date (i.e., all such emission sources at a facility are identified in the documentation regardless of when the documentation was last compiled) and must be in a form suitable and readily available for expeditious inspection and review.
 - iii. The documentation may consist of identification of affected transfer racks on a plant site plan or process and instrumentation diagram (P&ID).

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111 if these records are not created and maintained, or if the transfer racks identified in the documentation engage in organic liquid loading operations.

I. MON-Affected Polyester Polyols Production Equipment

Group 1 Batch Process Vents with No. 4 Process Heater (ID No. HTR4) and Flares (ID Nos. G4904R and G-1955)

Reactor (R7100A) via Reactor Reflux Column with Vent Condenser (A7100-2A) via Cooling Vessel (T7100-4A); Reactor (R7100B) via Reactor Reflux Column with Vent Condenser (A7100-2B) via Cooling Vessel (T7100-4B); Reactor (R7100C) via Reactor Reflux Column with Vent Condenser (A7100-2C) via Cooling Vessel (T7100-4C); Reactor (R7100D) via Reactor Reflux Column with Vent Condenser (A7100-2D) via Cooling Vessel (T7100-4D); Evaporators (E7103 and A7010/T7010-4); and Molten Feed Tank (T-7102) All via VOC Catch Tank (T7100-12)

Group 1 Continuous Process Vents with Flares (ID Nos. G4904R and G-1955)

Process Water Distillation Columns and Reflux Tanks (A-6105/T-6105-5 and A-7230/T7230-7) All via VOC Catch Tank (T7100-12)

Group 2 Storage Vessels: Tanks (T-1939AR, T-6106-6, T-7001, T-7002-A,)

Group 1 Wastewater Tank with Flares (ID Nos. G4904R and G-1955): Tank (T6109R)

Group 1 Wastewater Container: Submerged Fill Wastewater Truck Loading

Group 2 Wastewater Tanks: Tanks (T1922E, T-6516B, T7010-21, and T7103-12)

The following table provides a summary of limits and standards for the emission sources describe above:

Regulated Pollutant	Limits/Standards	Applicable Regulation
Benzene	<u>Benzene Waste Operations</u> The total annual benzene quantity in facility waste shall be maintained below 10 megagrams per year (11 tons per year).	15A NCAC 2D .1110 (40 CFR 61, Subpart FF)
HAPs	MACT compliance	15A NCAC 2D .1111 (40 CFR 63, Subpart FFFF)
	<u>Group 1 Batch Process Vents*</u> HAP emissions shall be reduced by using a flare	
	<u>Group 1 Continuous Process Vents (combined with Group 1 Batch process vents to become Group 1 batch process vent per 40 CFR 63.2450(c)(2)(i))</u> HAP emissions shall be reduced by using a flare	
	<u>Group 2 Storage Vessels - Recordkeeping only</u>	
	<u>Group 2 Wastewater Tank - Recordkeeping only</u>	
	<u>Group 1 Wastewater Container</u> Fixed roof and submerged filling operation	
	<u>Group 1 Wastewater Tank</u> Fixed roof (vents to flare for RCRA purposes)	
	<u>Process Equipment Leaks (ID No. RESEOLK)</u> See Section 2.2 A "Multiple Emission Sources"	
Odor	State Enforceable only See Section 2.2 C.1 "Multiple Emission Sources"	15A NCAC 2D .1806
HAPs	<u>MACT Avoidance Condition</u> See Section 2.2 C.4 "Multiple Emission Sources"	15A NCAC 2Q .0317 (Avoidance of 15A NCAC 2D .1109 and .1111)
CO, NOx, SO ₂ , PM, VOC and CO ₂ e	<u>PSD Avoidance</u> See Section 2.2 C.5 "Multiple Emission Sources"	15A NCAC 2Q .0317 (Avoidance of 15A NCAC 2D .0530 and .0544)

* When the combined MON process vent is routed to HTR4 (through a fuel gas system) the vent is not, by definition (40 CFR 63.2550(i)), a batch process vent and does not have other applicable requirements.

1. 15A NCAC 2D .1110: NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS (40 CFR 61, Subpart FF, "Benzene Waste Operations")

- a. The Permittee shall maintain the total annual benzene quantity in the facility waste below 10 megagrams (Mg) per year (11 tons per year) to remain exempt from the standards in §61.342(b) and (c). The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1110 if the total annual benzene quantity equals 10 megagrams per year (11 tons per year) or more unless the standards in §61.342(b) and (c) are followed.

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

- b. The Permittee shall determine the total annual benzene quantity in the facility waste by January 30 of each year for the previous calendar year and whenever there is a change in the process generating the waste that could cause the total annual benzene quantity from facility waste to increase to 10 Mg/yr (11 ton/yr) or more.
- c. The Permittee shall maintain all measurements, calculations, and other documentation used to determine that the total annual benzene quantity in the facility waste for a period of two years and make records available to the DAQ on request. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1110 if these records are not created and maintained.

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

- d. The Permittee shall submit a summary report of the total annual benzene quantity in the facility waste postmarked on or before January 30 of each calendar year if the total annual benzene quantity from the facility waste is equal to or greater than 1 Mg/yr (1.1 ton/yr) but less than 10 Mg/yr.
- e. The Permittee shall submit a report by January 30 of each year and whenever there is a change in the process generating the waste that could cause the total annual benzene quantity from facility waste to increase to 10 Mg/yr (11 ton/yr) or more.
- f. Either the report required in Section 2.1 I.1.d or the report required in Section 2.1 I.1.e above shall include:
- i. the total annual benzene quantity from facility waste for the previous calendar year;
 - ii. the identification of each waste stream including whether or not the benzene emissions are controlled; and information required in §61.357(a)(3), if any benzene emissions from any waste stream is controlled.
- The annual report may be combined with the semiannual report required in Section 2.1 I.1.d above provided it is post marked by January 30 of each calendar year.

2. 15A NCAC 2D .1111 [40 CFR 63, Subpart FFFF]: NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FROM THE MISCELLANEOUS ORGANIC CHEMICAL MANUFACTURING "MON"

The Permittee shall comply with all applicable provisions, including the notification, testing, recordkeeping, and monitoring requirements contained in Environmental Management Commission Standard 15A NCAC 2D .1111, "Maximum Available Control Technology," as promulgated in 40 CFR 63, Subpart FFFF, including Subpart A, "General Provisions."

3. 15A NCAC 2D .1111: MACT (40 CFR 63, Subpart FFFF, "MON") for the combined Group 1 Batch Process Vent

- a. The Permittee shall control emissions of total organic HAP from the combined Group 1 Batch Process Vent Header (ID No. VS7100) by reducing emissions of organic HAP in the vent stream using a flare (ID No. G4904R or G-1955) that complies with the requirements of 40 CFR 63.11(b).
- b. The flare(s) shall control emissions from the combined Group 1 Batch Process Vents at all times except as provided in the start up, shut down and malfunction plan. [40 CFR 63.2450 (a), 40 CFR 63.6(e)(3)]

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

- c. Each flare (ID No. G4904R and G-1955) shall be equipped with a thermocouple to continuously monitor and record the presence of a pilot flame. To demonstrate compliance with this requirement, the Permittee shall maintain the following records:
- i. Continuous records of thermocouple data to demonstrate operation of the monitoring device. A "continuous record" is documentation (either hard copy or electronic format) of data values measured at least once every 15 minutes and recorded at the frequency specified in 40 CFR 63.998(b).
 - ii. Hourly records of whether the pilot flame was continuously present during each hour, as demonstrated by thermocouple data; and, [40 CFR 63.998(a)(ii)]
 - iii. A record of the times and durations of all periods when all pilot flames at the flare are absent or the monitor is not operating. [40 CFR 63.998(a)(iii)]

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111 if the flare is not monitored as

provided above. [40 CFR 63.114(a)(2)]

- d. Each flare (**ID No. G4904R and G-1955**) shall meet the general requirement provided in 40 CFR 63, Subpart A, [40 CFR 63.11(b)] as follows:
 - i. The flare shall be operated at all times when emissions may be vented to it.
 - ii. Flares shall be designed for and operated with no visible emissions, except for periods not to exceed a total of five minutes during any two consecutive hours. If visible emissions testing is required, Method 22 in Appendix A of 40 CFR 60 shall be used to determine compliance. The observation period is two hours and shall be used according to Method 22.
 - iii. The Permittee shall adhere to either:
 - (A) The heat content specifications in 40 CFR 63.11(b)(6)(ii) and the maximum tip velocity specifications in 40 CFR 63.11(b)(7) or (8); or,
 - (B) The design and exit velocity requirements in 40 CFR 63.11(b)(6)(i).

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111 if the flare does not meet the requirements listed above.

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

- e. The Permittee shall submit Periodic Reports 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. For the Group 1 Process Vents, the report shall include the following information:
 - i. The times and durations of all periods when all pilots flames of the flare are absent.
[40 CFR 63.999(c)(3)]

4. 15A NCAC 2D .1111: MACT (40 CFR 63, Subpart FFFF, "MON")

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

- a. The Permittee shall keep readily accessible records for tanks (**ID Nos. T-1939AR, T-6106-6, T-7001, T-7002-A**) showing the dimensions of the storage vessel and an analysis showing the capacity of the storage vessel.

5. 15A NCAC 2D .1111: MACT (40 CFR 63, Subpart FFFF, "MON") for Group 2 Wastewater

40 CFR 63.132(c), 40 CFR 63.2485: Process Wastewater Group 2 Provisions

- a. To avoid Group 1 wastewater stream requirements, the wastewater characteristics shall not exceed any of the following limitations:
 - i. At any flow rate, if the total annual average concentration of compounds in Table 8 of this Subpart is greater than or equal to 10,000 ppmw, the total annual load of compounds in Table 8 shall be limited to less than 200 lb/yr;
 - ii. If the annual average flowrate is greater than or equal to 1 liter per minute, the total annual average concentration of compounds in Table 8 of this Subpart shall be limited to less than 1,000 ppmw; and,
 - iii. If the combined total annual average concentration of compounds in Tables 8 and 9 of this Subpart is greater than or equal to 30,000 ppmw, the combined total annual load of compounds in Tables 8 and 9 of this Subpart shall be limited to less than 1 tpy.

40 CFR 63.147(b)(8): Recordkeeping [15A NCAC 2Q .0508(f)]

- b. The Permittee shall keep in a readily accessible location and made available to the DAQ on request the records specified below.
 - i. Each process unit identification and description.
 - ii. Each stream identification code.
 - iii. The concentration of any of the following compound(s) in parts per million, by weight and documentation of the methodology used to determine concentration:
 - (A) Any compound listed in 40 CFR 63, Subpart FFFF, Table 8; and,
 - (B) Any compound listed in 40 CFR 63, Subpart FFFF, Table 9.
 - iv. Each flow rate in liter per minute.

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111 if any of the above records are not retained, or if the wastewater concentrations and flowrates exceed the limits in Section 2.1.I..5.a.i. or a.ii. above.

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

- c. The Permittee shall submit a summary report of the inspections 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.

6. 15A NCAC 2D .1111: MACT (40 CFR 63, Subpart FFFF, "MON") for Group 1 Wastewater

- a. The emission control requirements found in 40 CFR 246 for MON Group 1 wastewater tank (**ID No. T6109R**) satisfy the requirements of 40 CFR 63.2485(a) found in 40 CFR 63.133(a)(1) and 40 CFR 63.148. [40 CFR 63.2535(g)]
- b. The Permittee shall ensure emissions sources (**ID Nos. Wastewater Truck Loading and T6109R**) are covered and maintained in accordance with the following requirements:
 - i. The cover and all openings shall be maintained in a closed position (e.g., covered by a lid) at all times except when it is necessary to use the opening for filling, removal, inspection, sampling, or pressure relief events related to safety considerations.
 - ii. A submerged fill pipe shall be used when a container (**Wastewater Truck Loading**) is being filled by pumping.
 - (A) The submerged fill pipe outlet shall extend to no more than 6 inches or within two fill pipe diameters of the bottom of the container while the container is being filled.
 - (B) The cover shall remain in place and all openings shall be maintained in a closed position except for those openings required for the submerged fill pipe and for venting of the container to prevent physical damage or permanent deformation of the container or cover.

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111 if the sources are not covered and maintained as specified above. [40 CFR 63.133 and 40 CFR 63.135]

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

- c. The tank and the wastewater truck loading area shall be inspected initially and semi-annually thereafter, for improper work practices. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111 if the emission sources are not inspected or if records of each inspection are not maintained.
- d. For containers, improper work practice includes, but is not limited to, leaving open any access hatch or other opening when such hatch or opening is not in use.
- e. Except as provided in 40 CFR 63.140, when an improper work practice is identified, first efforts at repair shall be made no later than 5 calendar days after identification and repair shall be completed within 15 calendar days after identification. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111 if identified improper work practices are not corrected within the allowed time.

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

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

2.2 – Multiple Emission Sources Specific Limitations and Conditions

A. All pumps, compressors, agitators, pressure relief devices, sampling connection systems, open-ended valves or lines, valves, connectors, surge control vessels, bottoms receivers, instrumentation systems, and control devices or closed vent systems in Polyester Polyols (ID No. RESEQLK)

The following table provides a summary of limits and standards for the emission sources describe above:

Regulated Pollutant	Limits/Standards	Applicable Regulation
HAPs	Equipment Leak Detection and Repair	15A NCAC 2D .1111 (40 CFR 63, Subpart H) (40 CFR 63, Subpart FFFF)
TAPs	State Enforceable only See Sections 2.2 C.2 and 2.2 C.3 "Multiple Emission Sources"	15A NCAC 2Q .0705 15A NCAC 2D .1100

a. Per 40 CFR 63.120(e)(6), if a Group 1 storage vessel is maintained under negative pressure it is exempt from the leak inspection provisions of 40 CFR 63.148 of Subpart G.

b. Per 40 CFR 63.148(k), if a closed vent system is subject to 40 CFR 63, Subpart H, the Permittee shall comply with 40 CFR 63, Subpart H requirements and is exempt from the leak inspection provisions of 40 CFR 63.148 of Subpart G.

1. 15A NCAC 2D .1111: NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR THE MISCELLANEOUS ORGANIC CHEMICAL MANUFACTURING INDUSTRY

40 CFR 63.162: General Standards

- a. 40 CFR 63.162(c): Each piece of equipment in a process unit to which 40 CFR 63, Subpart H applies shall be identified such that it can be distinguished readily from equipment that is not subject to this subpart. The equipment may be identified on a plant site plan, in log entries, or by designation of process unit boundaries by some form of weatherproof identification.
- b. 40 CFR 63.162(d): Equipment that is in vacuum service is excluded from the requirements of 40 CFR 63, Subpart H.
- c. 40 CFR 63.162(e): Equipment that is in organic HAP service less than 300 hours per calendar year excluded from the requirements 40 CFR 63, Subpart H must be identified either by list, location (area or group) of equipment.
- d. 40 CFR 63.162(f): When each leak is detected for: pumps in light liquid service (40 CFR 63.163), valves in gas/vapor/light liquid service (40 CFR 63.168), pumps/valves/connectors/agitators in heavy liquid service and instrumentation systems/pressure relief devices in liquid service (40 CFR 63.169), closed vent systems and control devices (40 CFR 63.172), agitators in gas/vapor/light liquid service (40 CFR 63.173), and connectors in gas/vapor/light liquid service (40 CFR 63.174), the following requirements apply.
 - i. A weatherproof and readily visible identification, marked with the equipment identification number, shall be attached to the leaking equipment.
 - ii. The identification on a valve may be removed after it has been repaired and monitored in accordance with 40 CFR 63.180(b) within three months of the repair and no leak has been detected during the follow-up monitoring for two successive months.
 - iii. The identification on a connector may be removed after it is monitored after reconnection within the first three months after being returned to service and no leak is detected during that monitoring.
 - iv. The identification that has been placed on equipment determined to have a leak may be removed after it is repaired, except for a valve or connector.
- e. 40 CFR 63.162(h): It is a violation of this subpart to fail to take action to repair the leaks within the specified time. If action is taken to repair the leaks within the specified time, failure of that action to successfully repair the leak is not a violation. However, if the repairs are unsuccessful, a leak is detected and the Permittee shall take further action as required.

2. 15A NCAC 2D .1111: NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR THE MISCELLANEOUS ORGANIC CHEMICAL MANUFACTURING INDUSTRY

40 CFR 63.163: Pumps in Light Liquid Service

[Light liquid means a liquid with a VOC with a vapor pressure greater than 0.3 kPa [0.0435 psi] at 20 °C that is present in the liquid in a concentration greater than 20 percent by weight.]

- a. 40 CFR 63.163(b): The Permittee shall monitor each affected pump monthly to detect leaks by the method specified in 40 CFR 63.180(b) and shall comply as set forth below.
 - i. The instrument reading, as determined by the method as specified in 40 CFR 63.180(b), that defines a leak in

- each phase of the standard is 1,000 parts per million or greater.
- ii. Each pump shall be checked by visual inspection each calendar week for indications of liquids dripping from the pump seal. If there are indications of liquids dripping from the pump seal, a leak is detected.
 - iii. When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except repair is not required unless an instrument reading of 2,000 parts per million or greater is detected or delay in repair is necessary per 40 CFR 63.171.
 - iv. A first attempt at repair shall be made no later than five calendar days after the leak is detected. First attempts at repair include, but are not limited to: tightening of packing gland nuts, and ensuring that the seal flush is operating at design pressure and temperature.
- b. 40 CFR 63.163(d): The Permittee shall calculate percent leaking pumps on a source wide basis.
- i. If the greater of either 10 percent of the pumps or three pumps source wide leak (calculated on a 6month rolling average), the Permittee shall implement a quality improvement program for pumps in accordance with 40 CFR 63.176.
 - ii. The number of source-wide pumps shall be the sum of all the pumps in organic HAP service, except that pumps found leaking in a continuous process within one month after startup of the pump shall not count in the percent leaking pumps calculation for that one monitoring period only.
 - iii. 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.

P_T = Total pumps in organic HAP service, including those exempt from monitoring.

P_S = Number of pumps leaking within 1 month of startup during the current monitoring period.

- c. Each pump equipped with a dual mechanical seal system that includes a barrier fluid system is exempt from monitoring requirements provided the following requirements are met.
 - i. Each dual mechanical seal system is:
 - (A) Operated with the barrier fluid at a pressure that is at all times greater than the pump stuffing box pressure; or
 - (B) Equipped with a barrier fluid degassing reservoir that is routed to a process or fuel gas system or connected by a closed vent system to a control device complying with 40 CFR 63.172; or
 - (C) Equipped with a closed loop system that purges the barrier fluid into a process stream.
 - ii. The barrier fluid is not in light liquid service.
 - iii. Each barrier fluid system is equipped with a sensor that will detect failure of the seal system and /or the barrier fluid system.
 - iv. Each pump is checked by visual inspection each calendar week for indications of liquids dripping from the pump seal.
 - (A) If there are indications of liquids dripping from the pump seal at the time of the weekly inspection, the pump shall be monitored to determine if there is a leak of organic HAP in the barrier fluid.
 - (B) If an instrument reading of 1,000 parts per million or greater is measured, a leak is detected.
 - v. Each seal system and /or the barrier fluid system sensor is observed daily or is equipped with an alarm unless the pump is located within the boundary of an unmanned plant site.
 - vi. The Permittee determines, based on design considerations and operating experience, criteria applicable to the presence and frequency of drips and to the sensor that indicates failure of the seal and/or barrier system.
 - (A) If indications of liquids dripping from the pump seal or the sensor indicate failure (i.e., criteria exceeded) of the seal system, the barrier fluid system, or both, a leak is detected.
 - (B) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in for in delay of repair pursuant to 40 CFR 63.171.
 - vii. A first attempt at repair shall be made no later than five calendar days after each leak is detected.
- d. Any pump that is designed with no externally actuated shaft penetrating the pump housing is exempt from monitoring requirements.
- e. Any pump equipped with a closed vent system capable of capturing and transporting any leakage from the seal or seals to a process or to a fuel gas system or to a control device is exempt from monitoring requirements and calculations for percent leaking pumps
- f. Any pump that is designated as an unsafe-to-monitor pump is exempt from monitoring and percent leaking pumps calculation if:
 - i. The Permittee determines that the pump is unsafe to monitor because monitoring personnel would be exposed

to an immediate danger as a consequence of complying these above requirements; and

- ii. The Permittee has a written plan that requires monitoring of the pump as frequently as practical during safe-to-monitor times.

3. 15A NCAC 2D .1111: NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR THE MISCELLANEOUS ORGANIC CHEMICAL MANUFACTURING INDUSTRY

40 CFR 63.165: Pressure Relief Devices in Gas/Vapor Service

- a. Each pressure relief device in gas/vapor service shall be operated with an instrument reading of less than 500 parts per million above background, except during pressure releases, as measured by the method specified in 40 CFR 63.180(c).
- b. After each pressure release, the pressure relief device shall be returned to a condition indicated by an instrument reading of less than 500 parts per million above background, as soon as practicable, but no later than five calendar days after each pressure release, except as provided in delay of repair 40 CFR 63.171.
- c. No later than five calendar days after the pressure release and being returned to organic HAP service, the pressure relief device shall be monitored to confirm the condition indicated by an instrument reading of less than 500 parts per million above background.
- d. Any pressure relief device that is routed to a process or fuel gas system or equipped with a closed vent system capable of capturing and transporting leakage from the pressure relief device to a control device is exempt from monitoring.
- e. Any pressure relief device that is equipped with an upstream rupture disk is exempt from monitoring provided the rupture disk is reinstalled as soon as practicable after each pressure release, but no later than five calendar days after each pressure release, except as provided in delay of repair 40 CFR 63.171.

4. 15A NCAC 2D .1111: NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR THE MISCELLANEOUS ORGANIC CHEMICAL MANUFACTURING INDUSTRY

40 CFR 63.166: Sampling Connection Systems

- a. Each sampling connection system shall be equipped with a closed purge, closed loop, or closed vent system. Gases displaced during filling of the sample container are not required to be collected or captured.
- b. Each closed purge, closed loop, or closed vent system shall:
 - i. Return the purged process fluid directly to the process line; or
 - ii. Collect and recycle the purged process fluid to a process; or
 - iii. Be designed and operated to capture and transport the purged process fluid to a control device; or
 - iv. Collect, store, and transport the purged process fluid to:
 - (A) A Group 1 wastewater if the purged process fluid contains any organic HAP listed in Table 9 of 40 CFR 63, Subpart G of part 63;
 - (B) A treatment, storage, or disposal facility subject to regulation under 40 CFR part 262, 264, 265, or 266; or
 - (C) A facility permitted, licensed, or registered by a State to manage municipal or industrial solid waste, if the process fluids are not hazardous waste as defined in 40 CFR Part 261.
- c. In-situ sampling systems and sampling systems without purges are exempt.

5. 15A NCAC 2D .1111: NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR THE MISCELLANEOUS ORGANIC CHEMICAL MANUFACTURING INDUSTRY

40 CFR 63.167: Open Ended Valves or Lines

- a. Each open-ended valve or line shall be equipped with a cap, blind flange, plug, or a second valve, except as provided below, which shall seal the open end at all times except during operations requiring process fluid flow through the open-ended valve or line, or during maintenance or repair.
- b. Each open-ended valve or line equipped with a second valve shall be operated in a manner such that the valve on the process fluid end is closed before the second valve is closed.
- c. When a double block and bleed system is being used, the bleed valve or line may remain open during operations that require venting the line between the block valves but shall be closed at all other times.
- d. Open-ended valves or lines in an emergency shutdown system that are designed to open automatically in the event of a process upset are exempt from the above requirements.
- e. Open-ended valves or lines containing materials which would auto catalytically polymerize or, would present an explosion, serious over pressure, or other safety hazard if capped or equipped with a double block and bleed system are exempt from the above requirements.

6. 15A NCAC 2D .1111: NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR THE MISCELLANEOUS ORGANIC CHEMICAL MANUFACTURING INDUSTRY

40 CFR 63.168: Valves in Gas/Vapor/Light Liquid Service

[Light liquid means a liquid with a VOC with a vapor pressure greater than 0.3 kPa [0.0435 psi] at 20 degrees C that is present in the liquid in a concentration greater than 20 percent by weight.]

- a. The Permittee of a source subject to this subpart shall monitor using the method specified in 40 CFR 63.180(b) all valves, except as provided below, at the intervals specified as follows.
 - i. At process units with two percent or greater leaking valves, the Permittee shall either:
 - (A) Monitor each valve once per month; or
 - (B) Implement a quality improvement program for valves pursuant to 40 CFR 63.175 (d) or (e) of this subpart and monitor quarterly.
 - ii. At process units with less than two percent leaking valves, the Permittee shall monitor each valve once each quarter
 - iii. At process units with less than one percent leaking valves, the Permittee may monitor each valve once every two quarters.
 - iv. At process units with less than 0.5 percent leaking valves, the Permittee may monitor each valve once every four quarters.
- b. An instrument reading of 500 part per million or greater defines a leak.
- c. Percent leaking valves at a process unit shall be determined by the following equation:

$$\%V_L = [V_L / (V_T + V_C)] \times 100$$

Where:

$\%V_L$ = Percent leaking valves as determined through periodic monitoring

V_L = Number of valves found leaking, excluding non-repairable valves. However, non-repairable valves shall be included in the calculation of percent leaking valves the first time the valve is identified as "leaking and non-repairable". Also, if the number of non-repairable valves exceeds one percent of the total number of valves in organic HAP service at a process unit, then the number of non-repairable valves exceeding one percent of the total number of valves in organic HAP service shall be included in the calculation of percent leaking valves. Otherwise, a number of non-repairable valves (identified and included in the percent leaking calculation in a previous period) up to a maximum of one percent of the total number of valves in organic HAP service at a process unit may be excluded from calculation of percent leaking valves for subsequent monitoring periods.

V_T = Total valves monitored, in a monitoring period excluding valve monitoring as required within three months after a repair.

V_C = Optional credit for removed valves = $0.67 \times$ net number (i.e., total removed minus total added) of valves in organic HAP service removed from process unit. If credits are not taken, then $V_C = 0$.

- d. The percent leaking valves shall be calculated as a rolling average of two consecutive monitoring periods for monthly, quarterly, or semiannual monitoring programs; and as an average of any three out of four consecutive monitoring periods for annual monitoring programs.
- e. When a leak is detected, it shall be repaired as soon as practicable, but no later than 15 calendar days after the leak is detected, except as provided in delay of repair 40 CFR 63.171. A first attempt at repair shall be made no later than five calendar days after each leak is detected.
- f. When a leak has been repaired, the valve shall be monitored (as specified in 40 CFR 63.180(b) and (c), as appropriate) at least once within the first three months after its repair to determine whether the valve has resumed leaking. If a leak is detected, the Permittee shall count the valve as a leaking valve unless it is repaired and shown by periodic monitoring not to be leaking.
- g. First attempts at repair include, but are not limited to, the following practices where practicable:
 - i. Tightening of bonnet bolts,
 - ii. Replacement of bonnet bolts,
 - iii. Tightening of packing gland nuts, and
 - iv. Injection of lubricant into lubricated packing.
- h. Any valve that is unsafe-to-monitor is exempt from the monitoring, percent leaking valves calculation, and repair requirements if:
 - i. The Permittee determines that the valve is unsafe to monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with requirements; and
 - ii. The Permittee has a written plan that requires monitoring of the valve as frequently as practicable during safe-to-monitor times.
- i. Any valve that is determined as difficult to monitor is exempt from the monitoring and percent leaking valves

calculation requirements if:

- i. The Permittee determines that the valve cannot be monitored without elevating the monitoring personnel more than two meters above a support surface or it is not accessible at anytime in a safe manner;
- ii. The process unit within which the valve is located is an existing source or the Permittee designates less than three percent of the total number of valves in a new source as difficult to monitor; and
- iii. The Permittee follows a written plan that requires monitoring of the valve at least once per calendar year.

7. 15A NCAC 2D .1111: NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR THE MISCELLANEOUS ORGANIC CHEMICAL MANUFACTURING INDUSTRY

40 CFR 63.169: Pumps, Valves, Connectors, and Agitators in Heavy Liquid Service, Pressure Relief Devices in Light and Heavy Liquid Service, and Instrumentation Systems

- a. Pumps, valves, connectors, and agitators in heavy liquid service, pressure relief devices in light liquid or heavy liquid service, and instrumentation systems shall be monitored by the method specified in 40 CFR 63.180(b) within five calendar days if evidence of a potential leak to the atmosphere is found by visual, audible, olfactory, or any other detection method. If such a potential leak is repaired as set forth below, it is not necessary to monitor the system for leaks. In accordance with 40 CFR § 63.2480(b)(4), for connectors in gas/vapor and light liquid service in for the Polyester Polyols Production Equipment (ID No. RESEQLK), the Permittee may elect to comply with the requirements in permit condition 2.2A.7 (based on 40 CFR § 63.169) for connectors in heavy liquid service, including all associated recordkeeping and reporting requirements, rather than the requirements in this permit condition that are based on § 63.174. If an instrument reading of 10,000 parts per million or greater for agitators, 2,000 parts per million or greater for pumps, or 500 parts per million or greater for valves, connectors, instrumentation systems, and pressure relief devices is measured, a leak is detected.
- b. When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in delay of repair 40 CFR 63.171. The first attempt at repair shall be made no later than five calendar days after each leak is detected.
- c. For a potential leak to the atmosphere found by visual, audible, olfactory, or any detection method other than that prescribed in accordance with 40 CFR 63.180(b), repaired shall mean that the visual, audible, olfactory, or other indications of a leak to the atmosphere have been eliminated; that no bubbles are observed at potential leak sites during a leak check using soap solution; or that the system will hold a test pressure.
- d. First attempts at repair include, but are not limited to:
 - i. Tightening of packing gland nuts, and ensuring that the seal flush is operating at design pressure and temperature for pumps; and
 - ii. Tightening of bonnet bolts, replacement of bonnet bolts, tightening of packing gland nuts, and injection of lubricant into lubricated packing for valves.

8. 15A NCAC 2D .1111: NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR THE MISCELLANEOUS ORGANIC CHEMICAL MANUFACTURING INDUSTRY

40 CFR 63.170: Surge Control Vessels and Bottoms Receivers

- a. Each surge control vessel or bottoms receiver subject to these requirements is denoted in the equipment list as "MACT H" having a capacity between 19,810 gallons and less than 39,885 gallons with a HAP vapor pressure greater than or equal to 1.9 psi, or has a capacity greater than or equal to 39,885 gallons with a HAP vapor pressure greater than or equal to 0.75 psi. This equipment shall be equipped with a closed vent system that routes the organic vapors vented from the surge control vessel or bottoms receiver back to the processor the flare (ID No. G4904R or G1955).

40 CFR 63.172: Closed Vent Systems and Control Devices

- b. The control devices (ID Nos. G1955 and G4904R) for the closed vent system (ID Nos. VS7100) used to comply with this subpart shall meet the requirements for flares listed in 40 CFR 63.11(b).
- c. The Permittee shall conduct annual visual inspections for visible, audible, or olfactory indications of leaks for each closed vent system (ID Nos. VS7100) unless it has been determined to be unsafe or difficult to inspect.
- d. Leaks, as indicated by visual inspections, shall be repaired as soon as practicable unless a delay of repair is necessary. The repair shall be completed no later than 15 calendar days after the leak is detected and a first attempt at repair shall be made no later than five calendar days after the leak is detected.
- e. Delay of repair of a closed vent system for which leaks have been detected is allowed if the repair is technically infeasible without a process unit shutdown or if the Permittee determines that emissions resulting from immediate repair would be greater than the fugitive emissions likely to result from delay of repair. Repair of such equipment shall be complete by the end of the next process unit shutdown.
- f. For each closed vent system that contains bypass lines that could divert a vent stream away from the control device

and to the atmosphere, the Permittee shall comply with the following provisions.

- i. Install, set or adjust, maintain, and operate a flow indicator that takes a reading at least once every 15 minutes. Records shall be generated as specified Section 2.2 B.6. The flow indicator shall be installed at the entrance to any bypass line; or
- ii. Secure the bypass line valve in the non-diverting position with a car seal or a lock and key type configuration. A visual inspection of the seal or closure mechanism shall be performed at least once every month to ensure the valve is maintained in the non-diverting position and the vent stream is not diverted through the bypass line.
- iii. Equipment such as low leg drains, high point bleeds, analyzer vents, open ended valves or lines, and pressure relief valves needed for safety purposes are not subject to this paragraph.
- g. Any parts of the closed vent system that are designated as unsafe to inspect are exempt from conducting annual visual inspections for visible, audible, or olfactory indications of leaks if:
 - i. The Permittee determines that the equipment is unsafe to inspect because inspecting personnel would be exposed to an imminent or potential danger; and
 - ii. The Permittee has a written plan that requires inspection of the equipment as frequently as practicable during safe to inspect times, but not more frequently than annually.
- h. Any parts of the closed vent system that are designated as difficult to inspect are exempt from conducting annual visual inspections for visible, audible, or olfactory indications of leaks if:
 - i. The Permittee determines that the equipment cannot be inspected without elevating the inspecting personnel more than two meters above a support surface; and
 - ii. The Permittee has a written plan that requires inspection of the equipment at least once every five years.
- i. Whenever organic HAP emissions are vented to a closed vent system or control device used to comply with the provisions of this subpart, such system or control device shall be operating.

40 CFR 63.179: Alternate Means of Emission limitation: Enclosed Vented Process Units

- j. Process units, including surge vessels and the closed vent system piping, that are maintained under a negative pressure during unit operation to ensure all emissions are routed to the control device are exempt from monitoring requirements.

9. 15A NCAC 2D .1111: NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR THE MISCELLANEOUS ORGANIC CHEMICAL MANUFACTURING INDUSTRY

40 CFR 63.173: Agitators in Gas/Vapor/Light Liquid Service

[Light liquid means a liquid with a VOC with a vapor pressure greater than 0.3 kPa [0.0435 psi] at 20 °C that is present in the liquid in a concentration greater than 20 percent by weight.]

- a. Each agitator shall be monitored monthly to detect leaks by the methods specified in 40 CFR 63.180(b). If an instrument reading of 10,000 parts per million or greater is measured, a leak is detected.
- b. Each agitator shall be checked by visual inspection each calendar week for indications of liquids dripping from the agitator. If there are indications of liquids dripping from the agitator, a leak is detected.
- c. When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in delay of repair 40 CFR 63.171. A first attempt at repair shall be made no later than five calendar days after each leak is detected.
- d. Each agitator equipped with a dual mechanical seal system that includes a barrier fluid system is exempt monthly monitoring by the methods specified in 40 CFR 63.180(b) provided the following requirements are met.
 - i. Each dual mechanical seal system shall be:
 - (A) Operated with the barrier fluid at a pressure that is at all times greater than the agitator stuffing box pressure; or
 - (B) Equipped with a barrier fluid degassing reservoir that is routed to a process or fuel gas system or connected by a closed vent system to a control device; or
 - (C) Equipped with a closed loop system that purges the barrier fluid into a process stream.
 - ii. The barrier fluid shall not be in light liquid organic HAP service.
 - iii. Each barrier fluid system shall be equipped with a sensor that will detect failure of the seal and/or barrier fluid system.
 - iv. Each agitator shall be checked by visual inspection each calendar week for indications of liquids dripping from the agitator seal.
 - (A) If there are indications of liquids dripping from the agitator seal at the time of the weekly inspection, the agitator shall be monitored as specified in 40 CFR 63.180(b) to determine the presence of organic HAP in the barrier fluid.
 - (B) If an instrument reading of 10,000 parts per million or greater is measured, a leak is detected.

- v. Each barrier fluid/seal system equipped with a sensor shall be observed daily or equipped with an alarm, unless the agitator is located within the boundary of an unmanned plant site.
- vi. The Permittee shall determine, based on design considerations and operating experience, criteria applicable to the presence and frequency of drips and to the sensor that indicates failure of the seal and/or barrier system.
 - (A) If indications of liquids dripping from the agitator seal exceed these criteria, or if, based on the criteria, the sensor indicates failure of the seal and/or barrier fluid system, a leak is detected.
 - (B) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in delay of repair 40 CFR 63.171, and a first attempt at repair shall be made no later than five calendar days after each leak is detected.
- e. Any agitator that is designed with no externally actuated shaft penetrating the agitator housing is exempt from monitoring requirements.
- f. Any agitator equipped with a closed vent system capable of capturing and transporting any leakage from the seal or seals to a process or fuel gas system or to a control device is exempt from monitoring requirements.
- g. Any agitator that is difficult to monitor is exempt from monitoring requirements if:
 - i. The Permittee determines that the agitator cannot be monitored without elevating the monitoring personnel more than two meters above a support surface or it is not accessible at anytime in a safe manner;
 - ii. The process unit within which the agitator is located is an existing source or the Permittee designates less than three percent of the total number of agitators in a new source as difficult to monitor; and
 - iii. The Permittee follows a written plan that requires monitoring of the agitator at least once per calendar year.
- h. Any agitator that is obstructed by equipment or piping that prevents access to the agitator by a monitor probe is exempt from monitoring requirements.
- i. Any agitator that is designated as an unsafe to monitor agitator is exempt from the monitoring requirements if:
 - i. The Permittee determines that the agitator is unsafe to monitor because monitoring personnel would be exposed to an immediate danger; and
 - ii. The Permittee has a written plan that requires monitoring of the agitator as frequently as practical during safe to monitor times.

10. 15A NCAC 2D .1111: NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR THE MISCELLANEOUS ORGANIC CHEMICAL MANUFACTURING INDUSTRY

40 CFR 63.174: Connectors in Gas/Vapor/Light Liquid Service

[Light liquid means a liquid with a VOC with a vapor pressure greater than 0.3 kPa [0.0435 psi] at 20°C, which is present in the liquid in a concentration greater than 20 percent by weight.]

- a. In accordance with 40 CFR § 63.2480(b)(4), for connectors in gas/vapor and light liquid service in for the Polyester Polyols Production Equipment (ID No. RESEQLK), the Permittee may elect to comply with the requirements in permit condition 2.2 A.7 (based on 40 CFR § 63.169) for connectors in heavy liquid service, including all associated recordkeeping and reporting requirements, rather than the requirements in this permit condition that are based on § 63.174.

11. 15A NCAC 2D .1111: NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR THE MISCELLANEOUS ORGANIC CHEMICAL MANUFACTURING INDUSTRY

40 CFR 63.181: Recordkeeping Requirements

- a. The Permittee may comply with the recordkeeping requirements for multiple process units in one recordkeeping system if the system identifies each record by process unit and the program being implemented (e.g., quarterly monitoring, quality improvement) for each type of equipment. All records and information shall be maintained in a manner that can be readily accessed at the plant site.
- b. The following information pertaining to all equipment in each affected process unit shall be recorded.
 - i. A list of identification numbers for all affected equipment (except connectors exempt from monitoring and recordkeeping and instrumentation systems). Connectors need not be individually identified if all connectors in a designated area or length of pipe subject to the provisions of this subpart are identified as a group, and the number of affected connectors is indicated.
 - ii. A schedule, by process unit, for monitoring affected connectors and valves.
 - iii. Physical tagging of the equipment to indicate that it is in organic HAP service is not required. Affected equipment may be identified on a plant site plan, in log entries, or by other appropriate methods.
 - iv. A list of identification numbers for affected pumps in light liquid service, compressors, pressure relief devices in gas/vapor service, or agitators in gas/vapor/light liquid service that the Permittee elects to equip with a closed-vent system and control device.
 - v. Identification of affected surge control vessels or bottoms receivers that the Permittee elects to equip with a

- closed-vent system and control device (See Section 2.2 A.7).
- vi. A list of identification numbers for affected pressure relief devices.
 - vii. A list of identification numbers for affected pressure relief devices equipped with rupture disks.
 - viii. Identification of affected instrumentation systems. Individual components in an instrumentation system need not be identified.
 - ix. Identification of screwed connectors two inches in diameter or less and installed before December 31, 1992 that will be electively monitored in accordance with Section 2.2 A.10.e. Identification can be by area or grouping as long as the total number within each group or area is recorded.
 - x. The following information shall be recorded for each dual mechanical seal system:
 - (A) Design criteria required in Section 2.2 A.2.c.vi for pumps in light liquid service and Section 2.2 A.9.d.vi for agitators in gas/vapor/light liquid service and an explanation of the design criteria pertaining to the presence and frequency of drips and to the sensor that indicates a failure of the seal and/or barrier system; and
 - (B) Any changes to these criteria and the reasons for the changes.
 - xi. The following information pertaining to all unsafe to monitor pumps (Section 2.2 A.2.f), unsafe or difficult to monitor valves (Section 2.2 A.6.h and Section 2.2 A.6.i, respectively), difficult to monitor or unsafe to monitor agitators (Section 2.2 A.9.g and Section 2.2 A.9.i, respectively), and unsafe to monitor or unsafe to repair connectors (Section 2.2 A.10.f and 2.2 A.10.g, respectively) shall be recorded:
 - (A) Identification of equipment designated as unsafe to monitor, difficult to monitor, or unsafe to inspect and the plan for monitoring or inspecting this equipment.
 - (B) A list of identification numbers for the equipment that is designated as difficult to monitor, an explanation of why the equipment is difficult to monitor, and the planned schedule for monitoring this equipment.
 - (C) A list of identification numbers for connectors that are designated as unsafe to repair and an explanation why the connector is unsafe to repair.
 - (D) A list of valves removed from and added to the process unit for calculation of percent leaking valves (Section 2.2 A.6.c) if the net credits for removed valves (V_C) are expected to be used.
 - (E) A list of connectors removed from and added to the process unit during the first monitoring period as determined pursuant to 40 CFR 63.174(i)(1), and documentation of the integrity of the weld for any removed connectors in the calculation of percent leaking connectors (Section 2.2 A.10.i). This is not required unless the net credits for removed connectors (C_C) are expected to be used.
 - c. For visual inspections of pumps in light liquid service [Section 2.2 A.2.a.ii and Section 2.2 A.2.c.iv (A)], the Permittee shall document that the inspection was conducted and the date of the inspection. The Permittee shall maintain records as specified below in 2.2 A.11.d for leaking equipment identified in this inspection.
 - d. When each leak is detected as specified for affected equipment including: pumps in light liquid service (Section 2.2 A.2), valves in gas/vapor/light liquid service (Section 2.2 A.6.), pumps/valves/connectors/
 - e. agitators in heavy liquid service/pressure relief devices in liquid service/instrumentation systems (Section 2.2 A.7), closed vent systems (Section 2.2 A.8.b through i.), agitators in gas/vapor/light liquid service (Section 2.2 A.9), and connectors in gas/vapor/light liquid service (Section 2.2 A.10), the following information shall be recorded and retained in accordance with the general provisions of this permit:
 - i. The instrument and the equipment identification number and the operator name, initials, or identification number.
 - ii. The date the leak was detected and the date of first attempt to repair the leak.
 - iii. The date of successful repair of the leak.
 - iv. Maximum instrument reading measured by Method 21 of 40 CFR 60, Appendix A after it is successfully repaired or determined to be non-repairable.
 - v. "Repair delayed" and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak.
 - (A) 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/ malfunction plan for the source 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.
 - (B) If delay of repair was caused by depletion of stocked parts, there must be documentation that the spare parts were sufficiently stocked onsite before depletion and the reason for depletion.
 - vi. Dates of process unit shutdowns that occur while the equipment is unrepaired.
 - vii. Identification, either by list, location (area or grouping), or tagging of connectors that have been opened or otherwise had the seal broken since the last monitoring period established pursuant to Section 2.2 A.10.b, as described in Section 2.2 A.10.c, unless the Permittee chooses not to monitor these valves and sets the

- variable C_{AN} equal to zero in the calculation of percent leaking valves pursuant to Section 2.2 A.10.c.
- vii. The date and results of monitoring connectors that have been opened pursuant Section 2.2 A.10.c. If identification of connectors that have been opened or otherwise had the seal broken is made by location above in Section 2.2 A.11.d.vii, then all connectors within the designated location shall be monitored.
 - viii. Copies of the periodic reports, if records are not maintained on a computerized database capable of generating summary reports from the records.
- f. The Permittee shall maintain the records for quality improvement programs for valve and pumps developed pursuant to 40 CFR 63.175 and 40 CFR 63.176 as specified below for the period of the quality improvement program for the process unit.
- i. If the Permittee elects to use a reasonable further progress quality improvement program, as specified in 40 CFR 63.175(d) for valves, the following records must be maintained:
 - (A) All data required in 40 CFR 63.175(d)(2).
 - (B) The percent leaking valves observed each quarter and the rolling average percent reduction observed in each quarter.
 - (C) The beginning and ending dates while meeting the requirements of 40 CFR 63.175(d) of this subpart.
 - ii. If the Permittee elects to use a quality improvement program of technology review and improvement, as specified in 40 CFR 63.175(e) for valves, the following record must be maintained:
 - (A) All data required in 40 CFR 63.175(e)(2).
 - (B) The percent leaking valves observed each quarter.
 - (C) Documentation of all inspections conducted pursuant to 40 CFR 63.175(e)(4) and any recommendations for design or specification changes to reduce leak frequency.
 - (D) The beginning and ending dates while meeting the requirements of 40 CFR 63.175(e).
 - iii. If the Permittee is subject to the requirements of the pump quality improvement program as specified in 40 CFR 63.176, the following records must be maintained:
 - (A) All data required in 40 CFR 63.176(d)(2).
 - (B) The rolling average percent leaking pumps.
 - (C) Documentation of all inspections conducted pursuant to 40 CFR 63.176(d)(4) and any recommendations for design or specification changes to reduce leak frequency.
 - (D) The beginning and ending dates while meeting the requirements of 40 CFR 63.176(d).
 - iv. 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.
 - v. Records of all analyses required in 40 CFR 63.175(e) for valves and 40 CFR 63.176(d) for pumps. The records will include the following:
 - (A) A list identifying areas associated with poorer than average performance and the associated service characteristics of the stream, the operating conditions and maintenance practices.
 - (B) The reasons for rejecting specific candidate superior emission performing valve or pump technology from performance trials.
 - (C) The list of candidate superior emission performing valve or pump technologies, and documentation of the performance trial program items required pursuant to 40 CFR 63.175(e)(6)(iii) and 40 CFR 63.176(d)(6)(iii).
 - (D) The beginning date and duration of performance trials of each candidate superior emission performing technology.
 - vi. All records documenting the quality assurance program for valves or pumps as specified in 40 CFR 63.175(e)(7) and 40 CFR 63.176(d)(7).
 - vii. Records indicating that all valves or pumps replaced or modified during the period of the quality improvement program are in compliance with the quality assurance requirements in 40 CFR 63.175(e)(7) and 40 CFR 63.176(d)(7).
 - viii. Records documenting compliance with the 20 percent or greater annual replacement rate for pumps as specified in 40 CFR 63.176(d)(8).
- g. The Permittee shall retain information, data, and analyses used to determine that a piece of equipment is in heavy liquid service, or demonstrate that the piece of equipment or process is in heavy liquid service when requested by the DAQ. A determination or demonstration that a piece of equipment or process is in heavy liquid service shall include an analysis or demonstration that the process fluids do not meet the definition of "in light liquid service." Examples of information that could document this include, but are not limited to, records of chemicals purchased for the process, analyses of process stream composition, engineering calculations, or process knowledge.
- h. Identification, either by list, location (area or group) of equipment in organic HAP service less than 300 hours per year within a process unit subject to the provisions of 40 CFR 63, Subpart H.

12. 15A NCAC 2D .1111: NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR THE MISCELLANEOUS ORGANIC CHEMICAL MANUFACTURING INDUSTRY**Reporting** [15A NCAC 2Q .0508(f) and 40 CFR 63.182]

The Permittee shall submit periodic reports 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.

- a. For each affected process unit, the report shall contain a summary of information for each monitoring period during the 6-month period regarding the following items.
 - i. The number of valves for which leaks were detected as described in Section 2.2 A.6.a, the percent leakers, and the total number of valves monitored.
 - ii. The number of valves for which leaks were not repaired as required in Sections 2.2 A.6.e and g, identifying the number of those that are determined non-repairable.
 - iii. The number of pumps for which leaks were detected as described in Sections 2.2 A.2.a.i and a.ii, the percent leakers, and the total number of pumps monitored.
 - iv. The number of pumps for which leaks were not repaired as required in Sections 2.2 A.2.a.iii and a.iv.
 - v. The number of agitators for which leaks were detected as described in Sections 2.2 A.9.a and b.
 - vi. The number of agitators for which leaks were not repaired as required in Section 2.2 A.9.c.
 - vii. The number of connectors for which leaks were detected as described in Section 2.2 A.10.a, the percent of connectors leaking, and the total number of connectors monitored.
 - viii. The number of connectors for which leaks were not repaired as required in Section 2.2 A.10.d, identifying the number of those that are determined non-repairable;
 - ix. The facts that explain any delay of repairs and, where appropriate, why a process unit shutdown was technically infeasible.
 - x. The results of all monitoring to show compliance with Section, 2.2 A.3.a (pressure relief devices), and Section 2.2 A.8.c (surge control vessels and bottoms receivers) conducted within the semiannual reporting period.
 - xi. The initiation of a monthly monitoring program under Section 2.2 A.6.a.i (A) for process units with two percent or greater leaking valves, or a quality improvement program under either 40 CFR 63.175 or 40 CFR 63.176.
 - xii. If applicable, notification of a change in connector monitoring alternatives as described in Section 2.2 A.10.c.
- b. If the Permittee chooses to pressure test batch process units pursuant to Section 2.2 A.12, the report shall include the following information for each affected process unit.
 - i. The batch product process equipment train identification.
 - ii. The number of pressure tests conducted.
 - iii. The number of pressure tests where the equipment train failed the pressure test.
 - iv. The facts that explain any delay of repairs.
 - v. The results of all monitoring to determine compliance with Section 2.2 A.8.c.
- c. Any revisions to items reported in earlier Notification of Compliance Status, if the method of compliance has changed since the last report.

B. 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
HAPs	General Applicability, Standards, Recordkeeping and Reporting Provisions. Heat exchanger operation. Maintenance wastewater management procedures.	15A NCAC 2D .1111 (40 CFR 63, Subpart FFFF)
HAPs	Startup, Shutdown, Malfunction	15A NCAC 2D .1111 (40 CFR 63, Subpart A)
HAPs	Control Device Bypasses	15A NCAC 2D .1111 (40 CFR 63, Subpart FFFF)
HAPs	HON Avoidance Condition See Section 2.2 G.6. "Multiple Emission Sources."	15A NCAC 2Q .0317 (<i>Avoidance of 15A NCAC 2D .1111-40 CFR 63, Subparts F, G, H</i>)

1. 15A NCAC 2D .1111: NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR THE MISCELLANEOUS ORGANIC CHEMICAL MANUFACTURING INDUSTRY– Start up, Shut Down Malfunction

a. 40 CFR 63.6(e)(3): Start up, Shut Down and Malfunction Plan

- i. The Permittee shall develop a written startup, shutdown, and malfunction plan that describes, in detail, procedures for operating and maintaining the source during periods of startup, shutdown, and malfunction and a program of corrective action for malfunctioning process and air pollution control equipment used to comply with the relevant standard. The startup, shutdown, and malfunction plan does not need to address any scenario that would not cause the source to exceed an applicable emission limitation in the relevant standard. The purpose of the startup, shutdown, and malfunction plan is to:
 - (A) Ensure that Permittee is prepared to correct malfunctions as soon as practicable after their occurrence in order to minimize excess emissions of hazardous air pollutants; and
 - (B) Reduce the reporting burden associated with periods of startup, shutdown, and malfunction (including corrective action taken to restore malfunctioning process and air pollution control equipment to its normal or usual manner of operation).
- ii. When actions taken by the Permittee during a startup or shutdown (and the startup or shutdown causes the source to exceed any applicable emission limitation in the relevant emission standards), or malfunction (including actions taken to correct a malfunction) are consistent with the procedures specified in the affected source's startup, shutdown, and malfunction plan, the Permittee must keep records for that event which demonstrate that the procedures specified in the plan were followed. In addition, The Permittee must keep records of these events as specified below in Section 2.2 B.1.a.ii (A) through (E) [40 CFR 63.10(b)], including records of the occurrence and duration of each startup or shutdown (if the startup or shutdown causes the source to exceed any applicable emission limitation in the relevant emission standards), or malfunction of operation and each malfunction of the air pollution control and monitoring equipment. Furthermore, the Permittee shall confirm that actions taken during the relevant reporting period during periods of startup, shutdown, and malfunction were consistent with the affected source's startup, shutdown and malfunction plan in the semiannual (or more frequent) startup, shutdown, and malfunction report required in Section 2.2 B.1.b.i. [40 CFR 63.10(d)(5)].
 - (A) The occurrence and duration of each startup or shutdown when the startup or shutdown causes the source to exceed any applicable emission limitation in the relevant emission standards;
 - (B) The occurrence and duration of each malfunction of operation (*i.e.*, process equipment) or the required air pollution control and monitoring equipment;
 - (C) All required maintenance performed on the air pollution control and monitoring equipment;
 - (D) Actions taken during periods of startup or shutdown when the source exceeded applicable emission limitations in a relevant standard and when the actions taken are different from the procedures specified in the affected source's startup, shutdown, and malfunction plan; or Actions taken during periods of malfunction (including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation) when the actions taken are different

- from the procedures specified in the affected source's startup, shutdown, and malfunction plan;
- (E) All information necessary, including actions taken, to demonstrate conformance with the affected source's startup, shutdown, and malfunction plan when all actions taken during periods of startup or shutdown (and the startup or shutdown causes the source to exceed any applicable emission limitation in the relevant emission standards), and malfunction (including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation) are consistent with the procedures specified in such plan. (The information needed to demonstrate conformance with the startup, shutdown, and malfunction plan may be recorded using a "checklist," or some other effective form of recordkeeping, in order to minimize the recordkeeping burden for conforming events);
- iii. If an action taken by the Permittee during a startup, shutdown, or malfunction (including an action taken to correct a malfunction) is not consistent with the procedures specified in the affected source's startup, shutdown, and malfunction plan, and the source exceeds any applicable emission limitation in the relevant emission standard, then the Permittee must record the actions taken for that event and must report such actions within 2 working days after commencing actions inconsistent with the plan, followed by a letter within 7 working days after the end of the event, in accordance with Section 2.2 B.1.b.i. [40 CFR 63.10(d)(5)] (unless the owner or operator makes alternative reporting arrangements, in advance, with the DAQ).
- iv. The Permittee must maintain at the affected source a current startup, shutdown, and malfunction plan and must make the plan available upon request for inspection and copying by the DAQ. In addition, if the startup, shutdown, and malfunction plan is subsequently revised as provided in Section 2.2 B.1.a.iii, the Permittee must maintain at the affected source each previous (i.e., superseded) version of the startup, shutdown, and malfunction plan, and must make each such previous version available for inspection and copying by the DAQ for a period of 5 years after revision of the plan. If at any time after adoption of a startup, shutdown, and malfunction plan the affected source ceases operation or is otherwise no longer subject to the provisions of this part, the Permittee must retain a copy of the most recent plan for 5 years from the date the source ceases operation or is no longer subject to this part and must make the plan available upon request for inspection and copying by the DAQ. The DAQ may at any time request in writing that the Permittee submit a copy of any startup, shutdown, and malfunction plan (or a portion thereof) which is maintained at the affected source or in the possession of the Permittee. Upon receipt of such a request, the Permittee must promptly submit a copy of the requested plan (or a portion thereof) to the DAQ. The Permittee may elect to submit the required copy of any startup, shutdown, and malfunction plan to the DAQ in an electronic format. If the owner or operator claims that any portion of such a startup, shutdown, and malfunction plan is confidential business information entitled to protection from disclosure under section 114(c) of the Act or 40 CFR 2.301, the material which is claimed as confidential must be clearly designated in the submission.
- v. The Permittee may use the affected source's standard operating procedures (SOP) manual, an Occupational Safety and Health Administration (OSHA) plan, or other plan, provided the alternative plans meet all the requirements of this section and are made available for inspection when requested by the DAQ.
- vi. The DAQ may require that the Permittee of an affected source make changes to the startup, shutdown, and malfunction plan for an affected source based on the review of monitoring data and/or the plan. The DAQ may require reasonable revisions to a startup, shutdown, and malfunction plan, if the DAQ finds that the plan:
- (A) Does not address a startup, shutdown, or malfunction event that has occurred;
 - (B) Fails to provide for the operation of the source (including associated air pollution control equipment) during a startup, shutdown, or malfunction event in a manner consistent with good air pollution control practices for minimizing emissions at least to the levels required by all relevant standards; or
 - (C) Does not provide adequate procedures for correcting malfunctioning process and/or air pollution control equipment as quickly as practicable.
- vii. If the startup, shutdown, and malfunction plan fails to address or inadequately addresses an event that meets the characteristics of a malfunction but was not included in the startup, shutdown, and malfunction plan at the time the Permittee developed the plan, the Permittee shall revise the startup, shutdown, and malfunction plan within 45 days after the event to include detailed procedures for operating and maintaining the source during similar malfunction events and a program of corrective action for similar malfunctions of process or air pollution control equipment.

Reporting [15A NCAC 2Q .0508(f) and 40 CFR 63.10(d)(5)]

- b. *Periodic startup, shutdown, and malfunction reports.* If actions taken by the Permittee during a startup, shutdown, or malfunction of an affected source (including actions taken to correct a malfunction) are consistent with the procedures specified in the source's startup, shutdown, and malfunction plan, the Permittee shall state such information in a startup, shutdown, and malfunction report. Reports shall only be required if a startup, shutdown,

or malfunction occurred during the reporting period. The startup, shutdown, and malfunction report shall consist of a letter, containing the name, title, and signature of the Permittee or other responsible official who is certifying its accuracy, which shall be submitted to the DAQ semiannually. If the Permittee is required to submit excess emissions and continuous monitoring system performance (or other periodic) reports under this part, the startup, shutdown, and malfunction reports may be submitted simultaneously with the excess emissions and continuous monitoring system performance (or other) reports.

- c. *Immediate startup, shutdown, and malfunction reports.* Any time an action taken by the Permittee during a startup, shutdown, or malfunction (including actions taken to correct a malfunction) is not consistent with the procedures specified in the affected source's startup, shutdown, and malfunction plan, the Permittee shall report the actions taken for that event within two working days after commencing actions inconsistent with the plan followed by a letter within seven working days after the end of the event. The immediate report shall consist of a telephone call (or facsimile (FAX) transmission) to the DAQ within two working days after commencing actions inconsistent with the plan, and it shall be followed by a letter, delivered or postmarked within seven working days after the end of the event, that contains the name, title, and signature of the responsible official who is certifying its accuracy, explaining the circumstances of the event, the reasons for not following the startup, shutdown, and malfunction plan, and whether any excess emissions and/or parameter monitoring exceedances are believed to have occurred.

2. 15A NCAC 2D .1111: NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR THE MISCELLANEOUS ORGANIC CHEMICAL MANUFACTURING INDUSTRY - Control Device Bypass

a. **40 CFR 63.114(d): Control Device Bypass Monitoring Requirements**

- i. The Permittee shall maintain and operate a flow indicator installed at the entrance to any bypass line, between the origin of the gas stream (e.g., at an air oxidation reactor, distillation unit, or reactor) and the point where the gas stream reaches the process vent that could divert the gas stream to the atmosphere. The indicator shall take a reading at least once every 15 minutes and records shall be generated as specified in 40 CFR 63.118(a)(3); or
- ii. The Permittee shall secure the bypass line valve in the non-diverting position with a car seal or a lock-and-key type configuration. A visual inspection of the seal or closure mechanism shall be performed at least once every month to ensure that the valve is maintained in the non-diverting position and the gas stream is not diverted through the bypass line.

Recordkeeping [15A NCAC 2Q .0508(f) and 40 CFR 63.118(a)]

b. **Control Device Bypass Recordkeeping Requirements**

- i. The Permittee shall maintain hourly records of whether the flow indicator specified in 2.2 B.2.a.i was operating and whether a diversion was detected at any time during the hour, as well as records of the times and durations of all periods when the gas stream is diverted to the atmosphere or the monitor is not operating; or
- ii. The Permittee shall record that the monthly visual inspection of the seals or closure mechanism for a seal used to comply with 2.2 B.2.a.ii has been done, and shall record the duration of all periods when the seal mechanism is broken, the bypass line valve position has changed, or the key for a lock-and-key type lock has been checked out, and records of any car seal that has broken.

Reporting [15A NCAC 2Q .0508(f) and 40 CFR 63.118(f)]

- c. **Control Device Bypass Reporting Requirements:** The Permittee shall submit periodic reports of the duration of periods when monitoring data is not collected for each excursion caused by insufficient monitoring data as defined below:
- i. when the period of control device or recovery device operation is 4 hours or greater in an operating day and monitoring data are insufficient to constitute a valid hour of data for at least 75 percent of the operating hours;
 - ii. when the period of control device or recovery device operation is less than 4 hours in an operating day and more than one of the hours during the period of operation does not constitute a valid hour of data due to insufficient monitoring data;
 - iii. monitoring data are insufficient to constitute a valid hour of data if measured values are unavailable for any of the 15minute periods within the hour. [For data compression systems approved under 40 CFR 63.151(g)(4), monitoring data are insufficient to calculate a valid hour of data if there are less than 4 data values recorded during the hour.]
- d. The Permittee shall submit periodic reports of the times and durations of all periods recorded under 2.2 B.2.b.i when the gas stream is diverted to the atmosphere through a bypass line.

- e. The Permittee shall submit periodic reports of all periods recorded under 2.2 B.2.b.ii in which the seal mechanism is broken, the bypass line valve position has changed, or the key to unlock the bypass line valve was checked out.

3. 15A NCAC 2D .1111: NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR THE MISCELLANEOUS ORGANIC CHEMICAL MANUFACTURING INDUSTRY – Heat Exchangers

- a. All heat exchange systems affected by 40 CFR 63, Subpart FFFF shall be operated with the minimum pressure on the cooling water side at least 35 kilopascals greater than the maximum pressure on the process side. [40 CFR 63.104(a)(1)]

C. 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
Odor	State-enforceable only Suitable control measures	15A NCAC 2D .1806
TAPs	State-enforceable only Acceptable ambient levels	15A NCAC 2Q .0705
TAPs	State-enforceable only Modeled individual source limits or facility wide limits	15A NCAC 2D .1100
HAPs	MACT Avoidance Condition Facility-wide HAP emissions shall be less than: 10 tpy of any individual HAP; and, 25 tpy of total, combined HAP.	15A NCAC 2Q .0317 <i>(Avoidance of 15A NCAC 2D .1109)</i>
CO, NO _x , SO ₂ , PM, VOC and CO ₂ e	PSD Avoidance Facility-wide emissions of each pollutant except CO ₂ e shall be less than 100 tpy. Facility-wide CO ₂ e emissions shall be less than 100,000 tpy	15A NCAC 2Q .0317 <i>(Avoidance of existing major source requirements under 15A NCAC 2D .0530 and 15A NCAC 2D .0544)</i>
VOCs	NSPS Avoidance Condition After December 31, 2013, no longer produce chemicals listed in § 60.617 or in § 60.667 as a product, co-product, by-product, or intermediate or operate a process as defined in § 60.480(f)	15A NCAC 2D .0524 <i>(Avoidance of 40 CFR 60, Subparts VV, III, NNN)</i>

State Enforceable Only

1. 15A NCAC 2D .1806: CONTROL AND PROHIBITION OF ODOROUS EMISSIONS

- a. The Permittee shall not operate the facility without implementing management practices or installing and operating odor control equipment sufficient to prevent odorous emissions from the facility from causing or contributing to objectionable odors beyond the facility's boundary.
- b. The DAQ may require the Permittee to implement maximum feasible controls per 15A NCAC 2D .1806(g) if:
 - i. A member of the DAQ staff determines by field investigation that an objectionable odor is present by taking into account nature, intensity, pervasiveness, duration, and source of the odor and other pertinent factors;
 - ii. The source or facility emits known odor causing compounds such as ammonia, total volatile organics, hydrogen sulfide, or other sulfur compounds at levels that cause objectionable odors beyond the property line of that source or facility; or
 - iii. The DAQ receives epidemiological studies associating health problems with odors from the source or facility or evidence of documented health problems associated with odors from the source or facility provided by the State Health Director.
- c. If the DAQ determines that a source or facility is emitting an objectionable odor, the Permittee shall:
 - i. Complete the determination process outlined in 15A NCAC 2D .1807 and submit to the DAQ a completed maximum feasible control determination process, a permit application for maximum feasible controls and a compliance schedule within 180 days of receipt of written notification from the Director of the requirement to implement maximum feasible controls; and
 - ii. Have installed and begun operating the maximum feasible controls within 18 months of receipt of written

notification from the DAQ of the requirement to implement maximum feasible controls.

State Enforceable Only

4. 15A NCAC 2Q .0705: EXISTING FACILITIES AND SIC CALLS FOR TAP EMISSIONS LIMITATION REQUIREMENT

As of January 8, 2009 (last full revision November 15, 2011), emissions of toxic air pollutants have been demonstrated on a facility-wide basis (excluding those sources exempt under 15A NCAC 2Q .0702 "Exemptions") such that each of the toxic air pollutants (TAPs) emitted from all sources at the facility are either below its respective toxic permit emission rates (TPER) listed in 15A NCAC 2Q .0711, "Emission Rates Requiring a Permit," or the TAPs are at acceptable ambient levels in compliance with 15A NCAC 2D .1100, "Control of Toxic Air Pollutants", as described in Condition 2.2.G.3.

State Enforceable Only

3. 15A NCAC 2D .1100: CONTROL OF TOXIC AIR POLLUTANTS:

- a. The Permittee shall limit the emissions of each affected toxic air pollutant to either the source-by-source limits in Section 2.2 G.3.a.i or the facility wide limit in Section 2.2 G.3.a.ii below.
- i. Toxic air pollutant emissions shall not exceed the following source-by-source limits;

EMISSION SOURCES	TOXIC AIR POLLUTANTS	EMISSION LIMITS
UTILITIES		
Heater #4 (ID No. HTR4)	acetaldehyde ammonia arsenic and inorganic arsenic compounds benzene beryllium cadmium chromium VI 1,4-dioxane formaldehyde manganese mercury nickel toluene xylene	0.48 lb/hour 8.35 lb/hour 33.1 lb/12-month 647 lb/12-month 9.73 lb/12-month 9.99 lb/12-month 26.2 lb/12-month 0.29 lb/24-hour 0.31 lb/hour 6.19 lb/24-hour 0.03 lbs/24-hour 74.7 lb/24-hour 0.48 lbs/hour 1.95 lb/hour
VOC flare (ID No. G4904R)	acetaldehyde ammonia arsenic and inorganic arsenic compounds benzene cadmium 1,4-dioxane formaldehyde manganese mercury nickel toluene xylene	0.47 lb/hour 0.53 lb/hour 0.29 lb/12-month 586 lb/12-month 1.61 lb/12-month 0.29 lb/24-hour 1.25e-02 lb/hour 1.52e-03 lb/24-hour 1.04e-03 lbs/24-hour 8.40e-03 lb/24-hour 0.47 lbs/hour 1.95 lb/hour
PROCESS VENTS		
A-line Carbon Adsorbers (ID No. A102A/B) <i>Released from A-line oxidizer header (ID No. AOXHEAD)</i>	benzene toluene xylene	4,470 lb/12-month 4.50 lb/hour 33 lb/hour

EMISSION SOURCES	TOXIC AIR POLLUTANTS	EMISSION LIMITS
B-line Carbon Adsorbers (ID No. A2102A/B) <i>Released from B-line oxidizer header (ID No. BOXHEAD)</i>	benzene toluene xylene	4,470 lb/12-month 4.50 lb/hour 33 lb/hour
C-line Carbon Adsorbers (ID No. A4102A/B/C) <i>Released from C-line oxidizer reactors and separator tank (ID No. R4100/T41005)</i>	benzene toluene xylene	4,470 lb/12-month 8.97 lb/hour 48 lb/hour
STORAGE VESSELS		
storage tank (ID No. T10)	benzene toluene xylene	18.6 lb/12-month 6.16e-02 lb/hour 31.6 lb/hour
storage tank (ID No. T13)	benzene toluene xylene	18.6 lb/12-month 6.16e-02 lb/hour 31.6 lb/hour
storage tank (ID No. T14)	benzene toluene xylene	18.6 lb/12-month 6.16e-02 lb/hour 31.6 lb/hour
Catalyst solution tank (ID No. T114)	acetic acid benzene formaldehyde toluene xylene	1.64e-04 lb/hour 0.09 lb/12-month 1.33e-06 lb/hour 1.04e-05 lb/hour 1.87e-06 lb/hour
A-line tank (ID No. T105-13 (POS) or T201-3-AOS) - <i>TAP compliance demonstration conservatively modeled both tanks operating simultaneously.</i>	acetaldehyde benzene 1,4-dioxane toluene xylene	2.22 lb/hour 25.4 lb/12-month 5.62 lb/24-hour 2.62e-02 lb/hour 0.83 lb/hour
tank (ID No. T105-7)	acetaldehyde benzene 1,4-dioxane toluene xylene	4.53 lb/hour 46.1 lb/12-month 8.69 lb/24-hour 4.17e-02 lb/hour 1.15 lb/hour
A-line storage tank (ID No. T112-7B-POS)	acetic acid acetaldehyde benzene 1,4-dioxane formaldehyde toluene xylene	0.49 lb/hour 0.38 lb/hour 3.87 lb/12-month 0.73 lb/24-hour 4.40e-04 lb/hour 3.50e-03 lb/hour 9.68e-03 lb/hour
B-line tank (ID No. T115)	acetic acid benzene formaldehyde toluene xylene	2.50e-03 lb/hour 0.79 lb/12-month 2.90 e-06 lb/hour 9.05e-05 lb/hour 2.84e-05 lb/hour
storage tank (ID No. T2502)	acetic acid	2.50e-03 lb/hour

EMISSION SOURCES	TOXIC AIR POLLUTANTS	EMISSION LIMITS
storage tank (ID No. T2502)	benzene formaldehyde toluene xylene	0.79 lb/12-month 2.90e-06 lb/hour 9.05e-05 lb/hour 3.97 lb/hour
Barometric tank (ID No. T404)	acetaldehyde benzene 1,4-dioxane toluene xylene	2.44e-02 lb/hour 8.00 lb/12-month 4.69e-02 lb/24-hour 3.59e-02 lb/hour 0.28 lb/hour
Barometric tank (ID No. T4404)	acetaldehyde benzene 1,4-dioxane toluene xylene	2.35e-02 lb/hour 7.65 lb/12-month 4.51e-02 lb/24-hour 3.45e-02 lb/hour 0.27 lb/hour
Barometric tank (ID No. T406-15)	acetaldehyde benzene 1,4-dioxane toluene xylene	2.44e-02 lb/hour 8.00 lb/12-month 4.69e-02 lb/24-hour 3.59e-02 lb/hour 0.28 lb/hour
Barometric tank (ID No. T6412-19)	acetaldehyde benzene 1,4-dioxane toluene xylene	5.50e-02 lb/hour 17.9 lb/12-month 0.11 lb/24-hour 8.10e-02 lb/hour 0.63 lb/hour
decant tank (ID Nos. T501)	xylene	3.97 lb/hour
neutralization tank (ID No. T517-2A)	acetaldehyde benzene 1,4-dioxane toluene xylene	0.50 lb/hour 5.11 lb/12-month 0.96 lb/24-hour 4.61e-03 lb/hour 0.13 lb/hour
neutralization tank (ID No. T517-2B)	acetaldehyde benzene 1,4-dioxane toluene xylene	0.50 lb/hour 5.11 lb/12-month 0.96 lb/24-hour 4.61e-03 lb/hour 0.13 lb/hour
Glycol storage tank (ID No. T301A)	xylene	1.35e-05 lb/hour
storage tank (ID No. T6105-14)	xylene	8.33e-04 lb/hour
Polyester polyols barometric tank (ID No. T7010-21)	acetaldehyde benzene 1,4-dioxane toluene xylene	5.50e-02 lb/hour 17.9 lb/12-month 0.11 lb/24-hour 8.10e-02 lb/hour 0.63 lb/hour
Polyester polyols barometric tank (ID No. T7103-12)	acetaldehyde 1,4-dioxane	1.28e-04 lb/hour 2.42e-02 lb/24-hour
Polyester polyols tanks (ID No. PPAREA)	1,4-dioxane	3.59e-02 lb/24-hour

EMISSION SOURCES	TOXIC AIR POLLUTANTS	EMISSION LIMITS
WASTEWATER OPERATIONS		
Wastewater still feed tank (ID No. T110-7)	acetic acid benzene formaldehyde toluene xylene	2.50e-03 lb/hour 0.79 lb/12-month 2.9 e-06 lb/hour 9.05e-05 lb/hour 9.68e-05 lb/hour
Wastewater still feed tank (ID No. T4110-7)	acetaldehyde benzene 1,4-dioxane toluene xylene	0.25 lb/hour 5.71 lb/12-month 0.35 lb/hour 0.27 lb/hour 1.84 lb/hour
Wastewater still feed tank (ID No. T6110-7)	acetaldehyde benzene 1,4-dioxane toluene xylene	0.25 lb/hour 5.71 lb/12-month 0.35 lb/hour 0.27 lb/hour 1.84 lb/hour
Wastewater tank (ID No. T1922E)	acetaldehyde ammonia acetic acid benzene 1,4-dioxane formaldehyde toluene xylene	0.65 lb/hour 6.35e-03 lb/hour 1.83 lb/hour 13.9 lb/12-month 2.28 lb/24-hour 9.37e-02 lb/hour 2.62e-02 lb/hour 3.48e-02 lb/hour
Polyester Polyols Process Water Tank (ID No. T1939AR)	acetaldehyde ammonia acetic acid benzene 1,4-dioxane formaldehyde toluene xylene	1.66 lb/hour 6.91e-02 lb/hour 1.25 lb/hour 6.94 lb/12-month 5.76 lb/24-hour 5.23e-02 lb/hour 84.8 lb/hour 2.34 lb/hour
Wastewater treatment plant (includes 1922A,B,C,D, Aeration Basin, Cooling Tower, Clarifier No. 2, Clarifier No. 3, Reactor Clarifier, default trickling filter) (ID No. WWTP1940)	acetaldehyde ammonia acetic acid benzene 1,4-dioxane formaldehyde toluene xylene	9.76e-02 lb/hour 48.8 lb/hour 3.37 lb/hour 13.9 lb/12-month 1.16 lb/24-hour 4.76e-03 lb/hour 9.84e-02 lb/hour 9.29e-02 lb/hour
FUGITIVE EMISSIONS		
A-line equipment leaks* (ID No. AEQLK)	acetaldehyde benzene xylene	1.55e-02 lb/hour 0.26 lb/12-month 8.97 lb/hour
B-line equipment leaks* (ID No. BEQLK)	acetaldehyde benzene xylene	1.55e-02 lb/hour 0.26 lb/12-month 8.97 lb/hour

EMISSION SOURCES	TOXIC AIR POLLUTANTS	EMISSION LIMITS
C-line equipment leaks* (ID No. CEQLK)	acetaldehyde benzene xylene	1.55e-02 lb/hour 0.26 lb/12-month 8.97 lb/hour
D-line equipment leaks* (ID No. DEQLK)	acetaldehyde benzene xylene	1.55e-02 lb/hour 0.26 lb/12-month 8.97 lb/hour
Fugitive emissions* (ID No. RAWQLK)	acetaldehyde benzene xylene	5.16e-03 lb/hour 0.26 lb/12-month 3.00 lb/hour

* NOTE: Fugitive TAP emissions from each site remediation activity (ID No. ES-01) should be included in the fugitive emissions estimation for the area (ID Nos. AEQLK, BEQLK, CEQLK, DEQLK, or RAWQLK) that is closest to the remediation activity and the site of the resulting fugitive emissions.

Or,

- ii. Facility wide toxic air pollutant emissions (excluding TAPs from sources exempt under 15A NCAC 2Q .0702 "Exemptions, sources subject to 15A NCAC 2D .1109 (Case-by-Case MACT) and sources subject to 15A NCAC 2D .1111 (40 CFR 63)) shall not exceed the following facility wide emission limits:

TOXIC AIR POLLUTANTS	EMISSION LIMITS
acetaldehyde	6.8 lb/hour
acetic acid	0.96 lb/hour
ammonia	0.68 lb/hour
arsenic and inorganic arsenic compounds	0.016 lb/12-month
benzene	8.1 lb/12-month
beryllium	0.28 lb/12-month
cadmium	0.37 lb/12-month
chromium VI	26.2 lb/12-month
1,4-dioxane	12 lb/24-hour
formaldehyde	0.04 lb/hour
manganese	0.63 lb/24-hour
mercury	0.013 lbs/24-hour
nickel	0.13 lb/24-hour
toluene	98 lb/24-hour and 14.4 lb/hour
xylene	57 lb/24-hour and 16.4 lb/hour

Compliance with 15A NCAC 2D .1100 is demonstrated for each TAP which meets either all applicable source-by-source limits or the facility wide limit.

Monitoring/Recordkeeping

- b. For each toxic air pollutant whose emissions exceeds an applicable limit in Section 2.2 G.3.a.i above, the Permittee shall maintain production records as necessary to demonstrate its facility wide emissions (excluding emissions from sources exempt under 15A NCAC 2Q .0702 "Exemptions, sources subject to 15A NCAC 2D .1109 (Case-by-Case MACT) and sources subject to 15A NCAC 2D .1111 (40 CFR 63)) do not exceed the facility wide limit in Section 2.2 G.3.a.ii above. The Permittee shall maintain these records in a logbook (written or electronic format) for a period of two years and make available to an authorized representative of the Division of Air Quality upon request.

4. 15A NCAC 2Q.0317: Avoidance Conditions**for 15A NCAC 2D .1109: Case-by-Case Maximum Available Control Technology (MACT) for Boilers and Process Heaters; and, for 15A NCAC 2D .1111: Major Source Maximum Available Control Technology (MACT).**

- a. In order to avoid the Case-by-Case MACT for Boilers and Process Heaters and all major source MACT standards with an initial compliance date after January 1, 2014, the Permittee shall limit facility wide emissions of hazardous air pollutants (HAPs) to minor sources levels. To be classified a minor source of HAPs, facility-wide emissions shall be less than:
- i. 10 tons per consecutive 12 month period for each individual hazardous air pollutant; and,
 - ii. 25 tons per consecutive 12 month period for total hazardous air pollutants combined.

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

- b. **Individual HAP Emissions.** Each month the Permittee shall calculate the facility-wide emission rates of each individual HAP during the previous calendar month and during the previous consecutive 12-months. HAP emissions occurring prior to January 1, 2014 shall not be included in the 12 month consecutive total. (*For example, the 12 month consecutive HAP emissions calculated during the month of July, 2014 should only include emissions occurring from January 1, 2014 through June 30, 2014.*) The emissions estimations shall include all HAP emission sources, including but not limited to all chemical processes, combustion sources, storage tanks, wastewater treatment, remediation activities, fugitive emissions, and material handling. Acceptable emissions estimation methodologies include:
- i. Engineering estimates for chemical operations, based on chemical properties, operating conditions, and production rates;
 - ii. US EPA-approved emission factors for fuel combustion (i.e., AP-42 emission factors); and,
 - iii. US EPA-approved TANKS software for chemical storage operations.
 - iv. US EPA-approved WATER9 software for wastewater treatment operations.

The results of the monthly and 12-month rolling emissions calculations shall be recorded in a logbook (written or electronic format). The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1109 and 15A NCAC 2D .1111 (if applicable) if the emissions calculations are not recorded as provided above, or if the 12-month rolling emissions of any HAP exceeds the limitation provided in Section 2.2 G.4.a.i above.

- c. **Total, Combined HAP Emissions.** Each month the Permittee shall calculate the facility-wide emission rate of total, combined HAP during the previous calendar month and during the previous consecutive 12-months. HAP emissions occurring prior to January 1, 2014 shall not be included in the 12 month consecutive total. The results of the monthly and 12-month rolling emissions calculations shall be recorded in a logbook (written or electronic format). The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1109 and 15A NCAC 2D .1111 (if applicable) if the emissions calculations are not recorded as provided above, or if the 12-month rolling emissions of total, combined HAP exceeds the limitation provided in Section 2.2 G.4.a.ii above.

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

- d. The Permittee shall submit a semiannual summary report, acceptable to the Regional Air Quality Supervisor, of postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December, and on or before July 30 of each calendar year for months between January and June. The report shall contain the following information:
- i. For each consecutive 12-month period ending during the previous calendar half:
 - (A) Provide the highest individual HAP emission rate (in tons/12-months) and indicate the identity of the highest emitting HAP; and,
 - (B) Provide the total, combined HAP emission rate (in tons/12-months).
 - ii. All instances of deviations from the requirements of this permit must be clearly identified.

5. 15A NCAC 2Q.0317: AVOIDANCE CONDITION**for 15A NCAC 2D .0530 and 2D .0544: PREVENTION OF SIGNIFICANT DETERIORATION**

- a. To avoid the applicability of existing major source requirements under 15A NCAC 2D .0530 (*i.e.*, to be classified as an existing minor source), the Permittee shall limit facility-wide emissions of the following pollutants to less than 100 tons for any consecutive 12-month period.
- i. carbon monoxide (CO);
 - ii. nitrogen oxides (NOx);
 - iii. particulate (PM);
 - iv. sulfur dioxide (SO₂); and
 - v. volatile organic compounds (VOCs).

- b. To avoid the applicability of existing major source requirements under 15A NCAC 2D .0544 (*i.e.*, to be classified as an existing minor source), the Permittee shall limit facility-wide emissions of greenhouse gases as CO₂e to less than 100,000 tons for any consecutive 12-month period.

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

- c. If emissions testing is required, the Permittee shall perform such testing in accordance with General Condition JJ. If the results of this test are above any limit in Section 2.2 G.5.a or 2.2 G.5.b above, the Permittee shall be deemed an existing major source under 15A NCAC 2D .0530 and/or 15A NCAC 2D .0544.

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

- d. The Permittee shall keep monthly operational records in a logbook (written or electronic format), as follows:
- i. the total quantity (in million standard cubic feet) of natural gas, and propane, fired in the affected sources;
 - ii. the total quantity (in 1,000 gallons) of fuel oil fired and organic byproduct in the affected sources;
 - iii. the fuel oil supplier certifications for any fuel oil fired in the affected sources, including the sulfur content of the fuel oil (in percent by weight);
 - iv. the total amount of each type of VOC-containing material consumed; and
 - v. the total amount of polyester polyols produced.
- e. Each month the Permittee shall calculate the facility-wide emission rates of CO, CO₂e, NO_x, PM, SO₂, and VOC during the previous calendar month and during the previous consecutive 12-months. Emissions occurring prior to January 1, 2014 shall not be included in the 12 month consecutive total. (*For example, the 12 month consecutive emissions calculated during the month of July, 2014 should only include emissions occurring from January 1, 2014 through June 30, 2014.*) The emissions estimations shall include all affected emission sources, including but not limited to all chemical processes, combustion sources, storage tanks, wastewater treatment, remediation activities, fugitive emissions, and material handling. Acceptable emissions estimation methodologies include:
- i. Engineering estimates for chemical operations, based on chemical properties, operating conditions, and production rates;
 - ii. US EPA-approved emission factors for fuel combustion (*i.e.*, AP-42 emission factors); and
 - iii. US EPA-approved TANKS software for chemical storage operations.
 - iv. Either TOXCHEM or US EPA-approved WATER9 software for wastewater treatment operations.
- The results of the monthly and 12-month rolling emissions calculations shall be recorded in a logbook (written or electronic format) and made available to the NC DAQ upon request. The Permittee shall be deemed in noncompliance with 15A NCAC 2Q .0317 if the emissions calculations are not recorded as provided above, and will be deemed an existing major source under 15A NCAC 2D .0530 and/or 15A NCAC 2D .0544 if the 12-month rolling emissions of any affected exceeds the applicable limitation provided in Section 2.2 G.5.a or b above.

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

- f. 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 VOC emissions for the previous 17 months. The emissions must be calculated for each of the 12-month periods over the previous 17 months.
- i. The monthly emissions of each affected criteria pollutant, CO, CO₂e, NO_x, PM, SO₂, and VOC, for each of the previous 17 months; and
 - ii. The rolling total consecutive 12-month period emissions of each affected criteria pollutant, CO, CO₂e, NO_x, PM, SO₂, and VOC, for each of the six months of the calendar half.

SECTION 3 – GENERAL CONDITIONS (version 3.6)

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

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

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

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

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

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

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

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

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

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

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

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

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

F. **Circumvention** - STATE ENFORCEABLE ONLY

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

G. **Permit Modifications**

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

H. **Changes Not Requiring Permit Modifications**

1. **Reporting Requirements**
Any of the following that would result in new or increased emissions from the emission source(s) listed in Section 1 must be reported to the Regional Supervisor, DAQ:
 - a. changes in the information submitted in the application;
 - b. changes that modify equipment or processes; or
 - c. changes in the quantity or quality of materials processed.
 If appropriate, modifications to the permit may then be made by the DAQ to reflect any necessary changes in the permit conditions. In no case are any new or increased emissions allowed that will cause a violation of the emission limitations specified herein.
2. **Section 502(b)(10) Changes** [15A NCAC 2Q .0523(a)]
 - a. "Section 502(b)(10) changes" means changes that contravene an express permit term or condition. Such changes do not include changes that would violate applicable requirements or contravene federally enforceable permit terms and conditions that are monitoring (including test methods), recordkeeping, reporting, or compliance certification requirements.
 - b. The Permittee may make Section 502(b)(10) changes without having the permit revised if:
 - i. the changes are not a modification under Title I of the Federal Clean Air Act;
 - ii. the changes do not cause the allowable emissions under the permit to be exceeded;
 - iii. the Permittee notifies the Director and EPA with written notification at least seven days before the change is made; and
 - iv. the Permittee shall attach the notice to the relevant permit.
 - c. The written notification shall include:
 - i. a description of the change;
 - ii. the date on which the change will occur;
 - iii. any change in emissions; and
 - iv. any permit term or condition that is no longer applicable as a result of the change.
 - d. Section 502(b)(10) changes shall be made in the permit the next time that the permit is revised or renewed, whichever comes first.
3. **Off Permit Changes** [15A NCAC 2Q .0523(b)]
The Permittee may make changes in the operation or emissions without revising the permit if:
 - a. the change affects only insignificant activities and the activities remain insignificant after the change; or
 - b. the change is not covered under any applicable requirement.
4. **Emissions Trading** [15A NCAC 2Q .0523(c)]
To the extent that emissions trading is allowed under 15A NCAC 2D, including subsequently adopted maximum achievable control technology standards, emissions trading shall be allowed without permit revision pursuant to 15A NCAC 2Q .0523(c).

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

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

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

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

Excess Emissions

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

Permit Deviations

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

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

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

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

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

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

1. An emergency means any situation arising from sudden and reasonably unforeseeable events beyond the control of the facility, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the facility to exceed a technology-based emission limitation under the permit, due to

unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventive maintenance, careless or improper operation, or operator error.

2. An emergency constitutes an affirmative defense to an action brought for noncompliance with such technology-based emission limitations if the conditions specified in 3. below are met.
3. The affirmative defense of emergency shall be demonstrated through properly signed contemporaneous operating logs or other relevant evidence that include information as follows:
 - a. an emergency occurred and the Permittee can identify the cause(s) of the emergency;
 - b. the permitted facility was at the time being properly operated;
 - c. during the period of the emergency the Permittee took all reasonable steps to minimize levels of emissions that exceeded the standards or other requirements in the permit; and
 - d. the Permittee submitted notice of the emergency to the DAQ within two working days of the time when emission limitations were exceeded due to the emergency. This notice must contain a description of the emergency, steps taken to mitigate emissions, and corrective actions taken.
4. In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.
5. This provision is in addition to any emergency or upset provision contained in any applicable requirement specified elsewhere herein.

K. **Permit Renewal** [15A NCAC 2Q .0508(e) and 2Q .0513(b)]

This 15A NCAC 2Q .0500 permit is issued for a fixed term not to exceed five years and shall expire at the end of its term. Permit expiration terminates the facility's right to operate unless a complete 15A NCAC 2Q .0500 renewal application is submitted at least nine months before the date of permit expiration. If the Permittee or applicant has complied with 15A NCAC 2Q .0512(b)(1), this 15A NCAC 2Q .0500 permit shall not expire until the renewal permit has been issued or denied. Permit expiration under 15A NCAC 2Q .0400 terminates the facility's right to operate unless a complete 15A NCAC 2Q .0400 renewal application is submitted at least six months before the date of permit expiration for facilities subject to 15A NCAC 2Q .0400 requirements. In either of these events, all terms and conditions of these permits shall remain in effect until the renewal permits have been issued or denied.

L. **Need to Halt or Reduce Activity Not a Defense** [15A NCAC 2Q .0508(i)(4)]

It shall not be a defense for a Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

M. **Duty to Provide Information (submittal of information)** [15A NCAC 2Q .0508(i)(9)]

1. The Permittee shall furnish to the DAQ, in a timely manner, any reasonable information that the Director may request in **writing** to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit.
2. The Permittee shall furnish the DAQ copies of records required to be kept by the permit when such copies are requested by the Director. For information claimed to be confidential, the Permittee may furnish such records directly to the EPA upon request along with a claim of confidentiality.

N. **Duty to Supplement** [15A NCAC 2Q .0507(f)]

The Permittee, upon becoming aware that any relevant facts were omitted or incorrect information was submitted in the permit application, shall promptly submit such supplementary facts or corrected information to the DAQ. The Permittee shall also provide additional information as necessary to address any requirement that becomes applicable to the facility after the date a complete permit application was submitted but prior to the release of the draft permit.

O. **Retention of Records** [15A NCAC 2Q .0508(f) and 2Q .0508 (l)]

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

P. **Compliance Certification** [15A NCAC 2Q .0508(n)]

The Permittee shall submit to the DAQ and the EPA (Air and EPCRA Enforcement Branch, EPA, Region 4, 61

Forsyth Street, Atlanta, GA 30303) postmarked on or before March 1 a compliance certification (for the preceding calendar year) by a responsible official with all federally-enforceable terms and conditions in the permit, including emissions limitations, standards, or work practices. It shall be the responsibility of the current owner to submit a compliance certification for the entire year regardless of who owned the facility during the year. The compliance certification shall comply with additional requirements as may be specified under Sections 114(a)(3) or 504(b) of the Federal Clean Air Act. The compliance certification shall specify:

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

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

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

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

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

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

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

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

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

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

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

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

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

1. Upon presentation of credentials and other documents as may be required by law, the Permittee shall allow the DAQ, or an authorized representative, to perform the following:
 - a. Enter the Permittee's premises where the permitted facility is located or emissions-related activity is conducted, or where records are kept under the conditions of the permit;
 - b. Have access to and copy, at reasonable times, any records that are required to be kept under the conditions of

the permit;

- c. Inspect at reasonable times and using reasonable safety practices any source, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit; and
- d. Sample or monitor substances or parameters, using reasonable safety practices, for the purpose of assuring compliance with the permit or applicable requirements at reasonable times.

Nothing in this condition shall limit the ability of the EPA to inspect or enter the premises of the Permittee under Section 114 or other provisions of the Federal Clean Air Act.

2. No person shall refuse entry or access to any authorized representative of the DAQ who requests entry for purposes of inspection, and who presents appropriate credentials, nor shall any person obstruct, hamper, or interfere with any such authorized representative while in the process of carrying out his official duties. Refusal of entry or access may constitute grounds for permit revocation and assessment of civil penalties.

W. **Annual Fee Payment** [15A NCAC 2Q .0508(i)(10)]

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

X. **Annual Emission Inventory Requirements** [15A NCAC 2Q .0207]

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

Y. **Confidential Information** [15A NCAC 2Q .0107 and 2Q .0508(i)(9)]

Whenever the Permittee submits information under a claim of confidentiality pursuant to 15A NCAC 2Q .0107, the Permittee may also submit a copy of all such information and claim directly to the EPA upon request. All requests for confidentiality must be in accordance with 15A NCAC 2Q .0107.

Z. **Construction and Operation Permits** [15A NCAC 2Q .0100 and .0300]

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

AA. **Standard Application Form and Required Information** [15A NCAC 2Q .0505 and .0507]

The Permittee shall submit applications and required information in accordance with the provisions of 15A NCAC 2Q .0505 and .0507.

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

If the Permittee is required to develop and register a Risk Management Plan with EPA pursuant to Section 112(r) of the Clean Air Act, then the Permittee is required to register this plan in accordance with 40 CFR Part 68.

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

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

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

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

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

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

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

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

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

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

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

Emission compliance testing shall be by the procedures of Section .2600, except as may be otherwise required in Rules .0524, .0912, .1110, .1111, or .1415 of Subchapter 2D.

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

1. The owner or operator of the source shall arrange for air emission testing protocols to be provided to the Director prior to air pollution testing. Testing protocols are not required to be pre-approved by the Director prior to air pollution testing. The Director shall review air emission testing protocols for pre-approval prior to testing if requested by the owner or operator at least **45 days** before conducting the test.
2. Any person proposing to conduct an emissions test to demonstrate compliance with an applicable standard shall notify the Director at least **15 days** before beginning the test so that the Director may at his option observe the test.
3. The owner or operator of the source shall arrange for controlling and measuring the production rates during the period of air testing. The owner or operator of the source shall ensure that the equipment or process being tested is operated at the production rate that best fulfills the purpose of the test. The individual conducting the emission test shall describe the procedures used to obtain accurate process data and include in the test report the average production rates determined during each testing period.
4. Two copies of the final air emission test report shall be submitted to the Director not later than **30 days** after sample collection unless otherwise specified in the specific conditions. The owner or operator may request an extension to submit the final test report. The Director shall approve an extension request if he finds that the extension request is a result of actions beyond the control of the owner or operator.
 - a. The Director shall make the final determination regarding any testing procedure deviation and the validity of the compliance test. The Director may:

- (1) Allow deviations from a method specified under a rule in this Section if the owner or operator of the source being tested demonstrates to the satisfaction of the Director that the specified method is inappropriate for the source being tested.
 - (2) Prescribe alternate test procedures on an individual basis when he finds that the alternative method is necessary to secure more reliable test data.
 - (3) Prescribe or approve methods on an individual basis for sources or pollutants for which no test method is specified in this Section if the methods can be demonstrated to determine compliance of permitted emission sources or pollutants.
- b. The Director may authorize the Division of Air Quality to conduct independent tests of any source subject to a rule in this Subchapter to determine the compliance status of that source or to verify any test data submitted relating to that source. Any test conducted by the Division of Air Quality using the appropriate testing procedures described in Section 2D .2600 has precedence over all other tests.

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

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

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

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

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

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

NN. Specific Permit Modifications [15A NCAC 2Q.0501 and .0523]

1. For modifications made pursuant to 15A NCAC 2Q .0501(c)(2), the Permittee shall file a Title V Air Quality Permit Application for the air emission source(s) and associated air pollution control device(s) on or before 12 months after commencing operation.
2. For modifications made pursuant to 15A NCAC 2Q .0501(d)(2), the Permittee shall not begin operation of the

air emission source(s) and associated air pollution control device(s) until a Title V Air Quality Permit Application is filed and a construction and operation permit following the procedures of Section .0500 (except for Rule .0504 of this Section) is obtained.

3. For modifications made pursuant to 502(b)(10), in accordance with 15A NCAC 2Q .0523(a)(1)(C), the Permittee shall notify the Director and EPA (EPA - Air Planning Branch, 61 Forsyth St., Atlanta, GA 30303) in writing at least seven days before the change is made. The written notification shall include:
 - a. A description of the change at the facility;
 - b. The date on which the change will occur;
 - c. Any change in emissions; and
 - d. Any permit term or condition that is no longer applicable as a result of the change.

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

- OO. **Third Party Participation and EPA Review** [15A NCAC 2Q .0521, .0522 and .0525(7)] For permits modifications subject to 45-day review by the federal Environment Protection Agency (EPA), EPA's decision to not object to the proposed permit is considered final and binding on the EPA and absent a third party petition, the failure to object is the end of EPA's decision-making process with respect to the revisions to the permit. The time period available to submit a public petition pursuant to 15A NCAC 2Q .0518 begins at the end of the 45-day EPA review period.

ATTACHMENT
List of Acronyms

AOS	Alternate Operating Scenario
BACT	Best Available Control Technology
Btu	British thermal unit
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
PM₁₀	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
SO₂	Sulfur Dioxide
tpy	Tons Per Year
VOC	Volatile Organic Compound