

**INITIAL TITLE V AIR PERMIT APPLICATION REVIEW**

Last Revised June 4, 2003

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<b>APPLICANT:</b> RFS Ecusta, Inc.	<b>SITE LOCATION:</b> Pisgah Forest	<b>COUNTY:</b> Transylvania	
<b>TECHNICAL CONTACT:</b> Jennifer Ballard	<b>PHONE:</b> 828-877-2185	<b>RESPONSIBLE OFFICIAL:</b> Steven H. Smith	<b>TITLE:</b> Chief Financial Officer
<b>REVIEW ENGINEER:</b> Leo H. Stander, PE, DEE/Charles Yirka	<b>SIGNATURE:</b>	<b>DATE:</b>	
<b>REGIONAL CONTACT:</b> Laura Herbert	<b>REGIONAL OFFICE:</b> Asheville Regional Office	<b>SIC CODES:</b> 2621, 2754	
<b>APPLICATION NUMBER:</b> 8800056A5.A	<b>EXISTING PERMIT NUMBER:</b> 03644R16	<b>NEW PERMIT NUMBER:</b> 03644T17	

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**I. Introduction**

The U.S. Environmental Protection Agency (EPA) has given final approval to North Carolina's Title V operating permits program effective on October 1, 2001. This EPA approval triggered the requirements for Title V facilities to submit permit applications to the Division of Air Quality. Title V facilities are required to obtain an operating permit which addresses all applicable regulations under the State Implementation Plan, Federal Implementation Plan, and other provisions of the Clean Air Act (CAA). The Title V Operating Permit will define all of the facility's obligations under the CAA.

This Initial Title V Air Permit Application Review intends to convey all pertinent emissions data, rules, policies, and engineering assumptions used to construct the Title V operating permit. The primary source of information used to construct the permit is the above referenced air permit application.

**II. Background Information**

The Title V Operating Permit replaces the existing Air Quality Construction and Operation Permit No. 03644R16, issued on November 8, 2001, and currently scheduled to expire on October 31, 2006.

Pursuant to 15A NCAC 2Q .0506, RFS Ecusta, Inc. (formerly known as Ecusta Division of P. H. Glatfelter Company) submitted its initial Title V application to the Division of Air Quality on August 12, 1996. The application was considered complete for processing on October 10, 1996. The draft permit was noticed to the public pursuant to 15A NCAC 2Q .0521 on XX, XX, 2002.

RFS Ecusta, (referred to as "Ecusta" in the permit and throughout the review) is considered as a major source of air pollution and subject to Title V requirements since the potential emissions of each of the following pollutants exceed 100 tons per year:

- < sulfur dioxide - 5206 tons/year
- < nitrogen oxides - 2511 tons/year
- < carbon monoxide - 125 tons/year.

In addition, total potential emissions of hazardous air pollutants, principally hydrochloric acid (at 132 tons/year), chlorine (at 14 tons/year), chloroform (at 13 tons/year), toluene (at 226 tons/year) and methanol (at 16 tons/year), exceed 25 tons per year.

## III. Facility Description

This facility manufactures flax-based paper used for cigarettes. The company also processes virgin and recycled pulp for the manufacture of printing paper. The company also produces a printing paper which is made from pulp largely brought in from outside the facility. The "new side" paper machines are used to produce the printing paper.

The facility was originally constructed in the 1930s. The company now operates 12 paper machines (9 on the "old" side, and 3 on the "new" side). Three of the machines are used to manufacture fine paper and nine are used to manufacture cigarette paper. Those machines in the "old" side were installed in the 1930s. The newest machine on the new side was installed around 1950.

This facility operates 3 shifts a day, 7 days per week (round-the-clock for both the printing and the paper making).

### Pulping and Bleaching Process:

#### Pulping:

The facility pulps flax in batch digesters, and has a total of 15 on site. Only 1 thru 11 are used for flax. No. 12 and 13 are used for Post Consumer Waste and 14 and 15 are out of service currently. The pulping chemicals used are NaOH (caustic), sulfhydate (sulfidity of 8 percent), hydroquinone (Kraft process, but much less concentrated). The batch times are 5 to 6 hours per batch, where the flax is cooked under pressure (steam). During the blowing of the digesters at the end of the cook cycle, the emissions are emitted through a condenser where the condensate is sewered beneath the surface (pressure relief). The pulp is moved through open trenches into screw presses (instead of washers/normal closed system). From the presses, the pulp is moved to breaker beaters (washing and crude refining). After the breaker beaters, the pulp is piped to storage chests prior to the bleaching process.

#### Black Liquor

The liquor from the washing is concentrated in a set of cascade, direct contact evaporators (four stages). The liquor is concentrated from about 14 to 20 percent BLS (black liquor solids) to 58 to 60 percent BLS. The concentrated BLS is then sold to other paper companies (no recovery system at this facility).

#### Bleaching

The facility uses "chlorine water" for the bleaching process. The chlorine water is produced at the facility using chlorine gas through a counter flow adsorber with water. The chlorine is "stored" in two tanks at the facility. From the tanks, the chlorine is piped through a vaporizer and into the adsorber. The facility tracks the amount of chlorine and water into the system, and tests the percent chlorine in the "chlorine water" out of this system. This adsorber is vented to the hypochlorite system where it is used to produce hypochlorite. The chlorine water is stored in two large tanks (approx. 15,000 gallons each) that are vented to the hypochlorite system also. From the chlorine water storage tanks, the water is piped to the first stage of bleaching.

The hypochlorite system consists of two mixing boxes that vent to the atmosphere. In these boxes, NaOH, water, and chlorine (tail gases from the adsorber and chlorine water storage tanks) are mixed to create hypochlorite. The hypochlorite is used in the second stage of the bleaching.

The chlorine water is added in a closed piped system through a mixer into a continuous mixed tank (not vented). Once mixed the pulp is pumped to two closed storage chests in series (which are both vented out). After this series of closed chests, the pulp is pumped to an open storage chest (with mixer). Prior to this chest, NaOH (caustic) is added in the line to quench the bleaching reaction. From this open chest, the pulp is thickened through a drum vacuum (no water added). From the thickener stage, the pulp is pumped to the hypochlorite tank (open to atmosphere), which is a staged process with 12 sections (batch process). After the final bleaching, the pulp is again "thickened" through drum vacuums.

The medium-density and particleboard lines share wood furnish receiving operations, fire system supply pumps, as well as water and waste systems, but operate independently beyond that point. The facility operates 24 hours per day (two 12 hour shifts), and has cleanup once every two weeks.

*Significant Comments regarding Draft*

Comments and responses to those recieved form J. Ballard via email dated 11 March 2003:

1. Comment: Did not agree the non wood pulping area need permitting.

We disagree as we believe as with the NESHAP affected sources there will be emissions of chlorine or other HAP. May be possible to show emssions are not significant exempt the sources.

2. Comment: the Natural gas fired steam ID No. ES-153 1.04 million Btu/hour maximum firing rate natural reformer with sulfur dioxide absorber ID No. CD-153 was never constructed

Removed source and control from the permit and review. Recalculated allowabe emission per 2D .0503 which did not change significantly.

3. Comment: The current method of coal sulfur tracking(avg for month) may not meet the requirments of the permit which may require composite grab samples as fired.

We believe your current method is appropriateand meets the requirments of the sulfur monitoring.

4. Comment: What if we are not operating within days of permit date.

See the general condtion (LL.) for non-operating equipment now added to the permit. Chlorine testing can be delayed by request if not operating.

5. Comment: Would like to adjust the operating parameter, limit 2.61, established by test, upward.

Must follow the MACT in this regard probably requires testing as prescribed by the MACT. We can't adjust upward.

6. Comment: Object to Start-up Shutdown and Malfunction plan.

We did not remove as this is required by the MACT.

The VOC CEMs requirement under Supart KK was removed as it was not required by the MACT. Compliance is demonstrated by tracking VOCs and solids and VOCs revcoverd and deriving efficiency etc. on a monthly basis.

**IV. Statement of Compliance**

*The DAQ has reviewed the compliance status of this facility. The most recent facility inspection was performed September 25, 2001. Ecusta has been issued a Notice of Violation for the failure to comply with the MACT emission limits for the printing operation and for a leak in the piping system for the boiler.*

The applicant has certified that the facility will be in compliance with all applicable requirements. The applicant has also certified that the facility will be in compliance with any applicable requirements taking effect during the term of the permit and will meet such requirements on a timely basis.

**V. Summary of Emission Sources and Control Devices**

The following table identifies all emission sources and associated control devices including those for which the Initial Title V Operating Permit is being issued.

Emission Source ID No.	Emission Source Description	Principal Pollutants Emitted	Control Device ID No.	Control Device Description	Emission Point ID No.
<b>Boiler House</b>					
ES-F2	Coal unloading and storage area	Particulate matter	N/A	None	CP-1 EP-86 CP-1TU EP-1

ES-62S	Sulfuric acid storage area (One 5000 gallon horizontal storage)	Sulfuric acid	N/A	None	EP-62-78T
ES-62(3)	One No. 2 oil fired boiler (55.7 million Btu/hour maximum heat input)	Sulfur dioxide Particulate matter Carbon monoxide Nitrogen oxides Hydrogen chloride	N/A	None	EP-3
ES-62(4)	No. 2 oil fired/coal fired boiler (71.6 million Btu/hour maximum heat input)	Sulfur dioxide Particulate matter Carbon monoxide Nitrogen oxides Hydrogen chloride	CD-P4  CD-P3	Multicyclone with 54 tubes each 10.5 inches in diameter  Electrostatic precipitator with 16,548 square feet of collection plate area	EP-P3 EP-P1N EP-P1S EP-P2N EP-P2S
ES-62(5) ES-62(6)  ES-62(7)	Two No. 2 Oil/coal fired boilers (110 million Btu/hour maximum heat input)  One No. 2 oil/coal fired boiler (162 million Btu/hour maximum heat input)	Sulfur dioxide Particulate matter Carbon monoxide Nitrogen oxides Hydrogen chloride	CD-P1	Electrostatic precipitator with 76,050 square feet of collection plate area	EP-P3 EP-P1N EP-P1S EP-P2N EP-P2S
ES-62(8)	No. 2 oil/coal fired boiler (224 million Btu/hour maximum heat input)	Sulfur dioxide Particulate matter Carbon monoxide Nitrogen oxides Hydrogen chloride	CD-P2	Electrostatic precipitator with 53,000 square feet of collection plate area	EP-P3 EP-P1N EP-P1S EP-P2N EP-P2S
ES-62(A)	Ash silo (Capacity of 5987 cubic feet )	Particulate matter	CD-A(2)	Fabric filter with 102 square feet of filter surface area	EP-62(64)
<b>Water Treatment Plant</b>					
ES-15	Filter plant	Particulate matter Chloroform	N/A	None	EP-15-13 EP-15-14 EP-15-15 EP-15-5

ES-9	Emergency well chlorinator	Particulate matter Chloroform	N/A	None	EP-9-2
ES-11	Potable water plant	Particulate matter Chloroform	N/A	None	EP-11-2
<b>Calcium Carbonate Manufacturing Area</b>					
ES-73f	Railcar unloading area	Particulate matter	CD-73-26	Fabric filter with 209 square feet of filter surface area	EP-73-26
ES-73c	Calcium oxide silo 25,000 cubic feet				
ES-73b	Batch calcium carbonate manufacturing	Sulfur dioxide Particulate matter	N/A	None	EP-73-3 EP-73-4
ES-73E	Muriatic acid storage tank - capacity of 6,579 gallons	Hydrochloric acid	N/A	None	EP-73-45
ES-73a	Continuous calcium carbonate manufacturing	Sulfur dioxide Particulate matter	N/A	None	EP-73-5 EP-73-6 EP-73-7 EP-73-8 EP-73-12 EP-73-14 EP-73-15 EP-73-16
<b>Pulping of Non-Wood</b>					
ES-56	Pulping of non-wood material		CD-56a  CD-56b	Entrainment separator  Surface condenser	EP-56-0 EP-56-1 EP-56-2 EP-56-3 EP-56-4 EP-56-6 EP-56-9 EP-56-10 EP-56-14 EP-56-15 EP-56-16
<b>Chemical Recovery Area</b>					
ES-75	Four effect type evaporators	Methyl mercaptan Methyl ethyl ketone	N/A	None	EP-74-1T EP-74-2T
ES-75(1)	Black liquor storage tank 200,000 gallon capacity	Methyl mercaptan Methyl ethyl ketone	N/A	None	EP-74-1T

ES-75(2)	Black liquor storage tank 200,000 gallon capacity	Methyl mercaptan Methyl ethyl ketone	N/A	None	EP-74-2T
<b>Brownstock Washing Area</b>					
ES-53	Brown stock washing of non-wood pulps	Methanol	N/A	None	EP-53-01 EP-53-02 EP-53-03 EP-53-04 EP-53-06 EP-53-07
<b>Bleach Makeup Area</b>					
ES-58a	Chlorine unloading area (2 railroad car unloading pads PM-37 and PM-38)	Chlorine	N/A	None	PM-37 PM-38
ES-58	Bleach make-up area	Chlorine Hydrochloric acid	N/A	None	EP-58-2 EP-58-3
<b>Bleaching of Non-Wood</b>					
ES-48f	Bleaching of non-wood pulp <b>NESHAP</b>	Chlorine Chloroform	N/A	None	EP-50-17 EP-50-18 EP-50-19 EP-50-1 EP-50-2 EP-50-3 EP-50-4 EP-48-6 EP-48-9 EP-48-10 EP-48-11 EP-48-12 EP-48-13 EP-48-14 EP-48-15

ES-48K	Bleaching of non-wood pulp	Sulfur dioxide	N/A	None	EP-50-17 EP-50-18 EP-50-19 EP-50-1 EP-50-2 EP-50-3 EP-50-4 EP-48-6 EP-48-9 EP-48-10 EP-48-11 EP-48-12 EP-48-13 EP-48-14 EP-48-15
ES-48T	Bleaching of non-wood pulp	Sulfur dioxide	N/A	None	EP-50-17 EP-50-18 EP-50-19 EP-50-1 EP-50-2 EP-50-3 EP-50-4 EP-48-6 EP-48-9 EP-48-10 EP-48-11 EP-48-12 EP-48-13 EP-48-14 EP-48-15
<b>Old Side Chemical Mix Area</b>					
ES-42	Old side chemical mix area		N/A	None	EP-42-5a EP-42-6 EP-42-9 EP-42-10 EP-42-11 EP-42-12 EP-42-13 EP-48-02 EP-42-03 EP-42-04 EP-59-20 EP-59-g
<b>Old Side Chlorine Storage Area</b>					
ES-33c	Old side chlorine storage area - chlorine cylinders		N/A	None	ES-33-69

**New Side Chemical Mix Area**

ES-57a	Ammonium hydroxide unloading and storage area - 8000 gallon above ground pressurized vertical tank		N/A	None	EP-57-16T
ES-57-14R	Starch unloading area	Particulate matter	CD-57-14R	Fabric filter with 23 square feet of filter surface area	EP-57-14R
ES-57-13T	Starch silo south 3000 cubic feet capacity	Particulate matter	CD-57-13T	Fabric filter with 350 square feet of filter surface area	EP-57-13T
ES-57-12T	Starch silo north 3000 cubic feet capacity	Particulate matter	CD-57-12T	Fabric filter with 350 square feet of filter surface area	EP-57-12T
ES-57	New side chemical mix area		N/A	None	EP-57-8 EP-57-9 EP-57-10 EP-57-11 EP-36-1 EP-36-2

**New Side Chlorine Storage Area**

ES-48c	Chlorine cylinders	Chlorine	N/A	None	EP-48-22
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**Paper Machines**

ES-33	Paper machine room 1-8 each containing 8 fourdrinier paper machines	Xylene Methanol	N/A	None	EP-33 (51 emission points)
ES-59	Paper machine No. 9 with one fourdrinier paper machine	Xylene Methanol	N/A	None	EP-59-2 EP-59-12 EP-59-14 EP-59-15 EP-59-19 EP-59f EP-34(11)

ES-34	Paper machine No. 10 with one fourdrinier paper machine	Acetaldehyde Acrolein Methanol Methyl isobutyl ketone	N/A	None	EP-34(1) EP-34(6) EP-34(10) EP-34(11) EP-34(18) EP-34(21) EP-34(22) EP-34(26) EP-34(27) EP-34(29) EP-34(31) EP-34(34) EP-34(39)
ES-35	Paper machine No. 11 with one fourdrinier paper machine	Acetaldehyde Acrolein Methanol Methyl isobutyl ketone	N/A	None	EP-34(4) EP-34(7) EP-34(8) EP-34(14) EP-34(17) EP-34(23) EP-34(24) EP-34(28) EP-34(33) EP-34(42) EP-34(43) EP-34(44) EP-34(39)
ES-36	Paper machine No. 12 with one fourdrinier paper machine	Acetaldehyde Acrolein Methanol Methyl isobutyl ketone	N/A	None	EP-36(1) EP-36(2) EP-36(3) EP-36(4) EP-36(6) EP-36(7) EP-36(8) EP-36(9) EP-36(10) EP-36(11) EP-36(12) EP-36(14) EP-36(15) EP-36(16) EP-36(17) EP-36(18) EP-36(19) EP-36(33) EP-36(34)
<b>Paper Perforating Area</b>					

ES-17	Paper perforating area	Particulate matter	CD-17(L1)	Centrifugal wet scrubber with 5.5 gallons/minute liquid injection rate	EP-18-01
			CD-17(C)	Fabric Filter (Micro Pul Model No. 85-8-100) with 801 square feet of filter surface area	EP-17-56
			CD-17(D)	Fabric filter (Griffin Model SC FR-103) with 902 square feet of filter surface area	EP-17-55
<b>Paper Printing Area</b>					
ES-7(1T)	Toluene storage tank (2000 gallon capacity vertical fixed roof stainless steel tank)	Toluene	N/A	None	EP-7-1(T)
ES-7(3T)	Mixed solvent storage tank (5000 gallon capacity vertical fixed roof stainless steel tank)	Toluene Isopropyl acetate	N/A	None	EP-7(3T)
ES-7(4T)	Waste ink tank (3000 gallon capacity vertical fixed roof stainless steel tank)	Toluene Isopropyl acetate	N/A	None	EP-7(4T)
ES-6(43T)	Mixed solvent storage tank (13,000 gallon capacity horizontal stainless steel tank)	Toluene Isopropyl acetate	N/A	None	EP-6(43T)

ES-6(1)	Paper printing area with 4-station rotogravure printing press <b>NESHAP</b>	Toluene Isopropyl acetate	CD-6	Activated carbon adsorber (Sutcliffe Speakman, Inc. Model No. Solvent Recovery Plant No. 1418a) - 4 units with 13,350 pounds of activated carbon in each	EP-6(1) EP-6(2) EP-6(4) EP-6(7) EP-6(9) EP-6(10) EP-6(12) EP-6(14) EP-6(17) EP-6(20) EP-6(21) EP-6(22) EP-6(24) EP-6(28) EP-6(29) EP-6(31) EP-6(32) EP-6(33) EP-6(34) EP-6(48) EP-6(49) EP-6(50) EP-6(51) EP-6(52)
ES-6(4)	Paper printing area with 2-station rotogravure printing press <b>NESHAP</b>				
ES-6(6)	Paper printing area with 1-station rotogravure printing press <b>NESHAP</b>				
ES-6(7)	Paper printing area with 4 - station rotogravure printing press <b>NESHAP</b>				
ES-6(8)	Paper printing area with 5 - station rotogravure printing press <b>NESHAP</b>				
ES-6(b)	Renzman Washer				
ES-6(a)	Printing ink kitchen	Toluene Isopropyl acetate	N/A	None	EP-6(13)

## VI. Emission Source-by-Source Evaluation

### A. Boiler House (ID Nos. F2 and ES-62)

#### 1. Description

The process rates for the units that comprise the boiler house are as follows:

Emission Source	Emission Source ID No.	Maximum Process Rate <sup>1</sup>
Coal unloading and storage area	ES-F2	62.5 tons/hour
Sulfuric acid storage area <sup>3</sup> (One 5000 gallon horizontal storage tank)	ES-62S	71 gallons/minute

No. 2 oil fired boiler	ES-62(3)	55.7 million Btu/hour maximum heat input
No. 2 oil/coal fired boiler	ES-62(4)	71.6 million Btu/hour maximum heat input
No. 2 oil/coal fired boiler	ES-62(5)	110 million Btu/hour maximum heat input
No. 2 oil/coal fired boiler	ES-62(6)	110 million Btu/hour maximum heat input
No. 2 oil/coal fired boiler	ES-62(7)	162 million Btu/hour maximum heat input
No. 2 oil/coal fired boiler	ES-62(8)	224 million Btu/hour maximum heat input
Ash silo <sup>2</sup> (Capacity of 5987 cubic feet )	ES-62(A)	19,300 tons/year (maximum design capacity)  20 tons/hour (maximum design filling rate)  150 tons/hour (maximum design unloading rate)

<sup>1</sup> Permit Application (August 12, 1996) Section B

<sup>2</sup> Revision to Permit Application (March 10, 1999) Section B

<sup>3</sup> Not considered a source of applicable air pollutants.

Comments:

- < The sulfuric acid storage area is not subject to any applicable requirements and is not considered a source of pollutants for which emission limits have been developed.

2. An Overview of Applicable Regulatory Requirements

The following table provides a summary of limits and/or standards for the emission units in the boiler house. A review of the information in the application was performed to ensure that the appropriate limits and associated calculations used to show compliance were correct.

Regulated Pollutant	Limits/Standards	Applicable Regulation
particulate matter	0.197 pounds per million Btu heat input $E=1.090 Q^{-0.2594}$ E = allowable emission limit Q = maximum heat input in million Btu/hour heat input	15A NCAC 2D .0503(c)

particulate matter	$E = 4.10P^{0.67}$ where E = allowable emission rate in pounds per hour P = process weight in tons per hour Note limits and discussion in Section VI.A.3.b	15A NCAC 2D .0515
sulfur dioxide	1.6 pounds per million Btu heat input Note limits and discussion in Section VI.A.3.c	15A NCAC 2D .0516(a)
visible emissions	40 percent opacity Note limits and discussion in Section VI.A.3.d	15A NCAC 2D .0521(c)
visible emissions	20 percent opacity Note limits and discussion in Section VI.A.3.d	15A NCAC 2D .0521(d)
odors	Odorous emissions must be controlled - Section VII.B.2 Facility Wide Affected Emission Sources; <b>State-enforceable only</b>	15A NCAC 2D .1806

Other regulations considered for emissions from the units that comprise the boiler house:

- C 15A NCAC 2D .0519: Control of Nitrogen Dioxide and Nitrogen Oxides Emissions. The facility is not a producer of nitric acid and does not utilize a boiler with a capacity of 250 million Btu per hour of heat input.
- C 15A NCAC 2D .0530: Prevention of Significant Deterioration. All units were in operation prior to the promulgation of these requirements.
- C 15A NCAC 2D .0958: Work Practices for Sources of Volatile Organic Compounds. Volatile organic compounds are not used or manufactured at this facility and the volatile organic compounds that are emitted are not products of chemical reactions. This regulation does not apply to the fuel burning sources at this facility.
- C 15A NCAC 2D .2100: Risk Management Program. Sulfuric acid was not listed as a regulated substance in 40 CFR 68.130 as a substance for which a risk management program is required. Thus facility is not subject to requirements.
- C 40 CFR 68: Chemical Accident Prevention Provisions. Sulfuric acid was not listed as a regulated substance in 40 CFR 68.130. Thus sulfuric acid storage area is not subject to requirements.

3. Specific requirements and affected emission points

**a. 15A NCAC 2D .0503: Particulates from Fuel Burning Indirect Heat Exchangers**

**Statement of Basis**

- i. The emission limits for particulate matter from the fuel burning indirect heat exchangers (i.e., the boilers) was prescribed in the Air Permit No. 03644R16 (Specific Conditions and Limitations No. 2).
- ii. For the boiler (**ID No. ES-62(3)**) which burns No. 2 fuel oil, no control devices have been identified
- iii. For the boiler (**ID No. ES-62(4)**) which burns coal (with No. 2 fuel oil for start up), a multicyclone (ID No. not provided) with 54 tubes, each 10.5 inches in diameter in series with an electrostatic precipitator (**ID No. CD-P3**) with a collection plate area of 16,548 square feet is used to remove particulate emissions from the exhaust stream. A collection efficiency of 98.8% has been observed.
- iv. For the boilers (**ID Nos. ES-62(5), ES-62(6), and ES-62(7)**) which burn both pulverized coal and No. 2 fuel oil, an electrostatic precipitator (**ID No. CD-P1**) with a collection plate area of 76,050 square feet is used to remove particulate matter from the exhaust stream. A collection efficiency of 99.5% has been recorded.
- v. For the boiler (**ID No. ES-62(8)**) which burns both pulverized coal and No. 2 fuel oil, an

electrostatic precipitator (**ID No. CD-P2**) with a collection plate area of 53,000 square feet is used to remove particulate matter from the exhaust stream. A collection efficiency of 99.5% has been recorded.

- vi. When No. 2 fuel oil is used in the boiler minimal emissions of particulate matter are expected from this combustion operation.
- vii. A stack test to evaluate particulate emissions from two of the boilers (**ID Nos. ES-62(5) and ES-62(6)**) was performed on February 17 - 19, 1997. Compliance with emission limitations was demonstrated. Boiler (**ID No. ES-62-8**) in 2001, and results (0.0552 lb/million Btu per hour heat input) indicated compliance with the limit. SSC approved these results on September 19, 2002 (Stacey Vick memo to Paul Muller). Based on this, it was found be acceptable to give them five years to retest Boiler ES-62(8).
- viii. Testing of emissions from all the boilers within one year (with exception of (**ID No. ES-62-8**) at 5 years) was recommended in recent inspection reports and regional comments on draft.
- ix. As required by 15A NCAC 2D .0503(e), "The sum of maximum heat input of all fuel burning indirect heat exchangers at a plant site which are in operation, under construction, or permitted pursuant to Subchapter 15A NCAC 2Q, shall be considered as the total heat input for the purpose of determining the allowable emission limit for particulate matter for each fuel burning heat exchanger." The indirect heat exchangers at the facility are as follows:

<u>Emission Source</u>	<u>Emission Source ID No.</u>	<u>Maximum Heat Input</u>
Boiler	ES-62(3)	55.7 million Btu/hour
Boiler	ES-62(4)	71.6 million Btu/hour
Boiler	ES-62(5)	110.0 million Btu/hour
Boiler	ES-62(6)	110.0 million Btu/hour
Boiler	ES-62(7)	162.0 million Btu/hour
Boiler	ES-62(8)	224.0 million Btu/hour

Sum of maximum heat input of all fuel burning heat exchangers at the plant site was: 734.3 million Btu/hr (reference: 6/20/96 renewal review that established the limit at 0.197 lbs (there was a total of 8 boilers at this facility - 829 million Btu/hour; some were retired, however the limit was established at 0.19 million Btu). Removal of boilers will not affect the previously established limit). The emission source the natural gas fired reformer ES-153; 1.04 million Btu/hour was never constructed so the allowable was recalculated under this review based on total of 733.3 however the allowable did not change, only the total maximum heat input.

Using the equation in 15A NCAC 2D .0503(c) and the sum of maximum heat input of all fuel burning heat exchangers at the plant site (733.3 million Btu/hour), the allowable emission limit for particulate matter from all fuel burning heat exchangers is calculated to be 0.197 lb/million Btu.

**Regulatory Requirements**

- x. The allowable emissions of particulate matter 0.197 lb/million Btu were calculated by the equation  $E = 1.090 \text{ times } Q \text{ to the } -0.2594 \text{ power}$ . E = allowable emission limit in lb/million Btu. Q = maximum heat input in million Btu/hour (See 15A NCAC 2D .0503(c)). Emissions of particulate matter from the combustion of No. 2 fuel oil or coal as discharged from each indirect heat exchanger into the atmosphere shall not exceed the following limitations:

<u>Source</u>	<u>Emission Limit</u>	<u>Maximum Firing Rate</u>	<u>Allowable Emission Rate</u>	<u>Potential Emissions</u>
No. 2 oil fired boiler ( <b>ID No. ES-62(3)</b> )	0.197 lb/million Btu	55.7 million Btu/hour	11.0 lbs/hour	0.39 lbs/hour

No. 2 oil fired/coal fired boiler <b>(ID No. ES-62(4))</b>	0.197 lb/million Btu	71.6 million Btu/hour	14.1 lbs/hour	1158 lbs/hour
No. 2 oil fired/coal fired boiler <b>(ID No. ES-62(5))</b>	0.197 lb/million Btu	110 million Btu/hour	21.7 lbs/hour	4290 lbs/hour
No. 2 oil fired/coal fired boiler <b>(ID No. ES-62(6))</b>	0.197 lb/million Btu	110 million Btu/hour	21.7 lbs/hour	4290 lbs/hour
No. 2 oil fired/coal fired boiler <b>(ID No. ES-62(7))</b>	0.197 lb/million Btu	162 million Btu/hour	31.9 lbs/hour	6318 lbs/hour
No. 2 oil fired/coal fired boiler <b>(ID No. ES-62(8))</b>	0.197 lb/million Btu	224 million Btu/hour	44.1 lbs/hour	8736 lbs/hour

**Monitoring/ Recordkeeping**

- xi. No monitoring, record keeping, or reporting is required for particulate emissions from the firing of No. 2 fuel oil in the boilers **(ID No. ES-62(3), ES-62(4), ES-62(5), ES-62(6), ES-62(7), and ES-62(8))**.
- xii. Under the provisions of NCGS 143-215.108, the Permittee shall, when burning coal, demonstrate compliance with the emission limit(s), above, by testing the boilers **(ID Nos. ES-62(4), ES-62(5), ES-62(6), and ES-62(7))** for particulate matter in accordance with a testing protocol approved by the DAQ. Details of the emissions testing and reporting requirements can be found in Section 3 - General Condition JJ. Testing shall be completed and the results submitted within one year of the effective date of the permit, or by **XXX XX, 2003**, unless an alternate date is approved by the DAQ. Thereafter the testing shall be performed every 5 years. If the results of this test are above the limit given in Section VI.A.3.a.x., above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0503.  
Under the provisions of NCGS 143-215.108, the Permittee shall, when burning coal, demonstrate compliance with the emission limit(s), above, by testing the boiler **(ID No. ES-62(8))** for particulate matter in accordance with a testing protocol approved by the DAQ. Details of the emissions testing and reporting requirements can be found in Section 3 - General Condition JJ. Testing shall be completed and the results submitted within 5 years of the effective date of the permit, or by **XXX XX, 2008**, unless an alternate date is approved by the DAQ. Thereafter the testing shall be performed every 5 years. If the results of this test are above the limit given in Section VI.A.3.a.x., above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0503.
- xiii. Emissions of particulate matter from the boilers shall be controlled as follows:
  - < For the boiler **(ID No. ES-62(4))**, a multicyclone **(ID No. CD-P4)** with 54 tubes, each 10.5 inches in diameter in series with an electrostatic precipitator **(ID No. CD-P3)** with a collection plate area of 16,548 square feet.
  - < For the boilers **(ID Nos. ES-62(5), ES-62(6) and ES-62(7))**, an electrostatic precipitator **(ID No. CD-P1)** with 76,050 square feet of collection plate area.
  - < For the boiler **(ID No. ES-62(8))**, an electrostatic precipitator **(ID No. CD-P2)** with 53,000 square feet of collection plate area.

For the multicyclone **(ID No. CD-P4)** on the boiler **(ID No. ES-62(4))**:

- xiv. To ensure compliance and effective operation, the Permittee shall perform inspections and maintenance as recommended by the manufacturer. In addition to the manufacturer's inspection and maintenance recommendations, or if there is no manufacturer's inspection and maintenance recommendations, as a minimum, the inspection and maintenance requirement shall include:
  - (a) a monthly external visual inspection of the multicyclone, the system duct work, and the material collection unit for leaks and
  - (b) an annual (for each 12 month period from initial inspection) internal inspection of the

multicyclone's structural integrity.

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0503 if the multicyclone and duct work are not inspected and maintained.

- xv. The results of inspection and maintenance shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request.

The logbook shall record the following:

- (a) the date and time of each recorded action;
- (b) the results of each inspection;
- (c) the results of any maintenance performed on the multicyclone and duct work; and
- (d) any variance from manufacturer's recommendations, if any, and corrections made.

To ensure quality, entries in the logbook should be signed by personnel responsible for the effective operation of the multicyclone. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0503 if these records are not maintained.

For the electrostatic precipitators (**ID Nos. CD-P1 and CD-P2**)

- xvi. To ensure compliance and effective operation, the Permittee shall perform inspections and maintenance as recommended by the manufacturer. In addition to the manufacturer's inspection and maintenance recommendations, or if there is no manufacturer's inspection and maintenance recommendations, as a minimum, the inspection and maintenance requirement shall include:

- (a) a weekly external visual inspection of critical components such as rappers, ash removal equipment, the system duct work, and the material collection units.
- (b) a weekly check for any equipment that does not generate an alarm in the turned-off state, to ensure it is switched on;
- (c) a weekly measurement of average particulate deposits on discharge and collecting electrodes, for comparison with past and future inspections;
- (d) a weekly check for signs of plugging of gas distribution plates, and excessive buildup on inlet and outlet plenum floor surfaces;
- (e) a weekly check for signs of hopper plugging; and
- (f) a semiannual check for broken rapper rod insulators, cracked support bushing insulators, and broken or loose stabilizer bar insulators (if installed), and replacement as required

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0503 if the electrostatic precipitators and duct work are not inspected and maintained.

- xvii. To ensure compliance and the effective operation of the electrostatic precipitator (**ID Nos. CD-P1 and CD-P2**), the Permittee shall monitor and record, once during each shift for each precipitator, field readings of: primary voltage; primary current; precipitator current; and precipitator voltage. The readings shall be recorded in a log book (written or electronic format) on-site and made available to an authorized representative upon request. To ensure quality, the monitoring gauges or devices shall be calibrated, operated, and maintained using procedures that take into account manufacturer's specifications. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0503 if these records are not maintained.

- xviii. The Permittee shall establish a "normal range" for field readings for the electrostatic precipitators (**ID No. CD-P1 and CD-P2**) in the first 30 days following the effective date of the permit. If the field readings, recorded as required in Section VI.A.3.a.xvii., above, are observed to be outside the normal range, the Permittee shall inspect the electrostatic precipitators for malfunctions and repair, as necessary, in accordance to manufacturer's inspection and maintenance recommendations. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0503 if the inspections and repairs are not performed.

- xix. The results of inspection and maintenance activities, discussed above for the electrostatic precipitators, shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative of DAQ upon request. The logbook shall record the following:

- (a) the date and time of each recorded action;
- (b) the results of each inspection;
- (c) the causes for any variance from the normal operating range for the electrostatic

precipitator; and  
(d) corrective actions taken.

To ensure quality, entries in the logbook should be signed by personnel responsible for the effective operation of the boilers and the electrostatic precipitators. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0503 if these records are not maintained.

**Reporting**

- xx. The Permittee shall submit the results of any maintenance performed on the multicyclone (**ID No. CD-P4**) for the boiler (**ID No. ES-62(4)**) and the electrostatic precipitators (**ID No. CD-P1 and CD-P2**) within 30 days of a written request by the DAQ.
- xxi. The Permittee shall submit a summary report of monitoring and record keeping activities by January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified. All instances of deviations from the manufacturers' recommendations for maintenance of the multicyclone and the electrostatic precipitator must also be clearly identified.

**b. 15A NCAC 2D .0515: Particulate Emissions from Miscellaneous Industrial Processes**

**Statement of Basis**

- i. The methods for calculating the emission limits for particulate matter from the units in the boiler house (**ID No. ES-62**) were prescribed in Air Permit No. 03644R16 (Specific Conditions and Limitations number 3).
- ii. The Ash Silo (**ID No. ES-62(A)**) and the coal unloading and storage area (**ID No. ES-F2**) were not listed in the existing permit.
- iii. This emission limitation does not apply to the coal unloading and storage area (**ID No. ES-F2**) as emissions of particulate matter from this unit are fugitive.
- iv. A fabric filter (**ID No. CD-A(2)**) is utilized to control emissions of particulate matter from the ash silo. The filter is checked daily for leaks, damage, and holes.
- v. In the application, the permittee indicated that the emission point is checked daily . If any dust is seen, all silo loading is stopped until the unit is repaired. Leaks and holes in filter media are detected visually.
- vi. Stack testing is not required to ensure compliance with this regulation. However the test method condition will be put in the permit in the event that DAQ or EPA finds that due to improper operation, violations, etc., source testing is required. Testing requirements are specified in 2D .0501(c).

**Regulatory Requirements**

- vii. Emissions of particulate matter from the ash silo that are discharged into the atmosphere shall not exceed an allowable emission rate as calculated by the following equation: [15A NCAC 2D .0515(a)].

$$E = 4.10 \times P^{0.67} \quad \text{for units with process weight rate less than 30 tons per hour}$$

Where E = allowable emission rate in pounds per hour calculated to three significant figures  
P = process weight rate in tons per hour

Liquid and gaseous fuels and combustion air are not considered as part of the process weight. In no case shall the following emission limitations be exceeded:

<u>Source</u>	<u>Pollutant</u>	<u>Process Weight Rate</u>	<u>Emission Limit</u>	<u>Potential Emissions</u>
Ash silo ( <b>ID No. ES-62(A)</b> )	Particulate matter	2.2 tons/hour	6.95 lbs/hour	2200 lbs/hour

**Monitoring/Recordkeeping**

- viii. Particulate matter emissions from the ash silo (**ID No. ES-62(A)**) shall be controlled by a fabric filter (**ID No. CD-A(2)**), which has 102 square feet of filter surface area. To ensure compliance, the Permittee shall perform inspections and maintenance as recommended by the manufacturer. In addition to the manufacturer's inspection and maintenance recommendations, or if there is no manufacturer's inspection and maintenance recommendations, as a minimum, the inspection and maintenance requirement shall include the following:
  - (a) a semi-annual internal inspection of the fabric filter and associated duct work for deterioration, and
  - (b) a weekly external visual inspection of the system duct work, and material collection unit for deterioration, damage, and leaks.The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0515 if the fabric filter and duct work are not visually inspected for leaks, damage, or deterioration and bag samples are not taken to determine bag condition and remaining bag life.
- ix. The results of inspection and maintenance shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:
  - (a) the date and time of each recorded action;
  - (b) the results of each inspection;
  - (c) the results of any maintenance performed on the fabric filter; and
  - (d) any variance from manufacturer's recommendations, if any, and corrections made.To ensure quality, entries in the logbook should be signed by personnel responsible for the effective operation of the fabric filter. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0515 if these records are not maintained.

**Reporting**

- x. The Permittee shall submit the results of any maintenance performed on the fabric filter (**ID No. CD-A(2)**) within 30 days of a written request by the DAQ.
- xi. The Permittee shall submit a summary report of monitoring and record keeping activities postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

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

**Statement of Basis**

- i. The existing permit includes a sulfur dioxide emission limit of 1.6 lb per million Btu heat input prescribed in the existing permit (Air Permit No. 03644R16, Specific Conditions and Limitations No. 4) as required by this regulation and the March 27, 1986 Public Hearing.
- ii. Composite samples of the coal entering the boilers is analyzed each month for heat content, ash content, and sulfur content.

**Regulatory Requirements**

- iii. Emissions of sulfur dioxide from the boilers (**ID Nos. ES-62(3), ES-62(4), ES-62(5), ES-62(6), ES-62(7), and ES-62(8)**) shall not exceed 1.6 pounds per million Btu heat input. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard. [15A NCAC 2D .0516(a) and the March 27, 1986 public hearing]. Emissions of sulfur dioxide from the combustion of coal, or No. 2 fuel oil as discharged from the following emission points shall not exceed the following limitations:

<u>Source</u>	<u>Emission Limit</u>	<u>Maximum Firing Rate</u>	<u>Allowable Emission Rate</u>	<u>Potential Emissions</u>
Boiler (ID No. ES-62(3))	1.6 lbs/million Btu	55.7 million Btu/hour	89.1 lbs/hour	16. lbs/hour
Boiler (ID No. ES-62(4))	1.6 lbs/million Btu	71.6 million Btu/hour	115. lbs/hour	114 lbs/hour
Boiler (ID No. ES-62(5))	1.6 lbs/million Btu	110 million Btu/hour	176. lbs/hour	178 lbs/hour
Boiler (ID No. ES-62(6))	1.6 lbs/million Btu	110 million Btu/hour	176. lbs/hour	178 lbs/hour
Boiler (ID No. ES-62(7))	1.6 lbs/million Btu	162 million Btu/hour	259. lbs/hour	259 lbs/hour
Boiler (ID No. ES-62(8))	1.6 lbs/million Btu	224 million Btu/hour	358. lbs/hour	358 lbs/hour

**Monitoring/Recordkeeping**

- iv. No monitoring, record keeping, or reporting is required for sulfur dioxide emissions from the firing of No. 2 fuel oil in the boilers (**ID Nos. ES-62(3), ES-62(4), ES-62(5), ES-62(6), ES-62(7), and ES-62(8)**).
- v. When firing coal and to ensure compliance with this regulation, the Permittee shall monitor the amount of coal used and shall monitor the sulfur content of the coal used by analyzing, on a monthly basis, composite samples of the coal entering the boilers. The results of the monthly analyses shall be recorded in a logbook (written or electronic format) and include the following information:
  - (a) the gross calorific value (Btu/pound)
  - (b) the sulfur content (percent by weight);
  - (c) the ash content (percent by weight);
  - (d) a statement verifying that the methods used to determine the maximum sulfur content of the coal was in accordance with the following:
    - (1) sampling -- ASTM Method D 2234;
    - (2) preparation -- ASTM Method D 2013;
    - (3) gross calorific value (Btu) -- ASTM Method D-2015 or D-3286;
    - (4) moisture content --ASTM Method D 3173;
    - (5) sulfur content -- ASTM Method D 3177 or ASTM Method D 4239
  - (e) the amount of coal utilized in the boilers

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0516 if the amount of coal used is not recorded and the heat, ash, and sulfur contents of the coal are not monitored and recorded.

**Reporting**

- vi. By **January 30** of each calendar year, the Permittee must submit in writing to the Regional Supervisor, a coal summary report of the sulfur content values (percent by weight) of the composite coal samples taken during the calendar year with the highest percent sulfur by weight. The coal summary report shall contain the following information:
  - (a) the quantity and type of fuels burned;
  - (b) the heat content in BTU per pound;
  - (c) the ash content in percent by weight;
  - (d) the sulfur content in percent by weight; and
  - (e) the calculated sulfur dioxide emission rates expressed in pounds of sulfur dioxide per million BTU heat input.

The permittee shall be deemed in noncompliance with 15A NCAC 2D .0516 if the calculated emission rates exceed 1.6 pounds of sulfur dioxide per million BTU heat input.

**d. 15A NCAC 2D .0521: Control of Visible Emissions**

**Statement of Basis**

- i. Emission limits for visible emissions from the units in the Boiler House (**ID Nos. ES-F2 and ES-62**) were prescribed in Air Permit No. 03644R16 (Specific Conditions and Limitations Nos. 5 and 6).
- ii. Only two boilers (ID No. ES-62(3) and ES-62(4)) in the Boiler House were placed in operation since 1971. All other units were placed in operation prior to 1971.
- iii. Electrostatic precipitators and fabric filters are utilized to control emissions of particulate matter from the units that make up the boiler house. If visible emissions are observed at the electrostatic precipitator or at the fabric filter, the control devices may not be functioning properly. To ensure proper operation of these control devices and in turn compliance with this requirement because of the potential large quantities of particulate matter emitted, weekly observations for visible emissions are necessary.

**Regulatory Requirements**

- iv. As required by 15A NCAC 2D .0521(c) "Control of Visible Emissions," visible emissions from sources manufactured as of July 1, 1971, shall not be more than 40 percent opacity when averaged over a six-minute period [15A NCAC 2D .0521(c)]. However, six minute averaging periods may exceed 40 percent opacity if:
  - (a) No six-minute period exceeds 90 percent opacity;
  - (b) No more than one six-minute period exceeds 40 percent opacity in any hour; and
  - (c) No more than four six-minute periods exceed 40 percent opacity in any 24-hour period.
- v. As required by 15A NCAC 2D .0521(d) "Control of Visible Emissions," visible emissions from sources manufactured after July 1, 1971, shall not be more than 20 percent opacity when averaged over a six-minute period [15A NCAC 2D .0521(d)]. However, six minute averaging periods may exceed 20 percent opacity if:
  - (a) No six-minute period exceeds 87 percent opacity;
  - (b) No more than one six-minute period exceeds 20 percent opacity in any hour; and
  - (c) No more than four six-minute periods exceed 20 percent opacity in any 24-hour period
- vi. Visible emissions from the emission points in the boiler house shall not exceed the following limitations:

<u>Source</u>	<u>Emission Point ID No.</u>	<u>Pollutant</u>	<u>Opacity Limit</u>
Coal unloading and storage area ( <b>ID No. ES-F2</b> )	CP-1 EP-86 CP-1TU EP-1	Visible Emissions	40%
No. 2 oil fired boiler ( <b>ID No. ES-62(3)</b> )	EP-3	Visible Emissions	40%
No. 2 oil /coal fired boiler ( <b>ID No. ES-62(4)</b> )	EP-P3 EP-P1N EP-P1S EP-P2N EP-P2S	Visible Emissions	40%

No. 2 oil/coal fired boiler ( <b>ID No. ES-62(5)</b> )	EP-P3 EP-P1N EP-P1S EP-P2N EP-P2S	Visible Emissions	40%
No. 2 oil/coal fired boiler ( <b>ID No. ES-62(6)</b> )	EP-P3 EP-P1N EP-P1S EP-P2N EP-P2S	Visible Emissions	40%
No. 2 oil/coal fired boiler ( <b>ID No. ES-62(7)</b> )	EP-P3 EP-P1N EP-P1S EP-P2N EP-P2S	Visible Emissions	40%
No. 2 oil/coal fired boiler ( <b>ID No. ES-62(8)</b> )	EP-P3 EP-P1N EP-P1S EP-P2N EP-P2S	Visible Emissions	40%
Ash silo ( <b>ID No. ES-62(A)</b> )	EP-62(64)	Visible Emissions	40%

**Monitoring/Recordkeeping**

- vii. To ensure compliance, the Permittee shall observe, on a **daily** basis, the boilers emission points listed in Section VI.A.3.d.vi., above, for any visible emissions above normal. To ensure compliance, the Permittee shall observe, on a **monthly** basis, the **silos** and **unloading operations** emission points listed in Section VI.A.3.d.vi., above, for any visible emissions above normal. The Permittee shall establish “normal” for the source in the first 30 days following the effective date of the permit. If visible emissions from the emission points in the boiler house are observed to be above normal, the Permittee shall either:
- (a) be deemed to be in noncompliance with 15A NCAC 2D .0521 or
  - (b) demonstrate that the visible emissions from the coal unloading and storage area (**ID No. ES-F2**), the boilers (**ID Nos. ES-62(3), ES-62(4) ES-62(5), ES-62(6), ES-62(7), and ES-62(8)**), and the ash silo (**ID No. ES-62(A)**) in accordance with 15A NCAC 2D .0501(c)(8), do not exceed 40 percent opacity; and
- If the demonstrations in (b) and above cannot be made, the Permittee shall be deemed to be in noncompliance with 15A NCAC 2D .0521.
- viii. The results of the monitoring for visible emissions shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. To ensure quality, entries in the logbook should be signed by personnel responsible for the effective operation of the units in the boiler house and their air pollution control devices. The logbook shall record the following:
- (a) the date and time of each recorded action;
  - (b) 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
  - (c) 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**

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

**B. Water Treatment Plant (ID Nos. ES-9, ES-11, and ES-15)**

1. Description

This area draws raw water from either a surface or a groundwater supply and after treatment supplies it as either potable water or process water. This uses a conventional alum/polymer coagulation followed by rapid sand filtration, pH adjustment and chlorine addition.

The process rates for the units in the water treatment plant are as follows:

Emission Source	Emission Source ID No.	Maximum Process Rate <sup>1</sup>
Filter plant	ES-15	1.26 million gallons of water per day  300 lbs/hour of calcium hydroxide  13 lbs/hour of chlorine
Emergency well chlorinator	ES-9	13 lbs/hour of chlorine
Potable water plant	ES-11	13 lbs/hour of chlorine

<sup>1</sup> Permit Application (August 12, 1996) Section B

2. An Overview of Applicable Regulatory Requirements

The following table provides a summary of limits and/or standards for the water treatment plant. A review of the information in the application was performed to ensure that the appropriate limits and associated calculations used to show compliance were correct.

Regulated Pollutant	Limits/Standards	Applicable Regulation
particulate matter	$E = 4.10P^{0.67}$ where E = allowable emission rate in pounds per hour P = process weight in tons per hour Note limits and discussion in Section VI.B.3.a	15A NCAC 2D .0515
visible emissions	20 percent opacity Note limits and discussion in Section VI.B.3.b	15A NCAC 2D .0521(d)
odors	Odorous emissions must be controlled - Section VII.B.2 Facility Wide Affected Emission Sources; <b>State-enforceable only</b>	15A NCAC 2D .1806

Other regulations considered for emissions from the water treatment plant:

- C 15A NCAC 2D .1100: Control of Toxic Air Pollutants. No permit is required under 15A NCAC 2Q .0711 for emissions of chlorine and chloroform.
- C 15A NCAC 2Q .0711: Emission Rates Requiring a Permit. As emission rates are below thresholds, no permit is required.

3. Specific requirements and affected emission points

**a. 15A NCAC 2D .0515: Particulate Emissions from Miscellaneous Industrial Processes**

**Statement of Basis**

- i. The units in the water treatment plant were not listed in Air Permit No. 03644R16.
- ii. No emission control devices are utilized to control emissions of particulate matter from the water treatment plant.
- iii. Minimal emissions of particulate matter are expected. Therefore no monitoring, record keeping, or reporting is necessary.
- iv. Stack testing is not required to ensure compliance with this regulation. However the test method condition will be put in the permit in the event that DAQ or EPA finds that due to improper operation, violations, etc., source testing is required. Testing requirements are specified in 2D .0501(c).

**Regulatory Requirements**

- v. Emissions of particulate matter from the water treatment plant that are discharged into the atmosphere shall not exceed an allowable emission rate as calculated by the following equation: [15A NCAC 2D .0515(a)].

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

for units with process weight rate less than 30 tons per hour

Where E = allowable emission rate in pounds per hour calculated to three significant figures  
P = process weight rate in tons per hour

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

**Monitoring/Recordkeeping/Reporting**

- vi. No monitoring, record keeping, or reporting is required for particulate emissions from the filter plant (ID No. ES-15) in the water treatment plant.

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

**Analysis**

- v. Emission limits for visible emissions from the water treatment plant were not prescribed in Air Permit No. 03644R16.
- vi. As no compliance issues have been noted, the facility has no history of violations, and the expected amount of emissions from the water treatment plant is small, no monitoring, recordkeeping, or reporting is necessary for the emission points at the water treatment plant (ID Nos. EP-15-5, EP-15-13, EP-15-14, EP-15-15, EP-9-2, and EP-11-2).

**Regulatory Requirements**

- iii. As required by 15A NCAC 2D .0521(d) "Control of Visible Emissions," visible emissions from sources manufactured after July 1, 1971, shall not be more than 20 percent opacity when averaged over a six-minute period [15A NCAC 2D .0521(d)]. However, six minute averaging periods may exceed 20 percent opacity if
  - (a) No six-minute period exceeds 87 percent opacity;
  - (b) No more than one six-minute period exceeds 20 percent opacity in any hour; and
  - (c) No more than four six-minute periods exceed 20 percent opacity in any 24-hour period

**Monitoring/Recordkeeping/Reporting**

- iv. No monitoring, record keeping, or reporting is required for visible emissions from the emission points at the water treatment plant (ID Nos. EP-15-5, EP-15-13, EP-15-14, EP-15-15, EP-9-2, and EP-11-2).

**C. Calcium Carbonate Manufacturing Area (ID No. ES-73)**

1. Description

Calcium oxide is atmospherically slaked and then combined with scrubbed flue gases from the boiler house to form calcium carbonate slurry by a continuous process. All material is kept in solution.

The process rates for the units that comprise the calcium carbonate manufacturing area are as follows:

Emission Source	Emission Source ID No.	Maximum Process Rate <sup>1</sup>
Railcar/truck unloading area	ES-73f	9.2 tons/hour
Batch calcium carbonate manufacturing	ES-73b	2 tons/hour
Calcium oxide silo 25,000 cubic feet capacity	ES-73c	12 tons/hour filling rate 7.5 tons/hour unloading rate
Muriatic acid storage tank - capacity of 6,579 gallons	ES-73E	30 gallons/minute
Continuous calcium carbonate manufacturing	ES-73a	2 tons/hour

<sup>1</sup> Permit Application (August 12, 1996) Section B

Comments

- < Potential emissions of hydrochloric acid from the muriatic acid storage tank totals 9 lbs per year. The source is determined to be insignificant as defined by 15A NCAC 2Q .0503(8).

2. An Overview of Applicable Regulatory Requirements

The following table provides a summary of limits and/or standards for the emission units in the calcium carbonate manufacturing area. A review of the information in the application was performed to ensure that the appropriate limits and associated calculations used to show compliance were correct.

Regulated Pollutant	Limits/Standards	Applicable Regulation
particulate matter	$E = 4.10P^{0.67}$ where E = allowable emission rate in pounds per hour P = process weight in tons per hour Note limits and discussion in Section VI.C.3.d	15A NCAC 2D .0515

visible emissions	20 percent opacity Note limits and discussion in Section VI.C.3.f	15A NCAC 2D .0521(d)
chlorine	No applicable requirements	None
odors	Odorous emissions must be controlled - Section VII.B.2 Facility Wide Affected Emission Sources; <b>State-enforceable only</b>	15A NCAC 2D .1806

Other regulations considered for emissions from the calcium carbonate manufacturing area:

- c 15A NCAC 2D .1100: Control of Toxic Air Pollutants. No permit is required under 15A NCAC 2Q .0711
- c 15A NCAC 2Q .0711: Emission Rates Requiring a Permit. As emission rates are below thresholds, no permit is required.

3. Specific requirements and affected emission points

a. **15A NCAC 2D .0515: Particulate Emissions from Miscellaneous Industrial Processes**

**Statement of Basis**

- i. The methods for calculating the emission limits for particulate matter from the units in the calcium carbonate manufacturing area were prescribed in Air Permit No. 03644R16 (Specific Conditions and Limitations number 3).
- ii. Stack testing is not required to ensure compliance with this regulation. However the test method condition will be put in the permit in the event that DAQ or EPA finds that due to improper operation, violations, etc., source testing is required. Testing requirements are specified in 2D .0501(c).
- iii. A fabric filter (**ID No. CD-73-26**) controls emissions of particulate matter from the railcar/truck unloading area (**ID No. ES-73f**) and the calcium oxide silo (**ID No. ES-73C**). Daily checks are performed of the filter to check for visible damage, leaks, and holes.
- iv. The continuous and batch calcium carbonate manufacturing processes (**ID No. ES-73a and ES-73b**) involve a liquid slurry. No control devices are identified for these sources and minimal emissions of particulate matter are expected.

**Regulatory Requirements**

- v. Emissions of particulate matter from the units in the calcium carbonate manufacturing area that are discharged into the atmosphere shall not exceed an allowable emission rate as calculated by the following equation: [15A NCAC 2D .0515(a)].

$$E = 4.10 \times P^{0.67} \quad \text{for units with process weight rate less than 30 tons per hour}$$

Where E = allowable emission rate in pounds per hour calculated to three significant figures  
P = process weight rate in tons per hour

Liquid and gaseous fuels and combustion air are not considered as part of the process weight. In no case shall the following emission limitations be exceeded:

<b><u>Source</u></b>	<b><u>Pollutant</u></b>	<b><u>Process Weight Rate</u></b>	<b><u>Emission Limit</u></b>	<b><u>Potential Emissions</u></b>
Railcar/truck unloading area ( <b>ID No. ES-73f</b> )	Particulate matter	9.2 tons/hour	18.1 lbs/hour	495 lbs/hour

Batch calcium carbonate manufacturing (ID No. ES-73b)	Particulate matter	2.0 tons/hour	8.01 lbs/hour	0.006 lb/hour
Calcium oxide silo (ID No. ES-73c)	Particulate matter	12.0 tons/hour	21.7 lbs/hour	495 lbs/hour
Continuous calcium carbonate manufacturing (ID No. ES-73a)	Particulate matter	2.0 tons/hour	8.01 lbs/hour	0.006 lb/hour

**Monitoring/Recordkeeping**

- vi. Particulate emissions from the railcar/truck unloading area (ID No. ES-73f) and the calcium oxide silo (ID No. ES-73c) shall be controlled by a fabric filter (ID No. CD-73-26), which has 209 square feet of filter surface area. To ensure compliance, the Permittee shall perform inspections and maintenance as recommended by the manufacturer. In addition to the manufacturer’s inspection and maintenance recommendations, or if there is no manufacturer’s inspection and maintenance recommendations, as a minimum, the inspection and maintenance requirement shall include the following:
  - (a) a semi-annual internal inspection of the fabric filter and associated duct work for deterioration, and
  - (b) a monthly external visual inspection of the system duct work, and material collection unit for deterioration, damage, and leaks.

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0515 if the fabric filter and duct work are not visually inspected for leaks, damage, or deterioration and bag samples are not taken to determine bag condition and remaining bag life.
- vii. The results of inspection and maintenance shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:
  - (a) the date and time of each recorded action;
  - (b) the results of each inspection;
  - (c) the results of any maintenance performed on the fabric filter; and
  - (d) any variance from manufacturer’s recommendations, if any, and corrections made.

To ensure quality, entries in the logbook should be signed by personnel responsible for the effective operation of the fabric filter. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0515 if these records are not maintained.

**Reporting**

- viii. The Permittee shall submit the results of any maintenance performed on the fabric filter (ID No. CD-73-26) within 30 days of a written request by the DAQ.
- ix. The Permittee shall submit a summary report of monitoring and record keeping activities postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

**b. 15A NCAC 2D .0521: Control of Visible Emissions**

**Statement of Basis**

- i. Emission limits for visible emissions from the units in the calcium carbonate manufacturing area were prescribed in Air Permit No. 03644R16 (Specific Conditions and Limitations No. 5).
- ii. The units in the calcium carbonate manufacturing process were placed in operation prior to July 1, 1971.
- iii. For visible emissions, a fabric filter is utilized to control emissions of particulate matter (the pollutant that makes up the visible emissions) from the various units of the calcium carbonate manufacturing area. If visible emissions are observed at the fabric filter, the control devices may not be functioning properly. To ensure proper operation of the fabric filter and in turn compliance with this requirement, weekly observations for visible emissions are necessary.

# Proposed Document

## Regulatory Requirements

- iv. As required by 15A NCAC 2D .0521(c) "Control of Visible Emissions," visible emissions from sources manufactured as of July 1, 1971, shall not be more than 40 percent opacity when averaged over a six-minute period [15A NCAC 2D .0521(c)]. However, six minute averaging periods may exceed 40 percent opacity if:
  - (a) No six-minute period exceeds 90 percent opacity;
  - (b) No more than one six-minute period exceeds 40 percent opacity in any hour; and
  - (c) No more than four six-minute periods exceed 40 percent opacity in any 24-hour period.
- v. Visible emissions from the calcium carbonate manufacturing area shall not exceed the following limitations:

<u>Source</u>	<u>Emission Point ID No.</u>	<u>Pollutant</u>	<u>Opacity Limit</u>
Railcar/truck unloading area ( <b>ID No. ES-73f</b> )	EP-73-26	Visible Emissions	40%
Batch calcium carbonate manufacturing ( <b>ID No. ES-73b</b> )	EP-73-3	Visible Emissions	40%
	EP-73-4		
Calcium oxide silo ( <b>ID No. ES-73c</b> )	EP-73-26	Visible Emissions	40%
Continuous calcium carbonate manufacturing ( <b>ID No. ES-73a</b> )	EP-73-5	Visible Emissions	40%
	EP-73-6		
	EP-73-7		
	EP-73-8		
	EP-73-12		
	EP-73-14		
	EP-73-15		
	EP-73-16		

## Monitoring/Recordkeeping

- vi. To ensure compliance, the Permittee shall observe, on a monthly basis, the emission points in the calcium carbonate manufacturing area (**ID Nos. EP-73-26, EP-73-3, EP-73-4, EP-73-5, EP-73-6, EP-73-7, EP-73-8, EP-73-12, EP-73-14, EP-73-15, and EP-73-16**) for any visible emissions above normal. The Permittee shall establish "normal" for the source in the first 30 days following the effective date of the permit. If visible emissions from the emission points in the calcium carbonate manufacturing area are observed to be above normal, the Permittee shall either:
  - (a) be deemed to be in noncompliance with 15A NCAC 2D .0521 or
  - (b) demonstrate that the visible emissions from the emission points in the calcium carbonate manufacturing area, in accordance with 15A NCAC 2D .0501(c)(8), do not exceed 40 percent opacity.
 If the demonstration in (b) above cannot be made, the Permittee shall be deemed to be in noncompliance with 15A NCAC 2D .0521.
- vii. The results of the monitoring for visible emissions shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. To ensure quality, entries in the logbook should be signed by personnel responsible for the effective operation of the units in the calcium carbonate manufacturing area and their air pollution control devices. The logbook shall record the following:
  - (a) the date and time of each recorded action;
  - (b) 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
  - (c) 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**

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

**D. Pulping of Non-Wood (ID Nos. ES-56 and ES-56k)**

1. Description

This area uses a modified kraft pulping process to produce pulp from non-wood material such as flax, hemp, and kenaf fibers. This area also utilizes a soda process to produce recycled pulp from coated papers, and non-wood material.

The process rates for the units that comprise pulping of non-wood material are as follows:

Emission Source	Emission Source ID No.	Maximum Process Rate <sup>1</sup>
Pulping of non-wood material	ES-56	5.7 tons/hour

<sup>1</sup> Permit Application (August 12, 1996) Section B.

Comments

- < Potential emissions of phenol, methyl mercaptan, and methanol from the modified kraft pulping process are each less than 150 lbs per year. The pulping of non-wood material is determined to be insignificant as defined by 15A NCAC 2Q .0503(8).
- < The pulping process is not a kraft process as defined by 15A NCAC 2D .0528(2) since the pulp is not produced from wood chips.
- < The pulping process is not subject to the MACT requirements of 15A NCAC 2D .1111 and 40 CFR 63.440 "Hazardous Air Pollutants from the Pulp and Paper Industry" as the affected sources (in facilities that pulp non-wood material) to which the provisions apply are only the hazardous air pollution emission points in the bleaching system.

**E. Chemical Recovery Area (ID No. ES-75)**

1. Description

This source concentrates 14% black liquor, spent non-wood pulping chemicals, to 55% using multi-effect evaporators. The concentrated material is then stored in ES-75(1) and ES-75(2) until sold as a byproduct. The concentrated black liquor will be injected into a gasifier and sodium carbonate will be produced as a byproduct.

The process rates for the chemical recovery area emission units are as follows:

Emission Source	Emission Source ID No.	Maximum Process Rate <sup>1</sup>
Four effect type evaporators	ES-75	6000 gallons/hour
Black liquor storage tank	ES-75(1)	200,000 gallon capacity
Black liquor storage tank	ES-75(2)	200,000 gallon capacity

Proposed Document

Comments

- < The multieffect evaporator operates under vacuum. It has no vents.
- < The previously described reformer with sulfur dioxide adsorber was never constructed and removed from this permit and review.

2. An Overview of Applicable Regulatory Requirements

The following table provides a summary of limits and/or standards for the emission units in the chemical recovery area. A review of the information in the application was performed to ensure that the appropriate limits and associated calculations used to show compliance were correct.

Regulated Pollutant	Limits/Standards	Applicable Regulation
visible emissions	40 percent opacity Note limits and discussion in Section VI.E.3.c	15A NCAC 2D .0521(c)
odors	Odorous emissions must be controlled - Section VII.B.2 Facility Wide Affected Emission Sources; <b>State-enforceable only</b>	15A NCAC 2D .1806

Other regulations considered for emissions from the units in the chemical recovery area:

- < 15A NCAC 2D .0515: Particulates from Miscellaneous Industrial Processes. Materials introduced in this process do not cause emissions of particulate matter.

3. Specific requirements and affected emission points

a. **15A NCAC 2D .0521: Control of Visible Emissions**

**Statement of Basis**

- i. Emission limits for visible emissions from the units in the chemical recovery area were prescribed in Air Permit No. 03644R16 (Specific Conditions and Limitations Nos. 5 and 6).
- ii. The storage tanks and the evaporator are not expected to have visible emissions.

**Regulatory Requirements**

- iii. As required by 15A NCAC 2D .0521(c) "Control of Visible Emissions," visible emissions from sources manufactured as of July 1, 1971, shall not be more than 40 percent opacity when averaged over a six-minute period [15A NCAC 2D .0521(c)]. However, six minute averaging periods may exceed 40 percent opacity if:
  - (a) No six-minute period exceeds 90 percent opacity;
  - (b) No more than one six-minute period exceeds 40 percent opacity in any hour; and
  - (c) No more than four six-minute periods exceed 40 percent opacity in any 24-hour period.
- iv. Visible emissions from the chemical recovery area shall not exceed the following limitations:

<u>Source</u>	<u>Emission Point ID No.</u>	<u>Pollutant</u>	<u>Opacity Limit</u>
Evaporators ( <b>ID No. ES-75</b> )	EP-74-1T EP-74-2T	Visible Emissions	40%

**Monitoring/Record keeping/Reporting**

- v. No monitoring/record keeping/reporting is required for visible emissions from the evaporators

**F. Brownstock Washing Area (ID Nos. ES-53)**

1. Description

This area separates the spent cooking used in the pulping of non-wood material from the non-wood pulp, kenaf. The recovered cooking liquor is either sent to the evaporators (ID No. ES-75) or the process waste water treatment plant. The area uses pressafiners to remove most of the spent cooking liquor from the non-wood pulp. Final washing is completed in a series of diffusion washers.

The process rates for the units that comprise the brownstock washing area are as follows:

Emission Source	Emission Source ID No.	Maximum Process Rate <sup>1</sup>
Brownstock washing of non-wood pulps, kenaf	ES-53k	3.28 tons/hour
Brownstock washing of non-wood pulps, flax, hemp, etc.	ES-53f	4.68 tons/hour

<sup>1</sup> Permit Application (August 12, 1996) Section B.

Comments

- < Potential emissions of methanol from the units are considered significant.
- < No emissions of particulate matter are expected.

2. An Overview of Applicable Regulatory Requirements

The following table provides a summary of limits and/or standards for the emission units in the brown stock washing area. A review of the information in the application was performed to ensure that the appropriate limits and associated calculations used to show compliance were correct.

Regulated Pollutant	Limits/Standards	Applicable Regulation
visible emissions	40 percent opacity Note limits and discussion in Section VI.F.3.a	15A NCAC 2D .0521(c)
volatile organic compounds	Work Practice Standards Section VII.B.1 Facility Wide Affected Emission Sources	15A NCAC 2D .0958
odors	Odorous emissions must be controlled - Section VII.B.2 Facility Wide Affected Emission Sources; <b>State-enforceable only</b>	15A NCAC 2D .1806

Other regulations considered for emissions from the units in the brownstock washing area:

- < 15A NCAC 2D .0515: Particulates from Miscellaneous Industrial Processes. Materials introduced in this process do not cause emissions of particulate matter.
- < 15A NCAC 2D .1100: Control of Toxic Air Pollutants. No permit is required under 15A NCAC 2Q .0711
- < 15A NCAC 2Q .0711: Emission Rates Requiring a Permit. As emission rates are below thresholds, no permit is required.

3. Specific requirements and affected emission points

**a. 15A NCAC 2D .0521: Control of Visible Emissions**

**Statement of Basis**

- i. Emission limits for visible emissions from the units in the chemical recovery area were not listed or prescribed in Air Permit No. 03644R16
- ii. The brown stock washing of non-wood pulps are not expected to produce visible emissions.

**Regulatory Requirements**

- iii. As required by 15A NCAC 2D .0521(c) "Control of Visible Emissions," visible emissions from sources manufactured as of July 1, 1971, shall not be more than 40 percent opacity when averaged over a six-minute period [15A NCAC 2D .0521(c)]. However, six minute averaging periods may exceed 40 percent opacity if:
  - (a) No six-minute period exceeds 90 percent opacity;
  - (b) No more than one six-minute period exceeds 40 percent opacity in any hour; and
  - (c) No more than four six-minute periods exceed 40 percent opacity in any 24-hour period.
- iv. Visible emissions from the brown stock washing of non wood pulps shall not exceed the following limitations:

<u>Source</u>	<u>Emission Point ID No.</u>	<u>Pollutant</u>	<u>Opacity Limit</u>
Brown stock washing of non-wood pulps, kenaf ( <b>ID No. ES-53k</b> )	EP-53-01	Visible Emissions	40%
	EP-53-02		
	EP-53-03		
	EP-53-04		
	EP-53-06		
	EP-53-06		
	EP-53-07		
Brown stock washing of non-wood pulps, flax, hemp, etc. ( <b>ID No. ES-53f</b> )	EP-53-01	Visible Emissions	40%
	EP-53-02		
	EP-53-03		
	EP-53-04		
	EP-53-06		
	EP-53-06		
	EP-53-07		

**Monitoring/Record keeping/Reporting**

- v. No monitoring/record keeping/reporting is required for visible emissions from the brown stock washing of non-wood pulps (**ID Nos. EP-53-01, EP-53-02, EP-53-03, EP-53-04, EP-53-06, and EP-53-07**).

**G. Bleach Makeup Area (ID Nos. ES-58 and 58a)**

1. Description

This area is comprised of a chlorine unloading area and a bleach make up area.

The chlorine unloading area consists of 2-chlorine railcar unloading pads (**PM-37 and PM-38**). Only 1 unloading pad is used at a time. Each rail car holds up to 110,000 pounds of chlorine. There are normally no emissions from this area but varying amounts of chlorine may be discharged to the atmosphere during the connecting and disconnecting of the tank car and from various valves and fittings in the liquid chlorine area.

In the bleach make up area, chlorine is produced with water and sodium hypochlorite for the bleaching

area. Sodium hypochlorite is produced from the off gases from the chlorine water absorption towers. These off gases are reacted with a circulating caustic solution to produce sodium hypochlorite.

The process rates for the units that comprise the bleach make up area are as follows:

Emission Source	Emission Source ID No.	Maximum Process Rate <sup>1</sup>
Chlorine unloading area (2 railroad car unloading pads)	ES-58a PM-37 PM-38	0.275 tons/hour
Bleach make-up area	ES-58	50,000 gallons/hour

<sup>1</sup> Permit Application (August 12, 1996) Section B.

Comments

< The emission points that comprise the bleach make up area (**ID Nos. ES-58a and ES-58**) have been determined to be insignificant as defined by 15A NCAC 2Q .0503(8).

2. An Overview of Applicable Regulatory Requirements

The following table provides a summary of limits and/or standards for the bleach make-up area. A review of the information in the application was performed to ensure that the appropriate limits and associated calculations used to show compliance were correct.

Regulated Pollutant	Limits/Standards	Applicable Regulation
chlorine	Risk Management Plan must be developed Note limits and discussion in Section VI.G.3.a	15A NCAC 2D .2100
odors	Odorous emissions must be controlled - Section VII.B.1 Facility Wide Affected Emission Sources; <b>State-enforceable only</b>	15A NCAC 2D .1806

3. Specific requirements and affected emission points

a. **15A NCAC 2D .2100: Risk Management Program Regulatory Requirements**

i. The Permittee is subject to Section 112(r) of the Clean Air Act for the chlorine rail cars at railcar unloading pads (**PM-37 and PM-38**) and shall comply with all applicable requirements in accordance with 40 CFR Part 68 [15A NCAC 2D. 2100].

**Record keeping/Reporting**

ii. The Permittee shall revise and update the risk management plan submitted under § 68.150 as follows:

- (a) within five years of its initial submission or most recent update required by paragraphs (b) through (g) of this section, whichever is later.
- (b) No later than three years after a newly regulated substance is first listed by EPA;
- (c) No later than the date on which a new regulated substance is first present in an already covered process above a threshold quantity;
- (d) No later than the date on which a regulated substance is first present above a threshold quantity in a new process;
- (e) Within six months of a change that requires a revised process hazard analysis or hazard review;

- (f) Within six months of a change that requires a revised offsite consequence analysis as provided in 40 CFR 68.36; and
- (g) Within six months of a change that alters the Program level that applied to any covered process.

**H. Bleaching of Non-Wood Pulps (ID Nos. 48f [NESHAP], ES-48k, and ES-48t)**

1. Description

This area uses either: a conventional CEH bleaching sequence; or a TCF process; or a non-chlorine bleaching agent and reducing agents; to remove color bodies from non-wood pulps. The facility uses “chlorine water” for the bleaching process. The chlorine water is produced at the facility using chlorine gas through a counter flow adsorber with water. The chlorine is “stored” in two tank cars (112(r) applicability) at the facility. From the tanks, the chlorine is piped through a vaporizer and into the adsorber. The facility tracks the amount of chlorine and water into the system, and tests the percent chlorine in the “chlorine water” out of this system. This adsorber is vented to the hypochlorite system where it is used to produce hypochlorite. The chlorine water is stored in two large tanks (approx. 15,000 gallons each) that are vented to the hypochlorite system also. From the chlorine water storage tanks, the water is piped to the first stage of bleaching.

The hypochlorite system consists of two mixing boxes that vent to the atmosphere. In these boxes, NaOH, water, and chlorine (tail gases from the adsorber and chlorine water storage tanks) are mixed to create hypochlorite. The hypochlorite is used in the second stage of the bleaching.

The chlorine water is added in a closed piped system through a mixer into a continuous mixed tank (not vented). Once mixed the pulp is pumped to two closed storage chests in parallel (which are both vented out into one stack, this was the stack being tested). At the time of the test, only one chest (No. 6) was in operation. After these closed chests, the pulp is pumped to an open storage chest (with mixer). Prior to this chest, NaOH (caustic) is added in the line to quench the bleaching reaction. The chlorine concentrations off this open storage chest must comply with OSHA requirements, and are therefore very low. From this open chest, the pulp is thickened through a drum vacuum (no water added). From the thickener stage, the pulp is pumped to the hypochlorite tank (open to atmosphere), which is a staged process with 12 sections (batch process). After the final bleaching, the pulp is again “thickened” through drum vacuums.

The process rates for the units that comprise the bleaching of non-wood pulp are as follows:

Emission Source	Emission Source ID No.	Maximum Process Rate <sup>1</sup>
Bleaching of non-wood pulp using CEH process <b>NESHAP</b>	ES-48f	5.96 tons/hour
Bleaching of non-wood pulp using TCF process	ES-48K	1.78 tons/hour
Bleaching of non-wood pulp using non-chlorine bleaching agent and reducing agents	ES-48T	5.1 tons/hour

<sup>1</sup> Permit Application (August 12, 1996) Section B

2. An Overview of Applicable Regulatory Requirements

The following table provides a summary of limits and/or standards for the bleaching of non-wood pulps. A review of the information in the application was performed to ensure that the appropriate limits and associated calculations used to show compliance were correct.

<b>Regulated Pollutant</b>	<b>Limits/Standards</b>	<b>Applicable Regulation</b>
visible emissions	40 percent opacity Note limits and discussion in Section VI.H.3.a	15A NCAC 2D .0521(c)
volatile organic compounds	Work Practice Standards Section VII.B.1 Facility Wide Affected Emission Sources	15A NCAC 2D .0958
Hazardous air pollutants  Chlorine  Chlorinated hazardous air pollutants	Maximum Achievable Control Technology Note limits and discussion in Section VI.H.3.b	15A NCAC 2D .1111 <b>(40 CFR 63.440 – Subpart S: National Emission Standards for Hazardous Air Pollutants from the Pulp and Paper Industry)</b>
odors	Odorous emissions must be controlled - Section VII.B.1 Facility Wide Affected Emission Sources; <b>State-enforceable only</b>	15A NCAC 2D .1806

Other regulations considered for emissions from the units involved in the bleaching of non-wood pulps:

- < 15A NCAC 2D .0515: Particulates from Miscellaneous Industrial Processes. Materials introduced in this process do not cause emissions of particulate matter.
- < 15A NCAC 2Q .0711: Emission Rates Requiring a Permit. As emission rates are below thresholds, no permit is required.

3. Specific requirements and affected emission points  
**a. 15A NCAC 2D .0521: Control of Visible Emissions**

**Statement of Basis**

- iii. Emission limits for visible emissions from the units involved with the bleaching of non-wood pulps were not prescribed in Air Permit No. 03644R16.
- iv. The units involved with the bleaching of non-wood pulps were placed in operation prior to July 1, 1971.
- v. No visible emissions or emissions of particulate matter from the various units involved with the bleaching of non-wood pulps are expected.

**Regulatory Requirements**

- vi. As required by 15A NCAC 2D .0521(c) "Control of Visible Emissions," visible emissions from sources manufactured as of July 1, 1971, shall not be more than 40 percent opacity when averaged over a six-minute period [15A NCAC 2D .0521(c)]. However, six minute averaging periods may exceed 40 percent opacity if:
  - (a) No six-minute period exceeds 90 percent opacity;

- (b) No more than one six-minute period exceeds 40 percent opacity in any hour; and  
(c) No more than four six-minute periods exceed 40 percent opacity in any 24-hour period.
- v. Visible emissions from emission points involved in the bleaching of non-wood pulp shall not exceed the following limitations:

<u>Source</u>	<u>Emission Point ID No.</u>	<u>Pollutant</u>	<u>Opacity Limit</u>
Bleaching of non-wood pulp using CEH process ( <b>ID No. ES-48f</b> )	EP-50-17	Visible Emissions	40%
	EP-50-18		
	EP-50-19		
	EP-50-1		
	EP-50-2		
	EP-50-3		
	EP-50-4		
	EP-48-6		
	EP-48-9		
	EP-48-10		
	EP-48-11		
	EP-48-12		
	EP-48-13		
	EP-48-14		
	EP-48-15		
Bleaching of non-wood pulp using TCF process ( <b>ID No. ES-48k</b> )	EP-50-17	Visible Emissions	40%
	EP-50-18		
	EP-50-19		
	EP-50-1		
	EP-50-2		
	EP-50-3		
	EP-50-4		
	EP-48-6		
	EP-48-9		
	EP-48-10		
	EP-48-11		
	EP-48-12		
	EP-48-13		
	EP-48-14		
	EP-48-15		

Bleaching of non-wood pulp using non-chlorine bleaching agent and reducing agents (**ID No. ES-48T**)

Visible Emissions

40%

- EP-50-17
- EP-50-18
- EP-50-19
- EP-50-1
- EP-50-2
- EP-50-3
- EP-50-4
- EP-48-6
- EP-48-9
- EP-48-10
- EP-48-11
- EP-48-12
- EP-48-13
- EP-48-14

**Monitoring/Recordkeeping/Reporting**

vi. No monitoring/record keeping/reporting is required for visible emissions from the emission points involved with the bleaching of non-wood pulps (**ID Nos. EP-50-17, EP-50-18, EP-50-19, EP-50-1, EP-50-2, EP-50-3, EP-50-4, EP-48-6, EP-48-9, EP-48-10, EP-48-11, EP-48-12, EP-48-13, EP-48-14, and EP-48-15**).

- b. **15A NCAC 2D .1111 Maximum Achievable Control Technology (also see National Emission Standards for Hazardous Air Pollutants for Source Categories as promulgated in 40 CFR Part 63)**

**Statement of Basis**

- ii. The units involved with the bleaching of non-wood pulp are affected facilities under 40 CFR 63.440 “Hazardous Air Pollutants from the Pulp and Paper Industry.”
- iii. As stated in an inspector’s report of November 2, 2001, “Because this facility uses chlorine, they are subject to NESHAP Subpart S bleaching requirements. The facility does not have controls on the chlorine bleaching stage and claims that the concentration of the vents is less than the 10 ppm requirement of Subpart S. As part of the initial performance testing (IPT), due 180 days from compliance date (June 7, 2001 based on EPA determination), this facility was required to establish compliance with the 10 ppm concentration limit from the vents on the first stage of bleaching. Because there is no control device, there is no “closed-vent system” except in the chlorine water system and they do not have to meet the requirements for the control devices. They are also not required to have CMSs for the scrubber parameters since there are no scrubbers. **However, as a surrogate, they were required to establish operating parameters that can be monitored during the IPT. These included the ratio of Cl/stock (lb Cl/lb stock); the percent chlorine in the chlorine water; the amount of chlorine water added to the first stage, the pH of stream after chlorine water is added; and the amount of NaOH added to quench the bleaching reaction. The facility will also be required to do a “monthly” inspection of the chlorine water system and the piping prior to the first bleaching stage to insure no leaks.**”
- iv. The applicant has indicated that process modifications will be used to achieve compliance with the emission limits. As a result enclosures, closed-vent systems, control devices, and continuous emission monitoring are not required (see 40 CFR 63.445(b)).
- v. The requirements of 40 CFR 63.445 (d) and (e) do not apply to the Ecusta facility as there are no effluent guidelines for the control of chloroform at non-wood fiber pulping mills.
- vi. Emissions of hazardous air pollutants from the bleaching of non-wood pulp using TCF process (**ID No. ES-48K**) and the bleaching of non-wood pulp using non-chlorine bleaching agent and reducing agents (**ID No. ES-48T**) are relatively low. MACT requirements for these units is determined to be no control.
- vii. For any pulping process that uses secondary or non-wood fibers, the affected source to

which the existing source provisions of this subpart apply is the total of all HAP emission points in the bleaching system (40 CFR 63.440 (a) and (b)(2)).

- viii. As indicated in 40 CFR 63.458(b)(2), requirements of 40 CFR 63.453(m) for appropriate operating parameters cannot be delegated to the North Carolina Director of Environmental Management. However, the ARO has contacted EPA in this regard and EPA has allowed ARO to make this determination.

#### **Regulatory Requirements**

ix. **Standards for the bleaching system** (40 CFR 63.445(d)). (Terms used throughout this segment [Section 2.1. G.2] are defined in the Clean Air Act as amended in 1990 and in 40 CFR 63.2 and 63.441. Units and abbreviations are defined in 40 CFR 63.3) All provisions of 40 CFR 63.4, regarding prohibited activities or circumvention apply.

x. For units that comprise the bleaching of non-wood pulp that use chlorine or chlorinated compounds (**ID No. ES-48f**):

- (a) Process modifications are used to achieve compliance with the emission limits specified in paragraph b. ii. (1) below, therefore, enclosures and closed-vent systems shall not be required.
- (b) The process modifications used to reduce chlorinated "hazardous air pollutant" (HAP) emissions (not including chloroform) from the equipment specified in Section 2.1. G.2.b.i., (above) shall:
  - (1) Achieve an outlet concentration of 10 parts per million or less by volume of total chlorinated HAP

#### **Monitoring and Recordkeeping Requirements**

- x. Under the provisions of NCGS 143-215.108, the Permittee has demonstrated compliance with the emission limit above by testing the bleaching of non-wood pulp using CEH process (**ID No. ES-48f**), for the total chlorinated HAP concentration with a testing protocol approved by the DAQ. Testing was completed on **May 21, 2002** and the results submitted within six months following the effective date of the MACT. When determining the bleaching HAP concentration measurement, for purposes of complying with the bleaching system requirements in Section 2.1.G.2.b., above, the owner or operator has measured the total HAP concentration as the sum of all individual chlorinated HAPs or as chlorine. Testing shall be performed every **12 months or by May 21 of each year**. If the results of this test are above the limit given in Section 2.1.G.2.b., above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111.
- xi. In response to requirements of 40 CFR 63.453(m) and (n), during the initial performance test, the permittee has established **chlorine percentage in pounds per pound of stock** to be an appropriate monitored operating parameter that demonstrates continuous compliance with the applicable requirements for the bleaching of non-wood using CEH process (**ID No ES-48f**). To establish or reestablish the value for each operating parameter required to be monitored permittee shall use the following procedures:
- (a) During the initial performance test required in 40 CFR 63.457(a) or any subsequent performance test, continuously record the chlorine percentage in pounds per pound of stock;
  - (b) Determinations shall be based parameter data monitored during the performance test, supplemented, if necessary, by engineering assessments and the manufacturer's recommendations;
- xii. To ensure compliance, the Permittee shall monitor and record the ratio of chlorine to stock flow and if required calculate the chlorine percentage in pounds per pound of stock once per hour developed in response to requirements of 40 CFR 63.453(m)(n)and (o)(see Section 2.1.G.2.e., above) for the bleaching of non-wood using CEH process (**ID No ES-48f**). If the operating parameters exceed the upper limit of **2.61 percent chlorine per pound of stock** the Permittee shall either:
- (a) be deemed to be in noncompliance with 15A NCAC 2D .1111 or
  - (b) demonstrate that the emissions of chlorinated HAPS from the bleaching of non-wood

using CEH process (**ID No. ES-48f**), in accordance with test methods and procedures defined in 40 CFR 63.457(h) and (i), do not exceed the limits listed in Section 2.1.G.2.b., above (or 40 CFR 63.445(c)).

If the demonstration in (ii) above cannot be made, the Permittee shall be deemed to be in noncompliance with 15A NCAC 2D .1111.

- xii. The results of the monitoring of operating parameters shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. To ensure quality, entries in the logbook should be signed by personnel responsible for the effective operation of the bleaching of non-wood pulp using CEH process (**ID No. ES-48f**). The logbook shall record the following:
- (a) the date and time of each recorded action;
  - (b) the results of each observation and/or test noting those operating parameters observed to exceed the approved upper limit;
  - (c) the results of any corrective actions performed;
- The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111 if these records are not maintained.
- xiii. As indicated in 40 CFR 63.454(a), the permittee shall comply with the applicable record keeping requirements of 40 CFR 63.10.
- (a) The permittee shall maintain files of all information (including all reports and notifications) required by this part recorded in a form suitable and readily available for expeditious inspection and review. The files shall be retained for at least 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. At a minimum, the most recent 2 years of data shall be retained on site. The remaining 3 years of data may be retained off site. Such files may be maintained on microfilm, on a computer, on computer floppy disks, on magnetic tape disks, or on microfiche.
  - (b) The permittee shall maintain relevant records for such source of –
    - (1) the occurrence and duration of each startup, shutdown, or malfunction of operation;
    - (2) actions taken during periods of startup, shutdown, and malfunction (including corrective actions to restore malfunctioning process to its normal or usual manner of operation) when such actions are different from the procedures specified in the affected source's startup, shutdown, and malfunction plan (see 40 CFR 63.6(e)(3));
    - (3) all information necessary to demonstrate conformance with the affected source's startup, shutdown, and malfunction plan (see 40 CFR 63.6(e)(3)) when all actions taken during periods of startup, shutdown, and malfunction (including corrective actions to restore malfunctioning process 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);
    - (4) all measurements as may be necessary to determine the conditions of performance tests and performance evaluations;
    - (5) all results of performance tests; and
    - (6) all documentation supporting initial notifications and notifications of compliance status under 40 CFR 63.9.

#### **Reporting Requirements**

- xvi. The permittee shall submit a summary report of monitoring and record keeping activities by January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.
- xvii. The permittee shall comply with the following reporting requirements of 40 CFR 63 subpart A (as specified in table 1 of 40 CFR 63.440 "Hazardous Air Pollutants from the Pulp and Paper Industry").
- (a) The permittee shall report the results of performance tests to the North Carolina Division

of Air Quality, with copies sent to the Region IV Administrator of Environmental Protection Agency before the close of business on the 60th day following the completion of the performance test, unless specified otherwise in a relevant standard or as approved otherwise in writing by the Division of Air Quality. The results of the performance test shall be submitted as part of the notification of compliance status required under 40 CFR 63.9(h).

- (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 [see 40 CFR 63.6(e)(3)], 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, and they must include the number, duration, and a brief description of each startup, shutdown, or malfunction. The startup, shutdown, and malfunction report shall consist of a letter, containing the name, title, and signature of the owner or operator or other responsible official who is certifying its accuracy, that shall be submitted to the Division of Air Quality semiannually. The startup, shutdown, and malfunction report shall be delivered or postmarked by January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June.
- (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 permittee's startup, shutdown, and malfunction plan, the permittee shall report the actions taken for that event 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. The immediate report required under this paragraph shall consist of a telephone call (or facsimile (FAX) transmission) to the North Carolina Division of Air Quality within 2 working days after commencing actions inconsistent with the plan, and it shall be followed by a letter, delivered or postmarked within 7 working days after the end of the event, that contains the name, title, and signature of the owner or operator or other 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.

**X. Old Side Chemical Mix Area (ID No. ES-42)**

1. Description

This area is composed of a number of open vessels which are used to make solutions of chemicals used on the Old Side Paper Machines. Most of the chemicals are water solutions, such as calcium carbonate, caustic soda, sizing emulsions, wet end dyes, retention aids, etc. Those chemicals that are not water solutions are soluble in water. Some of the tanks in **ES-42** are connected to an exhaust system that vents any gases into the general work area.

The process rates for the units that comprise the old side chemical mix area are as follows:

Emission Source	Emission Source ID No.	Maximum Process Rate <sup>1</sup>
Old side chemical mix area	ES-42	Not provided

<sup>1</sup> Permit Application (August 12, 1996) Section B

Comments

< The emission points that comprise the Old Side Chemical Mix Area (**ID Nos. ES-42**) have been

identified as insignificant as defined by 15A NCAC 2Q .0503(8).

**J. Old Side Chlorine Storage Area (ID No. ES-33c)**

1. Description

Both 1 ton and 150 pound cylinders of chlorine are stored in this area and supply chlorine to the Old Side Paper Machine Area, **ES-33**. Maximum storage capacity is three one-ton cylinders and two 150-pound cylinders. This system is operated under vacuum. If a leak occurs in the transfer piping, the regulator on the chlorine cylinder will stop the flow of chlorine. Chlorine sensors located in this storage area will sound an alarm and notify a response/repair team if the chlorine level exceeds 1 and 5 ppm, respectively.

The process rates for the units that comprise the old side chlorine storage area are as follows:

Emission Source	Emission Source ID No.	Maximum Process Rate <sup>1</sup>
Old side chlorine storage area - chlorine cylinders	ES-33C	Not provided

<sup>1</sup> Permit Application (August 12, 1996) Section B

Comments

- < The Old Side Chlorine Storage Area (**ID Nos. ES-33C**) has been identified as insignificant as defined by 15A NCAC 2Q .0503(8).
- < The tanks in the Old Side Chlorine Storage Area (**ID Nos. ES-33C**) do not have to meet the Chemical Accident Prevention Provisions of 40 CFR Part 68 as each tank holds less than the threshold quantity of chlorine which is 2500 pounds.

**K. New Side Chemical Mix Area (ID Nos. ES-57a, ES-57s, and ES-57)**

1. Description

For the ammonium hydroxide unloading and storage area (**ID No. ES-57a**), above ground pressurized vertical tank is used to store 30% ammonium hydroxide for use in the new side chemical mix area. This tank and associated piping are in an area with secondary containment. There is a high level alarm and indicator on this tank.

For the starch unloading area (**ID No. ES-57-14R**), during the unloading process, a maximum of 350 ACFM of air is introduced into the rail car to fluidize the starch and during starch removal, a maximum of 480 ACFM is removed from the rail car and vented through the silos control devices. The fluidized air is interlocked with the pneumatic unloader. The silos (**ID Nos. ES-57-13T** and **ES-57-12T**) store dry powdery starch.

The New Side Chemical Mix Area (**ID No. ES-57**) is composed of a number of open vessels. These vessels are used to make solutions of chemicals used on the new side paper machines. Most of the chemicals are water solutions, such as calcium carbonate, caustic soda, titanium dioxide, sizing emulsions, wet end dyes, retention aids, etc. Those chemicals that are not water solutions are soluble in water. There are a number of tanks of defoamers, paper additives, etc., in this area.

Starch is pneumatically transferred from **ES-57a** to one of the starch cookers. Ammonia is used to solubilize and control the pH of the various solutions. After solubilization is completed the starch solution is heated, driving off the ammonia. The ammonia is reacted with sulfuric acid and used as a nutrient in the process wastewater treatment system.

The process rates for the units in the new side chemical mix area are as follows:

Emission Source	Emission Source ID No.	Maximum Process Rate <sup>1</sup>
Ammonium hydroxide unloading and storage area	ES-57a	8000 gallon above ground pressurized vertical tank - 50 gallons/minute filling rate
Starch unloading area	ES-57-14R	30 tons/hour
Starch silo south 3000 cubic feet capacity	ES-57-13T	30 tons/hour
Starch silo north 3000 cubic feet capacity	ES-57-12T	30 tons/hour
New side chemical mix area	ES-57	Not provided

<sup>1</sup> Permit Application (August 12, 1996) Section B

Comments

- < The New Side Chemical Mix Area (**ID No. ES-57**) and the ammonium hydroxide storage tank (**ID No. ES-57a**) has been identified as insignificant as defined by 15A NCAC 2Q .0503(8).
- < The storage tank in the ammonium hydroxide unloading and storage area (**ID No. ES-57a**) does not have to meet the Chemical Accident Prevention Provisions of 40 CFR Part 68 as the tank holds less than the threshold quantity of ammonia which is 20,000 pounds.

2. An Overview of Applicable Regulatory Requirements

The following table provides a summary of limits and/or standards for the emission units in the new side chemical mix area. A review of the information in the application was performed to ensure that the appropriate limits and associated calculations used to show compliance were correct.

Regulated Pollutant	Limits/Standards	Applicable Regulation
particulate matter	$E = 4.10P^{0.67}$ where E = allowable emission rate in pounds per hour P = process weight in tons per hour Note limits and discussion in Section VI.K.3.a	15A NCAC 2D .0515
visible emissions	40 percent opacity Note limits and discussion in Section VI.K.3.b	15A NCAC 2D .0521(c)
visible emissions	20 percent opacity Note limits and discussion in Section VI.K.3.b	15A NCAC 2D .0521(d)
volatile organic compounds	Work Practice Standards Section VII.B.1 Facility Wide Affected Emission Sources	15A NCAC 2D .0958
odors	Odorous emissions must be controlled - Section VII.B.1 Facility Wide Affected Emission Sources; <b>State-enforceable only</b>	15A NCAC 2D .1806

Other regulations considered for emissions from the units that comprise the new side chemical mix area:

- C 15A NCAC 2D .2100: Risk Management Program. Ammonium hydroxide [Ammonia (conc 20% or greater)] is listed in 40 CFR 68.130 as a regulated substance for which a risk management program is required. As the tank holds less than the threshold quantity of ammonia which is 20,000 pounds the facility is not subject to requirements.
- C 15A NCAC 2D .1100: Control of Toxic Air Pollutants. No permit is required under 15A NCAC 2Q .0711 for emissions of ammonia.
- C 15A NCAC 2Q .0711: Emission Rates Requiring a Permit. As emission rates are below thresholds, no permit is required.

3. Specific requirements and affected emission points

a. **15A NCAC 2D .0515: Particulate Emissions from Miscellaneous Industrial Processes**

**Statement of Basis**

- i. The methods for calculating the emission limits for particulate matter from the new side chemical mix area were prescribed in Air Permit No. 03644R16 (Specific Conditions and Limitations number 3).
- ii. Stack testing is not required to ensure compliance with this regulation. However the test method condition will be put in the permit in the event that DAQ or EPA finds that due to improper operation, violations, etc., source testing is required. Testing requirements are specified in 2D .0501(c).
- iii. Fabric filters (**ID Nos. CD-57-14R, CD-57-13T, and CD-57-12T**) control emissions of particulate matter from the starch unloading area (**ID No. ES-57-14R**), starch silo-south (**ID No. ES-57-13T**), and starch silo-north (**ID No. ES-57-12T**).

**Regulatory Requirements**

- iv. Emissions of particulate matter from the units in the new side chemical mix area that are discharged into the atmosphere shall not exceed an allowable emission rate as calculated by the following equation: [15A NCAC 2D .0515(a)].

$$E = 4.10 \times P^{0.67} \quad \text{for units with process weight rate less than 30 tons per hour}$$

Where E = allowable emission rate in pounds per hour calculated to three significant figures

P = process weight rate in tons per hour

Liquid and gaseous fuels and combustion air are not considered as part of the process weight. In no case shall the following emission limitations be exceeded:

<b><u>Source</u></b>	<b><u>Pollutant</u></b>	<b><u>Process Weight Rate</u></b>	<b><u>Emission Limit</u></b>	<b><u>Potential Emissions</u></b>
Starch unloading area ( <b>ID No. ES-57-14R</b> )	Particulate matter	30 tons/hour	40 lbs/hour	Not provided
Starch silo-south ( <b>ID No. ES-57-13T</b> )	Particulate matter	30 tons/hour	40 lbs/hour	46 lbs/hour
Starch silo-north ( <b>ID No. ES-57-12T</b> )	Particulate matter	30 tons/hour	40 lbs/hour	46 lbs/hour

**Monitoring/Recordkeeping**

- v. Particulate matter emissions from the units in the new side chemical mix area shall be

controlled as follows:

- < Emissions from the starch unloading area (**ID No. ES-57-14R**) shall be controlled by a fabric filter (**ID No. CD-57-14R**) with 23 square feet of filter surface area.
- < Emissions from the starch silo-south (**ID No. ES-57-13T**) shall be controlled by a fabric filter (**ID No. CD-57-13T**) with 350 square feet of filter surface area.
- < Emissions from the starch silo-north (**ID No. ES-57-12T**) shall be controlled by a fabric filter (**ID No. CD-57-12T**) with 350 square feet of filter surface area.

For the fabric filters (**ID Nos. CD-57-14R, CD-57-13T, and CD-57-12T**)

- vi. To ensure compliance, the Permittee shall perform inspections and maintenance as recommended by the manufacturer. In addition to the manufacturer's inspection and maintenance recommendations, or if there is no manufacturer's inspection and maintenance recommendations, as a minimum, the inspection and maintenance requirement shall include the following:
  - (a) a semi-annual internal inspection of the fabric filter and associated duct work for deterioration, and
  - (b) analysis of representative bag samples for deterioration, and
  - (c) a weekly external visual inspection of the system duct work, and material collection unit for deterioration, damage, and leaks.

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0515 if the fabric filter and duct work are not visually inspected for leaks, damage, or deterioration and bag samples are not taken to determine bag condition and remaining bag life.

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

To ensure quality, entries in the logbook should be signed by personnel responsible for the effective operation of the fabric filter. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0515 if these records are not maintained.

#### **Reporting**

- viii. The Permittee shall submit the results of any maintenance performed on the fabric filters (**ID Nos. CD-57-14R, CD-57-13T, and CD-57-12T**) within 30 days of a written request by the DAQ.
- ix. The Permittee shall submit a summary report of monitoring and record keeping activities postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

#### **b. 15A NCAC 2D .0521: Control of Visible Emissions**

##### **Statement of Basis**

- i. Emission limits for visible emissions from the units in the new side chemical mix area were prescribed in Air Permit No. 03644R16 (Specific Conditions and Limitations No. 5).
- ii. The starch silos were placed in operation prior to July 1, 1971.
- iii. For visible emissions, a fabric filter is utilized to control emissions of particulate matter (the pollutant that makes up the visible emissions) from the various units of the new side chemical mix area. If visible emissions are observed at the fabric filters, the control devices may not be functioning properly. To ensure proper operation of the fabric filters and in turn compliance with this requirement, weekly observations for visible emissions are necessary.

##### **Regulatory Requirements**

- iv. As required by 15A NCAC 2D .0521(c) "Control of Visible Emissions," visible emissions from sources manufactured as of July 1, 1971, shall not be more than 40 percent opacity when averaged over a six-minute period [15A NCAC 2D .0521(c)]. However, six minute averaging periods may exceed 40 percent opacity if:
- (a) No six-minute period exceeds 90 percent opacity;
  - (b) No more than one six-minute period exceeds 40 percent opacity in any hour; and
  - (c) No more than four six-minute periods exceed 40 percent opacity in any 24-hour period.
- v. As required by 15A NCAC 2D .0521(d) "Control of Visible Emissions," visible emissions from sources manufactured after July 1, 1971, shall not be more than 20 percent opacity when averaged over a six-minute period [15A NCAC 2D .0521(d)]. However, six minute averaging periods may exceed 20 percent opacity if:
- (a) No six-minute period exceeds 87 percent opacity;
  - (b) No more than one six-minute period exceeds 20 percent opacity in any hour; and
  - (c) No more than four six-minute periods exceed 20 percent opacity in any 24-hour period
- vi. Visible emissions from the emission points in the new side chemical mix area shall not exceed the following limitations:

<u>Source</u>	<u>Emission Point ID No.</u>	<u>Pollutant</u>	<u>Opacity Limit</u>
Starch unloading area (ID No. ES-57-14R)	EP-57-14R	Visible Emissions	20%
Starch silo-south (ID No. ES-57-13T)	EP-57-13T	Visible Emissions	40%
Starch silo-north (ID No. ES-57-12T)	EP-57-12T	Visible Emissions	40%

**Monitoring/Recordkeeping**

- vii. To ensure compliance, the Permittee shall observe, on a weekly basis, the emission points in the new side chemical mix area (ID Nos. EP-57-14R, EP-57-13T, and EP-57-12T) for any visible emissions above normal. The Permittee shall establish "normal" for the source in the first 30 days following the effective date of the permit. If visible emissions from the emission points in the new side chemical mix area are observed to be above normal, the Permittee shall either:
- (a) be deemed to be in noncompliance with 15A NCAC 2D .0521 or
  - (b) demonstrate that the visible emissions from the starch silos (ID Nos. ES-57-13T and ES-57-12T), in accordance with 15A NCAC 2D .0501(c)(8), do not exceed 40 percent opacity; and
  - (c) demonstrate that the visible emissions from the starch unloading area (ID Nos. ES-57-14R), in accordance with 15A NCAC 2D .0501(c)(8), do not exceed 20 percent opacity.
- If the demonstrations in (b) and (c) above cannot be made, the Permittee shall be deemed to be in noncompliance with 15A NCAC 2D .0521.
- viii. The results of the monitoring for visible emissions shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. To ensure quality, entries in the logbook should be signed by personnel responsible for the effective operation of the units in the new side chemical mix area and the associated air pollution control devices. The logbook shall record the following:
- (a) the date and time of each recorded action;
  - (b) 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
  - (c) 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**

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

**L. New Side Chlorine Storage Area (ID No. ES-48c)**

1. Description

Two 1-ton cylinders of chlorine are stored in this area and supply chlorine to the New Side Paper Machine Area. Maximum storage capacity is two one-ton cylinders. This system is operated under vacuum. If a leak occurs in the transfer piping, the regulator on the chlorine cylinder will stop the flow of chlorine. Chlorine sensors located in this storage area will sound an alarm and notify a response/repair team if the chlorine level exceeds 1 and 5 ppm, respectively.

The process rates for the units that comprise the new side chlorine storage area are as follows:

Emission Source	Emission Source ID No.	Maximum Process Rate <sup>1</sup>
New side chlorine storage area - chlorine cylinders	ES-48c	Not provided

<sup>1</sup> Permit Application (August 12, 1996) Section B

Comments

- < The New Side Chlorine Storage Area (**ID Nos. ES-48c**) has been identified as insignificant as defined by 15A NCAC 2Q .0503(8).
- < The tanks in the Old Side Chlorine Storage Area (**ID Nos. ES-48c**) do not have to meet the Chemical Accident Prevention Provisions of 40 CFR Part 68 as each tank holds less than the threshold quantity of chlorine which is 2500 pounds.

**M. Paper Machines**

1. Description

The fourdrinier paper machines produce fine paper from both wood and non-wood pulps. Numerous paper additives, such as: starch slurry, calcium carbonate slurry, sizing emulsions, wet end dyes, etc. are used in the paper making process.

The process rates for the paper machines are as follows:

Emission Source	Emission Source ID No.	Maximum Process Rate <sup>1</sup>
Paper machine room Machine Nos. 1 through 8	ES-33	9.7 tons per hour
Paper machine No. 9	ES-59	1.37 tons/hour
Paper machine No. 10	ES-34	10.125 tons/hour
Paper machine No. 11	ES-35	10.125 tons/hour
Paper machine No. 12	ES-36	13.75 tons/hour

<sup>1</sup> Permit Application (August 12, 1996) Section B

2. An Overview of Applicable Regulatory Requirements

The following table provides a summary of limits and/or standards for paper machines. A review of the information in the application was performed to ensure that the appropriate limits and associated calculations used to show compliance were correct.

Regulated Pollutant	Limits/Standards	Applicable Regulation
particulate matter	$E = 4.10P^{0.67}$ where E = allowable emission rate in pounds per hour P = process weight in tons per hour Note limits and discussion in Section VI.D.3.a	15A NCAC 2D .0515
visible emissions	40 percent opacity Note limits and discussion in Section VI.D.3.d	15A NCAC 2D .0521(c)
volatile organic compounds	Work Practice Standards Section VII.B.1 Facility Wide Affected Emission Sources	15A NCAC 2D .0958
odors	Odorous emissions must be controlled - Section VII.B.1 Facility Wide Affected Emission Sources; <b>State-enforceable only</b>	15A NCAC 2D .1806

Other regulations considered for emissions from the paper machines:

- C 15A NCAC 2D .1100: Control of Toxic Air Pollutants. No permit is required under 15A NCAC 2Q .0711 for emissions of hazardous air pollutants from the paper machines.
- C 15A NCAC 2Q .0711: Emission Rates Requiring a Permit. As emission rates are below thresholds, no permit is required.

3. Specific requirements and affected emission points

a. **15A NCAC 2D .0515: Particulate Emissions from Miscellaneous Industrial Processes**

**Statement of Basis**

- i. The methods for calculating the emission limits for particulate matter from the paper machines were not prescribed in Air Permit No. 03644R16.
- ii. Stack testing is not required to ensure compliance with this regulation. However the test method condition will be put in the permit in the event that DAQ or EPA finds that due to improper operation, violations, etc., source testing is required. Testing requirements are specified in 2D .0501(c).
- iii. The process used to produce paper in the paper machines produces principally gaseous emissions and minimal amounts of particulate matter. No monitoring, record keeping, or reporting is necessary to show compliance with these requirements.
- iv. The paper machine room (**ID No. ES-33**) contains 8 printing machines and is to be treated as a single emission source.

**Regulatory Requirements**

- v. Emissions of particulate matter from the paper machines that are discharged into the atmosphere shall not exceed an allowable emission rate as calculated by the following equation: [15A NCAC 2D .0515(a)].

$$E = 4.10 \times P^{0.67} \quad \text{for units with process weight rate less than 30 tons per hour}$$

Where E = allowable emission rate in pounds per hour calculated to three significant

Liquid and gaseous fuels and combustion air are not considered as part of the process weight.  
 In no case shall the following emission limitations be exceeded:

<u>Source</u>	<u>Pollutant</u>	<u>Process Weight Rate</u>	<u>Emission Limit</u>	<u>Potential Emissions</u>
Paper machine room - Machine Nos. 1 through 8 ( <b>ID No. ES-33</b> )	Particulate matter	9.7 tons/hour	18.8 lbs/hour	None indicated
Paper machine No. 9 ( <b>ID No. ES-59</b> )	Particulate matter	1.37 tons/hour	5.07 lbs/hour	None indicated
Paper machine No. 10 ( <b>ID No. ES-34</b> )	Particulate matter	10.125 tons/hour	21.8 lbs/hour	None indicated
Paper machine No. 11 ( <b>ID No. ES-35</b> )	Particulate matter	10.125 tons/hour	21.8 lbs/hour	None indicated
Paper machine No. 12 ( <b>ID No. ES-36</b> )	Particulate matter	13.75 tons/hour	23.7 lbs/hour	None indicated

**Monitoring/Recordkeeping/Reporting**

- vi. No monitoring, record keeping, or reporting is required to show compliance with this regulation [15A NCAC 2D .0515] for Paper machine room - Machine Nos. 1 through 8 (**ID No. ES-33**), Paper machine No. 9 (**ID No. ES-59**), Paper machine No. 10 (**ID No. ES-34**), Paper machine No. 11 (**ID No. ES-35**), and Paper machine No. 12 (**ID No. ES-36**).

**b. 15A NCAC 2D .0521: Control of Visible Emissions**

**Statement of Basis**

- v. Emission limits for visible emissions from the paper machines were not included or prescribed in Air Permit No. 03644R16.
- vi. The paper machines were placed in operation prior to July 1, 1971.
- vii. The paper machines do not involve fuel burning and the processes involved produce only gaseous emissions. The process is not expected to produce visible emissions.

**Regulatory Requirements**

- viii. As required by 15A NCAC 2D .0521(c) "Control of Visible Emissions," visible emissions from sources manufactured as of July 1, 1971, shall not be more than 40 percent opacity when averaged over a six-minute period [15A NCAC 2D .0521(c)]. However, six minute averaging periods may exceed 40 percent opacity if:
  - (a) No six-minute period exceeds 90 percent opacity;
  - (b) No more than one six-minute period exceeds 40 percent opacity in any hour; and
  - (c) No more than four six-minute periods exceed 40 percent opacity in any 24-hour period.
- v. Visible emissions from the paper machines shall not exceed the following limitations:

<u>Source</u>	<u>Emission Point ID No.</u>	<u>Pollutant</u>	<u>Opacity Limit</u>
Paper machine room - Machine Nos. 1 through 8 ( <b>ID No. ES-33</b> )	EP-33 (51 emission points)	Visible Emissions	40%

Paper machine No. 9 (ID No. ES-59)	Proposed Emission	Visible Emissions	40%
	EP-59-2		
	EP-59-12		
	EP-59-14		
	EP-59-15		
	EP-59-19		
	EP-59f		
	EP-34(11)		
Paper machine No. 10 (ID No. ES-34)	EP-34(1)	Visible Emissions	40%
	EP-34(6)		
	EP-34(10)		
	EP-34(11)		
	EP-34(18)		
	EP-34(21)		
	EP-34(22)		
	EP-34(26)		
	EP-34(27)		
	EP-34(29)		
	EP-34(31)		
	EP-34(34)		
	EP-34(39)		
Paper machine No. 11 (ID No. ES-35)	EP-34(4)	Visible Emissions	40 %
	EP-34(7)		
	EP-34(8)		
	EP-34(14)		
	EP-34(17)		
	EP-34(23)		
	EP-34(24)		
	EP-34(28)		
	EP-34(33)		
	EP-34(42)		
	EP-34(43)		
	EP-34(44)		
	EP-34(39)		

- EP-36(1)
- EP-36(2)
- EP-36(3)
- EP-36(4)
- EP-36(6)
- EP-36(7)
- EP-36(8)
- EP-36(9)
- EP-36(10)
- EP-36(11)
- EP-36(12)
- EP-36(14)
- EP-36(15)
- EP-36(16)
- EP-36(17)
- EP-36(18)
- EP-36(19)
- EP-36(33)
- EP-36(34)

**Monitoring/Recordkeeping/Reporting**

vii. No monitoring, record keeping, or reporting is required to show compliance with this regulation [15A NCAC 2D .0521] for any of the paper machines (ID Nos. ES-33, ES-59, ES-34, ES-35, and ES-36).

**N. Paper Perforating Area (ID No. ES-17)**

1. Description

In this area, fine paper is perforated by various means such as mechanical, laser, and electrostatic to increase its porosity.

The process rates for the paper perforating area are as follows:

Emission Source	Emission Source ID No.	Maximum Process Rate <sup>1</sup>
Paper perforating area	ES-17	2 tons/hour

<sup>1</sup> Permit Application (August 12, 1996) Section B

2. An Overview of Applicable Regulatory Requirements

The following table provides a summary of limits and/or standards for the emission units in the paper perforating area. A review of the information in the application was performed to ensure that the appropriate limits and associated calculations used to show compliance were correct.

Regulated Pollutant	Limits/Standards	Applicable Regulation
particulate matter	$E = 4.10P^{0.67}$ where E = allowable emission rate in pounds per hour P = process weight in tons per hour Note limits and discussion in Section VI.N.3.a	15A NCAC 2D .0515

visible emissions	20 percent opacity Note limits and discussion in Section VI.N.3.d	15A NCAC 2D .0521(d)
odors	Odorous emissions must be controlled - Section VII.B.1 Facility Wide Affected Emission Sources; <b>State-enforceable only</b>	15A NCAC 2D .1806

3. Specific requirements and affected emission points

**a. 15A NCAC 2D .0515: Particulate Emissions from Miscellaneous Industrial Processes**

**Statement of Basis**

- i. The methods for calculating the emission limits for particulate matter from the paper perforating area were prescribed in Air Permit No. 03644R16 (Specific Conditions and Limitations No. 3).
- ii. Stack testing is not required to ensure compliance with this regulation. However the test method condition will be put in the permit in the event that DAQ or EPA finds that due to improper operation, violations, etc., source testing is required. Testing requirements are specified in 2D .0501(c).
- iii. Emissions of particulate matter from the paper perforating area are collected by two fabric filters (**ID Nos. CD-17(C), CD-17(D)**) and one centrifugal wet scrubber (**ID No. CD-17(L-1)**).
- iv. Daily observations are made to check for leaks and holes on the fabric filters when units are in operation.
- v. Weekly inspections of the centrifugal wet scrubber is performed to evaluate the build up of material and paper dust in the scrubber sump. Also, ductwork is checked for visible leaks and condition of drive belts is noted. A fail safe system has been installed on the centrifugal wet scrubber which stops the air flow when the water is stopped from going to the rotoclone.

**Regulatory Requirements**

- vi. Emissions of particulate matter from the units in the paper perforating area that are discharged into the atmosphere shall not exceed an allowable emission rate as calculated by the following equation: [15A NCAC 2D .0515(a)].

$$E = 4.10 \times P^{0.67} \quad \text{for units with process weight rate less than 30 tons per hour}$$

Where E = allowable emission rate in pounds per hour calculated to three significant figures  
P = process weight rate in tons per hour

Liquid and gaseous fuels and combustion air are not considered as part of the process weight.  
In no case shall the following emission limitations be exceeded:

<u>Source</u>	<u>Pollutant</u>	<u>Process Weight Rate</u>	<u>Emission Limit</u>	<u>Potential Emissions</u>
Paper perforating area (ID No. ES-17)	Particulate matter	2 tons/hour	6.52 lbs/hour	5.10 lbs/hour

**Monitoring/Recordkeeping**

- vii. Particulate matter emissions from the paper perforating area (**ID No. ES-17**) shall be controlled as follows:
  - < Emissions shall be controlled by two independent and parallel fabric filters [**ID No. CD-17(C)** with 801square feet of filter surface area and **ID No. CD-17(D)** with 902 square feet of filter surface area].

- < Emissions shall be controlled by an independent centrifugal wet scrubber (**ID No. CD-17(L-1)**) which is operated in parallel with the fabric filters and which has a total injection flow rate of 5.5 gallons/minute.

For the fabric filters (**ID Nos. CD-17(C) and CD-17(D)**)

- viii. To ensure compliance, the Permittee shall perform inspections and maintenance as recommended by the manufacturers. In addition to the manufacturers' inspection and maintenance recommendations, or if there is no manufacturer's inspection and maintenance recommendations, as a minimum, the inspection and maintenance requirement shall include the following:

- (a) a semi-annual internal inspection of the fabric filter and associated duct work for deterioration, and
- (b) analysis of representative bag samples for deterioration, and
- (c) a weekly external visual inspection of the system duct work, and material collection unit for deterioration, damage, and leaks.

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0515 if the fabric filter and duct work are not visually inspected for leaks, damage, or deterioration and bag samples are not taken to determine bag condition and remaining bag life.

- ix. The results of inspection and maintenance shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request.

The logbook shall record the following:

- (a) the date and time of each recorded action;
- (b) the results of each inspection;
- (c) the results of any maintenance performed on the fabric filter; and
- (d) any variance from manufacturer's recommendations, if any, and corrections made.

To ensure quality, entries in the logbook should be signed by personnel responsible for the effective operation of the fabric filter. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0515 if these records are not maintained.

For the centrifugal wet scrubber (**ID Nos. CD-17(L-1)**)

- x. To ensure compliance, the Permittee shall perform inspections and maintenance as recommended by the manufacturers. In addition to the manufacturers' inspection and maintenance recommendations, or if there is no manufacturer's inspection and maintenance recommendations, as a minimum, the inspection and maintenance requirement shall include the following:

- (a) a weekly inspection and draining of the scrubber sump of build up of material and paper dust; and
- (b) a weekly inspection of the drive belts for deterioration and damage; and
- (c) a weekly external visual inspection of the system duct work, and material collection unit for deterioration, damage, and leaks.

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0515 if the centrifugal wet scrubber, the scrubber sump, and duct work are not visually inspected for leaks, damage, deterioration, and plugging.

- xi. The results of inspection and maintenance shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request.

The logbook shall record the following:

- (a) the date and time of each recorded action;
- (b) the results of each inspection;
- (c) the results of any maintenance performed on the centrifugal wet scrubber; and
- (d) any variance from manufacturer's recommendations, if any, and corrections made.

To ensure quality, entries in the logbook should be signed by personnel responsible for the effective operation of the centrifugal wet scrubber. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0515 if these records are not maintained.

## **Reporting**

- viii. The Permittee shall submit the results of any maintenance performed on the fabric filters (**ID Nos. CD-17(C) and CD-17(D)**) and the centrifugal wet scrubber (**ID No. CD-17(L-1)**) within 30 days of a written request by the DAQ.
- ix. The Permittee shall submit a summary report of monitoring and record keeping activities postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

**b. 15A NCAC 2D .0521: Control of Visible Emissions**

**Statement of Basis**

- xii. Emission limits for visible emissions in the paper perforating area were prescribed in Air Permit No. 03644R16 (Specific Conditions and Limitations No. 5).
- xiii. For visible emissions, fabric filters and a centrifugal scrubber are utilized to control emissions of particulate matter (the pollutant that makes up the visible emissions) from the various units in the paper perforating area. If visible emissions are observed at the fabric filters and the centrifugal scrubber, the control devices may not be functioning properly. To ensure proper operation of the fabric filters and in turn compliance with this requirement, weekly observations for visible emissions are necessary.
- xiv. No operation dates were provided for the units of this source, it is assumed that all were placed in operation after July 1, 1971.

**Regulatory Requirements**

- iv. As required by 15A NCAC 2D .0521(d) "Control of Visible Emissions," visible emissions from sources manufactured after July 1, 1971, shall not be more than 20 percent opacity when averaged over a six-minute period [15A NCAC 2D .0521(d)]. However, six minute averaging periods may exceed 20 percent opacity if:
  - (a) No six-minute period exceeds 87 percent opacity;
  - (b) No more than one six-minute period exceeds 20 percent opacity in any hour; and
  - (c) No more than four six-minute periods exceed 20 percent opacity in any 24-hour period
- v. Visible emissions from the paper perforating area shall not exceed the following limitations:

<u>Source</u>	<u>Emission Point ID No.</u>	<u>Pollutant</u>	<u>Opacity Limit</u>
Paper perforating area ( <b>ID No. ES-17</b> )	EP-18-01 EP-17-56 EP-17-55	Visible Emissions	20%

**Monitoring/Recordkeeping**

- vi. To ensure compliance, the Permittee shall observe, on a weekly basis, the emission points in the paper perforating area (**ID Nos. EP-18-01, EP-17-56, and EP-17-55**) for any visible emissions above normal. The Permittee shall establish "normal" for the source in the first 30 days following the effective date of the permit. If visible emissions from the emission points in the paper perforating area are observed to be above normal, the Permittee shall either:
  - (a) be deemed to be in noncompliance with 15A NCAC 2D .0521 or
  - (b) demonstrate that the visible emissions from the emission points in the paper perforating area (**ID Nos. EP-17-55, EP-17-56, and EP-18-01**), in accordance with 15A NCAC 2D .0501(c)(8), do not exceed 20 percent opacity.
 If the demonstrations in (b) above cannot be made, the Permittee shall be deemed to be in noncompliance with 15A NCAC 2D .0521.
- vii. The results of the monitoring for visible emissions shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. To ensure quality, entries in the logbook should be signed by personnel responsible for the

effective operation of the paper perforating area and the associated air pollution control devices. The logbook shall record the following:

- (a) the date and time of each recorded action;
- (b) 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
- (c) 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**

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

**O. Paper Printing Area (ID Nos. ES-6 and ES-7)**

1. Description

The majority of product printed at the facility is cigarette filter paper. The presses utilize ink which is isopropyl acetate and toluene based. The toluene content of the inks is less than 20 percent. Though none of the presses are currently under a 100% total capture system, the emissions that are captured are routed to carbon adsorbers.

The process rates for the units that comprise the paper printing area are as follows:

<b>Emission Source</b>	<b>Emission Source ID No.</b>	<b>Maximum Process Rate<sup>1</sup></b>
Toluene storage tank (2000 gallon capacity vertical fixed roof stainless steel tank)	ES-7(1T)	33 gallons/minute
Mixed solvent storage tank (5000 gallon capacity vertical fixed roof stainless steel tank)	ES-7(3T)	0.76 gallons/minute
Waste ink tank (3000 gallon capacity vertical fixed roof stainless steel tank)	ES-7(4T)	2 gallons/minute
Mixed solvent storage tank (13,000 gallon capacity horizontal stainless steel tank)	ES-6(43T)	1.04 gallons/minute
Paper printing area with 4-station rotogravure printing press <b>NESHAP</b>	ES-6(1)	1059 gallons/hour

Paper printing area with 2-station rotogravure printing press <b>NESHAP</b>	ES-6(4)	1059 gallons/hour
Paper printing area with 1-station rotogravure printing press <b>NESHAP</b>	ES-6(6)	1059 gallons/hour
Paper printing area with 4 - station rotogravure printing press <b>NESHAP</b>	ES-6(7)	1059 gallons/hour
Paper printing area with 5 - station rotogravure printing press <b>NESHAP</b>	ES-6(8)	1059 gallons/hour
Printing ink kitchen	ES-6(a)	220 gallons/hour
Renzman Washer	ES-6(b)	130 gallons/hour

<sup>1</sup> Permit Application (August 12, 1996) Section B

## 2. An Overview of Applicable Regulatory Requirements

The following table provides a summary of limits and/or standards for the emission units in the paper printing area. A review of the information in the application was performed to ensure that the appropriate limits and associated calculations used to show compliance were correct.

<b>Regulated Pollutant</b>	<b>Limits/Standards</b>	<b>Applicable Regulation</b>
visible emissions	40 percent opacity Note limits and discussion in Section VI.O.3.a	15A NCAC 2D .0521(c)
visible emissions	20 percent opacity Note limits and discussion in Section VI.O.3.a	15A NCAC 2D .0521(d)
volatile organic compounds	Work Practice Standards Section VII.B.1 Facility Wide Affected Emission Sources	15A NCAC 2D .0958
Organic Hazardous Air Pollutants	Maximum Achievable Control Technology Note limits and discussion in Section VI.O.3.b	15A NCAC 2D .1111 <b>(40 CFR 63.820 – Subpart KK: National Emission Standards for Hazardous Air Pollutants from the Printing and Publishing Industry)</b>

odors	Odorous emissions must be controlled - Section VII.B.1 Facility Wide Affected Emission Sources; <b>State-enforceable only</b>	15A NCAC 2D .1806
Toluene	Risk Management Plan must be developed Note limits and discussion in Section VI.O.3.c	15A NCAC 2D .2100

Other regulations considered for emissions from the units that comprise the paper printing area:

- C 15A NCAC 2D .0515: Particulates from Miscellaneous Industrial Processes. Materials introduced into the processes do not cause emissions of particulate matter.
- C 15A NCAC 2D .1100: Control of Toxic Air Pollutants. No permit is required under 15A NCAC 2Q .0711 for emissions of hazardous air pollutants from the paper machines.
- C 15A NCAC 2Q .0711: Emission Rates Requiring a Permit. As emission rates are below thresholds, no permit is required.

3. Specific requirements and affected emission points

a. **15A NCAC 2D .0521: Control of Visible Emissions**

**Statement of Basis**

- i. Emission limits for visible emissions from the units in the paper printing area were not prescribed in Air Permit No. 03644R16.
- ii. The storage tanks and the rotogravure printers are not expected to have visible emissions.
- iii. The paper printing area (1) (**ID No. ES-6(1)**), paper printing area (6) (**ID No. ES-6(6)**), printing area (7) (**ID No. ES-6(7)**), and printing area (8) (**ID No. ES-6(8)**) were placed in operation after 1971. As units share emission points, all units must meet 20 percent limit.

**Regulatory Requirements**

- iv. As required by 15A NCAC 2D .0521(c) "Control of Visible Emissions," visible emissions from sources manufactured as of July 1, 1971, shall not be more than 40 percent opacity when averaged over a six-minute period [15A NCAC 2D .0521(c)]. However, six minute averaging periods may exceed 40 percent opacity if:
  - (a) No six-minute period exceeds 90 percent opacity;
  - (b) No more than one six-minute period exceeds 40 percent opacity in any hour; and
  - (c) No more than four six-minute periods exceed 40 percent opacity in any 24-hour period.
- v. As required by 15A NCAC 2D .0521(d) "Control of Visible Emissions," visible emissions from sources manufactured after July 1, 1971, shall not be more than 20 percent opacity when averaged over a six-minute period [15A NCAC 2D .0521(d)]. However, six minute averaging periods may exceed 20 percent opacity if:
  - (a) No six-minute period exceeds 87 percent opacity;
  - (b) No more than one six-minute period exceeds 20 percent opacity in any hour; and
  - (c) No more than four six-minute periods exceed 20 percent opacity in any 24-hour period
- vi. Visible emissions from the paper printing area shall not exceed the following limitations:

<u>Source</u>	<u>Emission Point</u> <u>ID No.</u>	<u>Pollutant</u>	<u>Opacity</u> <u>Limit</u>
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Paper printing area with 4-station rotogravure printing press (ID No. ES-6(1))	EP-6(1)	Visible Emissions	20%
	EP-6(2)		
	EP-6(4)		
	EP-6(7)		
	EP-6(9)		
	EP-6(10)		
	EP-6(12)		
	EP-6(14)		
	EP-6(20)		
	EP-6(21)		
	EP-6(22)		
	EP-6(29)		
	EP-6(31)		
	EP-6(32)		
EP-6(34)			
Paper printing area with 2-station rotogravure printing press (ID No. ES-6(4))	EP-6(1)	Visible Emissions	40%
	EP-6(2)		
	EP-6(4)		
	EP-6(7)		
	EP-6(9)		
	EP-6(10)		
	EP-6(14)		
	EP-6(20)		
	EP-6(21)		
	EP-6(22)		
	EP-6(29)		
	EP-6(31)		
	EP-6(32)		
	EP-6(33)		
EP-6(34)			
Paper printing area with 1-station rotogravure printing press (ID No. ES-6(6))	EP-6(1)	Visible Emissions	20%
	EP-6(2)		
	EP-6(7)		
	EP-6(10)		
	EP-6(14)		
	EP-6(17)		
	EP-6(20)		
	EP-6(21)		
	EP-6(22)		
	EP-6(29)		
	EP-6(31)		
	EP-6(32)		
	EP-6(34)		
	EP-6(9)		
EP-6(4)			
Paper printing area with 4 - station rotogravure printing press (ID No. ES-6(7))	EP-6(20)	Visible Emissions	20%
	EP-6(21)		
	EP-6(22)		
	EP-6(24)		
	EP-6(28)		

Paper printing area with 5 - station rotogravure printing press (ID No. ES-6(8))	EP-6(48)	Visible emissions	20%
	EP-6(49)		
	EP-6(50)		
	EP-6(51)		
	EP-6(52)		

Renzman Washer (ID No. ES-6(b))	EP-6(45)	Visible emissions	20%
	EP-6(46)		
	EP-6(47)		
	EP-6(47f)		
	EP-6(53)		

**Monitoring/Record keeping/Reporting**

vii. No monitoring/record keeping/reporting is required for visible emissions from the emission points in the paper printing area (see emission points listed in section VI.O.3.a.vi, above).

**b. 15A NCAC 2D .1111 Maximum Achievable Control Technology (also see National Emission Standards for Hazardous Air Pollutants for Source Categories as promulgated in 40 CFR Part 63)**

**Statement of Basis**

- i. The rotogravure printing presses are affected facilities under 40 CFR 63.820 “Hazardous Air Pollutants from the Printing and Publishing Industry.”
- ii. As stated in an inspector’s report of November 2, 2001, “These presses are subject to the Printing and Publishing Industry MACT which was promulgated May 15, 1996. The first substantive date for compliance was May 30, 1999 (final compliance). The majority of what is printed at the facility is cigarette filter paper. Based on this, this facility is subject to the requirements of the product and packaging rotogravure operations NESHAP. This facility has chosen to comply with the Printing and Publishing MACT by operating a capture system and control device and limiting the organic HAP emission rate to no more than 0.20 kg organic HAP emitted per kg solids applied as determined on a monthly average as-applied basis. No initial testing was required because this facility is using a solvent recovery system and is demonstrating compliance by a monthly liquid-to-liquid material balance.
- iii. The requirements of 40 CFR 63.824 do not apply to the Ecusta facility as the printers do not produce saleable products such as publications, magazines, telephone books, and advertizing brochures.
- iv. As indicated in 40 CFR 63.831(b), requirements of 40 CFR 63.827(b) regarding approval of alternate test method for organic HAP content determinations and 40 CFR 63.827(c) regarding approval of alternate test method for volatile matter determinations cannot be delegated to the North Carolina Director of Environmental Management.
- v. For the Ecusta facility, the affected sources subject to 40 CFR 63.820 are all of the publication rotogravure presses and all affiliated equipment, including proof presses, cylinder and parts cleaners, ink and solvent mixing and storage equipment, and solvent recovery equipment (see 40 CFR 63.825(b)).
- vi. Ecusta utilizes a single carbon adsorption unit to recover solvents and reduce emissions of organic “hazardous air pollutants” (HAPs) from the presses.

**Regulatory Requirements**

- vii. Terms used throughout this segment [Section VI.O.3.b] are defined in the Clean Air Act as amended in 1990 and in 40 CFR 63.2 and 63.821(a). Units and abbreviations are defined in 40 CFR 63.3 and 40 CFR 63.821(b). All provisions of 40 CFR 63.4, regarding prohibited activities or circumvention apply.
- viii. **Standards for product and packaging rotogravure printing** (40 CFR 63.825(b)). Each product and packaging rotogravure printing affected source (ID Nos. ES-6(1), ES-6(4), ES-6(6), ES-6(7),

and ES-6(8)) shall limit emissions to no more than 20 percent of the mass of solids applied for the month.

## Proposed Document

### Monitoring/Recordkeeping Requirements

- viii. The permittee shall demonstrate compliance with this standard by operating a capture system and control device and limit the organic “hazardous air pollutant” (HAP) emission rate to no more than 0.20 kg organic HAP emitted per kg solids applied as determined on a monthly average as-applied basis.
- ix. A carbon adsorption unit (**ID No. CD-6**) shall be utilized to recover solvents and control emissions from the rotogravure printing presses (**ID Nos. ES-6(1), ES-6(4), ES-6(6), ES-6(7), and ES-6(8)**). To demonstrate compliance with the organic HAP emissions limitation requirements in 40 CFR 63.825(b)(8)[see Section VI.O.3.b.viii, above], permittee shall perform a liquid-liquid material balance for each and every month as prescribed in 40 CFR 63.825(c)(1). Permittee shall:
- (a) Measure the mass of each ink, coating, varnish, adhesive, primer, solvent and other material applied on the press or group of presses controlled by a common solvent recovery device during the month.
  - (b) Determine the organic HAP content of each ink, coating, varnish, adhesive, primer, solvent, and other material applied during the month following the procedure in 40 CFR 63.827(b)(2).
  - (c) Determine the volatile matter content of each ink, coating, varnish, adhesive, primer, and other material applied during the month following the procedure in 40 CFR 63.827(c)(2).
  - (d) Determine the organic HAP content of each solvent applied during the month following the procedure in 40 CFR 63.827(b)(2).
  - (e) Determine the solids content of each ink, coating, varnish, adhesive, primer, solvent, and other material applied during the month following the procedure in 40 CFR 63.827(c)(2).
  - (f) Install, calibrate, maintain, and operate according to the manufacturer's specifications, a device that indicates the cumulative amount of volatile matter recovered by the solvent recovery device on a monthly basis. The device shall be initially certified by the manufacturer to be accurate to within  $\pm 2.0$  percent.
  - (g) Measure the amount of volatile matter recovered for the month.
  - (h) Calculate the volatile matter collection and recovery efficiency,  $R_v$ , using the following equation:

$$R_v = 100 \times [M_{vr} / (3(M_i \times C_{vi}) + 3M_j)]$$

Where:

- $R_v$  = the organic volatile matter collection and recovery efficiency, percent
- $M_{vr}$  = the mass of volatile matter recovered in a month, kg. (see Section VI.O.3.b.ix.(g), above)
- $M_i$  = the mass of each ink or other material, i, applied in a month, kg. (see Section VI.O.3.b.ix.(a), above)
- $M_j$  = the mass of each solvent, thinner, reducer, diluent, or other non-solids-containing material, j, applied in a month, kg. (see Section VI.O.3.b.ix.(a), above)
- $C_{vi}$  = the volatile matter content of each ink or other material, i, expressed as a weight-fraction, kg/kg. (see Section VI.O.3.b.ix.(c), above)

- (i) Calculate the organic HAP emitted during the month, H, using the following equation:

$$H = (1 - R_v/100) \times [3(C_{hi} \times M_i) + 3(C_{hij} \times M_{ij})]$$

Where:

- $H$  = the organic HAP emitted during the month
- $R_v$  = the organic volatile matter collection and recovery efficiency, percent (see calculation in Section VI.O.3.b.ix.(h), above)
- $C_{hi}$  = the organic HAP content of each ink or other solids-containing material, i, expressed as a weight-fraction, kg/kg. (see Section VI.O.3.b.ix.(b), above)
- $M_i$  = the mass of each ink or other material, i, applied in a month, kg. (see Section VI.O.3.b.ix.(a), above)
- $C_{hij}$  = the organic HAP content of solvent j, added to solids-containing material i, expressed as a weight-fraction, kg/kg. (see Section VI.O.3.b.ix.(d), above)
- $M_{ij}$  = the mass of solvent, thinner, reducer, diluent, or other non-solids-containing material, j, added to solids-containing material, i, in a month, kg. (see Section VI.O.3.b.ix.(a), above)

- (j) Calculate the organic HAP emission rate based on solids applied, L, using the following equation:

$$L = H / \sum (C_{si} \times M_i)$$

Where:

- $L$  = the mass organic HAP emission rate per mass of solids applied, kg/kg
- $H$  = the organic HAP emitted during the month (see calculation in Section VI.O.3.b.ix.(i), above)
- $C_{si}$  = the solids content of each ink or other material, i, expressed as a weight-fraction, kg/kg. (see Section VI.O.3.b.ix.(e), above)
- $M_i$  = the mass of each individual ink or other material, i, applied in a month, kg. (see Section VI.O.3.b.ix.(a), above).
- x. Measurements, determinations, and calculations required in Section VI.O.3.b.ix., above, shall be recorded monthly in a logbook (written or electronic format). The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111 if the organic HAP emissions are not calculated and recorded.
- xi. Permittee shall maintain records of all liquid-liquid material balances performed in accordance with Section VI.O.3.b.ix, above. The permittee shall maintain files of all information (including all reports and notifications) required in Section VI.O.3.b.ix. recorded in a form suitable and readily available for expeditious inspection and review. The files shall be retained for at least 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. At a minimum, the most recent 2 years of data shall be retained on site. The remaining 3 years of data may be retained off site. Such files may be maintained on microfilm, on a computer, on computer floppy disks, on magnetic tape disks, or on microfiche.
- xii. The Permittee shall establish a "normal range" for removal efficiency for the emissions from the carbon adsorber (**ID No. CF-6**) in the first 30 days following the effective date of the permit. If the collection efficiencies are observed to be outside the normal range, the Permittee shall inspect the continuous VOC analyzer and carbon adsorber for malfunctions and repair, as necessary, in accordance to manufacturer's inspection and maintenance recommendations. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111 if the observations, inspections, and repairs are not performed.
- xiv. The results of inspection and maintenance activities, discussed above for the carbon adsorber, shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative of DAQ upon request. The logbook shall record the following:

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- (a) the date and time of each recorded action;
  - (b) the results of each inspection;
  - (c) the causes for any variance from the normal operating range for the VOC collection efficiencies; and
  - (d) corrective actions taken.

To ensure quality, entries in the logbook should be signed by personnel responsible for the effective operation of the carbon adsorber. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111 if these records are not maintained.

- xv. As indicated in 40 CFR 63.829(a), the permittee shall comply with the applicable recordkeeping requirements of 40 CFR 63.10.
  - (a) The permittee shall maintain files of all information (including all reports and notifications) required by this part recorded in a form suitable and readily available for expeditious inspection and review. The files shall be retained for at least 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. At a minimum, the most recent 2 years of data shall be retained on site. The remaining 3 years of data may be retained off site. Such files may be maintained on microfilm, on a computer, on computer floppy disks, on magnetic tape disks, or on microfiche.
  - (b) The permittee shall maintain relevant records for such source of –
    - (1) the occurrence and duration of each startup, shutdown, or malfunction of operation
    - (2) actions taken during periods of startup, shutdown, and malfunction (including corrective actions to restore malfunctioning process to its normal or usual manner of operation) when such actions are different from the procedures specified in the affected source's startup, shutdown, and malfunction plan (see 40 CFR 63.6(e)(3));
    - (3) all information necessary to demonstrate conformance with the affected source's startup, shutdown, and malfunction plan (see 40 CFR 63.6(e)(3)) when all actions taken during periods of startup, shutdown, and malfunction (including corrective actions to restore malfunctioning process 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);
    - (4) all measurements as may be necessary to determine the conditions of performance tests and performance evaluations;
    - (5) all results of performance tests; and
    - (6) all documentation supporting initial notifications and notifications of compliance status under 40 CFR 63.9.

#### **Reporting Requirements**

- xvii. The Permittee shall submit a summary report of monitoring and record keeping activities by January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.
- xviii. The permittee shall comply with the following reporting requirements of 40 CFR 63 subpart A (as specified in table 1 of 40 CFR 63.820 "Hazardous Air Pollutants from the Printing and Publishing Industry").
  - (a) *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 [see 40 CFR 63.6(e)(3)], 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, and they must include the number, duration, and a brief description of each startup, shutdown, or malfunction. The startup, shutdown, and malfunction report shall consist of a letter, containing the name, title, and signature of the owner or operator or other

responsible official who is certifying its accuracy, that shall be submitted to the Division of Air Quality semiannually. The startup, shutdown, and malfunction report shall be delivered or postmarked by January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June.

- (b) *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 permittee's startup, shutdown, and malfunction plan, the permittee shall report the actions taken for that event 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. The immediate report required under this paragraph shall consist of a telephone call (or facsimile (FAX) transmission) to the North Carolina Division of Air Quality within 2 working days after commencing actions inconsistent with the plan, and it shall be followed by a letter, delivered or postmarked within 7 working days after the end of the event, that contains the name, title, and signature of the owner or operator or other 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.

**c. 15A NCAC 2D .2100: Risk Management Program**

**Regulatory Requirements**

- i. The Permittee is subject to Section 112(r) of the Clean Air Act for the toluene storage tank (**ID No. ES-7(1T)**), mixed solvent storage tank (**ID No. ES-7(3T)**), waste ink tank (**ID No. ES-7(4T)**) and mixed solvent storage tank (**ID No. ES-6(43T)**) shall comply with all applicable requirements in accordance with 40 CFR Part 68 [15A NCAC 2D. 2100].

**Record keeping/Reporting**

- ii. The Permittee shall revise and update the risk management plan submitted under § 68.150 as follows:
- (a) Within five years of its initial submission or most recent update required by paragraphs (b) through (g) of this section, whichever is later.
  - (b) No later than three years after a newly regulated substance is first listed by EPA;
  - (c) No later than the date on which a new regulated substance is first present in an already covered process above a threshold quantity;
  - (d) No later than the date on which a regulated substance is first present above a threshold quantity in a new process;
  - (e) Within six months of a change that requires a revised process hazard analysis or hazard review;
  - (f) Within six months of a change that requires a revised offsite consequence analysis as provided in 40 CFR 68.36; and
  - (g) Within six months of a change that alters the Program level that applied to any covered process.

**VII. Facility-wide affected emission sources**

A. Overview of Applicable Regulatory Requirements

The following table provides a summary of limits and standards applicable facility wide:

Regulated Pollutant	Limits/Standards	Applicable Regulation
volatile organic compounds	Work Practice Standards Facility Wide Affected Emission Sources	15A NCAC 2D .0958

B. Specific requirements and affected emission points

**8. 15A NCAC 2D .0958: Work Practices for Sources of Volatile Organic Compounds**

- a. Pursuant to 15A NCAC 2D .0958 and 2D .0902, for all sources that use volatile organic compounds (VOC) as solvents, carriers, material processing media, or industrial chemical reactants, or in similar uses that mix, blend, or manufacture volatile organic compounds, or emit volatile organic compounds as a product of chemical reactions, and whose emissions of VOC are greater than 15 pounds per day; the Permittee shall:
- i. store all material, including waste material, containing volatile organic compounds in tanks or in containers covered with a tightly fitting lid that is free of cracks, holes, or other defects, when not in use,
  - ii. clean up spills of volatile organic compounds as soon as possible following proper safety procedures,
  - iii. store wipe rags containing volatile organic compounds in closed containers,
  - iv. not clean sponges, fabric, wood, paper products, and other absorbent materials with volatile organic compounds,
  - v. transfer solvents containing volatile organic compounds used to clean supply lines and other coating equipment into closable containers and close such containers immediately after each use, or transfer such solvents to closed tanks, or to a treatment facility regulated under section 402 of the Clean Water Act, and
  - vi. clean mixing, blending, and manufacturing vats and containers containing volatile organic compounds by adding cleaning solvent and close the vat or container before agitating the cleaning solvent. The spent cleaning solvent shall then be transferred into a closed container, a closed tank or a treatment facility regulated under section 402 of the Clean Water Act. [15A NCAC 2D .0958(c)]
- b. When cleaning parts with a solvent containing a volatile organic compound, the Permittee shall:
- i. flush parts in the freeboard area,
  - ii. take precautions to reduce the pooling of solvent on and in the parts,
  - iii. tilt or rotate parts to drain solvent and allow a minimum of 15 seconds for drying or until all dripping has stopped, whichever is longer,
  - iv. not fill cleaning machines above the fill line, and
  - v. not agitate solvent to the point of causing splashing. [15A NCAC 2D .0958(d)]

**Monitoring**

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

**Recordkeeping**

- d. The results of the inspections shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:
- i. the date and time of each inspection; and
  - ii. the results of each inspection noting whether or not noncompliant conditions were observed.

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

**Reporting**

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

**2. 15A NCAC 2D .1806: Control and Prohibition of Odorous Emissions (State only requirement)**

- 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.

**VIII. Permit Shield (including non-applicable requirements)**

In accordance with 2Q .0512 the permit will contain a provision stating that compliance with the terms, conditions, and limitations of the Title V permit shall be deemed in compliance with applicable requirements specifically identified in the permit, as of the date of permit issuance. If the permit does not expressly state that a permit shield exists then it shall be presumed not to provide such a shield.

**IX. General Conditions**

The "General Conditions" section of the Title V Operating Permits lists additional applicable rule requirements that the permittee must adhere to, as with any other permit condition. These requirements in general are common to all Title V facilities. The general conditions include provisions such as annual fee payment, permit renewal and expiration, transfer of ownership or operation, property rights, submission of documents, inspections and entry procedures, reopen for cause, and severability.

**X. Insignificant Activities**

The insignificant activities listed in the application have been reviewed and verified. 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. Following are the items on the insignificant activities list:

- Heat Treating Furnace
- Five Emergency Diesel-powered Water Pumps
- Two Emergency Diesel-powered Fire Pumps
- Whitewater Storage Tanks
- Pulp Storage Tanks and Chests
- Weak Black Liquor Tanks
- Old side chemical storage area
- New side chemical mix area
- Whitewater Clarifier Bldg.
- Sulfuric Acid Storage Tank
- Muriatic Acid Storage Tank
- Pulping of non-wood material
- Bleach make-up area
- Old side chemical mix area
- Ammonium hydroxide storage area
- New side chlorine storage area

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## **XI. Public Notice**

Pursuant to 15A NCAC 2Q .0521, a notice of the draft Title V Operating Permit shall be placed in a newspaper of general circulation in the area where the facility is located. The notice will provide for a 30 day comment period, with an opportunity for a public hearing. Copies of the public notice shall be sent to persons on the Title V mailing list and EPA.

## **XII. Recommendations**

The initial Title V application for RFS Ecusta, Inc. has been reviewed by the DAQ to determine compliance with all procedures and requirements under 15A NCAC 2Q .0500 and 40 CFR Part 70. The DAQ has made a preliminary determination that the facility is complying or will achieve compliance as specified in the draft permit with all applicable requirements. Therefore, the DAQ is proposing to issue the Title V Operating Permit upon completion of the public comment period and the EPA review.