ADEQ

OPERATING

AIR PERMIT

Pursuant to the Regulations of the Arkansas Operating Air Permit Program,
Regulation No. 26:

Permit No. : 597-AOP-R10

IS ISSUED TO:

Georgia-Pacific LLC – Crossett Paper Operations

Crossett, AR 71635

Ashley County

AFIN: 02-00013

THIS PERMIT AUTHORIZES THE ABOVE REFERENCED PERMITTEE TO INSTALL, OPERATE, AND MAINTAIN THE EQUIPMENT AND EMISSION UNITS DESCRIBED IN THE PERMIT APPLICATION AND ON THE FOLLOWING PAGES. THIS PERMIT IS VALID BETWEEN:

November 12, 2003 AND November 11, 2008

IS SUBJECT TO ALL LIMITS AND CONDITIONS CONTAINED HEREIN.

Signed:

Mike Bates
Chief, Air Division

Date Modified

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Table 1 - List of Acronyms

A.C.A.	Arkansas Code Annotated
CFR	Code of Federal Regulations
CO	Carbon Monoxide
CSN	County Serial Number
HAP	Hazardous Air Pollutant
lb/hr	Pound per hour
MVAC	Motor Vehicle Air Conditioner
No.	Number
NO_x	Nitrogen Oxide
PM	Particulate matter
PM_{10}	Particulate matter smaller than ten microns
SNAP	Significant New Alternatives Program (SNAP)
SO_2	Sulfur dioxide
SSM	Startup, Shutdown, and Malfunction Plan
Tpy	Ton per year
UTM	Universal Transverse Mercator
VOC	Volatile Organic Compound

Section I: FACILITY INFORMATION

PERMITTEE:	Georgia-Pacific LLC - Crossett Paper Operations
AFIN:	02-00013
PERMIT NUMBER:	597-AOP-R10
FACILITY ADDRESS:	100 Paper Mill Road Crossett, AR 71635
MAILING ADDRESS	Same as Above
COUNTY:	Ashley
CONTACT POSITION:	Ms. Karen Dickinson
TELEPHONE NUMBER:	(870) 567-8305
REVIEWING ENGINEER:	Paula Parker
UTM North - South (Y):	Zone 15 3667.5
UTM East - West (X):	Zone 15 595.8

Section II: INTRODUCTION

The Georgia-Pacific LLC - Paper Operations facility operates a kraft paper mill at 100 Paper Mill Road, Crossett, Arkansas 71635. This facility produces a variety of paper products on eight paper machines and two paper extruding machines. The paper machines include two fine paper machines, one board paper machine, and five tissue machines.

Summary of Proposed Modification

This PSD application is being submitted for a number of projects, including replacement of the economizer section of the 8R Recovery Furnace; installation of steam boxes on Machines 6, 7 and 8; upgrades and changes in the causticizing area; and modifications to the pine and hardwood screen rooms. Permitted PM/PM_{10}, SO_2, CO, and TRS emissions are decreasing by 107.0 tpy, 122.8 tpy, 1822.6 tpy, and 38.6 tpy. Permitted VOC, NO_x, and Pb emissions are increasing by 443.5 tpy, 274.9 tpy, and 0.2 tpy, respectively.

- Replacement of Economizer Section of 8R Recovery Boiler

The 8R Recovery Boiler was originally constructed in 1981. The current, permitted capacity of the recovery boiler, on an annual basis, is 5.7 million pounds (MM lbs) black liquor solids (BLS) per day. The boiler is also permitted to combust specification oil as a start-up fuel and for supplemental firing. The recovery boiler is equipped with an electrostatic precipitator (ESP) for particulate matter control

As part of this permitting action, although unrelated to the repair activities described above, the Mill is proposing to increase the permitted average daily throughput of the recovery boiler from the current 5.7 MM lbs BLS to 6.0 MM lbs per day. With the proposed upgrades in the woodyard/screening area to improve the removal of fines and improve the yield of material entering the digesters (thereby improving the quality of black liquor sent to the recovery boiler), there will be an increase in the maximum daily pulp production of approximately 100 ADUP per day. This will result in an approximate increase of 300,000 lbs per day BLS throughput for the recovery boiler. For a maximum daily rate, the boiler is currently limited by permit to 6.2 MM lbs.

In addition to the increased pulp production, the Mill also plans to start removing soap from the BLS prior to firing in the recovery boiler. This has the effect of reducing the heat content of the BLS. The current maximum firing rate of 6.2 MM lbs per day was based on a heat content of 6,600 British thermal units (Btu) per pound. With the soap removal, the heat content will be reduced to approximately 6,000 Btu per pound. With this new value, the boiler will now be capable of firing 6.9 MM lbs BLS per day.

- Installation of Steam Boxes for Nos. 6, 7 and 8 Paper Machines

The Mill plans to increase the dry crepe tissue/towel production capacity by installing steam boxes on the Nos. 6, 7 and 8 Paper Machines. The installation of the steam boxes will result in an increase in the actual quantity of tissue/towel that the three paper machines can dry on a daily basis. The estimated increase in actual production is 8 air-dried tons of finished product per day (ADTFP/day)

each for the Nos. 6 and 7 Paper Machines and 11 ADTFP/day for the No. 8 Paper Machine. The steam boxes will be constructed of stainless steel and will consist of multiple profile actuators, a retraction system and a desuperheater steam control system, with tie-ins to the existing ProVox distributive control system and Honeywell gauging systems. In addition, the blend chest pump, machine chest pump, impeller in the low density hardwood pump and hardwood control valve will be replaced to supply the fiber required for the production increase. The installation of the steam boxes will enable the Mill to produce tissue and towel products at a rate closer to, but not in excess of, the design production rate for each of the paper machines, which are listed below:

No. 6 Paper Machine	270 Machine-dried tons per day (MDT/day)
No. 7 Paper Machine	250 MDT/day
No. 8 Paper Machine	212 MDT/day

The additional pulp necessary to support the increase in paper production on the three machines (total of 27 ADTFP/day) will be supplied by the existing pulp mill. Each steam box will be designed with a capacity of 14,000 pounds of steam per hour, with the steam coming from the existing boilers. There will be no changes in the design capacities for the combination or power boilers as a result of this project.

- Update particulate matter and volatile organic compounds for all of the machines.

For particulate matter, recent test data for general process vents at other facility mills are now taken into account for Machines 4 through 8 at the Crossett Mill. Since some of these fugitive VOC emissions eventually escape to the atmosphere, the facility will now take the conservative approach of accounting for them as part of the VOC emissions inventory for the paper machines. This is done by determining the VOC content of each of the chemical additives and solvent cleaners used on each paper machine and multiplying this concentration by the quantity of those materials used on each paper machine with the assumption that 100% of the VOCs are volatilized to the atmosphere. Using a material balance accounting methodology is very conservative and overestimates the actual VOC emissions from paper machines because some of the VOCs end up in the wastewater or in the final product and are not directly emitted to the atmosphere.

- Replacement of the two white liquor clarifiers with one, larger unit, SN-105
- Conversion of the existing “south” white liquor clarifier to a green liquor clarifier, SN-103
- Conversion of the existing “north” white liquor clarifier to a lime mud washer, SN-106
- Addition of a second lime mud washer, SN-107
- Replacement of the existing dregs washer with a new, precoat vacuum dregs filter, SN-108
- Conversion of the existing dregs washer to a green liquor stabilization tank, SN-109
- Addition of a White Liquor Splitter Box, SN-110

The new, larger white liquor clarifier (with 1 million gallons of integrated white liquor storage) will allow for increased retention time and storage capacity, thereby improving white liquor quality and pulp quality. Causticizing efficiency will improve, which will reduce the amount of lime that the Mill must purchase and save steam in the evaporators, resulting in lower operating expenses for the Mill. Currently, the two existing white liquor clarifiers are running in an overloaded condition and cannot meet the production or quality needs of the recovery process. This results in poor white liquor clarification, resulting in low quality liquor being sent to the pulp mill. This in turn results in pulp quality variability and lower quality pulp produced by the digesters in the pulp mill. This lower quality pulp and increased variability can impact the paper machines.

The existing south white liquor clarifier has a leak below the tapered concrete slab located inside the tank and the tank bottom. Once the new white liquor clarifier is placed into service, the south white liquor clarifier will be repaired and converted for use as a green liquor clarifier. The existing green liquor clarifier is overloaded and is currently processing twice the amount of green liquor as it should in order to meet design standards for the recovery area. The conversion of the south white liquor clarifier to a green liquor clarifier will significantly reduce the overloaded condition.

The existing lime mud washer is also operating in an overloaded condition. The north white liquor clarifier will be converted to a lime mud washer, which will allow for increased mud washing capacity. This will result in cleaner mud to the mud filters, improving the operation of the lime kiln. The new, precoat vacuum dregs filter proposed at the Mill will be much more efficient at removing dregs from the green liquor, while maximizing soda recovery. This leads to direct chemical savings.

The existing dregs washer will be converted to a green liquor stabilization tank that will blend the green liquor from the smelt dissolving tanks in order to deliver more uniform strength green liquor to the slakers. This aids in improving the causticizing efficiency and helps to reduce the variability in the white liquor.

- Woodyard screening changes

The purpose of the woodyard screen room projects is to improve wood chip size (i.e., thickness) distribution and composition (e.g., knots and debris) to the digesters. The projects will make the required improvements by replacing some existing pine and hardwood screen room equipment with more efficient equipment, as well as installing some new equipment. The proposed changes are as follows:

Pine Screen Room

- Replacement of V-screen with Diamond Roll Thickness Screen (improves overthick removal from <80% to >92%). This equipment is located inside an enclosed building.

- Replacement of secondary disk-type thickness screen and Rotex Screens with Diamond Roll Fines Screen (improves fines removal from 29% to 80%). This equipment is located inside

an enclosed building.

- Installation of new air density separator (minimum 95% removal of contaminants one ounce or greater).

- Replacement of chip sizer with chip cracker (improve overthick reduction from 65% to 95%; improve fines generation from 1-2% to 0.5%). The chip cracker is a totally enclosed device.

Hardwood Screen Room

- The existing screen line, consisting of a bar-type thickness screen, BM&M Gyratory Fines Screen and chip sizer, will be replaced by two lines of screens. Each new screen line will consist of a Diamond Roll Thickness Screen, a Diamond Roll Fines Screen, an air density separator and a chip cracker. This equipment will result in improvements similar to what is described above for the pine screen room equipment.

Prevention of Significant Deterioration

Project Description

There will be no increase in pulp production. The increase in paper production on the three paper machines (total of 27 ADTFP/day) will be supplied by the existing pulp mill with the steam coming from the existing boilers. There are no changes proposed for the boilers.

Changes in the Causticizing Area are designed to alleviate the overloaded conditions of the white and green liquor clarifiers as well as the lime mud washer. This will result in increased energy efficiency, chemical savings, and improved paper quality. There are no increases in pulp production or paper production as a result of the Causticizing Area changes.

The proposed changes in the woodyard/screening area will result in improved yield of pulp by approximately 100 ADUP per day (maximum daily) (84 ADUP per day, average). As a result of these projects, the facility is requesting an increase in the current maximum daily permitted pulp capacity from 2,200 to 2,300 ADUP/day. An increase in the maximum annual average daily rate, from 1,910 ADUP/day (697,150 ADUP/year) to 1,994 ADUP/day (727,810 ADUP/year), is also requested.

With increase in the maximum daily pulp production of approximately 100 ADUP per day, an increase of 300,000 lbs per day BLS throughput for the recovery boiler. Because the facility also plans to start removing soap from the BLS prior to firing in the recovery boiler, and thus reduce the heat content of the BLS, the boiler will now be capable of firing 6.9 MM lbs BLS per day.

Ambient Air Impact Analysis

Major new facilities and major modifications must undergo several analyses for emission increases subject to PSD review. These analyses determine whether significant air quality deterioration will result from the new or modified facility.

As a result of the proposed increase of 100 ADUP/day from the woodyard screen room

projects, most other processing areas in the Mill become "affected" sources. The improved chips from the woodyard will result in less rocks, metal and debris being sent to the digesters. This will result in more even digester cooks with better quality pulp. Additional steam will be needed from the boilers to supply heat for the added digester pulp production and other downstream processing equipment. The additional pulp production will result in the generation of additional black liquor that will be burned in the recovery boiler. Burning additional black liquor in the recovery boiler will result in the generation of additional green liquor. Green liquor and lime are mixed together and processed through the slakers and causticizers to form white liquor. The white liquor is clarified and washed, forming lime mud, then the lime mud is sent through the lime kiln where it is heated to regenerate additional lime for reuse in the pulping process. The additional pulp that is made in the digesters will be used to make additional paper products on the paper machines. Additionally, the steam box project for the Nos. 6, 7 and 8 Paper Machines will increase paper production for these units. The processing of additional pulp, black liquor, green liquor, white liquor and lime mud through the "affected" sources will result in emission increases at the Mill.

PM, PM_{10} and VOC emission estimates are being updated for several of the paper machines. The particulate matter updates reflect recently-acquired test data for general process vents associated with paper machine buildings. For VOCs, the facility will now quantify fugitive VOC emissions based on the actual additives and solvents used on, and around, the machines. Past stack tests conducted by the National Council for Air and Stream Improvement, Inc. (NCASI) did not account for fugitive VOC emissions. Since these emissions have not been accounted for in the past, they are included in the estimate of the total project increase, although they are unrelated to the actual projects specifically being addressed in this application.

For the new sources, the emissions increases are assumed to be equal to the potential emission rates. For modified sources, emission increases are calculated on a past actual-to-future potential basis. For "affected" sources, emission increases are estimated on the basis of the projected pulp production increase (84 ADUP/day average on an annual basis).

It is assumed that the additional steam will come from the 9A Boiler, as that will result in the highest emissions increase. The 10A Boiler can burn the same solid fuels as the 9A Boiler, but it is not permitted to burn fuel oil. It is assumed that the steam will be generated while the 9A Boiler is burning the highest-emitting fuel on a pollutant-by-pollutant basis. It is also assumed that the 84 tons per day of increased pulp will result in 84 tons of finished product. This is a conservative assumption in that there will be losses in the system that will result in fewer tons actually produced off the machines.

For past actual emissions, the two-year period 2000 through 2001, as the highest pulp production at the Mill occurred during this 24-month period. In most cases, a 20% safety factor is applied to emission factors used to calculate emissions.

A net emissions increase is determined by taking the emissions increase associated with the proposed modification, subtracting source-wide creditable contemporaneous emissions

decreases, and then adding source-wide creditable contemporaneous emissions increases. An emissions increase or decrease is creditable only if the reviewing authority has not relied on it in issuing a PSD permit for the source in the past, and if the permit is still in effect when the increase in actual emissions from the proposed modification occurs. To be contemporaneous, changes in actual emissions must occur within a period beginning five years prior to the date construction is expected to commence and ending when the emissions increase from the modification occurs. Each increase or decrease is calculated as the difference between the new allowable emission rate and either the old level of actual emissions or allowable emissions, whichever is lower.

The net emissions increase for this project will exceed the PSD significant emission rates for nitrogen oxides (NO_X), particulate matter (PM_{10}), carbon monoxide (CO), sulfur dioxide (SO_2), volatile organic compounds (VOC), and sulfuric acid mist (SAM). A summary of the net emissions increases that are above the PSD significant emission rates is contained in the following table.

Pollutant	Net Emission Increase (tpy)	PSD Significant Emission Rate (tpy)
PM_{10}	148.3	15.0
SO_2	1070.3	40.0
VOC	597.5	40.0
CO	565.6	100.0
NO_X	272.6	40.0
TRS	6.8	10.0
SAM	47.8	7.0
Lead	0.034	0.6

* the VOC term includes the contribution from air toxics and HAPs that are also VOCs.

PSD modeling is to be performed in two stages: the significance analysis and the full impact analysis. The significance analysis considers the net emissions change associated with PSD affected emission units to determine if the increased emissions will have a significant impact on the surrounding area. If the results of the significance analysis are below the corresponding Modeling Significance Levels the full impact analysis is not required.

The significance analysis considers the net emissions change associated with new, modified, and affected emissions units to determine whether or not the increased emissions have a significant impact upon off-property receptors. Significant impacts are defined by ambient concentration thresholds that are commonly referred to as Modeling Significant Levels.

In the significance analysis, PM_{10}, NO_x, CO, and SO_2 were modeled. The significance analysis shows the impacts from the sources that will experience an increase or decrease in emissions due to the project. PM_{10} and SO_2 are above the

PM_{10}

Averaging Period	Highest Modeled PM_{10} Concentration ($\mu g/m^3$)	Modeling Significance Level ($\mu g/m^3$)	Monitoring De Minimis Concentration ($\mu g/m^3$)
24-Hour	17.1	5.0	10.0
Annual	4.70	1.0	-

NO_x

Averaging Period	Highest Modeled NO_x Concentration ($\mu g/m^3$)	Modeling Significance Level ($\mu g/m^3$)	Monitoring De Minimis Concentration ($\mu g/m^3$)
Annual	0.78	1.0	14.0

CO

Averaging Period	Highest Modeled CO Concentration ($\mu g/m^3$)	Modeling Significance Level ($\mu g/m^3$)	Monitoring De Minimis Concentration ($\mu g/m^3$)
8-Hour	133.9	500	575
1-Hour	80.1	2000	-

SO_2

Averaging Period	Highest Modeled SO_2 Concentration ($\mu g/m^3$)	Modeling Significance Level ($\mu g/m^3$)	Monitoring De Minimis Concentration ($\mu g/m^3$)
Annual	2.1	1.0	-
24-Hour	22.5	5.0	13.0
3-Hour	58.6	25.0	-

There is no Modeling Significance Level for VOCs. Monitoring may be required with an increase in VOCs over 100 tons per year.

Class II Impact Analysis

Preliminary modeling of the proposed project indicated a significant impact (maximum impact at or above the PSD significance levels) for PM_{10} and SO_2. Therefore PSD review requires the facility to perform a full air quality analysis to demonstrate compliance with the PSD Class II Increments. The Increment impact analysis predicts the maximum ambient air concentration due to all Mill sources and off-site sources within the screening areas that consume increment. The Increment inventory only includes increases or decreases in actual emissions for sources after the minor source baseline date and increases or decreases in emissions for major sources after the major source baseline date due to a change in the method of operation.

Because the Mill is a major source, all emission increases after the major source baseline date due to a change in the method of operation consume increment. Other types of emission increases, such as increase in utilization, only affect PSD increment after the minor source baseline date is set. However, because no major source baseline date (1985) actual emissions are available, the increment analysis applied the potential emissions for paper mill sources built or modified after 1975 and 2004 actual reported emissions for the other non-modified sources.

Averaging Period	Highest Modeled PM_{10} Concentration ($\mu g/m^3$)	Allowable Increment ($\mu g/m^3$)
Annual	3.1	17
24-Hour	27.6	30

Averaging Period	Highest Modeled SO_2 Concentration ($\mu g/m^3$)	Allowable Increment($\mu g/m^3$)
Annual	2.8	20
24-Hour	20.5	91
3-Hour	110.6	512

Full Impact Analysis

By modeling the total potential Mill emissions of PM_{10} and SO_2 with competing source emissions, the facility determined the maximum predicted impacts.

Averaging Period	Highest Modeled PM_{10} Concentration ($\mu g/m^3$)	Background Concentration ($\mu g/m^3$)	Total Concentration ($\mu g/m^3$)	NAAQS ($\mu g/m^3$)
Annual	22.00	24.0	46.00	50
24-Hour	101.04	39.0	140.04	150

Averaging Period	Highest Modeled SO_2 Concentration ($\mu g/m^3$)	Background Concentration ($\mu g/m^3$)	Total Concentration ($\mu g/m^3$)	NAAQS ($\mu g/m^3$)
Annual	22.5	7.9	30.4	80
24-Hour	216.3	20.9	237.2	365
3-Hour	581.4	49.7	631.1	1300

Class I Area Analysis

A Class I area analysis examines the long range offsite impacts of emission increases due to the project. Net Change Impacts, Visibility, and Total Sulfur and Nitrogen deposition were examined at three Class I areas: Caney Creek National Wildlife Area, Upper Buffalo NWA, and Hercules-Glades NWA. The minimum distances from the site to these areas are 235.4 km, 325.9 km, and 399.4 km, respectively.

No significant, offsite impacts were found to occur in the modeling analysis.

Additional Impacts Analysis

All PSD permit applicants must prepare an "additional impacts" analysis for each pollutant that will be emitted by the proposed project in significant amounts. The "additional impacts" analysis depends on existing air quality, the quantity of emissions, and the sensitivity of local soils and vegetation, and visibility in the source's impact area. The analysis is presented in three parts: (1) a soils and vegetation impacts analysis, (2) a visibility impairment analysis, and (3) a growth analysis. Each of these is addressed in the following sections.

Impacts Upon Soils and Vegetation

The secondary NAAQS are designed to protect soils and vegetation. As shown below, the proposed project will not cause or contribute to a violation of the NAAQS. As such, no adverse impact on soils or vegetation is predicted.

Impacts on Visibility

The project's maximum visibility impairment is predicted at PSD Class I areas to be below the Federal Land Manager's (FLM) screening criteria of 5% change (modeling net emission changes). As a result, since the proposed project's regional haze maximum impacts are below the FLM's screening criteria at the PSD Class I area, it is expected the proposed project would not have an adverse impact on the existing regional haze at the PSD Class I areas.

Class I Area	Maximum Extinction Change (%)	Visibility Impairment Criteria
Caney Creek, NWA	4.24	5.0
Upper Buffalo, NWA	3.20	5.0
Hercules-Glade, NWA	2.29	5.0

Impacts on Growth

The elements of the growth analysis include a projection of the associated industrial, commercial, and residential growth that will occur in the area due to the source, including the potential impact upon ambient air due to this growth.

During the time that the proposed modifications are made, some additional contract personnel may work at the Mill site. However, there will be no additional, permanent positions added as a result of this project. As such, there is no anticipated increase in industrial, commercial, or residential growth in the area as a result.

The proposed projects will not result in any air quality impacts due to associated commercial and industrial growth given the location of the existing Crossett Mill. The existing commercial and industrial infrastructure should be adequate to provide any support services that the project might require and would not increase with the operation of the project.

BACT Analysis for the 8R Recovery Boiler

BACT Analysis for Particulate Matter (PM/PM_{10})

Step 1: Identification of Control Technologies

Emission control equipment that may be selected to control particulate matter emissions from recovery boilers includes ESPs, baghouses and high efficiency wet scrubbers. ESPs are the predominant type of particulate matter control device used on recovery boilers in the U.S. today. ESPs can achieve particulate matter removal efficiencies as high as 99.9%. A baghouse, or fabric filter, is one of the most efficient devices for removing particulate matter, having the capability of maintaining collection efficiencies above 99% for particles down to 0.3 μm in size. The most common particulate matter removal scrubber is the venturi scrubber because of its simplicity (*e.g.*, no moving parts) and high collection efficiency.

Searches of the RBLC were conducted to identify control technologies for the control of PM/PM_{10} emissions from recovery boilers. All of the entries, with just a few exceptions, indicate the use of ESPs to control PM/PM_{10} emissions from recovery boilers.

Step 2: Technical Feasibility Analysis

While baghouses can achieve high levels of particulate matter control, the exhaust gas streams from recovery boilers have relatively high moisture contents (25 to 30%) that cause the particulate matter to be hydroscopic in nature. These characteristics will cause the bag filters in a baghouse to "blind-up" and plug. These problems indicate that a baghouse is not an appropriate technology for recovery boilers and are not considered further as part of this BACT analysis. ESPs and wet scrubbers are feasible technologies for reducing particulate matter emissions from recovery boilers.

Step 3: Ranking the Technically Feasible Control Alternatives

ESPs are most effective in controlling fine particulate matter emissions from recovery boilers. As discussed above, ESPs are the predominant particulate matter control device listed in EPA's RBLC for Kraft recovery boilers. ESPs control particulate matter from recovery boilers at levels that exceed 99+%. Wet scrubbers will not have any problem with the high moisture content in recovery boiler exhaust gas streams. However, the particulate matter control efficiency for a scrubber will be approximately 98% versus a control efficiency of 99+% attained by an ESP.

Step 4: Evaluation of Remaining Controls

Since an ESP is the most effective technology for removing particulate matter from the 8R Recovery Boiler, and since the unit already utilizes an ESP to control particulate matter emissions, no additional controls are proposed.

Step 5: Select BACT

There are a number of entries with permit limits of 0.02 grains/dscf. Therefore, BACT for the 8R Recovery Boiler should be the use of an ESP with a limit set equal to 0.02 grain/dscf at 8% O2. Use of the design flow rate of 350,000 dry standard cubic feet per minute (dscfm) (at 8% oxygen) for the 8R Recovery Boiler and a particulate matter emission factor of 0.02 grain/dscf results in mass emission rates of 60.0 pounds per hour and 262.8 tons per year.

BACT Analysis for Sulfur Dioxide (SO_2)

Step 1: Identification of Control Technologies

Emission control equipment that might be considered to control SO_2 emissions from a recovery boiler would include any one of a number of processes. Absorption is the process whereby one or more gaseous contaminants are selectively dissolved into a relatively nonvolatile liquid. An additional method that can be used to control sulfur dioxide emissions from a boiler is flue gas desulfurization (FGD). Lastly, combustion control is a method that can also be used to reduce SO_2 emissions.

Gas absorption systems are designed to maximize contact between the gas and liquid solvent in order to permit interphase diffusion of the SO_2. SO_2 emission reductions of 90-98% can be expected using gas absorption systems. Packed tower absorbers may achieve efficiencies as high as 99.9%. However, if the pollutant concentration entering the absorber is relatively low, then the SO_2 removal efficiency will not be as high.

Flue Gas Desulfurization has been used on coal-fired boilers and works in one of two ways. The first method works by injecting fine particles of dry limestone into the combustion chamber of the boiler. The second method works by adding a wet slurry of limestone into a wet scrubber that is controlling the flue gases from the boiler. Either of these methods provide relatively high removal efficiencies, generally 90% or higher, depending upon the specific application.

Proper combustion control is an effective means to control SO_2 emissions from recovery boilers. SO_2 emissions are formed by the oxidation of reduced sulfur compounds in recovery boilers. Combustion control to reduce SO_2 emissions is inherent in the design of a recovery boiler due to the chemical reactions that take place inside of the combustion chamber when black liquor is combusted. A properly operated recovery boiler will result in an inherent SO_2 capture efficiency of 99% or better.

Searches of the RBLC were conducted to identify control technologies for the control of SO_2 emissions from recovery boilers. Control technologies found include Boiler design and good engineering practices, No controls, High solids firing, Combustion control, Low odor design boiler, and Wet scrubber.

Step 2: Technical Feasibility Analysis

Systems that inject chemicals into the combustion chamber as a means to control SO_2 emissions will interfere with the recovery process that is taking place inside of a recovery boiler. For this reason, flue gas desulfurization using the “dry limestone” method is not considered technically feasible or a demonstrated technology to reduce SO_2 emissions from recovery boilers. The use of a flue gas desulfurization system that employs the wet limestone slurry method (outside of the boiler) would be technically feasible, as would the use of a gas absorption system with a caustic solution (*e.g.*, sodium hydroxide). However, the inherent design of a recovery boiler and the use of combustion control techniques result in very low SO_2 emissions, with control efficiencies typically greater than 99%.

While it is technically feasible to use a scrubber to control SO_2 emissions from a recovery boiler, it would not be economically feasible to install SO_2 controls on a source that has such a low exhaust gas stream concentration during normal operations. An SO_2 scrubber could be used to control SO_2 emissions when a recovery boiler is burning specification oil or a combination of black liquor and specification oil. However, since this generally only occurs a small percentage of the time during start-up, it would not be economically feasible. Combustion control is technically feasible for use in reducing SO_2 emissions in recovery boilers.

Dry flue gas desulfurization systems were eliminated due to technical infeasibility. The only remaining control technologies are the use of an SO_2 adsorption device (scrubber) and the inherent design of a recovery boiler that also employs combustion control techniques. A conventional SO_2

scrubber can reduce SO_2 emissions from 90-98%, depending upon the degree of control required. Higher control efficiencies (99+ %) require larger and more expensive scrubbers. As discussed above, the inherent design of recovery boilers already results in SO_2 removal efficiencies of 99+%.

Step 3: Ranking the Technically Feasible Control Alternatives

The Recovery Boiler already utilizes a NDCE, low odor design, and staged combustion control techniques. When a recovery boiler is only burning black liquor, the inherent design of the unit results in a control efficiency that is equivalent to or greater than the control efficiency achieved through the use of an SO_2 scrubber.

Step 4: Evaluation of Remaining Controls

The remaining technology, combustion control, is therefore considered to be the most effective control technology for reducing sulfur dioxide emissions from recovery boilers. Combustion control is part of the inherent design of the 8R Recovery Boiler.

Step 5: Select BACT

Typical SO_2 emissions from recovery boilers operating in the United States range from 100 to 300 ppmv. SO_2 BACT determinations for recovery boilers from EPA's RBLC range from 50 to 300 ppmv, except for the two heat recovery scrubbers on the recovery boilers at the Camas Mill, which have limits of 10 ppm. The BACT control technologies listed in include combustion control, boiler design and operation, process controls, and fuel specification. The 8R Recovery Boiler utilizes combustion control and boiler design to minimize the generation of SO_2 emissions. The facility proposes hourly and annual permit limits when the boiler is burning black liquor of 84.7 lbs/hr and 371 tons/yr. The facility proposes to maintain the same emission rate of 989.1 lbs/hr when burning specification oil only. BACT for the 8R Recovery Boiler should be defined as Boiler Design and Combustion Control.

BACT Analysis for Nitrogen Oxides (NO_x)

Step 1: Identification of Control Technologies

NO_x is formed during combustion processes by the thermal oxidation of nitrogen in the combustion air (*i.e.*, thermal NO_x) and the oxidation of nitrogen in the fuel (*i.e.*, fuel-bound NO_x). In a recovery boiler, black liquor nitrogen content, or fuel NO_x, is the most important factor affecting NO_x formation.

There are two main approaches that can be used to reduce nitrogen oxides emissions from boilers. The first is combustion modification and the second is post-combustion controls. The combustion modification techniques reduce NO_x by minimizing its formation in the combustion chamber of the boiler by using less oxygen than is stoichiometrically required for complete combustion of the fuel.

The technologies for post-combustion control include: Selective non-catalytic reduction (SNCR) (25-70% reduction) and Selective catalytic reduction (SCR) (up to 90% reduction). SNCR systems work by injecting ammonia or urea into the combustion chamber of the boiler, thereby

converting NO_x to elemental nitrogen, carbon dioxide, and water vapor. Catalysts in an SCR system can lose their activity over time due to poisoning, thermal sintering, binding/plugging/fouling, or erosion and aging. There are methods available to minimize the possibility of the catalyst deactivating over time. These include the use of soot blowers to dislodge deposits of particulate matter on the catalyst, turning vanes and rectifier grids to remove some of the particulate matter from the flue gas before it reaches the catalyst and replacing the catalyst on a routine basis before it becomes poisoned or deactivated. Catalyst replacement can be a significant part of the operating costs for an SCR system. Similar to an SNCR system, an SCR system requires an aqueous or anhydrous ammonia or urea storage, feed and control system to operate properly.

Searches of the RBLC were conducted to identify control technologies for the control of NO_x emissions from recovery boilers. Entries included No controls feasible, Boiler design and good combustion practices, and the Addition of 4th level of air.

Step 2: Technical Feasibility Analysis

Combustion modification techniques as a control option are technically feasible for recovery boilers and most recovery boilers employ one type of combustion technique or another. Probably the most widely used combustion technique is staged combustion where there are two to four different stages of combustion air supplied to the boiler at successively higher points in the body of the boiler.

SNCR is not considered technically feasible for Kraft recovery boilers based on the fact that a recovery boiler is a complete, chemical reaction system and any disruption of the delicate chemistry could potentially damage the boiler, impact the quality of the product, or otherwise unacceptably affect the system. The injection of a urea solution or ammonia gas would have a detrimental effect upon the chemistry inside of a recovery boiler, as well as causing boiler tube corrosion and increased boiler pluggage from the use of ammonia gases (from ammonia injection).

It is questionable if an SCR system is technically feasible for the treatment of flue gases generated by a recovery boiler. The toxic metals present in the flue gas exhaust, even after passing through the ESP, are of sufficient quantity to build-up on the surface of the catalyst bed and poison the catalyst within relatively short periods of time. Additionally, the flue gas exhaust would need to be heated from a temperature of about 385 ºF to at least 700 ºF in order for the catalyst to work efficiently. This will add significant cost for a duct burner combusting natural gas, as well as add NO_x emissions back into the environment.

Step 3: Ranking the Technically Feasible Control Alternatives

SNCR was eliminated due to technical infeasibility. SCR and combustion modification techniques are the only remaining control technologies to be evaluated. However, due to technical feasibility concerns and additional costs or NO_x emissions, SCR will not be further considered in this analysis.

Step 4: Evaluation of Remaining Controls

While very little, if anything, can be done to affect black liquor nitrogen content, staged air

combustion, which is integral to the operation of most recovery boilers, is the most effective strategy for minimizing NO_x formation in a recovery boiler. The 8R Recovery Boiler currently employs staged combustion with primary, secondary, tertiary, and quaternary combustion air. The facility believes the combustion air system for the 8R Recovery Boiler is equivalent to BACT.

Step 5: Select BACT

Typical NO_x emissions from recovery boilers range from 75 to 150 ppmv, depending upon how many levels of combustion air are used to control NO_x emissions. NO_x BACT determinations for recovery boilers from EPA's RBLC indicate NO_x permit limits that range from 70 to 210 ppmv.

The facility proposes to maintain the NO_x concentration limit of 110 ppmv, corrected to 8% O_2. As discussed above, the recovery boiler already employs staged combustion with four levels of combustion air. The facility believes that this combustion air system represents BACT for the 8R Recovery Boiler. The design flow rate and the 110-ppmvd concentration factor yields mass emission rates of 275.9 lbs/hour and 1209 tpy.

BACT Analysis for Carbon Monoxide (CO)

Step 1: Identification of Control Technologies

CO is generated in a recovery boiler when there is insufficient oxygen present to achieve complete combustion of the black liquor solids in the combustion chamber. CO generation is inversely proportional to the generation of NO_x emissions. Therefore, efforts to minimize CO emissions in a recovery boiler must be balanced so that NO_x emissions are not significantly increased. There are two approaches that can be used to reduce CO emissions from recovery boilers. The first is combustion modification and the second is post-combustion controls (*e.g.*, oxidation catalysts).

Minimizing the formation of CO emissions is usually performed by ensuring efficient combustion in the combustion chamber of a boiler. This is achieved by having the correct controls in place to assure the proper black liquor solids to combustion air ratio in the combustion chamber. Oxidation catalysts can be used as a post-combustion technique to reduce CO emissions by as much as 90% from the uncontrolled emission rate. The catalysts work best when the temperature of the gas stream being oxidized is between 600 and 1,100 ºF. If the exhaust gas stream temperature of the boiler in question is lower than the optimum temperature range, then additional heat must be added in order to raise the temperature to the desired level. Oxidation catalysts are sensitive to heavy metals that are contained in higher-grade fuel oils or black liquor. Heavy metals contaminants are present in black liquor and specification oil. When the 8R Recovery Boiler is burning black liquor alone or in combination with specification oil, these contaminants will build-up on the surface of the catalyst, thereby poisoning the catalyst and rendering it useless for reducing CO emissions.

Even after consideration of pollution control equipment to remove particulate matter emissions from the flue gas exhaust from the 8R Recovery Boiler, a sufficient quantity of heavy metals will still remain to degrade or even poison the catalyst. For these reasons, it is not technically feasible to use an oxidation catalyst for reducing CO emissions from the 8R Recovery Boiler.

Searches of the RBLC were conducted to identify control technologies for the control of CO

emissions from recovery boilers. Listed control technologies include: No controls feasible, Boiler design and good combustion practices, Good combustion control of flame temperature and excess air, Boiler design and operation and Efficient operation.

Step 2: Technical Feasibility Analysis

It is not technically feasible to use an oxidation catalyst to reduce CO emissions due to catalyst poisoning from heavy metal contamination. Combustion control is technically feasible for minimizing CO emissions and is inherent in the design of recovery boilers due to the use of staged combustion techniques.

Step 3: Ranking the Technically Feasible Control Alternatives

The only remaining control technology is combustion control.

Step 4: Evaluation of Remaining Controls

The most effective control technology for minimizing carbon monoxide emissions from recovery boilers is combustion control through the use of staged combustion. The No. 8 Recovery Boiler employs staged combustion with primary, secondary, tertiary, and quaternary combustion air.

Step 5: Select BACT

CO emission limits in the RBLC, for recovery boilers range anywhere from 200 to 3,000 ppmv depending upon the age of the boiler and the averaging time. The facility is not proposing to lower the CO concentration (930 ppmvd). However, the resulting mass emission rates are lower as a result of utilizing the lower flow rate. The new mass emission rates, incorporating a 20% safety factor are 1,704 lbs/hour and 7,463 tpy. The facility further proposes that BACT for the 8R Recovery Boiler be defined as “Boiler Design and Combustion Control”.

BACT Analysis for Sulfuric Acid Mist (SAM)

Step 1: Identification of Control Technologies

The predominant method for controlling sulfuric acid mist (SAM) emissions from industrial processes and sources of combustion, other than internal design, is mist eliminators. SAM forms as a byproduct of SO_2 emissions when condensation occurs in the gas stream. The quantity of SAM generated is small compared to the amount of SO_2 generated, usually no more than 2-3% of the SO_2 emissions. Mist eliminators are designed to remove fine particles, down to 0.5 micron in size.

Wet ESPs may also be used to control SAM emissions from recovery boilers. Wet ESPs work similar to dry ESPs, except that the particles are washed off of the electrodes with water sprays, instead of the use of a rapping system for dry ESPs. Also, wet ESPs must be constructed of materials that are resistant to acids, otherwise, the structure of the ESP would corrode very quickly due to the acidic environment. Wet ESPs will remove 90 to 95% of the inlet SAM emissions.

Combustion control to reduce SO_2 emissions is inherent in the design of a recovery boiler due to the

chemical reactions that take place inside of the combustion chamber when black liquor is combusted. Since SAM emissions make up 2 to 3% of SO_2 emissions, minimizing the generation of SO_2 emissions means that SAM emissions will be minimized as well.

Searches of the RBLC were conducted to identify control technologies for the control of SAM emissions from recovery boilers. Listed control technologies include: No controls, Boiler design, Firing rate and pulp production limits.

Step 2: Technical Feasibility Analysis

The average exhaust temperature for the 8R Recovery Boiler is about 385 ºF. At this temperature, SAM emissions would be in a gaseous state. Mist eliminators are not designed to remove gases; rather, they are designed to remove very small liquid droplets. Therefore, the use of mist eliminators for a recovery boiler is not technically feasible unless the unit already had in place a wet scrubber or other means to condense the sulfuric acid gases into a liquid mist. The use of a wet ESP and combustion control are technically feasible option for the control of SAM emissions.

Step 3: Ranking the Technically Feasible Control Alternatives

Combustion control can reduce SO_2 emissions by 99% or more, which means that SAM emissions can be reduced by a similar amount. Wet ESPs will remove 90-95% of SAM emissions.

Step 4: Evaluation of Remaining Controls

The most effective control technology for reducing SAM emissions from recovery boilers is combustion control.

Step 5: Select BACT

SAM BACT determinations for recovery boilers range from 2.2 to 20 pounds per hour with one entry of 0.5 ppmv at 8% oxygen. SAM emissions are based on an emission factor from National Council for Air and Stream Improvement, Inc. (NCASI). Utilizing this factor and allowing for a 20% safety factor, yields mass emission rates of 7.3 lbs/hour and 27.6 tpy. The facility further proposes that BACT for the 8R Recovery Boiler be defined as “Boiler Design and Combustion Control”.

BACT Analysis for Volatile Organic Compounds (VOCs)

Step 1: Identification of Control Technologies

The VOC emission rate is an inverse function of combustion efficiency. The same two approaches that can be used to reduce CO emissions from recovery boilers can also be used for reducing VOC emissions. The first approach is combustion control and the second approach is post-combustion controls (*e.g.*, oxidation catalysts). Just as efficient combustion will minimize the formation of CO emissions, VOC emissions will also be minimized by ensuring efficient combustion in the combustion chamber of a recovery boiler. This is achieved by having the correct controls in place to assure the proper black liquor solids to combustion air ratio. Oxidation catalysts that are used as a post-combustion technique to reduce CO emissions will also reduce VOC emissions by as much as

90 to 95% from the uncontrolled emission rate. As discussed above for other pollutants, catalysts have an optimum temperature range and are sensitive to poisoning by heavy metals. For these reasons, it is not technically feasible to use an oxidation catalyst for reducing VOC emissions from the 8R Recovery Boiler.

Searches of the RBLC were conducted to identify control technologies for the control of VOC emissions from recovery boilers. Listed control options include No controls, Combustion control, Boiler design and good combustion practices, and Low odor design

Step 2: Technical Feasibility Analysis

It is not technically feasible to use an oxidation catalyst to reduce VOC emissions due to catalyst poisoning from heavy metal contamination. Combustion control is technically feasible for minimizing VOC emissions and is inherent in the design of recovery boilers due to the use of staged combustion techniques.

Step 3: Ranking the Technically Feasible Control Alternatives

The only remaining control technology is combustion control.

Step 4: Evaluation of Remaining Controls

The most cost effective control technology for minimizing VOCs from recovery boilers is combustion control through the use of staged combustion. As discussed previously, the 8R Recovery Boiler employs staged combustion with primary, secondary, tertiary, and quaternary combustion air.

Step 5: Select BACT

VOC BACT determinations for recovery boilers range from 2.8 to 65 ppmv and 3.7 to 219 pounds per hour. The facility proposes to change the current Title V Permit limits for VOC emissions from the 8R Recovery Boiler to 25.9 lbs/hour and 98.6 tpy. The facility proposes that BACT for the 8R Recovery Boiler be defined as Boiler Design and Combustion Control, with the Title V Permit limits changed to be consistent with the latest emission factors available.

BACT Analysis for the Paper Machines

BACT Analysis for Particulate Matter (PM/PM_{10})

Step 1: Identification of Control Technologies

The Nos. 6 through 8 Paper Machines at the Crossett Mill are “dry crepe” paper machines. The BACT analysis for PM/PM_{10} emissions is only performed for one of the three tissue/towel paper machines since all of these paper machines operate in a similar fashion and produce either bathroom tissue or paper towel products. The paper machine selected for the PM/PM_{10} BACT analysis is the No. 8 Paper Machine. The No. 8 Paper Machine was selected since it has the highest potential PM/PM_{10} emission rate of the three machines. Dry crepe paper machines create more dust than wet crepe paper machines. Most dry crepe paper machines utilize dust control measures, such as wet scrubbers to minimize the

amount of particulate matter that is generated inside of the paper machine building and that is ultimately discharged to the atmosphere.

Most of the PM/PM_{10} emissions generated on the No. 8 Paper Machine are primarily generated on the "dry end" of the machine as fugitive dust. Some of this dust is picked up by the paper machine hood exhausts and is emitted through stacks to the atmosphere or emitted as fugitive dust through the roof vents of the building that houses the paper machine. PM/PM_{10} emissions from the "wet end" of the paper machine are considered insignificant when compared to PM/PM_{10} emissions from the "dry end" of a paper machine. Typical control technologies for the control of PM/PM_{10} emissions from general types of manufacturing processes include baghouses, wet scrubbers and wet electrostatic precipitators (ESPs).

Searches of the RACT/BACT/LAER Clearinghouse (RBLC) were conducted to identify control technologies for the control of PM/PM_{10} emissions from paper machine manufacturing processes. Based on the PM/PM_{10} entries, there are a number of paper machine sources with BACT determinations from "similar sources".

Step 2: Technical Feasibility Analysis

A baghouse could not be used to control emissions from only the "wet end" of a paper machine since the high moisture content of the exhaust gases generated from this section of a paper machine would negate the effectiveness of a baghouse. High moisture levels cannot be tolerated by a baghouse. Similarly, a baghouse could not be used to control emissions from the dry end of the paper machine because the predominant amount of dust laden air flow that would need to be controlled contains a sufficient amount of moisture (usually around 7% or greater) that would condense out in a baghouse, thereby soaking the bags with moisture within a relatively short period of time and negating the effectiveness of the unit. For this reason, baghouses are not considered technically feasible for use in controlling PM/PM_{10} emissions from paper machines.

A wet scrubber could be used to control PM/PM_{10} emissions from the "wet end" or "dry end" exhaust points of the paper machine and from the roof vents. However, the "wet end" of the paper machine does not generate significant quantities of PM/PM_{10} emissions and it would not be cost effective to try and control small quantities of emissions from a source with very high air flow. Venturi scrubbers are very efficient in removing PM/PM_{10} emissions with removal efficiencies at or above 99%.

A wet ESP could also be used to control PM/PM_{10} emissions from the same "wet end" or "dry end" exhaust points of the paper machine and from the roof vents. The equipment cost for a wet ESP is generally much higher than that of wet scrubbers. As stated earlier in this analysis, the "wet end" of the paper machine does not generate significant quantities of PM/PM_{10} emissions and it would not be cost effective to try and control small quantities of emissions from a source with very high air flow. Wet ESPs have control efficiencies similar to those of venturi scrubbers, at or above 99%.

Step 3: Ranking the Technically Feasible Control Alternatives

The two remaining technologies include a wet scrubber and a wet ESP. The PM/PM_{10} control efficiencies for these options are roughly equal with both being able to achieve 99+% control.

Step 4: Evaluation of Remaining Controls

All of the tissue/towel paper machines at the Crossett Mill utilize wet venturi scrubbers to control the generation of dust from the paper machines. A number of pick-up points from each of the paper machines where the highest level of dust is generated are directed to the scrubbers to minimize particulate matter emissions. While there is still some small quantities of dust emitted through the roof vents and other paper machine process vents (such as the wet-end vents or Yankee Dryer exhaust vents), it would not be cost effective to try and control small quantities of emissions from sources with relatively high exhaust flow rates. It would not be cost effective to install a piece of control equipment, such as another scrubber (or a wet ESP), rated at 250,000 acfm to control only 2.5 tons per year of PM/PM_{10} emissions. Therefore, it is not economically feasible to add any further controls to any of the tissue/towel paper machines to reduce PM/PM_{10} emissions.

Step 5: Select BACT

The most cost effective BACT for PM/PM_{10} emissions from all three machines should be the use of a wet scrubber for dust control with the same PM/PM_{10} emission rates as those specified for the dust control systems for each paper machine in the current Title V Permit. As discussed in Step 4 above, it would not be cost effective to control PM/PM_{10} emissions from the wall/roof vents of the paper machine buildings. This is because of relatively low PM/PM_{10} emissions from these sources and the very high air flow rates.

BACT Analysis for Volatile Organic Compounds (VOCs)

Step 1: Identification of Control Technologies

VOC emissions are primarily generated by the paper machine process from VOC-containing compounds that are added to the pulp (e.g., wet strength resins, retention aids, defoamers, felt conditioners, release agents and Yankee Dryer coatings) at the "wet-end" of the paper machine, or, from VOC-containing cleaning solvents used to periodically clean the wire fabric of the paper machine.

The paper machine selected for the VOC BACT analysis is the No. 6 Paper Machine because it has the highest potential VOC emission rate of all eight paper machines. The selection of the paper machine with the highest potential VOC emission rate will provide the lowest cost effectiveness for the various VOC control technologies reviewed as part of the BACT analysis. .A very conservative assumption is made that all of the VOCs contained in the chemical additives are released to the atmosphere, either as fugitive emissions at the wet-end of the paper machine, or as point source emissions picked up off of the paper sheet through the Yankee Dryer exhausts.

Typical technologies for the control of VOC emissions from manufacturing processes include carbon adsorption, biofiltration, incineration (e.g., recuperative thermal oxidation, recuperative catalytic oxidation, regenerative thermal oxidation, etc.), and substitution of chemical additives with lower-VOC containing materials or the use of water-borne chemicals with little or no VOC content.

Carbon adsorption recovers VOC-containing gas streams by passing the gas stream through a static "bed" of activated carbon. The VOCs are retained in the pores of the carbon molecules,

while “clean” air is discharged to the atmosphere. The bed of carbon must be regenerated after it becomes saturated with VOCs. Regeneration may involve the use of heat to release the adsorbed VOCs so the “bed” can be reused. The VOCs may be collected by condensation or treated by another piece of control equipment, such as an incinerator. There are usually a series of “beds” in use so that one or more beds are in use while the other beds are being regenerated. VOC removal efficiencies at or above 90% are achievable, depending upon the ability of the carbon to adsorb the VOC.

Biofiltration is a technology where a VOC-laden exhaust stream is directed through a biologically active media. Biofiltration uses microorganisms to break down organic compounds into carbon dioxide, water and salts. When the biofilter is built, the microorganisms are already on the material that is used as a filter bed. The filter material normally used is peat, soil, or compost, but granulated activated carbon and polystyrene can also be used. The choice of filter material is very important because it has to supply the nutrients for the microorganisms, support biological growth and have good sorption capacity. This technology has the capability to remove over 90% of the VOCs emitted from a gas stream when used under favorable operating conditions of low temperature, available oxygen and neutral pH.

Recuperative thermal oxidizers (RTOs) are very efficient in reacting volatile organic compounds with oxygen in the air to form naturally occurring carbon dioxide and water vapor. This reaction occurs when the air is heated to a sufficiently high temperature, typically 1,400-1,600 ^{o}F. The fuel needed to heat the gas stream to the oxidation temperature is greatly reduced by the use of a “recuperator”, or preheater. The preheater will recover as much as 95% of the heat, thus providing significant fuel savings as compared to a system that does not incorporate a preheater. These types of oxidizers can remove 98+% of VOCs from a gas stream.

In contrast to recuperative thermal oxidizers, recuperative catalytic oxidizer (RCO) systems use a catalyst to encourage the oxidation reaction instead of depending on heat alone. Reactions in a recuperative catalytic oxidizer usually take place between 500 and 600 ^{o}F. This creates the opportunity to reduce fuel expenses and materials cost (since the materials of construction will be subjected to much lower temperatures). The addition of a preheater will further reduce the fuel costs. These types of oxidizers are just as capable in removing VOCs from a gas stream. VOC destruction efficiencies can be 95% or greater.

Regenerative thermal oxidizers (RTOs) build on the principle of thermal oxidation, but with enhanced fuel efficiency. An RTO consists of two or more heat exchangers connected by a common combustion zone. The heat exchangers use beds of ceramic beads to store and release heat recovered from the oxidation process. The VOC-laden air stream enters the first heat exchange bed where the air stream passes directly through the ceramic media and is then preheated before entering the combustion chamber to complete the oxidation process. The cleaned air stream next enters a second heat exchanger where it passes directly through the ceramic media and is cooled, while simultaneously heating the media before the air stream is exhausted to the atmosphere. The airflow through the heat exchange beds is reversed at regular intervals to conserve the heat of combustion within the RTO. VOC destruction efficiencies can be 98% or greater with thermal efficiencies as high as 95%.

The use of low-VOC containing chemicals or water-borne chemicals, with little or no VOC content, in place of currently used VOC-containing chemicals are methods that will reduce VOC emissions when

applied properly. The major chemicals used other than solvent that results in the largest quantity of VOCs emitted from tissue/towel paper machines is the wet strength resin (used primarily for paper towel manufacturing) and the release agent (used for both paper towel and tissue manufacturing). The major chemicals used for paper machines that produce linerboard, cup or plate stock or communication paper are retention or drainage aids. The amount of VOC emission reduction that can be achieved is highly variable depending on the specific application.

Searches of the RBLC were conducted to identify control technologies for the control of VOC emissions from paper machine manufacturing processes. There were no entries which specified add-on controls for paper machines. Listed methods of control involved limiting VOC content of the chemicals used in the manufacturing process.

Step 2: Technical Feasibility Analysis

For the carbon adsorption option, adsorption of VOCs onto the activated carbon bed from the paper manufacturing process would be impeded by the PM/PM_{10} content of the gas stream. The PM/PM_{10} would clog the pores of the activated carbon, thus impeding the ability of the carbon to adsorb the VOCs. This would greatly reduce the VOC removal efficiency. However, if the PM/PM_{10} were first removed from the gas stream, then carbon adsorption might be technically feasible.

Biofiltration technology has limited use in the United States. While it is an innovative technology and is offered from a few vendors, its use would require additional testing and evaluation to determine if it is suitable for use in the paper making industry. Biofiltration equipment requires a rather large footprint of space. Additionally, the exhaust gases from the Yankee Dryer, which are at an approximate temperature of 400 ^{o}F, would be too hot for the microorganisms to work. Dilution air could be added from the other paper machine process vents and from the building wall/roof vents to reduce the overall temperature. However, adding additional exhaust gas flow would substantially increase the size of the control system. For these reasons, it is not technically feasible to use biofiltration in controlling VOC emissions from paper machines.

A recuperative or regenerative thermal oxidizer is technically feasible for controlling VOC emissions from the paper machine stack exhausts and room vents.

The use of water-borne chemicals or low VOC-containing chemicals in place of currently used VOC-containing chemicals is a method that will reduce VOC emissions when applied properly. The reduction in VOC emissions, of course, depends on the VOC content of the chemical being replaced. Not all water-borne or low VOC-containing chemicals can perform as effectively as those chemicals with a higher VOC content. The major chemicals used with the tissue/towel paper machines that generates the highest VOC emissions per year, other than cleaners used for the wire fabric on the paper machine, is either wet strength resin or release agents. It is important that the tissue/towel paper machines must be able to use the different types of additives (with varying VOC concentrations) and solvent cleaners in order to continue to make the many different types of tissue/toweling products.

Step 3: Ranking the Technically Feasible Control Alternatives

The next step in the BACT analysis is to rank the various control options not eliminated in the previous step.

Control Device or Technique	Control Efficiency
Regenerative Thermal Oxidizer	98+
Recuperative Catalytic Oxidizer	95+
Carbon Adsorption with PM Removal	90+
Use of Low VOC Containing Chemicals or Water-Borne Chemicals	Varies

Step 4: Evaluation of Remaining Controls

The remaining control technologies for controlling VOC emissions from the No. 6 Paper Machine include either a regenerative thermal oxidizer or recuperative catalytic oxidizer, the use of carbon adsorption (by first removing the PM/PM_{10} with a wet scrubber) or the use of water-borne (non-VOC) or low VOC-containing chemicals in place of higher VOC-containing chemicals.

An annualized cost analysis of a regenerative thermal oxidizer, a recuperative catalytic oxidizer, or carbon adsorption system to control VOC emissions, based upon a 99% efficiency reveals that these technologies are economically infeasible. Similarly, it would not be cost effective to control VOC emissions from any of the other paper machines (Nos. 1 through 5, 7 and 8) due to the large volume of exhaust gases that would need to be controlled and the fact that the potential VOC emission rates for the Nos. 1 through 5 and Nos. 7 and 8 Paper Machines are lower than the potential VOC emission rate for the No. 6 Paper Machine.

The Mill has a New Substance Review program in place to review all chemicals for environmental effects. Part of the information required as part of the review program is the VOC content of the new substance. Before any new substance can be purchased at the Mill, the Mill's Environmental Department must make an assessment of the VOC content and decide if there should be an evaluation of alternative substances that might have a lower VOC content. This program helps to assure that the Mill can use the lowest VOC-containing materials available in the marketplace, yet maintain product quality.

Step 5: Select BACT

In lieu of agreeing to a specific VOC limitations on the chemical additives and solvent cleaners that are used for the paper machines as BACT, the Mill proposes to set specific VOC emission limits for each of its paper machines based on the use of VOC emission factors (lbs VOC/MDT) and the maximum design production capacity of each paper machine. The VOC emission factors were determined based on the average usage of chemical additives in calendar years 2004 and 2005, which is the time period for which the Mill has the most complete and accurate records available detailing chemical additive and solvent cleaner usage. The proposed VOC BACT limits for each of its paper machines are listed below:

Paper Machine	VOC Emission Factor (lbs/MDT)	VOC Emission Limit (tons/year)
4	2.47	74.3
5	3.37	56.8
6	2.48	116.4
7	1.78	77.3
8	1.29	47.5

It should be noted that both the Nos. 4 and 7 Paper Machines have the capability to manufacture heavy grade paper towels. This type of product requires the use of a large quantity of wet strength resin, on the order of several million pounds per year. While the No. 7 Paper Machine did not manufacture any heavy grade paper towel in the recent past (2004-2005), its VOC emission factor has been calculated with the assumption that it will make this product in the future. The other tissue/towel paper machines only manufacture tissue and light grade paper towel that does not require the use of large quantities of wet strength resin. The reason that the No. 5 Paper Machine has a higher VOC emission factor compared to the other paper machines is due to the need for a larger quantity of release agent. This paper machine has a higher degree of "chatter", or vibration, on the circular drum where the paper sheet exits the Yankee Dryer when compared to the other tissue/towel paper machines. To ensure that the sheet is easily removed from the drum, larger quantities of release agent are required, hence, the higher VOC emission factor.

Therefore, the proposed VOC BACT limits shown below for the Nos. 1 through 3 Paper Machines, based on using a material balance approach, similar to what has been shown above for the tissue/towel paper machines:

Paper Machine	VOC Emission Factor (lbs/MDT)	VOC Emission Limit (tons/year)
1	0.89	81.2
2	0.54	49.3
3	0.31	45.8

The acceptance of specific VOC emission limits for each of the Mill's paper machines provides the same type of overall VOC limitation as would be the case by accepting specific VOC limitations on individual chemical additives or solvent cleaners.

The facility also proposes that its New Substance Review program be considered BACT. The Mill will utilize a lower VOC-containing chemical whenever one is available as a substitute for the chemicals being used, as long as the substitute chemical will not change or degrade product quality. In those

instances where necessary, the Mill will run trial tests with the substitute chemical to ensure that product quality is not changed or degraded before incorporating the use of the substitute chemical.

To demonstrate compliance with the lbs/MDT VOC limitations for each of the paper machines, the Mill will maintain a detailed VOC usage inventory and track and record paper machine production on a rolling 12-month basis.

BACT Analysis for the Causticizing Area

BACT Analysis for Volatile Organic Compounds (VOCs)

Step 1: Identification of Control Technologies

While there are several different types of controls used to reduce VOC emissions from process equipment used in the pulp and paper industry, the facility is not aware of any control technologies in use in the United States for the control of VOCs from the various pieces of equipment being added and modified in the Causticizing Area. The reason that these types of sources are not typically controlled is because they have very low emission rates and it is not generally cost effective to use add-on controls. However, typical control technologies used to reduce VOC emissions in general include carbon adsorption and thermal or catalytic oxidation.

Searches of the RBLC were conducted to identify control technologies for the control of VOC emissions from the various pieces of equipment being added or modified in the Causticizing Area. There were no listed controls for the control of VOCs from

Step 2: Technical Feasibility Analysis

While it might be technically feasible to use add-on controls, such as thermal or catalytic incineration, it is not practical given the fact that VOC emissions from the new/modified Causticizing Area equipment are so low. Additionally, it is a fact that methanol is not readily adsorbed with the use of activated carbon and methanol is the predominant VOC compound present in the equipment being added or modified as part of this project. Therefore, carbon adsorption is not technically feasible for this application. Incineration however is a technically feasible option.

Step 3: Ranking the Technically Feasible Control Alternatives

Thermal or catalytic incineration can reduce VOC emissions by 99% or higher. Therefore, either of these control technologies can be ranked as the top control technology.

Step 4: Evaluation of Remaining Controls

The existing dregs washer will be converted into a green liquor stabilization tank. This unit has been selected for further analysis since it has the highest VOC emission rate of all of the new/modified Causticizing Area equipment that is being addressed as part of this permit application. An assumption was made that all of the VOCs present in the exhaust gas stream are methanol. This is very conservative since there is only a very small quantity of methanol present

in the gas stream, if any, since the Mill uses weak wash for make-up water with smelt to make green liquor. Weak wash has little, if any, methanol present. The facility assumed the incinerator would be sized with a capacity of 5,000 actual cubic feet per minute (acfm), which is the minimum amount of air that can be used to provide an accurate cost estimate using EPA's Cost Control Spreadsheet. A smaller volume of air could be used to direct VOC emissions from the clarifier to an oxidizer, but the annualized cost would not be much different because air flow is just one of many factors that impact the cost.

It is not economically feasible to use a dedicated regenerative thermal oxidizer to control VOC emissions from the green liquor stabilization tank due to burning an air stream with a relatively low VOC concentration in a dedicated oxidizer and the high cost of natural gas. The cost effectiveness for a recuperative catalytic oxidizer is even higher because the recuperative catalytic oxidizer uses an air-to-air heat exchanger to recoup heat and it is not as efficient (~ 70%) as a regenerative thermal oxidizer (~95%). Therefore, it is not economically feasible to use a dedicated recuperative catalytic oxidizer to control VOC emissions from the green liquor stabilization tank.

The next control option to review is to direct the VOC emissions from the green liquor stabilization tank to the existing thermal incinerator. The existing incinerator is approximately 750 feet from the green liquor stabilization tank. However, given that uncontrolled emissions are small and may be overestimated, it is not economically feasible to route these emissions to the existing thermal incinerator.

Step 5: Select BACT

There are no cost effective controls feasible for reducing VOC emissions from the green liquor stabilization tank. Since the annualized cost to control VOC emissions from the other equipment would be approximately the same as the cost for the green liquor stabilization tank and since the VOC emissions from the other equipment are less than the VOC emissions from the green liquor stabilization tank, the cost effectiveness for the other pieces of equipment would be higher. This includes the consideration of the use of either a thermal or catalytic oxidizer, or connecting any of the other pieces of new/modified equipment to the existing incinerator.

For these reasons, BACT for VOC emissions for all of the new/modified pieces of Causticizing Area equipment should be "no controls" with no numerical emission limits.

BACT Analysis for the Woodyard Area (Screen Rooms)

BACT Analysis for Particulate Matter (PM/PM_{10})

Typical technologies in use for controlling particulate matter emissions from woodyard screening operations are partial or total enclosures of the conveyors that transport material between the various pieces of process equipment, as well as partial or total enclosure of the process equipment within a building. As wood chips are processed in the screen rooms, fugitive particulate matter emissions are generated as transport conveyors move and drop material from one piece of process equipment to

another or through the normal course of screening the wood chips to remove fines and unwanted contaminants.

Searches of the RBLC were conducted to identify control technologies for the control of PM/PM_{10} emissions from the various pieces of equipment being added or modified in the Woodyard/Screen Room Area. Control technologies included enclosed conveyors, partial or total enclosure for chip conveyor, chipping, debarking and screening operations, Bark/woodwaste Processing and Handling System; roofed, 3-sided enclosure for bark storage; total enclosure for new bark/woodwaste hogging, screening operation; covering of all conveyors located outside of building and belt cleaners. No emission rate limits.

Step 2: Technical Feasibility Analysis

Partial or total enclosures for transport conveyors and/or other various pieces of process equipment are technically feasible for use in controlling PM/PM_{10} emissions.

Step 3: Ranking the Technically Feasible Control Alternatives

All of the new equipment for this project will be located inside of an existing building, with the possible exception of the new air intake fans for the Air Density Separator. The highest ranking control technique is the use of a totally enclosed building for the new pine and hardwood screen room equipment.

Step 4: Evaluation of Remaining Controls

Since the use of the existing totally enclosed building represents BACT for the control of PM/PM_{10} emissions from the woodyard screening equipment, a cost effectiveness evaluation is not required.

Step 5: Select BACT

BACT is equivalent to the use of a totally enclosed building for the new pine and hardwood screen room equipment, with no specific PM/PM_{10} emission limits.

Process Description

Chips are received at the Mill by truck and rail. Upon unloading, the chips are pneumatically blown to the distribution tower and are then dropped onto the chip piles. Round logs are also received at the facility. After storage, the logs are transported to the debarking drums for bark removal. The debarked logs are fed to the chipper and the produced chips are then conveyed to the chip piles. The chips from the chip piles are screened prior to entering the chip silos. Rejected chips from the screening are burned in the Mill's combination boiler. The removed bark is pneumatically sent to bark piles for storage and eventual use in the Mill's boilers.

The chips from the silos are conveyed to the Mill's thirteen batch digesters. The function of the digesters is to cook the chips using white liquor, black liquor, and the steam from the boilers. In the digestion process, these products are combined and cooked at a set pressure and temperature until the quality pulp is obtained. At the end of each "cook", the blow valves at the bottom of the

digesters are opened, with the resulting pressure forcing the pulp mass through a blow line into one of the two blow tanks.

The blow tanks are at atmospheric pressure and the contents of the digesters enter the blow tanks tangentially at the top. When the chips hit the lower pressure in the tank, the liquor and water flash, blowing the chips apart to produce the pulp fibers. The vapors from the blow tanks are sent to the blow heat condensing system, where non-condensable gases (NCGs) are removed. The steam vapors are condensed in the accumulator. The accumulator water is sent to the stripper and returned to the washers as cleaned condensate. Knots (e.g. undercooked wood chips, irregularly shaped or overly thick pieces of wood, etc.) are removed with the use of vibrating knotters/screens.

The pulp is washed to remove spent cooking chemicals. The Mill has two horizontal washers. In the washers, the wash water and pulp move in counter current directions. The washed pulp is passed through screening and cleaning stages which remove debris from the stock. After screening, the pulp passes through the decker system, which thickens the pulp for storage in high density storage chests.

The unbleached Kraft pulp is taken from the high density storage chests for further processing in the bleach plant. The bleaching process removes the remaining lignin and Kraft color from the unbleached pulp. Bleaching is performed in several stages using chlorine dioxide, caustic soda, oxygen, and hydrogen peroxide.

Recovery describes the set of operations that recovers the spent cooking chemicals for reuse in the digesters. The recovery process utilizes a multi-effect evaporator to concentrate weak black liquor. The concentrated black liquor is burned in the Mill's recovery furnace. The spent chemicals leave the recovery furnace from the bottom in a molten form and enter the smelt dissolving tanks. The causticizing operation reacts molten inorganic salts from the smelt dissolving tanks with weak wash water to form green liquor. This green liquor is then treated with slaked lime to form white liquor. The white liquor is then ready for use as the main cooking liquor in the digesters.

The facility, in order to accommodate production levels, may export black liquor to another mill with excess recovery capacity in exchange for white or green liquor. The 'liquor-swapping' is considered routine and normal for the industry, and equipment needed for the exchange has been present since the facility has been built.

Paper products are currently manufactured on eight paper machines and two paper extruding machines. The paper machines include two fine paper machines, one board paper machine, and five tissue machines. Each machine has its own stock preparation, head box, wire section, press section, dryer sections, coater section, calendar stacks, reel, and drum winder. The two fine paper machines produce a variety of products including but not limited to bond, envelope, tablet, and copier paper.

Tissue and towel converting includes the operations involved with converting large parent rolls of tissue/towel from the machines into finished product. This includes rewinding onto smaller sized rolls, folding, printing, cutting, packaging, and shipping.

The two extruding machines receive board from the board paper machine and from outside board customers and apply a polymer coating. Rolls of board are loaded onto an unwind stand before passing through a calendar stack, where they are subjected to burners which flame seal the board. An extruded poly sheet is then pressed together with the board.

Regulations

The following table contains the regulations applicable to this permit.

Table 2 – Regulations

Source (SN)	Regulation
All Sources	Arkansas Air Pollution Code (Regulation 18) effective February 15, 1999
All Sources	Regulations of the Arkansas Plan of Implementation for Air Pollution Control (Regulation 19) effective May 28, 2006
All Sources	Regulations of Arkansas Air Permit Operating Program (Regulation 26) effective September 26, 2002
SN-03	NSPS Subpart D
SN-25	NSPS Subpart BB NESHAP Subpart MM
SN-26	NSPS Subpart BB NESHAP Subpart MM
SN-27A & 27B	NSPS Subpart BB NESHAP Subpart MM
SN-30	NESHAP Part S
SN-33 and SN-34	NSPS Subpart BB
SN-40	NSPS Subpart Kb

Source (SN)	Regulation
SN-59	NSPS Subpart BB
SN-03, SN-18, SN-19, and SN-22	NESHAP Subpart DDDDD. Section 63.7545 and Table 10 requires Initial Notification (submitted) and compliance with Subpart DDDDD before September 13, 2007

Georgia-Pacific LLC -Crossett Paper Operations is classified as a major stationary source under the regulations of 40 CFR Part 52.21, *Prevention of Significant Deterioration of Air Quality* (PSD). Georgia-Pacific is potentially subject to 40 CFR Part 61 *National Emissions Standards for Hazardous Air Pollutants (NESHAP) Subpart M--National Emission Standard for Asbestos*, depending on future asbestos removal and demolition activities.

The following table is a summary of emissions from the facility. The following table contains cross-references to the pages containing specific conditions and emissions for each source. This table, in itself, is not an enforceable condition of the permit.

Table 3 – Emission Summary

Source No.	Description	Pollutant	Emission Rates		Cross Reference Page
			lb/hr	tpy	
	Total Allowance Emissions	PM	414.4	1,737.8	N/A
		PM_{10}	381.9	1,601.5	
		SO_2	1,173.5	4,123.6	
		VOC	1,232.1	5,050.2	
		CO	3,066.4	13,449.3	
		NO_X	1,404.7	6,121.3	
		TRS	37.2	132.0	
		Pb	6.4	23.7	

Source No.	Description	Pollutant	Emission Rates		Cross Reference Page
			lb/hr	tpy	
03	10A Boiler	PM	103.0	451.2	64
		PM_{10}	103.0	451.2	
		SO_2	21.0	92.0	
		VOC	151.0	661.4	
		CO	600.0	2,628.0	
		NO_X	500.5	2,192.2	
		Pb	2.6	11.1	
		Acetone	0.3	1.0	
		Acetaldehyde	0.84	3.64	
		Acrolein	4.01	17.54	
		Arsenic	0.03	0.12	
		Benzene	4.21	18.42	
		Beryllium	0.01	0.01	
		Cadmium	0.02	0.06	
		Carbon Tetrachloride	0.05	0.20	
		Chlorine	0.80	3.47	
		Chloroform	0.03	0.13	
		Chromium, Hex	0.01	0.02	
		Chromium, Total	0.04	0.15	
		Cobalt	0.01	0.03	
		Formaldehyde	4.41	19.30	
		Hexane	1.77	7.74	
		Hydrogen Chloride	24.31	106.45	
		Manganese	0.21	0.92	
		Mercury	0.01	0.03	
		Napthalene	0.10	0.43	
		Nickel	0.04	0.15	
		Pentachlorophenol	0.01	0.01	
		Phenol	0.06	0.23	
		Selenium	0.03	0.13	
		Styrene	1.91	8.31	
		2,3,7,8-tetrachlorodibenzo-p-dioxin	8.61E-09	3.77E-08	
		Tetrachloroethylene	0.04	0.17	
		Toluene	0.93	4.04	
		Vinyl Chloride	0.02	0.08	

Source No.	Description	Pollutant	Emission Rates		Cross Reference Page
			lb/hr	tpy	
18	5A Boiler	PM	2.1	8.8	75
		PM_{10}	2.1	8.8	
		SO_2	0.2	0.9	
		VOC	0.4	1.6	
		CO	14.0	61.0	
		NO_X	74.0	323.8	
		Pb	0.1	0.1	
		Arsenic	0.01	0.01	
		Benzene	0.01	0.01	
		Beryllium	0.01	0.01	
		Cadmium	0.01	0.01	
		Chromium, Total	0.01	0.01	
		Cobalt	0.01	0.01	
		Formaldehyde	0.02	0.08	
		n-Hexane	0.39	1.71	
		Mercury	0.01	0.01	
		Napthalene	0.01	0.01	
		Nickel	0.01	0.01	
		Toluene	0.01	0.01	
19	6A Boiler	PM	36.8	117.5	77
		PM_{10}	36.8	117.5	
		SO_2	431.1	1,888.3	
		VOC	2.4	10.2	
		CO	35.3	154.7	
		NO_X	117.6	515.1	
		Pb	0.1	0.3	
		Sulfuric Acid	15.4	45.0	
		Acrolein	0.01	0.01	
		Arsenic	0.01	0.01	
		Benzene	0.01	0.01	
		Beryllium	0.01	0.01	
		Cadmium	0.01	0.01	
		Chromium, Total	0.01	0.01	
		Chromium, Hex	0.01	0.01	
		Cobalt	0.02	0.05	
		Formaldehyde	0.06	0.27	
		n-Hexane	0.63	2.76	
		Manganese	0.02	0.09	
		Mercury	0.01	0.01	

Source No.	Description	Pollutant	Emission Rates		Cross Reference Page
			lb/hr	tpy	
		Napthalene	0.01	0.01	
		Nickel	0.16	0.67	
		Phosphorus	0.02	0.08	
		Selenium	0.01	0.01	
		Toluene	0.02	0.05	
22	9A Boiler	PM	90.0	394.2	81
		PM_{10}	90.0	394.2	
		SO_2	613.3	1,679.6	
		VOC	49.7	217.7	
		CO	518.4	2,270.6	
		NO_X	345.0	1,511.1	
		Pb	2.6	11.2	
		TRS	2.6	1.2	
		Sulfuric Acid	27.0	74.0	
		Acetone	0.2	0.8	
		Acetaldehyde	0.60	2.62	
		Acrolein	2.88	12.62	
		Arsenic	0.02	0.09	
		Benzene	3.03	13.25	
		Beryllium	0.01	0.01	
		Cadmium	0.02	0.06	
		Carbon Tetrachloride	0.04	0.15	
		Chlorine	0.59	2.50	
		Chloroform	0.03	0.09	
		Chromium, Hex	0.01	0.02	
		Chromium, Total	0.03	0.13	
		Cobalt	0.02	0.07	
		Formaldehyde	3.17	13.88	
		Hexane	0.79	3.45	
		Hydrogen Chloride	18.97	83.06	
		Manganese	0.29	1.28	
		Mercury	0.01	0.04	
		Napthalene	0.07	0.31	
		Nickel	0.17	0.74	
		Pentachlorophenol	0.01	0.01	
		Phenol	0.04	0.17	
		Selenium	0.03	0.09	
		Styrene	1.37	6.00	
		2,3,7,8-			

Source No.	Description	Pollutant	Emission Rates		Cross Reference Page
			lb/hr	tpy	
		tetrachlorodibenzo-p-dioxin	6.19E-09	2.71E-08	
		Tetrachloroethylene	0.03	0.12	
		Toluene	0.67	2.91	
		Vinyl Chloride	0.02	0.06	
25	No. 4 Lime Kiln	PM	28.3	124.0	115
		PM_{10}	28.3	124.0	
		SO_2	10.9	41.1	
		VOC	7.2	27.2	
		CO	4.8	41.9	
		NO_X	44.6	169.2	
		Pb	0.1	0.1	
		TRS	2.2	9.6	
		Sulfuric Acid	0.7	2.6	
		Acetone	0.1	0.1	
		Acetaldehyde	0.18	0.67	
		Acrolein	0.01	0.01	
		Arsenic	0.01	0.01	
		Benzene	0.02	0.04	
		Beryllium	0.01	0.01	
		Cadmium	0.01	0.01	
		Chloroform	0.01	0.01	
		Chromium, Hex	0.01	0.01	
		Chromium, Total	0.01	0.03	
		Cobalt	0.01	0.01	
		Formaldehyde	0.18	0.67	
		Hexane	0.01	0.01	
		Hydrogen Chloride	0.01	0.03	
		Manganese	0.01	0.04	
		Methanol	0.04	0.15	
		Mercury	0.01	0.01	
		Methylene Chloride	0.01	0.01	
		Napthalene	0.42	1.57	
		Nickel	0.01	0.02	
		Phenol	0.01	0.04	
		Selenium	0.01	0.01	
		Styrene	0.01	0.01	
		Tetrachloroethylene	0.01	0.04	
		Toluene	0.01	0.01	

Source No.	Description	Pollutant	Emission Rates		Cross Reference Page
			lb/hr	tpy	
		o-Xylene	0.01	0.03	
26	8R Recovery Furnace	PM	60.0	262.8	102
		PM_{10}	60.0	262.8	
		SO_2	84.7	371.0	
		VOC	25.9	98.6	
		CO	1,704.0	7463.5	
		NO_X	276.0	1208.6	
		TRS	11.2	40.7	
		Pb	0.1	0.1	
		Sulfuric Acid	7.3	27.6	
		Acetone	0.5	1.9	
		Acetaldehyde	0.09	0.33	
		Arsenic	0.01	0.01	
		Benzene	0.11	0.42	
		Beryllium	0.01	0.01	
		Cadmium	0.01	0.01	
		Chloroform	0.01	0.03	
		Chromium, Hex	0.01	0.02	
		Chromium, Total	0.01	0.01	
		Formaldehyde	1.35	5.13	
		Hexane	0.07	0.25	
		Hydrogen Chloride	10.36	39.42	
		Manganese	0.01	0.04	
		Methanol	0.87	3.29	
		Mercury	0.01	0.02	
		Methylene Chloride	0.14	0.51	
		Nickel	0.01	0.03	
		PAH	0.07	0.25	
		Selenium	0.01	0.01	
		Styrene	0.10	0.37	
		Tetrachloroethylene	0.10	0.39	
		Toluene	0.05	0.20	
		1,2,4-Trichlorobenzene	0.19	0.73	
		o-Xylene	0.06	0.22	

Source No.	Description	Pollutant	Emission Rates		Cross Reference Page
			lb/hr	tpy	
27A	Smelt Dissolving Tank (East)	PM	14.4	54.8	109
		PM_{10}	14.4	54.8	
		SO_2	1.3	5.0	
		VOC	5.7	21.7	
		NO_X	2.9	11.0	
		TRS	2.4	9.1	
		Pb	0.1	0.1	
		Acetone	0.1	0.1	
		Acetaldehyde	0.05	0.19	
		Acrolein	0.01	0.01	
		Arsenic	0.01	0.01	
		Benzene	0.01	0.01	
		Beryllium	0.01	0.01	
		Chloroform	0.01	0.01	
		Chromium , Hex	0.01	0.01	
		Chromium, total	0.01	0.03	
		Formaldehyde	0.45	1.71	
		n-Hexane	0.01	0.01	
		Manganese	0.01	0.02	
		Mercury	0.01	0.01	
		Methanol	0.87	3.29	
		Methylene Chloride	0.01	0.01	
		Napthalene	0.05	0.17	
		Selenium	0.01	0.01	
		Styrene	0.02	0.04	
		Tetrachloroethylene	0.01	0.02	
		Toluene	0.01	0.01	
		1,2,4-Trichlorobenzene	0.02	0.07	
		o-Xylene	0.01	0.01	
27B	Smelt Dissolving Tank (West)	PM	14.4	54.8	109
		PM_{10}	14.4	54.8	
		SO_2	1.3	5.0	
		VOC	5.7	21.7	
		NO_X	2.9	11.0	
		TRS	2.4	9.1	
		Pb	0.1	0.1	
		Acetone	0.1	0.1	
		Acetaldehyde	0.05	0.19	
		Acrolein	0.01	0.01	

Source No.	Description	Pollutant	Emission Rates		Cross Reference Page
			lb/hr	tpy	
		Arsenic	0.01	0.01	
		Benzene	0.01	0.01	
		Beryllium	0.01	0.01	
		Chloroform	0.01	0.01	
		Chromium , Hex	0.01	0.01	
		Chromium, total	0.01	0.03	
		Formaldehyde	0.45	1.71	
		n-Hexane	0.01	0.01	
		Manganese	0.01	0.02	
		Mercury	0.01	0.01	
		Methanol	0.87	3.29	
		Methylene Chloride	0.01	0.01	
		Napthalene	0.05	0.17	
		Selenium	0.01	0.01	
		Styrene	0.02	0.04	
		Tetrachloroethylene	0.01	0.02	
		Toluene	0.01	0.01	
		1,2,4-Trichlorobenzene	0.02	0.07	
		o-Xylene	0.01	0.01	
30	Bleach Plant	VOC	20.9	79.1	97
		CO	136.1	596.1	
		Acetone	0.4	1.4	
		Acetaldehyde	0.11	0.39	
		Acrolein	0.01	0.01	
		Benzene	0.01	0.01	
		Carbon tetrachloride	0.01	0.01	
		Chlorine	2.65	10.05	
		Chloroform	7.13	27.08	
		Formaldehyde	0.03	0.11	
		Hexane	0.01	0.01	
		Hexachlorocyclo-pentadiene	0.19	0.70	
		Hexachloroethane	0.25	0.92	
		Hydrogen chloride	2.65	10.05	
		o-Cresol	0.07	0.25	
		Methanol	13.80	52.41	
		Methylene Chloride	0.01	0.03	
		Phenol	0.04	0.13	
		Propionaldehyde	0.06	0.23	

Source No.	Description	Pollutant	Emission Rates		Cross Reference Page
			lb/hr	tpy	
		Styrene	0.03	0.10	
		Tetrachloroethylene	0.02	0.04	
		Toluene	0.01	0.01	
		Trichloroethylene	0.01	0.02	
		1,2,4-Trichlorobenzene	0.01	0.03	
		o-Xylene	0.01	0.01	
33	Line 1 Washer	VOC	5.7	21.7	94
		TRS	2.9	10.9	
		Acetone	0.3	1.1	
		Acetaldehyde	0.12	0.44	
		Acrolein	0.01	0.01	
		Benzene	0.01	0.01	
		Carbon Tetrachloride	0.03	0.12	
		Chloroform	0.01	0.01	
		Formaldehyde	0.01	0.01	
		n-Hexane	0.01	0.03	
		Methanol	4.32	16.38	
		Styrene	0.01	0.04	
		Toluene	0.01	0.04	
		Trichloroethylene	0.01	0.01	
		1,2,4-Trichlorobenzene	0.03	0.10	
		o-Xylene	0.01	0.02	
34	Line 2 Washer	VOC	5.7	21.7	94
		TRS	2.9	10.9	
		Acetone	0.3	1.1	
		Acetaldehyde	0.12	0.44	
		Acrolein	0.01	0.01	
		Benzene	0.01	0.01	
		Carbon Tetrachloride	0.03	0.12	
		Chloroform	0.01	0.01	
		Formaldehyde	0.01	0.01	
		n-Hexane	0.01	0.03	
		Methanol	4.32	16.38	
		Styrene	0.01	0.04	
		Toluene	0.01	0.04	
		Trichloroethylene	0.01	0.01	
		1,2,4-Trichlorobenzene	0.03	0.10	
		o-Xylene	0.01	0.02	

Source No.	Description	Pollutant	Emission Rates		Cross Reference Page
			lb/hr	tpy	
35F	Aeration Stabilization Basin	VOC Chloroform Methanol Napthalene	16.5 1.53 0.08 0.01	70.8 6.69 0.36 0.05	155
40	Methanol Storage Tank	VOC Methanol	37.5 37.50	1.2 1.20	156
46	Tissue Machine No. 4 Burners	PM PM_{10} SO_2 VOC CO NO_x Pb Arsenic Benzene Cadmium Chromium, total Cobalt Formaldehyde Hexane Manganese Mercury Napthalene Nickel Toluene	0.2 0.2 0.1 1.2 4.3 2.4 0.1 0.01 0.01 0.01 0.01 0.01 0.01 0.05 0.01 0.01 0.01 0.01 0.01	0.8 0.8 0.1 5.0 18.8 10.6 0.1 0.01 0.01 0.01 0.01 0.01 0.01 0.19 0.01 0.01 0.01 0.01 0.01	130
47	Tissue Machine No. 5 Burners	PM PM_{10} SO_2 VOC CO NO_x Pb Arsenic Benzene Cadmium Chromium, total Cobalt Formaldehyde	0.4 0.4 0.1 1.2 4.5 2.0 0.1 0.01 0.01 0.01 0.01 0.01 0.01	1.5 1.5 0.1 5.2 19.7 8.4 0.1 0.01 0.01 0.01 0.01 0.01 0.01	134

Source No.	Description	Pollutant	Emission Rates		Cross Reference Page
			lb/hr	tpy	
		Hexane	0.05	0.20	
		Manganese	0.01	0.01	
		Mercury	0.01	0.01	
		Napthalene	0.01	0.01	
		Nickel	0.01	0.01	
		Toluene	0.01	0.01	
48	Tissue Machine No. 6 Burners	PM	1.0	4.2	139
		PM_{10}	1.0	4.2	
		SO_2	0.1	0.2	
		VOC	1.2	4.9	
		CO	6.7	29.1	
		NO_x	5.4	23.4	
		Pb	0.1	0.1	
		Arsenic	0.01	0.01	
		Benzene	0.01	0.01	
		Cadmium	0.01	0.01	
		Chromium, total	0.01	0.01	
		Cobalt	0.01	0.01	
		Formaldehyde	0.01	0.01	
		Hexane	0.05	0.20	
		Manganese	0.01	0.01	
		Mercury	0.01	0.01	
		Napthalene	0.01	0.01	
		Nickel	0.01	0.01	
		Toluene	0.01	0.01	
49	Tissue Machine No. 7 Burners	PM	0.4	1.8	144
		PM_{10}	0.4	1.8	
		SO_2	0.1	0.1	
		VOC	2.4	10.1	
		CO	8.8	38.5	
		NO_x	2.3	9.7	
		Pb	0.1	0.1	
		Arsenic	0.01	0.01	
		Benzene	0.01	0.01	
		Cadmium	0.01	0.01	
		Chromium, total	0.01	0.01	
		Cobalt	0.01	0.01	
		Formaldehyde	0.01	0.02	
		Hexane	0.09	0.39	

Source No.	Description	Pollutant	Emission Rates		Cross Reference Page
			lb/hr	tpy	
		Manganese Mercury Napthalene Nickel Toluene	0.01 0.01 0.01 0.01 0.01	0.01 0.01 0.01 0.01 0.01	
50	Tissue Machine No. 7 Dust System	PM PM_{10}	0.5 0.5	2.1 2.1	144
51	Tissue Machine No. 6 Rewinder	PM PM_{10}	0.5 0.5	1.9 1.9	139
52	Tissue Machine No. 6 Dust System	PM PM_{10}	0.5 0.5	1.9 1.9	139
54	Tissue Machine No. 5 Dust System	PM PM_{10}	0.3 0.3	1.1 1.1	134
55F	Slaker Vent #1	PM PM_{10} VOC TRS Acetone Acetaldehyde Benzene Methanol Styrene Toluene	0.5 0.5 0.7 0.8 0.4 0.85 0.01 0.81 0.02 0.01	1.9 1.9 2.5 2.8 1.2 3.21 0.01 3.10 0.07 0.02	121
56F	Slaker Vent #2	PM PM_{10} VOC TRS Acetone Acetaldehyde Benzene Methanol Styrene Toluene	0.5 0.5 0.7 0.8 0.4 0.85 0.01 0.81 0.02 0.01	1.9 1.9 2.5 2.8 1.2 3.21 0.01 3.10 0.07 0.02	121

Source No.	Description	Pollutant	Emission Rates		Cross Reference Page
			lb/hr	tpy	
57F	Woodyard Debarking Drum and Associated Woodyard Chip Handling System	PM PM_{10} VOC	1.2 0.6 640.2	5.3 2.6 2,803.7	89
58F	Woodyard Chip Storage Piles & Chippers	PM PM_{10} VOC	2.1 1.1 2.1	9.0 4.5 8.8	89
59	Batch Digesters (13)	VOC TRS Acetone Acetaldehyde Acrolein Benzene Carbon Tetrachloride Chloroform Formaldehyde Hexane Methanol Methylene Chloride Styrene Tetrachloroethylene Toluene Trichloroethylene 1,2,4-Trichlorobenzene	55.9 4.3 0.1 0.03 0.01 0.01 0.01 0.03 0.01 0.01 0.57 0.01 0.01 0.01 0.01 0.01 0.01	244.7 18.9 0.2 0.08 0.01 0.01 0.01 0.10 0.01 0.01 2.16 0.01 0.02 0.01 0.01 0.01 0.01	91
60	Line 1 Decker	Emissions are routed to the Incinerator (SN-83)			
61	Line 2 Decker	VOC TRS Acetone Acetaldehyde Acrolein Benzene Carbon Tetrachloride Formaldehyde o-Cresol Methanol Proprionaldehyde	2.4 1.4 1.0 0.13 0.01 0.01 0.04 0.01 0.57 5.87 0.19	8.8 5.3 3.6 0.49 0.04 0.01 0.14 0.04 2.13 22.28 0.70	94

Source No.	Description	Pollutant	Emission Rates		Cross Reference Page
			lb/hr	tpy	
		Styrene	0.03	0.11	
		Tetrachloroethylene	0.05	0.18	
		Toluene	0.01	0.03	
		Trichloroethylene	0.10	0.37	
		1,2,4-Trichlorobenzene	0.17	0.62	
		o-Xylene	0.01	0.03	
62	Fine Paper Machine No. 1	VOC	18.6	81.3	122
		Acetone	0.8	3.3	
		Acetaldehyde	1.00	4.38	
		Acrolein	0.04	0.17	
		Methanol	0.86	3.75	
		Tetrachloroethylene	0.05	0.22	
		1,2,4-Trichlorobenzene	0.04	0.15	
63	Fine Paper Machine No. 2	VOC	11.3	49.3	122
		Acetone	0.9	3.9	
		Acetaldehyde	1.10	4.82	
		Acrolein	0.05	0.19	
		Methanol	0.94	4.12	
		Tetrachloroethylene	0.06	0.25	
		1,2,4-Trichlorobenzene	0.04	0.17	
64	Board Paper Machine No. 3	VOC	10.6	46.4	127
		Acetone	1.3	5.6	
		Acetaldehyde	1.70	7.45	
		Acrolein	0.07	0.29	
		Methanol	1.46	6.37	
		Tetrachloroethylene	0.09	0.38	
		1,2,4-Trichlorobenzene	0.06	0.25	
65	Board Paper Machine No. 3 Burners	PM	0.2	0.5	127
		PM_{10}	0.2	0.5	
		SO_2	0.1	0.1	
		VOC	0.1	0.4	
		CO	1.3	5.4	
		NO_x	1.5	6.5	
		Pb	0.1	0.1	
		Arsenic	0.01	0.01	
		Benzene	0.01	0.01	
		Cadmium	0.01	0.01	

Source No.	Description	Pollutant	Emission Rates		Cross Reference Page
			lb/hr	tpy	
		Chromium, total	0.01	0.01	
		Cobalt	0.01	0.01	
		Formaldehyde	0.01	0.02	
		Hexane	0.03	0.12	
		Manganese	0.01	0.01	
		Mercury	0.01	0.01	
		Napthalene	0.01	0.01	
		Nickel	0.01	0.01	
		Toluene	0.01	0.01	
66	Tissue Machine No. 4	PM	0.5	2.0	130
		PM_{10}	0.5	2.0	
		VOC	17.0	74.5	
		TRS	0.1	0.2	
		Acetone	0.3	1.2	
		Acetaldehyde	0.35	1.52	
		Acrolein	0.02	0.06	
		Formaldehyde	0.05	0.21	
		Methanol	0.35	1.53	
		Methylene Chloride	0.03	0.12	
		Tetrachloroethylene	0.02	0.08	
		1,2,4-Trichlorobenzene	0.02	0.06	
67	Tissue Machine No. 4 Dust System	PM	0.3	1.1	130
		PM_{10}	0.3	1.1	
68	Tissue Machine No. 5	PM	0.3	1.1	134
		PM_{10}	0.3	1.1	
		VOC	13.0	57.0	
		TRS	0.1	0.2	
		Acetone	0.2	0.7	
		Acetaldehyde	0.20	0.85	
		Acrolein	0.01	0.04	
		Formaldehyde	0.03	0.12	
		Methanol	0.20	0.86	
		Methylene Chloride	0.02	0.08	
		Tetrachloroethylene	0.01	0.05	
		1,2,4-Trichlorobenzene	0.01	0.03	
69	Tissue Machine	PM	0.7	3.1	139

Source No.	Description	Pollutant	Emission Rates		Cross Reference Page
			lb/hr	tpy	
	No. 6	PM_{10} VOC TRS Acetone Acetaldehyde Acrolein Formaldehyde Methanol Methylene Chloride Tetrachloroethylene 1,2,4-Trichlorobenzene	0.7 26.7 0.1 0.5 0.54 0.03 0.08 0.55 0.05 0.03 0.02	3.1 116.6 0.3 1.9 2.37 0.09 0.32 2.39 0.19 0.12 0.08	
70	Tissue Machine No. 7	PM PM_{10} VOC TRS Acetone Acetaldehyde Acrolein Formaldehyde Methanol Methylene Chloride Tetrachloroethylene 1,2,4-Trichlorobenzene	0.7 0.7 17.7 0.1 0.4 0.50 0.02 0.07 0.51 0.04 0.03 0.02	2.9 2.9 77.4 0.3 1.8 2.19 0.09 0.30 2.21 0.17 0.11 0.08	144
71	No. 8 Extruder Electrostatic Treaters (A&B)	PM PM_{10} Ozone	0.4 0.4 1.8	1.4 1.4 7.9	153
72	No. 9 Extruder Electrostatic Treater	PM PM_{10} Ozone	0.6 0.6 1.5	2.5 2.5 6.3	153
75	Pulp Storage Chests	VOC Methanol	9.3 2.16	40.7 9.47	156
76F	Black Liquor Storage Basin No. 1	VOC Acetaldehyde Acetone Methanol	28.1 1.31 2.3 16.07	122.8 5.72 9.9 70.38	156

Source No.	Description	Pollutant	Emission Rates		Cross Reference Page
			lb/hr	tpy	
78F	Road Emissions	PM PM_{10}	44.8 15.3	195.8 67.1	156
79	Tissue Machine No. 8 Burners	PM PM_{10} SO_2 VOC CO NO_x Pb Arsenic Benzene Cadmium Chromium, total Cobalt Formaldehyde Hexane Manganese Mercury Napthalene Nickel Toluene	0.9 0.9 0.1 1.0 5.7 4.6 0.1 0.01 0.01 0.01 0.01 0.01 0.01 0.11 0.01 0.01 0.01 0.01 0.01	3.6 3.6 0.2 4.2 24.9 20.0 0.1 0.01 0.01 0.01 0.01 0.01 0.02 0.47 0.01 0.01 0.01 0.01 0.01	148
80	Tissue Machine No. 8	PM PM_{10} VOC TRS Acetone Acetaldehyde Acrolein Formaldehyde Methanol Methylene Chloride Tetrachloroethylene 1,2,4-Trichlorobenzene	0.6 0.6 8.5 0.1 0.4 0.43 0.02 0.06 0.43 0.04 0.03 0.02	2.4 2.4 47.7 0.3 1.5 1.86 0.08 0.25 1.88 0.15 0.10 0.07	148
81	Tissue Machine No. 8 Dust System	PM PM_{10}	1.7 1.7	7.2 7.2	148

Source No.	Description	Pollutant	Emission Rates		Cross Reference Page
			lb/hr	tpy	
82F	Landfill Operations	PM PM_{10} VOC	2.7 1.3 4.3	0.5 0.3 18.7	156
83	Incinerator	PM PM_{10} SO_2 VOC CO NO_x TRS Methanol	2.7 2.7 9.1 0.8 6.0 23.0 0.9 0.80	11.8 11.8 39.9 3.5 26.3 100.7 3.8 3.50	161
84 through 92	Sources Removed – Never Installed				
93	Repulper C (All VOCs are Chloroform)	VOC Chloroform	0.6 0.60	2.3 2.3	159
94	Green Liquor Clarifier A	VOC Acetone Acetaldehyde Benzene Chloroform Hexane Methanol Tetrachloroethylene	0.2 0.1 0.01 0.01 0.01 0.01 0.01 0.01	0.8 0.1 0.01 0.01 0.01 0.01 0.02 0.01	121
95	Replaced by SN-105				
96	Salt Cake Mix Tank	VOC TRS Acetone Acetaldehyde Acrolein Carbon Tetrachloride Benzene Formaldehyde Hexane	0.6 0.7 0.1 0.03 0.01 0.01 0.01 0.01 0.01	2.0 2.6 0.2 0.10 0.01 0.01 0.01 0.01 0.01	102

Source No.	Description	Pollutant	Emission Rates		Cross Reference Page
			lb/hr	tpy	
		Methanol Styrene Tetrachloroethylene Toluene 1,2,4-trichlorobenzene o-Xylene	0.06 0.01 0.01 0.01 0.01 0.01	0.21 0.01 0.01 0.01 0.01 0.01	
97	Storage Tanks	VOC Methanol	33.0 1.5	6.8 6.0	156
98	"A" Side Causticizers	VOC TRS Acetone Acetaldehyde Benzene Methanol Styrene	0.1 0.4 0.1 0.02 0.01 0.01 0.01	0.2 1.2 0.1 0.06 0.01 0.04 0.01	121
99	"B" Side Causticizers	VOC TRS Acetone Acetaldehyde Benzene Methanol Styrene	0.1 0.4 0.1 0.02 0.01 0.01 0.01	0.2 1.2 0.1 0.06 0.01 0.04 0.01	121
100	White Liquor Storage Tanks (4 total)	VOC Acetone Benzene Formaldehyde Methanol Styrene	0.6 0.1 0.01 0.07 0.50 0.01	2.2 0.1 0.01 0.26 1.80 0.10	121
101	10A Boiler Bark Transfer System	PM PM_{10}	0.1 0.1	0.3 0.1	89
102	9A Boiler Bark Transfer System	PM PM_{10}	0.1 0.1	0.1 0.1	89
103	Green Liquor Clarifier B	VOC Acetone Acetaldehyde Benzene	0.2 0.1 0.01 0.01	0.8 0.1 0.01 0.01	121

Source No.	Description	Pollutant	Emission Rates		Cross Reference Page
			lb/hr	tpy	
		Chloroform	0.01	0.01	
		Hexane	0.01	0.01	
		Methanol	0.01	0.02	
		Tetrachloroethylene	0.01	0.01	
105	White Liquor Clarifier	VOC	0.2	0.7	121
		Acetone	0.1	0.1	
		Benzene	0.01	0.01	
		Formaldehyde	0.07	0.27	
		Methanol	0.05	0.18	
		Styrene	0.01	0.01	
		o-Xylene	0.01	0.01	
106	Mud Washer A	VOC	1.4	5.2	121
		TRS	0.1	0.1	
		Acetone	0.1	0.3	
		Benzene	0.01	0.01	
		Methanol	0.30	1.12	
		Toluene	0.01	0.01	
		o-Xylene	0.01	0.01	
		Styrene	0.01	0.02	
107	Mud Washer B	VOC	1.4	5.2	121
		TRS	0.1	0.1	
		Acetone	0.1	0.3	
		Benzene	0.01	0.01	
		Methanol	0.30	1.12	
		Toluene	0.01	0.01	
		o-Xylene	0.01	0.01	
		Styrene	0.01	0.02	
108	Pre-Coats Filter	VOC	0.1	0.2	121
		TRS	0.1	0.1	
		Acetone	0.1	0.1	
		Benzene	0.01	0.01	
		Formaldehyde	0.07	0.27	
		Methanol	0.05	0.18	
		Styrene	0.01	0.01	
		o-Xylene	0.01	0.01	
109	Green Liquor Stabilization	VOC	0.6	2.4	121
		TRS	0.1	0.3	

Source No.	Description	Pollutant	Emission Rates		Cross Reference Page
			lb/hr	tpy	
	Tank	Acetone Acetaldehyde o-Cresol Methanol Phenol	0.2 0.04 0.03 0.45 0.03	0.7 0.17 0.14 1.95 0.11	
110	White Liquor Splitter Box	VOC	0.2	0.7	121

*HAPs included in the VOC totals. Other HAPs are not included in any other totals unless specifically stated.

**Air Contaminants such as ammonia, acetone, and certain halogenated solvents are not VOCs or HAPs.

Section III: PERMIT HISTORY

The first paper machine at Georgia-Pacific Crossett Paper Operations was constructed in 1937.

On March 27, 1970, Georgia-Pacific was issued its first permit, Permit #16-A. On August 30, 1971 Georgia-Pacific was issued its second permit, Permit #68-A.

Permit #133-A, issued on December 15, 1972, allowed the installation of an extrusion and a laminating machine.

Permit #137-A was also issued on December 15, 1972. It permitted the installation of a fume scrubber on the digester feed system to control emissions from the digester and the installation of a cyclone and baghouse to control emissions from the sanding operations.

Permit #144-A, issued on March 28, 1973, allowed the installation of the 9A power boiler.

Permit #149-A was also issued on March 28, 1973. It permitted the installation of an odor control system to collect, hold and distribute gases which are normally vented from the pulp mill digesters. The gases are burned in the lime kiln.

Permit #140-A was issued on July 23, 1976. This permit dealt with equipment maintenance problems such as the repair of boilers and the replacement of control devices. This permit allowed Georgia-Pacific to operate an additional boiler to provide steam while the existing boilers are taken out of service for repairs.

Permit #411-A, issued to Georgia-Pacific on May 27, 1977, permitted the installation of a venturi scrubber for the control of lime dust emissions from the lime slaker and lime handling system at the mill.

Permit #597-A, issued to Georgia-Pacific on March 6, 1980, permitted the installation of new equipment in the pulping and power utility areas. In the pulping area the 8R Recovery Furnace, the No. 4 Lime Kiln, a set of evaporators, new digesters and new washers were installed. In the power utility area two wood fire boilers each equipped with a multiclone and a venturi scrubber were installed.

Permit #597-AR-1 was issued on July 23, 1982. It was modified by Permit #597-AR-2, issued on November 1, 1984. Permit #597-AR-2 superseded all previously issued air permits. Permit #597-AR-2 allowed Georgia-Pacific to convert a recovery furnace to a power boiler, the 10A Boiler. This was a major modification of a major stationary source and therefore was subject to PSD review. Only NO_X and CO became subject to the PSD requirements because of reductions in all the other pollutants. Modeling predicted that the ambient air concentrations due to the increase in NO_X and CO emission would be less than the de minimis levels. Therefore, preconstruction ambient air monitoring was not required.

Permit #597-AR-3 was issued to Georgia-Pacific on August 18, 1988. Emission limits for the 10A Boiler, 8R Recovery Furnace and the No. 4 Lime Kiln were revised as the result of testing.

Permit #597-AR-4 was issued on July 11, 1989. Expansions at the bleach plant were permitted.

Permit #597-AR-5 was issued to Georgia-Pacific on March 18, 1993. This permit included sources at the mill that were not previously permitted. It allowed Georgia-Pacific to burn Tire Derived Fuel (TDF), other scrap rubber products and Refuse Derived Fuel (RDF) in the 10A and 9A Boilers. In addition, a new hardwood brownstock washer system was installed to replace the existing drum washers installed in 1968.

Georgia-Pacific was issued a Prevention of Significant Deterioration (PSD) permit, Permit #1449-A, on May 18, 1993. Stack testing of the 8R Recovery Furnace showed that the current permitted emission rate for NO_X was not attainable. The allowable emission rate of NO_X from the 8R Recovery Furnace was increased by 402.1 tons per year, thus triggering PSD review.

Permit #597-AOP-R0, issued on February 28, 1997, was the first operating air permit issued to Georgia-Pacific Corporation Crossett Paper Operations under Regulation #26. This permit incorporated sources that were not previously permitted. Some allowable emission rates were modified from the previous permit to reflect new emission factors, new test data and/or alternate fuel. This permit also incorporated the Prevention of Significant Deterioration (PSD) permit application submitted in relation to the installation of the new No. 8 Tissue Machine.

Permit #597-AOP-R1, issued on June 29, 1999, was the second Title V operating permit issued to Georgia-Pacific Corporation --Crossett Paper Operations under Regulation #26. The changes in this permit were solely related to air pollutant emission rates and did not affect the Mill's production limits established in the original Title V permit. One purpose of this modification was to address the requirements of a CAO regarding carbon monoxide emissions from the Bleach Plant Scrubber (SN-30). Due to a lack of industry or regulatory information suggesting otherwise, carbon monoxide emissions from the bleach plant were not included in Permit #597-AOP-R0. Specific Condition #73 of that permit required Georgia-Pacific to test for carbon monoxide emissions from SN-30. The required stack testing was performed on September 24, 1997. Emission rates were derived from the stack tests and were added to the permit.

On February 15, 1999, revised versions of Regulations #18 and #19 became effective. All regulatory citations in the permit were changed in 597-AOP-R1 to reflect the new regulations. Compliance demonstrations for all opacity limits have been added to the permit. Opacity demonstrations include, but are not limited to, daily or weekly observations and monitoring of control equipment operating parameters. The compliance demonstrations for all emission limits have been specifically identified in the permit. Applicable provisions of NSPS and NESHAP Subparts have been written into the permit.

The second purpose of this modification was to address the addition of pollution control equipment to comply with the requirements of 40 CFR Part 63 Subpart S -- National Emission Standards for Hazardous Air Pollutants from the Pulp and Paper Industry (NESHAP Subpart S or "Cluster Rule"). This modification qualified as a Pollution Control Project (PCP), and thus the new point source (an Incinerator, SN-83) was exempt from PSD.

Section 19.8 of Regulation #19 provides that the Lime Kiln at GP Crossett should have a TRS emission limit of 8 ppm. Because a source limited to 5 ppm was routed to the Lime Kiln, the lime kiln was assigned a 5 ppm limit. 597-AOP-R1 stipulated that once the HVLC system was outed to collect the emissions from the 5 ppm source, the emission rate for the Lime Kiln could be raised back to 8 ppm. This change has been completed.

597-AOP-R2 was finalized on December 14, 1999. A typographical error was made in a previous permit application which listed the minimum scrubbing liquid flow rate to the #4 tissue machine scrubber (SN-67) as 300 gpm. The actual minimum scrubber flow rate was 70 gpm. Note that the #4 and #5 tissue machine scrubbers are similar and that the #5 tissue machine minimum scrubbing flow rate was also 70 gpm. There was no emission increase associated with this minor modification.

On March 29, 1999, EPA Region 6 issued GP Crossett Paper Operations a NOV addressing the failure to install a continuous opacity monitor for SN-03, the 10A boiler. The current permit will be revised, in a timely manner, to assure compliance with any new applicable requirements resulting from the resolution of this issue.

597-AOP-R3 was finalized on December 14, 2001. This modification, which required PSD review, allowed the Crossett Mill to add the No. 9 Machine to produce tissue and towel. The No. 9 Machine was projected to have a production capacity of 250 Machine Dried Tons of paper (MDT) per day. The installation included the machine itself along with associated stock preparation and converting equipment. The proposed modification exceeded the PSD significant rate thresholds for PM_{10}, VOC, CO, and NO_x.

597-AOP-R4 was finalized on November 12, 2003. The Georgia-Pacific Crossett - Paper Operations facility renewed their Title V permit and included CAM requirements for SN-03, SN-22, SN-50, SN-81, and SN-83. Also included with the renewal permit were four modifications, two of which were minor.

The first modification was to rebuild a Repulper (SN-93) damaged by a fire. The second minor modification involved the installation of an additional electrostatic treater and associated burner to the No. 8 Extruder, SN-71.

Previous to this modification, particulate emissions for the incinerator were underestimated. The assumed stack gas temperature and moisture content were also assumed incorrectly. In addition, the scrubber removal efficiency for particulate was actually 93% instead of 95% as stated in the application. Air Permit 597-AOP-R4 corrected these values.

Carbon monoxide emissions from the bleach plant, resulting from the converting of bleaching operations to elemental chlorine free (ECF) bleaching, were also previously underestimated. The new permit acknowledged that the source required a permitted increase of 242.6 tons of CO per year. Limited data was available at the time of the modification to illustrate any potential increase in CO emissions and none was assumed. The bleach plant conversion was part of a modification which included a PCP (Pollution Control Project) involving an incinerator (SN-83). Both of these changes allowed the facility to comply with Cluster Rule requirements.

597-AOP-R5 was finalized on November 12, 2003. The permit was modified to include applicable requirements of NESHAP Subpart MM - *National Emission Standards for Hazardous Air Pollutants for Chemical Recovery Combustion Sources at Kraft, Sulfite, and Stand-Alone Semichemical Pulp Mills.* Affected sources include Smelt Dissolving Tank (East and West, SN-27A and B), the No. 4 Lime Kiln (SN-25), and the 8R Recovery Furnace (SN-26). The permitted particulate emissions at the lime kiln were reduced to comply with the standards of the subpart. The current controls at SN-25, as indicated by stack test data, were sufficient to comply with the more stringent PM emission limit. The permitted particulate emission rate at SN-25 was decreased by 20.5 tons per year. Permitted limits, at the time, were sufficient to meet the established standards set forth in the subpart for the recovery furnace and smelt dissolving tanks.

597-AOP-R6 was finalized on May 31, 2005. The facility modified their permit in order to allow for the relaxation of the O_2 limits for the 10A Boiler (SN-03) during periods of startup, shutdown, and malfunction. There is no actual or permitted emission increase as a result of this modification.

Furthermore, two activities were added to the Insignificant Activity list. First, the baghouse for the Perini Towel Rewinder and Spectrum Towel Printer has been included as an A-13 activity. The Spectrum Towel Printer, which uses inks of low weight percent VOC and no HAPs, were also added as an A-13 activity.

597-AOP-R7 was finalized on December 5, 2005. An allowance to the permit was added for the continued operation of the No. 4 Tissue Machine (SN-66) during the repair of its dust control equipment (SN-67). This allowance has been granted to the facility's other paper machines since the renewal permit.

597-AOP-R8 was finalized May 12, 2006. This revision allowed the facility to modify nine of their Digesters (SN-59) by replacing the six-inch blow valves with eight-inch valves. The modification resulted in an increase in hardwood pulp production of approximately 50 tons per day. The facility is also requested the ability to receive 1.5% sulfur fuel oil while still keeping a 1.0% sulfur average on a 30-day basis. This change affected SN-19, SN-22, SN-25, and SN-26. The facility is also recalculated both criteria and non-criteria pollutants from many of their permitted sources. This recalculation has resulted in a significant drop in annual permitted rates for most criteria pollutants. Several small, existing sources were added to the permit, which were overlooked in the initial and renewal permits: A and B Side Causticizers (SN-98 and 99), White Liquor Storage Tanks (SN-100), and the 9A and 10A Boiler Bark Transfer systems (SN-101 and SN-102). The facility has also requested to remove the No. 9 Paper Machine sources, SN-84 through SN-92 from the permit. The machine was never installed.

597-AOP-R9 was finalized on April 2, 2007. This revision was to incorporate the provisions of the Health-Based Compliance Alternatives for Manganese for Total Selected Metals (TSM), contained within Appendix A to 40 CFR 63, Subpart DDDDD—*National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters.*

Section IV: EMISSION UNIT INFORMATION

SN-# 03

10A Boiler

Source Description

The 10A Boiler is capable of firing woodwaste, refuse derived fuel (RDF), agriculture derived fuel (ADF), tire derived fuel (TDF) and natural gas. A woodwaste storage pile is associated with the 10A Boiler. Woodwaste consists of bark, wood scraps, wax coated paper, wax coated cardboard, wax coated sawdust, creosote treated railroad crossties and paper pellets (waste paper and wax paper). The majority of the woodwaste for the boiler is delivered by truck and occasionally by rail. It is then transferred by conveyors to either the 9A or the 10A woodwaste storage pile.

RDF and ADF are directly added to the chip piles. RDF consists of pelletized paper, lawn clippings and similar materials that will not have a plastics content greater than 10%. TDF and other scrap rubber products are stored in segregated piles near the woodwaste piles. TDF is loaded several times a day by a front end loader into feeder bins in the vicinity. These solid fuels are then fed onto a conveyor system and delivered to the boilers. ADF consists of, but is not limited to, corn cobs, shucks, and vegetable starch.

The 7R Recovery Boiler was originally constructed in 1968. In 1984 it was converted to the 10A Boiler. The 10A Boiler (SN-03) is a 1001 million Btu per hour combination fuel boiler used to generate steam. This boiler is equipped with a wet venturi scrubber.

The 10A Boiler can operate under three different operating scenarios. The boiler can fire up to 1001 million Btu per hour of which only 669 million Btu per hour can be from natural gas. The first fuel firing scenario consists of the 10A Boiler burning just natural gas. The second fuel firing scenario consists of the 10A Boiler burning a combination of fuels none of which is natural gas. The third fuel firing scenario consists of the 10A Boiler burning a combination of fuels of which the contribution of natural gas can not exceed 669 million Btu per hour.

The 10A boiler is subject to NSPS Subpart D, Standards of Performance for Fossil-Fuel-Fired Steam Generators for Which Construction is Commenced after August 17, 1971. Monitoring of NO_X is not required since the results of a performance test showed emissions of less than 70% of the applicable standard (40 CFR 60.45 (b)(3)). Monitoring of SO_2 is not required under 40 CFR 60.45(b)(1). The CO and NO_X emissions from this boiler are regulated under PSD.

The 10A Boiler is subject to the requirements of Subpart DDDDD—National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters.

Specific Conditions

1. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Conditions #14 through #18. [Regulation No. 19 §19.501 et seq. May 28, 2006 and 40 CFR Part 52, Subpart E]

Table 4 - Maximum SO_2, VOC, and Pb Emission Rates for SN-03

Pollutant	lb/hr	ton/yr
Scenario #1: Natural gas only (669 MMBtu/hr)		
SO_2	1.0	4.4
VOC	2.0	8.8
Pb	0.1	0.1
Scenario #2: Any combination of woodwaste, sludge, TDF, RDF & ADF (1001 MMBtu/hr)		
SO_2	21.0	92.0
VOC	151.0	661.4
Pb	0.3	1.2
Scenario #3: Natural gas and any combination of woodwaste, sludge, TDF, RDF & ADF (1001 MMBtu/hr)		
SO_2	21.0	92.0
VOC	151.0	661.4
Pb	0.3	1.2

2. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Conditions #12 and #13 [§19.304, §19.501 et seq. and §19.901 of Regulation #19, 40 CFR Part 52 Subpart E, and 40 CFR §60.44]

Table 5 - Maximum NO_x Emission Rates for SN-03

Pollutant	lb/hr	ton/yr
Scenario #1: Natural gas only (669 MMBtu/hr)		
NO_X	200.2	586.1
	0.2 lb/MMBtu	
Scenario #2: Scenario #2: Any combination of woodwaste,		

Pollutant	lb/hr	ton/yr
sludge,TDF, RDF & ADF (1001 MMBtu/hr)		
NO_X	500.5	2,192.2
	0.5 lb/MMBtu	
Scenario #3: Natural gas and any combination of woodwaste, sludge, TDF, RDF & ADF (1001 MMBtu/hr)		
NO_X	300.3	1,315.4
	0.3 lb/MMBtu	

3. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Conditions #12 and #13 [§19.501 et seq. and §19.901 of Regulation #19, and 40 CFR Part 52 Subpart E]

Table 6 - Maximum CO Emission Rates for SN-03

Pollutant	lb/hr	ton/yr
Scenario #1: Natural gas only (669 MMBtu/hr)		
CO	133.8	596.1
	0.2 lb/MMBtu	
Scenario #2: Any combination of woodwaste, sludge, TDF, RDF & ADF (1001 MMBtu/hr)		
CO	600.0	2,628.0
	0.6 lb/MMBtu	
Scenario #3: Natural gas and any combination of woodwaste, sludge, TDF, RDF & ADF (1001 MMBtu/hr)		
CO	600.0	2,628.0
	0.6 lb/MMBtu	

4. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Conditions #14 through #18 and #20. [§19.304 and §19.501 et seq. of Regulation #19, 40 CFR Part 52 Subpart E, and 40 CFR §60.42]

Table 7 - Maximum Particulate Emission Rates for SN-03

Pollutant	lb/hr	ton/yr
Scenario #1: Natural gas only (669 MMBtu/hr)		
PM	66.9	293.1
PM_{10}	0.1 lb/MMBtu	
Scenario #2: Any combination of woodwaste, sludge, TDF, RDF & ADF (1001 MMBtu/hr)		
PM PM_{10}	103.0	451.2
Scenario #3: Natural gas and any combination of woodwaste, sludge, TDF, RDF & ADF (1001 MMBtu/hr)		
PM	100.1	438.4
PM_{10}	0.1 lb/MMBtu	

5. The 10A Boiler shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Conditions #14 through #18. [§18.801 of Regulation #18 effective February 15, 1999, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Table 8 - Maximum Non-Criteria Emission Rates for SN-03

Pollutant	lb/hr	ton/yr
Acetone	0.3	1.0
Acetaldehyde	0.84	3.64
Acrolein	4.01	17.54
Arsenic	0.03	0.12
Benzene	4.21	18.42
Beryllium	0.01	0.01
Cadmium	0.02	0.06
Carbon Tetrachloride	0.05	0.20
Chlorine	0.80	3.47
Chloroform	0.03	0.13
Chromium, Hex	0.01	0.02
Chromium, Total	0.04	0.15
Cobalt	0.01	0.03
Formaldehyde	4.41	19.30
Hexane	1.77	7.74
Hydrogen Chloride	24.31	106.45
Manganese	0.21	0.92
Mercury	0.01	0.03

Pollutant	lb/hr	ton/yr
Napthalene	0.10	0.43
Nickel	0.04	0.15
Pentachlorophenol	0.01	0.01
Phenol	0.06	0.23
Selenium	0.03	0.13
Styrene	1.91	8.31
2,3,7,8-tetrachlorodibenzo-p-dioxin	8.61E-09	3.77E-08
Tetrachloroethylene	0.04	0.17
Toluene	0.93	4.04
Vinyl Chloride	0.02	0.08

6. When operating under any scenario, the permittee shall not cause to be discharged to the atmosphere from the 10A Boiler gases which exhibit opacity greater than 20% except for one six-minute period per hour of not more than 27% opacity. [§19.304 of Regulation #19 and 40 CFR 60.42(a)(2)]

   When operating under Scenario #1, the permittee shall not cause to be discharged to the atmosphere from the 10A Boiler gases which exhibit opacity greater than 5%. [§18.501 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

   Compliance shall be demonstrated by compliance with Specific Condition #20 for fuel Scenarios #2 and #3. Compliance shall be demonstrated during fuel Scenario #1 by the use of natural gas only. The opacity shall be measured in accordance with EPA Reference Method 9.

7. The permittee shall conduct weekly observations of the opacity at SN-03. Observations shall be conducted by personnel familiar with the permittee's visible emissions and certified in the EPA Reference Method 9. If visible emissions appear to be in excess of the permitted opacity are detected, the permittee shall:

   A. Take immediate action to identify the cause of the visible emissions.

   B. Implement all necessary corrective action.

   C. Reassess the visible emissions after corrective action is taken.

      i. If excessive visible emissions are still detected, an opacity reading shall be conducted in accordance with EPA Reference Method 9. If the opacity reading exceeds the permitted limit, further corrective measures shall be taken.

      ii. If no excessive visible emissions are detected, the incident shall be noted in the records as described below.

The permittee shall maintain records related to all Method 9 Readings, to be updated on a weekly basis. The records shall be kept on site and made available to Department personnel upon request. The records shall contain the following items:

1) The date and time of each observation/reading.
2) Any observance of visible emissions appearing to be above permitted limits, or any Method 9 reading which indicates exceedance.
3) The cause of any observed exceedance of opacity limits, corrective action taken, and results of the reassessment.
4) The name of the person conducting the observation/reading.

[§19.705 of Regulation 19 and 40 CFR Part 52, Subpart E]

8. The 10A Boiler (SN-03) is subject to and shall comply with all applicable provisions of 40 CFR Part 60 Subpart D Standards of Performance for Fossil-Fuel-Fired Steam Generators for Which Construction is Commenced After August 17, 1971, because it burns natural gas, was constructed after August 17, 1971, and is greater than 250 million Btu per hour.

A. The permittee shall not cause to be discharged into the atmosphere gases which contain particulate matter in excess of 0.10 lb per million Btu derived from gaseous fossil fuel of fossil fuel and wood residue. [§19.304 of Regulation #19 and 40 CFR §60.42(a)(1)]

B. Compliance with the sulfur dioxide standard shall be based on the total heat input from all fossil fuels burned, including gaseous fuels. [§19.304 of Regulation #19 and 40 CFR §60.43(c)]

C. The permittee shall not cause to be discharged into the atmosphere gases which contain nitrogen oxides, expressed as NO_2, in excess of 0.20 lb per million Btu derived from gaseous fossil fuel. [§19.304 of Regulation #19 and 40 CFR §60.44(a)(1)]

D. The permittee shall not cause to be discharged into the atmosphere gases which contain nitrogen oxides, expressed as NO_2, in excess of 0.30 lb per million Btu derived from gaseous fossil fuel and wood residue. [§19.304 of Regulation #19 and 40 CFR §60.44(a)(2)]

E. The permittee shall install, calibrate, maintain, and operate continuous monitoring systems for measuring opacity and either oxygen or carbon dioxide. In an Alternative Monitoring exemption granted by the EPA in 1999, the facility is not required to install a continuous monitoring system for opacity provided the facility conducts periodic testing, scrubber parameter monitoring, and weekly opacity observations. This exemption is included in Appendix G. [§19.304 of Regulation #19 and 40 CFR §60.45(a)]

F. The permittee shall submit excess emission and monitoring system performance reports to the Department for every calendar quarter. All quarterly reports shall be postmarked by the 30th day following the end of each calendar quarter. Each excess emission and MSP report shall include the information required in 40 CFR §60.7(c). [§19.304 of Regulation #19 and 40 CFR §60.45(g)]

G. The permittee shall use as reference methods and procedures the test methods in Appendix A of this part or other methods and procedures as specified in this section, except as provided in 40 CFR §60.8(b) in conducting the performance tests required in 40 CFR §60.8. [§19.304 of Regulation #19 and 40 CFR §60.46(a)]

9. The permittee shall continue to submit quarterly excess emission reports to the following address:

Arkansas Department of Environmental Quality
Air Division
Attn: Air Enforcement Branch
Post Office Box 8913
Little Rock, Arkansas 72119

[§19.304 of Regulation #19 and 40 CFR §60.7(c)]

10. The permittee shall operate the Continuous Emission Monitor (CEM) for CO using O_2 monitoring on the 10A Boiler in accordance with the Department Continuous Emission Monitoring Systems Conditions (Appendix A) and the applicable Performance Standards of 40 CFR Part 60 Appendix B. [§19.703 of Regulation #19, 40 CFR Part 52 Subpart E, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

11. The permittee shall properly maintain and operate the following existing continuous monitoring instrumentation: O_2, pressure drop across the scrubber and the liquid supply flow at the 10A Boiler (SN-03). [§19.703 and §19.901 Regulation #19, 40 CFR Part 52 Subpart E, and A.C.A. §8 4 203 as referenced by §8-4-304 and §8-4-311]

12. All continuous monitoring data for O_2 may, at the discretion of the Department, be used to determine violations of NO_X or CO emissions limits. Continuous monitoring data shall be used to demonstrate compliance with the three different fuel firing scenarios of the 10A Boiler. [§19.703 of Regulation #19, 40 CFR Part 52 Subpart E, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

13. Compliance with the NO_X and CO limits for the 10A Boiler shall be demonstrated by monitoring flue gas O_2 and maintaining the hourly average percent O_2 within the following limits when the steam flow is greater than 100,000 pounds per hour (at actual stack gas moisture contents) and fuel is being fired :

A. Full load on natural gas and any combination of woodwaste, sludge, RDF, TDF and ADF: not less than 2.0% nor more than 7.5% O_2

B. Reduced load (100,000 to 400,000 pounds per hour steam) on natural gas and any combination of woodwaste, sludge, RDF, TDF and ADF: not less than 2.2% not more than 8.0% O_2

C. Full load on gas only: not less than 1.5% nor more than 6.0% O_2

D. Reduced load (100,000 to 400,000 pounds per hour steam) on gas only: not less than 1.5% nor more than 4.5% O_2

[§19.703 and §19.901 of Regulation #19, and 40 CFR Part 52 Subpart E]

The above limits for gas shall not apply when firing gas only for periods of two consecutive hours or less due to an unscheduled outage of woodwaste feed, instead, the above limits for natural gas and any combination of woodwaste, sludge, RDF, TDF and ADF shall apply. Records shall be kept of each unscheduled outage. An operation outside of these average limits shall constitute noncompliance with this Specific Condition and shall be reported quarterly along with excess emissions. The permittee shall maintain records of all flue gas O_2 for the 10A Boiler, including those readings which are to be excluded from the hourly average due to steam flow and fuel firing requirements. The permittee shall make these records available to Department personnel upon request.

14. The permittee may use as fuel in the 10A Boiler, TDF, ADF, RDF, woodwaste, sludge, and natural gas. Creosote treated railroad crossties shall not constitute more than 22.5% of the fuel requirement of the 10A Boiler. [§19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR §70.6]

15. The permittee shall not burn in excess of 669 thousand standard cubic feet (scf) of natural gas per hour or 5860.5 million scf of natural gas per twelve consecutive months in the 10A Boiler (SN-03). [§19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR §70.6]

16. The permittee shall not burn in excess of 100 pounds of TDF per minute in the 10A Boiler (SN-03). [§19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR §70.6]

17. The permittee shall not burn in excess of 250 tons of RDF per day in the 10A Boiler. [§19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR §70.6]

18. The permittee shall not burn in excess of 62.5 BDT sludge per hour in the 10A Boiler. [§19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR §70.6]

19. The permittee shall maintain records which demonstrate compliance with Specific Conditions #14, #15, #16, #17, and #18. The permittee shall maintain records of the types and quantities of fuels being used in the 10A Boiler. These records shall be sufficient to demonstrate compliance with the three fuel firing scenarios of the 10A Boiler. The records shall be updated on a monthly basis. These records shall be kept on site, provided to Department personnel upon request and may be used by the Department for enforcement purposes. A twelve month total and each month's individual data shall be submitted to the Department in accordance with General Provision #7. [§19.705 of Regulation #19 and 40 CFR Part 52 Subpart E]

20. The 10A Boiler (SN-03) is subject to and shall comply with all applicable provisions §19.304 of Regulation 19, 40 CFR Part 52 Subpart E, and Part §64.6 for Compliance Assurance Monitoring.

A. The permittee shall maintain a scrubber liquid flowrate of at least 1500 gallons per minute. [40 CFR Part §64.6(c)(1)]

B. The permittee shall maintain a gas pressure drop of at least 5 inches of water. [40 CFR Part §64.6(c)(1)]

C. The permittee shall monitor and maintain daily records to demonstrate compliance with Specific Condition #20 (A) and (B). Records shall be kept onsite and made available to the Department upon request. [40 CFR Part §64.6(c)(3)]

D. The permittee shall maintain the scrubber in good working condition at all times so that pollutant removal is maintained. [40 CFR Part §64.6(c)(1)]

21. The 10A Boiler (SN-03) is subject to and shall comply with all applicable provisions §19.304 of Regulation 19, 40 CFR Part 52 Subpart E, and Part §64.9 for Compliance Assurance Monitoring. The following information pertaining to exceedances or excursions from permitted values shall be submitted in semi-annual reports in accordance with General Provision #7 as outlined in 40 CFR §70.6.

A. The permittee shall maintain records for SN-03 that summarizes the number, duration, and cause of excursions or exceedances of emission limits as well as corrective action taken. [40 CFR §64.9(a)(2)(i) and §64.9(b)]

B. The permittee shall maintain records for SN-03 that summarizes the number, duration, and cause of monitoring equipment downtime incidents, other than routine downtime for calibration checks. [40 CFR §64.9(a)(2)(ii) and §64.9(b)]

C. The permittee shall maintain a quality improvement plan (QIP) threshold for each indicator of no more than nine excursions or 5% of the daily averages in a six-month period. [40 CFR §64.9(a)(2)(iii) and §64.9(b)]

D. The permittee shall develop and implement a new QIP if the threshold is exceeded during any six-month period. [40 CFR §64.9(a)(2)(iii) and §64.9(b)]

E. The permittee shall maintain records for SN-03 that describes the actions taken to implement the QIP. Upon completion of the QIP, documentation shall be maintained to confirm that the plan was completed and reduced the likelihood of similar excursions or exceedances. [40 CFR §64.9(a)(2)(iii) and §64.9(b)]

22. The permittee shall annually test particulate matter emissions from the 10A Boiler (SN-03) using Method 5 and 202. The permittee shall test at the minimum scrubber parameters of Specific Condition 20. Testing shall be completed no later than 180 days from the date of permit issuance. Results from the Method 5 test shall be compared to the NSPS limit of 0.1 lb/MMBTU for compliance purposes. The permittee shall submit an application to correct emission rates, if corrections are necessary. The testing shall be conducted using a representative fuel mixture. The proportions of each permitted fuel in the representative fuel mixture shall be based upon the month during which the fuel that generates the highest particulate matter emissions was used in greatest proportion. During the test the permittee shall operate the boiler within 10 percent of the rated throughput capacity. If 90 percent of the

rated throughout capacity cannot be achieved, the permittee shall be limited to 11 percent. [§19.702 of Regulation #19 and 40 CFR Part 52 Subpart E]

23. The permittee shall test sulfur dioxide emissions from the 10A Boiler (SN-03). Testing shall be performed in accordance with Plantwide Condition #3 and EPA Reference Method 6. The testing shall be conducted using the maximum TDF and RDF firing rates. During the test the permittee shall operate the boiler within 10 percent of the rated throughput capacity. If 90 percent of the rated throughput capacity cannot be achieved, the permittee shall be limited to 11 percent above the actual tested throughput. Testing on these fuels shall be completed within 30 days upon achieving sufficient inventory levels but no later then 180 days after permit issuance. This condition was satisfied as a requirement of Air Permit #597-AOP-R8. [§19.702 of Regulation #19 and 40 CFR Part 52 Subpart E]

24. After the compliance date of September 13, 2007, the 10A Boiler (SN-03) may not combust papermaking sludge or creosote-treated wood until a site-specific test plan or fuel analysis plan to incorporate these materials is submitted. [§19.304 of Regulation 19 and 40 CFR Part 63, Subpart DDDDD, Appendix A, Section 11(b)]

25. The following parameters were used to determine the eligibility for the health-based compliance alternative for TSM. The permittee is limited to these parameters. [§19.304 of Regulation 19 and 40 CFR Part 63, Subpart DDDDD, Appendix A]

    a. Fuel types: wood waste, ADF, RDF, TDF

    b. Maximum heat input rate of 1001 MMBTU/hr

    c. Control device of a wet venturi scrubber;

    d. Fuel mix (annual average) with Mn content that is no higher than that which is present in 100% wood waste;

    e. Maximum emission rate of 0.21 lb/hr manganese (three-hour average);

    f. Minimum Stack Heights of 53.34 meters;

26. The permittee must update the eligibility demonstration and resubmit it each time that any of the parameters that defined the affected source as eligible for the health-based compliance alternatives changes in a way that could result in increased manganese emissions or increased risk from exposure to emissions. These parameters include, but are not limited to, fuel type, fuel mix (annual average), type of control devices, manganese emission rate, stack height, process parameters (e.g., heat input capacity), relevant reference values, and locations where people live. [§19.304 of Regulation 19 and 40 CFR Part 63, Subpart DDDDD, Appendix A, Section 11(a)]

27. If the permittee is updating the eligibility demonstration to account for an action that is under the permittee's control (e.g. change in heat input capacity of your boiler), the permittee must submit the revised eligibility demonstration to the permitting authority prior to making the change and revise this permit to incorporate the change. If the affected source is no longer eligible for the health-based compliance alternatives, then the permittee must comply with the applicable emission limits, operating limits, and compliance requirements in 40 CFR Part 63,

Subpart DDDDD prior to making the process change and revising the permit. If the permittee is updating the eligibility demonstration to account for an action that is outside of the permittee's control (e.g. change in a reference value), and that change causes the source to no longer be able to meet the criteria for the health-based compliance alternatives, the source must comply with the applicable emission limits, operating limits, and compliance requirements in 40 CFR Part 63, Subpart DDDDD within 3 years. [§19.304 of Regulation 19 and 40 CFR Part 63, Subpart DDDDD, Appendix A, Section 11(b)]

28. The permittee must keep records of the information used in developing the eligibility demonstration for the affected source, including all of the information specified in Section 8 of Appendix A to 40 CFR Part 63, Subpart DDDDD. [§19.304 of Regulation 19 and 40 CFR Part 63, Subpart DDDDD, Appendix A, Section 12]

29. The permittee shall test for manganese while operating at maximum normal operating load and firing wood-waste only. If the test is conducted at less than the maximum rated capacity of the source, the permittee shall provide an explanation in the site specific test plan. Emission results shall be extrapolated to correlate with 100% of the permitted capacity to determine compliance. The manganese tests shall be performed using EPA Reference Method 29. These tests shall be conducted in accordance with Plantwide Condition #3. The permittee shall operate the control equipment for this source at the minimum parameters specified in Condition 20. Subsequent tests shall be performed every five years from the date of the previous test. Results of this testing shall be submitted to the address listed in General Provision #7. [§19.304 of Regulation 19 and 40 CFR Part 63, Subpart DDDDD, Appendix A]

30. The permittee shall submit a Title V Air Permit application to modify the CAM parameters contained in Specific Condition 20. The proposed parameters must assure compliance with the maximum particulate, manganese, and sulfur dioxide emission rates of Specific Conditions 1, 4, and 25. The parameters must be based upon recent stack tests while operating at 90% or greater capacity and while firing a representative, worst-case fuel mixture. This application shall be submitted no later than 180 days from issuance of Air Permit #597-AOP-R9. [§19.304 of Regulation 19 and 40 CFR Part 52 Subpart E and Part §64.6]

SN-18

5A Boiler

Source Description

The 5A Boiler (SN-18) is a 220 million Btu per hour boiler. The boiler is able to burn natural gas. The 5A Boiler was manufactured in 1953 and has never been modified. Therefore it is not subject to NSPS regulations.

The 5A Boiler is subject to the requirements of Subpart DDDDD—National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters.

Specific Conditions

31. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Conditions #34. [Regulation No. 19 §19.501 et seq. effective May 28, 2006 and 40 CFR Part 52, Subpart E]

Table 9 - Maximum Criteria Pollutant Emission Rates for SN-18

Pollutant	lb/hr	tpy
PM_{10}	2.1	8.8
SO_2	0.2	0.9
VOC	0.4	1.6
CO	14.0	61.0
NO_X	74.0	323.8
Pb	0.1	0.1

32. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Condition #34. [Regulation No.§18.801 effective February 15, 1999, and A.C.A. §8 4 203 as referenced by §8 4 304 and §8 4 311]

Table 10 - Maximum Non-Criteria Pollutant Emission Rates for SN-18

Pollutant	lb/hr	tpy
PM	2.1	8.8
Arsenic	0.01	0.01
Benzene	0.01	0.01
Beryllium	0.01	0.01
Cadmium	0.01	0.01
Chromium, Total	0.01	0.01
Cobalt	0.01	0.01
Formaldehyde	0.02	0.08

Pollutant	lb/hr	tpy
n-Hexane	0.39	1.71
Mercury	0.01	0.01
Napthalene	0.01	0.01
Nickel	0.01	0.01
Toluene	0.01	0.01

33. The permittee shall not cause to be discharged to the atmosphere from the 5A Boiler gases which exhibit opacity greater than 5%. Compliance with this opacity limit while using natural gas only shall be demonstrated by the use of natural gas. [§18.501 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

34. Natural gas may only be used as fuel in the 5A Boiler. [§18.1004 of Regulation #18, §19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR §70.6]

SN-#19

6A Boiler

Source Description

The 6A Boiler (SN-19) is a 357 million Btu per hour boiler. The boiler is able to burn natural gas. The 6A Boiler was manufactured in 1962 and has never been modified. Therefore it is not subject to NSPS regulations. The 6A Boiler can use specification grade oil and natural gas as fuel. Specification grade oil consists of new oil, used oil, used oil absorbent material and pitch from the production of tall oil. However, used oil absorbent material is not used as a fuel in the 6A Boiler.

The 6A Boiler is subject to the requirements of Subpart DDDDD—National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters.

Specific Conditions

35. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Conditions #39 and #40. [Regulation No. 19 §19.501 et seq. effective May 28, 2006 and 40 CFR Part 52, Subpart E]

Table 11 - Maximum Criteria Pollutant Emission Rates for SN-19

Pollutant	lb/hr	ton/yr
PM_{10}	36.8	117.5
SO_2	431.1	1,888.3
VOC	2.4	10.2
CO	35.3	154.7
NO_X	117.6	515.1
Pb	0.1	0.3

36. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Condition #39. [Regulation No.§18.801 effective February 15, 1999, and A.C.A. §8-4-203 as referenced by §8-4 304 and §8 4 311]

Table 12 - Maximum Non-Criteria Pollutant Emission Rates for SN-19

Pollutant	lb/hr	ton/yr
PM	36.8	117.5
Sulfuric Acid	15.4	45.0
Acrolein	0.01	0.01
Arsenic	0.01	0.01
Benzene	0.01	0.01

Pollutant	lb/hr	ton/yr
Beryllium	0.01	0.01
Cadmium	0.01	0.01
Chromium, Total	0.01	0.01
Chromium, Hex	0.01	0.01
Cobalt	0.02	0.05
Formaldehyde	0.06	0.27
n-Hexane	0.63	2.76
Manganese	0.02	0.04
Mercury	0.01	0.01
Napthalene	0.01	0.01
Nickel	0.16	0.67
Phosphorus	0.02	0.08
Selenium	0.01	0.01
Toluene	0.02	0.05

37. When using specification grade oils or a combination of specification grade oils and natural gas, the permittee shall not cause to be discharged to the atmosphere from the 6A Boiler gases which exhibit opacity greater than 20%. Emissions not exceeding 60% opacity will be allowed for six (6) minutes in any consecutive 60-minute period and no more three (3) times during any 24-hour period. [§19.503 of Regulation #19 and 40 CFR Part 52 Subpart E]

    When operating using natural gas only, the permittee shall not cause to be discharged to the atmosphere from the 6A Boiler gases which exhibit opacity greater than 5%. [§18.501 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

    Compliance with this opacity limit while using specification grade oils or a combination of specification grade oils and natural gas shall be demonstrated by compliance with Specific Condition #39. Compliance with this opacity limit while using natural gas only shall be demonstrated by the use of natural gas. The opacity shall be measured in accordance with EPA Reference Method 9 as found in 40 CFR Part 60 Appendix A.

38. When using specification grade oils or a combination of specification grade oils and natural gas, the permittee shall conduct daily observations of the opacity from the 6A Boiler, and keep a record of these observations. If visible emissions are detected, then the permittee shall conduct a 6-minute opacity reading in accordance with EPA Reference Method 9. The results of these observations shall be kept on site and shall be made available to Department personnel upon request. [§19.705 of Regulation #19 and 40 CFR Part 52 Subpart E]

39. Specification grade oils and natural gas may be used as fuel in the 6A Boiler. [§18.1004 of Regulation #18, §19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR §70.6]

40. The sulfur content of the specification grade oils used at this source shall not exceed 1.5% by weight. [§19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR §70.6]

41. The permittee is limited to 1,800 gallons per hour of specification grade oils. [§19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR §70.6]

42. The sulfur content of the fuel oil shall be verified by testing or vendors' guarantees. The permittee shall maintain a record of each fuel shipment and the associated sulfur content. This record shall be updated with each shipment, kept on site, shall be made available to Department personnel upon request and may be used by the Department for enforcement purposes. This report shall be submitted to the Department in accordance with General Provision #7. [§19.705 of Regulation #19 and 40 CFR Part 52 Subpart E]

43. The permittee shall maintain records which demonstrate compliance with Specific Condition #42. The permittee shall maintain records of the types and quantities of fuels being used in the 6A Boiler. The records shall be updated on a monthly basis. These records shall be kept on site, provided to Department personnel upon request and may be used by the Department for enforcement purposes. A twelve month total and each month's individual data shall be submitted to the Department in accordance with General Provision #7. [§19.705 of Regulation #19 and 40 CFR Part 52 Subpart E]

44. The following parameters were used to determine the eligibility for the health-based compliance alternative for TSM. The permittee is limited to these parameters. [§19.304 of Regulation 19 and 40 CFR Part 63, Subpart DDDDD, Appendix A]

    a. Fuel types: natural gas, specification grade oil

    b. Maximum heat input rates: 357 MMBTU/hr;

    c. Control device: none;

    d. Fuel mix (annual average) of 100% specification grade oil;

    e. Maximum emission rate of 0.019 lb/hr (three-hour average);

    f. Minimum Stack Heights of 42.67 meters;

45. The permittee must update the eligibility demonstration and resubmit it each time that any of the parameters that defined the affected source as eligible for the health-based compliance alternatives changes in a way that could result in increased manganese emissions or increased risk from exposure to emissions. These parameters include, but are not limited to, fuel type, fuel mix (annual average), type of control devices, manganese emission rate, stack height, process parameters (e.g., heat input capacity), relevant reference values, and locations where people live. [§19.304 of Regulation 19 and 40 CFR Part 63, Subpart DDDDD, Appendix A, Section 11(a)]

46. If the permittee is updating the eligibility demonstration to account for an action that is under the permittee's control (e.g. change in heat input capacity of your boiler), the permittee must submit the revised eligibility demonstration to the permitting authority prior to making the change and revise this permit to incorporate the change. If the affected source is no longer eligible for the health-based compliance alternatives, then the permittee must comply with the applicable emission limits, operating limits, and compliance requirements in 40 CFR Part 63, Subpart DDDDD prior to making the process change and revising the permit. If the permittee

is updating the eligibility demonstration to account for an action that is outside of the permittee's control (e.g. change in a reference value), and that change causes the source to no longer be able to meet the criteria for the health-based compliance alternatives, the source must comply with the applicable emission limits, operating limits, and compliance requirements in 40 CFR Part 63, Subpart DDDDD within 3 years. [§19.304 of Regulation 19 and 40 CFR Part 63, Subpart DDDDD, Appendix A, Section 11(b)]

47. The permittee must keep records of the information used in developing the eligibility demonstration for the affected source, including all of the information specified in Section 8 of Appendix A to 40 CFR Part 63, Subpart DDDDD. [§19.304 of Regulation 19 and 40 CFR Part 63, Subpart DDDDD, Appendix A, Section 12]

48. The permittee shall test SN-19 for manganese while operating at maximum normal operating load and firing specification grade oil. Emission results shall be extrapolated to correlate with 100% of the permitted capacity to determine compliance. The manganese tests shall be performed using EPA Reference Method 29. This test shall be conducted in accordance with Plantwide Condition #3. Subsequent tests shall be performed every five years from the date of the initial test. Results of this testing shall be submitted to the address listed in General Provision #7.

    The source does not currently utilize specification oil as fuel. Therefore, the initial test is required prior to any firing of specification oil at SN-19. [§19.304 of Regulation 19 and 40 CFR Part 63, Subpart DDDDD, Appendix A]

SN#-22

9A Boiler

Source Description

The 9A Boiler is a 720 million Btu per hour combination fuel boiler used to generate steam. The source is equipped with a wet venturi scrubber. The boiler may serve as backup combustion unit during times when the incinerator (SN-83) is offline.

The 9A Boiler is capable of firing tire derived fuel (TDF), agriculture derived fuel (ADF), refuse derived fuel (RDF), non-condensable gases (NCGs), woodwaste, specification grade oil, natural gas and sludge. A woodwaste storage pile is associated with the 9A Boiler. Woodwaste consists of bark, wood scraps, wax coated paper, wax coated cardboard, wax coated sawdust, creosote treated railroad crossties and paper pellets (waste paper and wax paper). Bark from the debarker in the Woodyard is pneumatically transferred to the 9A pile. A cyclone is located at the end of the pneumatic transfer line to control particulate matter emissions. The majority of the woodwaste is delivered by truck and occasionally by rail. It is then transferred by conveyors to either the 9A or the 10A woodwaste storage pile.

RDF, ADF and sludge are directly added to the chip piles. RDF consists of pelletized paper, lawn clippings and similar materials that will not have a plastics content greater than 10%. TDF and other scrap rubber products are stored in segregated piles near the woodwaste piles. TDF is loaded several times a day by a front end loader into feeder bins in the vicinity. These solid fuels are then fed onto a conveyor system and delivered to the boilers. ADF consists of, but is not limited to, corn cobs, shucks, and vegetable starch.

Specification grade oil consists of new oil, used oil, used oil absorbent material and pitch from the production of tall oil. Used oil absorbent material shall include used oil filter paper, used rags, sorbant booms, etc. that meet the specification grade oil criteria (40 CFR 279.11).

The 9A Boiler is subject to the requirements of Subpart DDDDD—National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters.

Specific Conditions

49. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Conditions #60 through #64, #66, #67, #69 and #70. [Regulation No. 19 §19.501 et seq. effective May 28, 2006 and 40 CFR Part 52, Subpart E]

Table 13 - Maximum Criteria Pollutant Emission Rates for SN-22

Pollutant	lb/hr	ton/yr
PM_{10}	90.0	394.2
SO_2	613.3	1,679.6
VOC	49.7	217.7

Pollutant	lb/hr	ton/yr
CO	518.4	2,270.6
NO_X	345.0	1,511.1
Pb	2.6	11.2
TRS	2.6	1.2

50. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Condition #60 thru #64 and #67. [Regulation No.§18.801 effective February 15, 1999, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Table 14 - Maximum Non-Criteria Pollutant Emission Rates for SN-22

Pollutant	lb/hr	ton/yr
PM	90.0	394.2
Sulfuric Acid	27.0	74.0
Acetone	0.2	0.8
Acetaldehyde	0.60	2.62
Acrolein	2.88	12.62
Arsenic	0.02	0.09
Benzene	3.03	13.25
Beryllium	0.01	0.01
Cadmium	0.02	0.06
Carbon Tetrachloride	0.04	0.15
Chlorine	0.59	2.50
Chloroform	0.03	0.09
Chromium, Hex	0.01	0.02
Chromium, Total	0.03	0.13
Cobalt	0.02	0.07
Formaldehyde	3.17	13.88
Hexane	0.79	3.45
Hydrogen Chloride	18.97	83.06
Manganese	0.29	1.28
Mercury	0.01	0.04
Napthalene	0.07	0.31
Nickel	0.17	0.74
Pentachlorophenol	0.01	0.01
Phenol	0.04	0.17
Selenium	0.03	0.09
Styrene	1.37	6.00
2,3,7,8-tetrachlorodibenzo-p-dioxin	6.19E-09	2.71E-08
Tetrachloroethylene	0.03	0.12
Toluene	0.67	2.91
Vinyl Chloride	0.02	0.06

51. For all fuel scenarios except natural gas only, the permittee shall not cause to be discharged to the atmosphere from the 9A Boiler, gases which exhibit opacity greater than 20%. Emissions not exceeding 60% opacity will be allowed for six (6) minutes in any consecutive 60-minute period and no more three (3) times during any 24-hour period. [§19.503 of Regulation #19 and 40 CFR Part 52 Subpart E]

    When operating using natural gas only, the permittee shall not cause to be discharged to the atmosphere from the 9A Boiler gases which exhibit opacity greater than 5%. [§18.501 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

    Compliance with this opacity limit shall be demonstrated by compliance with Specific Condition #57 for all fuel scenarios other than using natural gas only. Compliance with the opacity limit while using natural gas only shall be demonstrated by the use of natural gas. The opacity shall be measured in accordance with EPA Reference Method 9 as found in 40 CFR Part 60 Appendix A.

52. SN-22, as a wood fired boiler, shall meet all visible emissions of this chapter except that visible emissions may exceed the permitted opacity for up to 45 minutes once in any consecutive 8 hour period, three times in any consecutive 24 hour period for soot blowing, grate cleaning, ash raking, and refiring necessary for proper operation of these units. This practice is to be scheduled for the same specific time each day and shall be recorded. The Department shall be notified in advance and in writing of the schedule or any changes. The process of soot blowing, grate cleaning, ash raking, and refiring or any part thereof is considered one activity and the time limit on this activity is 45 minutes. [§18.501(A)(4) of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

53. The Continuous Emission Monitor (CEM) for CO using O_2 monitoring on the 9A Boiler shall be operated in accordance with the Department Continuous Emission Monitoring Systems Conditions (Appendix A) and the applicable Performance Standards of 40 CFR Part 60 Appendix B. [§19.703 of Regulation #19, 40 CFR Part 52 Subpart E, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

54. The permittee shall properly maintain and operate the following existing continuous monitoring instrumentation: O_2, pressure drop across the scrubber and liquid supply flow at the 9A Boiler. [§19.703 of Regulation #19, 40 CFR Part 52 Subpart E, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

55. Continuous monitoring data from the continuous monitoring instrumentation listed in Specific Condition #54 may, at the discretion of the Department, be used to determine violations of the emissions limits or conditions of this permit. [§19.703 of Regulation #19, 40 CFR Part 52 Subpart E, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

56. Compliance with the CO limit for the 9A Boiler shall be demonstrated by monitoring flue gas O_2 and maintaining the O_2 setpoint at not less than 2.0% O_2 (dry basis). Any operation outside this hourly average limit shall constitute noncompliance with this Specific Condition. The permittee shall maintain records of flue gas O_2 for the 9A Boiler and shall make them available to Department personnel upon request. These limits do not apply during startup and shutdown of the 9A Boiler. Startup and shutdown shall be defined as when the steam flow is

less than 100,000 pounds per hour. [§19.703 of Regulation #19, 40 CFR Part 52 Subpart E, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311,

57. The 9A Boiler (SN-22) is subject to and shall comply with all applicable provisions §19.304 of Regulation 19, 40 CFR Part 52 Subpart E, and Part §64.6 for Compliance Assurance Monitoring:

    A. The permittee shall maintain a scrubber liquid flowrate of at least 1500 gallons per minute. [40 CFR Part §64.6(c)(1)]

    B. The permittee shall maintain a gas pressure drop of at least 5 inches of water. [40 CFR Part §64.6(c)(1)]

    C. The permittee shall monitor and maintain daily records to demonstrate compliance with Specific Condition #57 (A) and (B). Records shall be kept onsite and made available to the Department upon request. [40 CFR Part §64.6(c)(3)]

    D. The permittee shall maintain the scrubber in good working condition at all times so that pollutant removal is maintained. [40 CFR Part §64.6(c)(1)]

58. The 9A Boiler (SN-22) is subject to and shall comply with all applicable provisions §19.304 of Regulation 19, 40 CFR Part 52 Subpart E, and Part §64.9 for Compliance Assurance Monitoring. The following information pertaining to exceedances or excursions from permitted values shall be submitted in semi-annual reports in accordance with General Provision 7 as outlined in 40 CFR §70.6.

    A. The permittee shall maintain records for SN-22 that summarizes the number, duration, and cause of excursions or exceedances of emission limits as well as corrective action taken. [40 CFR §64.9(a)(2)(i) and §64.9(b)]

    B. The permittee shall maintain records for SN-22 that summarizes the number, duration, and cause of monitoring equipment downtime incidents, other than routine downtime for calibration checks. [40 CFR §64.9(a)(2)(ii) and §64.9(b)]

    C. The permittee shall maintain a quality improvement plan (QIP) threshold for each indicator of no more than nine excursions or 5% of the daily averages in a six-month period. [40 CFR §64.9(a)(2)(iii) and §64.9(b)]

    D. The permittee shall develop and implement a new QIP if the threshold is exceeded during any six-month period. [40 CFR §64.9(a)(2)(iii) and §64.9(b)]

    E. The permittee shall maintain records for SN-22 that describes the actions taken to implement the QIP. Upon completion of the QIP, documentation shall be maintained to confirm that the plan was completed and reduced the likelihood of similar excursions or exceedances. [40 CFR §64.9(a)(2)(iii) and §64.9(b)]

59. The permittee may use the 9A Boiler as an alternate incinerator for NCGs and SOGs during periods when the Incinerator (SN-83) or its associated control equipment is inoperative. [§19.304 of Regulation #19 and 40 CFR §63.443(d)(4)]

60. Specification grade oils, natural gas, woodwaste, TDF, ADF, RDF and wastewater sludge may be used as fuel in the 9A Boiler. Creosote treated railroad crossties shall not constitute more than 25% of the fuel requirement of the 9A Boiler. [§18.1004 of Regulation #18, §19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR §70.6]

61. The permittee shall not burn in excess of 35 pounds per minute of TDF in the 9A Boiler. [§18.1004 of Regulation #18, §19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR §70.6]

62. The permittee shall not burn in excess of 250 tons of RDF per day in the 9A Boiler. [§18.1004 of Regulation #18, §19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR §70.6]

63. The permittee shall not burn in excess of 45 BDT sludge per hour in the 9A Boiler. [§19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR §70.6]

64. The permittee shall not burn in excess of 200 tons of used oil absorbent material per month in the 9A Boiler. The used oil absorbent material shall meet the specification grade oil criteria found in 40 CFR 279.11. [§18.1004 of Regulation #18, §19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR §70.6]

65. The permittee shall maintain records which demonstrate compliance with Specific Conditions #60, #61, #62, #63, and #64. The records shall be updated on a monthly basis. These records shall be kept on site, provided to Department personnel upon request and may be used by the Department for enforcement purposes. A twelve month total and each individual month's data shall be submitted in accordance with General Provision #7. [§18.1004 of Regulation #18, §19.705 of Regulation #19, 40 CFR Part 52 Subpart E, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

66. The sulfur content of the specification grade oils used at this source shall not exceed 1.5% by weight. [§19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR §70.6]

67. The sulfur content of the fuel oil shall be verified by testing or vendors' guarantees. The permittee shall maintain a record of each fuel shipment and the associated sulfur content. This record shall be updated with each shipment, kept on site, shall be made available to Department personnel upon request and may be used by the Department for enforcement purposes. This report shall be submitted to the Department in accordance with General Provision #7. [§19.705 of Regulation #19 and 40 CFR Part 52 Subpart E]

68. The permittee shall annually test particulate matter emissions from the 9A Boiler (SN-22) using Method 5 and 202. The permittee shall test at the minimum scrubber parameters of Specific Condition 57. Testing shall be completed no later than 180 days from the date of permit issuance. The permittee shall submit an application to correct emission rates, if

corrections are necessary. The testing shall be conducted using a representative fuel mixture. The proportions of each permitted fuel in the representative fuel mixture shall be based upon the month during which the fuel that generates the highest particulate matter emissions was used in greatest proportion. During the test the permittee shall operate the boiler within 10 percent of the rated throughput capacity. If 90 percent of the rated throughout capacity cannot be achieved, the permittee shall be limited to 11 percent above the actual tested throughput. This test was completed as a requirement of Air Permit #597-AOP-R8. [§18.1002 of Regulation #18, §19.702 of Regulation #19, 40 CFR Part 52 Subpart E, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

69. Sulfur dioxide emission shall be determined through a mass balance based on incoming materials, worst-case firing of specification grade oil based on the limits in Condition #66, and periods where the source is used as an alternate incinerator. This mass balance shall be submitted to the Department in accordance with General Provision #7. [§19.703 of Regulation #19, 40 CFR Part 52 Subpart E, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

70. The permittee shall annually test nitrogen oxides emissions from the 9A Boiler (SN-22). Testing shall be performed in accordance with Plantwide Condition #3 and EPA Reference Method 7E as found in 40 CFR Part 60 Appendix A. The testing shall be done using a representative fuel mixture. The proportions of each permitted fuel in the representative fuel mixture shall be based upon the month during which the fuel that generates the highest nitrogen oxides emissions was used in greatest proportion. During the test the permittee shall operate the boiler within 10 percent of the rated throughput capacity. If 90 percent of the rated throughout capacity can not be achieved, the permittee shall be limited to 11 percent above the actual tested throughput. [§19.702 of Regulation #19 and 40 CFR Part 52 Subpart E]

71. The permittee shall test sulfur dioxide emissions from the 9A Boiler (SN-22). Testing shall be performed in accordance with Plantwide Condition #3 and EPA Reference Method 6. The testing shall be conducted using the maximum TDF and RDF firing rates. During the test the permittee shall operate the boiler within 10 percent of the rated throughput capacity. If 90 percent of the rated throughout capacity cannot be achieved, the permittee shall be limited to 11 percent above the actual tested throughput. Testing on these fuels shall be completed within 30 days upon achieving sufficient inventory levels but no later then 180 days after permit issuance. [§19.702 of Regulation #19 and 40 CFR Part 52 Subpart E]

72. The permittee shall submit a request to EPA for a determination regarding the applicability of NSPS Subpart D limits and testing requirements during fossil fuel firing scenarios. Within 30 days of permit issuance, this request shall be submitted to EPA and a copy shall be submitted to the Department. The permittee may burn any currently permitted fossil fuel until a determination is made by EPA. This condition was satisfied as a requirement of Air Permit #597-AOP-R8. [A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

73. The following parameters were used to determine the eligibility for the health-based compliance alternative for TSM. The permittee is limited to these parameters. [§19.304 of Regulation 19 and 40 CFR Part 63, Subpart DDDDD, Appendix A]

    a. Fuel types: wood waste, ADF, RDF, TDF, specification grade oil

b. Maximum heat input rates of 720 MMBTU/hr:

c. Control device of a wet venturi scrubber;

d. Fuel mix (annual average) with Mn content that is no higher than that which is present in 100% wood waste;

e. Maximum emission rate of 0.29 lb/hr (three-hour average);

f. Minimum Stack Heights of 53.34 meters;

74. The permittee must update the eligibility demonstration and resubmit it each time that any of the parameters that defined the affected source as eligible for the health-based compliance alternatives changes in a way that could result in increased manganese emissions or increased risk from exposure to emissions. These parameters include, but are not limited to, fuel type, fuel mix (annual average), type of control devices, manganese emission rate, stack height, process parameters (e.g., heat input capacity), relevant reference values, and locations where people live. [§19.304 of Regulation 19 and 40 CFR Part 63, Subpart DDDDD, Appendix A, Section 11(a)]

75. If the permittee is updating the eligibility demonstration to account for an action that is under the permittee's control (e.g. change in heat input capacity of your boiler), the permittee must submit the revised eligibility demonstration to the permitting authority prior to making the change and revise this permit to incorporate the change. If the affected source is no longer eligible for the health-based compliance alternatives, then the permittee must comply with the applicable emission limits, operating limits, and compliance requirements in 40 CFR Part 63, Subpart DDDDD prior to making the process change and revising the permit. If the permittee is updating the eligibility demonstration to account for an action that is outside of the permittee's control (e.g. change in a reference value), and that change causes the source to no longer be able to meet the criteria for the health-based compliance alternatives, the source must comply with the applicable emission limits, operating limits, and compliance requirements in 40 CFR Part 63, Subpart DDDDD within 3 years. [§19.304 of Regulation 19 and 40 CFR Part 63, Subpart DDDDD, Appendix A, Section 11(b)]

76. The permittee must keep records of the information used in developing the eligibility demonstration for the affected source, including all of the information specified in Section 8 of Appendix A to 40 CFR Part 63, Subpart DDDDD. [§19.304 of Regulation 19 and 40 CFR Part 63, Subpart DDDDD, Appendix A, Section 12]

77. After the compliance date of September 13, 2007, the 9A Boiler (SN-22) may not combust papermaking sludge, creosote-treated wood, used oil absorbent material, NCGs, or SOGs until a site-specific test plan or fuel analysis plan to incorporate these materials is submitted. [§19.304 of Regulation 19 and 40 CFR Part 63, Subpart DDDDD, Appendix A, Section 11(b)]

78. The permittee shall test for manganese while operating at maximum normal operating load and firing wood-waste only. If the test is conducted at less than the maximum rated capacity of the source, the permittee shall provide an explanation in the site specific test plan. Emission results shall be extrapolated to correlate with 100% of the permitted capacity to determine compliance. The manganese tests shall be performed using EPA Reference Method 29. These tests shall be conducted in accordance with Plantwide Condition #3. The permittee

shall operate the control equipment for this source at the minimum parameters specified in Condition 57. Subsequent tests shall be performed every five years from the date of the previous test. Results of this testing shall be submitted to the address listed in General Provision #7. [§19.304 of Regulation 19 and 40 CFR Part 63, Subpart DDDDD, Appendix A]

79. The permittee shall submit a Title V Air Permit application to modify the CAM parameters contained in Specific Condition 57. The proposed parameters must assure compliance with the maximum particulate, sulfur dioxide, and manganese emission rates of Specific Conditions 49 and 73. The parameters must be based upon recent stack tests while operating at 90% or greater capacity and while firing a representative, worst-case fuel mixture. This application shall be submitted no later than 180 days from issuance of Air Permit #597-AOP-R9. [§19.304 of Regulation 19 and 40 CFR Part 52 Subpart E and Part §64.6]

SN-#57F, #58F, 101, and 102

Woodyard

Source Description

Activities in the Woodyard include unloading incoming chips and wood, wood transferring, debarking (SN-57F), chipping (SN-58F), chip storage (SN-58F) and chip screening. Emissions are controlled by the use of water sprays.

Chips are delivered either by trucks or rail cars. The truck shipments are unloaded at an inclining truck dump. The rail car shipments are emptied by rolling the rail car over. From these two delivery points the chips are conveyed to the distribution tower and are then dropped into the chip piles. Water is added to the pneumatic transfer system to control dust.

In addition to chips, Georgia-Pacific also receives round logs. After storage, the logs are transported to the debarking drum for bark removal. The removed bark is pneumatically sent to the bark piles for storage and eventual use in the 9A and 10A Boilers of the Utilities Operations. The debarked logs are fed to the chipper. The chips that are produced are conveyed to the distribution tower and deposited onto the chip piles.

Chips from the chip piles are screened prior to entering the chip silo. Rejected chips from the screening process are sent to the combination boilers for use in steam production.

Bark either purchased or from the Woodyard is transferred by enclosed conveyors to the 9A and 10A Boilers' associated fuel storage piles. Emissions for these sources are calculated using drop transfer points.

As a part of the R10 modification, some existing pine screen and hardwood screen room equipment with new more efficient equipment. The changes are to improve chip thickness and quality by removing a larger quantity of fines and contaminants from the wood chips prior to the pulp mill. BACT is the use of a totally enclosed building for the new pine and hardwood screen room equipment, with no specific PM/PM_{10} emission limits.

Specific Conditions

80. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Condition #82. [Regulation No. 19 §19.501 et seq. effective May 28, 2006 and 40 CFR Part 52, Subpart E]

Table 15 - Maximum Criteria Pollutant Emission Rates for SN-57F, 58F, 101, and 102

SN	Description	Pollutant	lb/hr	ton/yr
57F	Woodyard Debarking Drum and Associated Woodyard Chip	PM_{10} VOC	0.6 640.2	2.6 2,803.7

SN	Description	Pollutant	lb/hr	ton/yr
	Handling System			
58F	Woodyard Chip Storage Piles & Chippers	PM_{10} VOC	1.1 2.1	4.5 8.8
101	10A Boiler Bark Transfer System	PM_{10}	0.1	0.1
102	9A Boiler Bark Transfer System	PM_{10}	0.1	0.1

81. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Condition #84. [Regulation No.§18.801 effective February 15, 1999, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Table 16 - Maximum Non-Criteria Pollutant Emission Rates for SN-57F, 58F, 101, and 102

SN	Pollutant	lb/hr	ton/yr
57F	PM	1.2	5.3
58F	PM	2.1	9.0
101	PM	0.1	0.3
102	PM	0.1	0.1

82. The permittee shall not process in excess of 8400 tons of wet wood as received in the Woodyard per day, 30 day rolling average. [§18.1004 of Regulation #18, §19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR §70.6]

83. The permittee shall maintain records which demonstrate compliance with the limit in Specific Condition #82. The records shall be updated on a monthly basis. These records shall be kept on site, provided to Department personnel upon request and may be used by the Department for enforcement purposes. A twelve month total and each individual month's data shall be submitted in accordance with General Provision #7. [§18.1004 of Regulation #18, §19.705 of Regulation #19, 40 CFR Part 52 Subpart E, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

84. The permittee shall use water sprays in the discharge from the conveyance system in the Woodyard area to reduce particulate matter emissions except during periods when rain provides equivalent dust suppression, or when inclement weather creates a safety hazard to operators. [§19.303 of Regulation #19 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

SN-#59

Batch Digesters

Source Description

Chips from the Woodyard are sent to the pulp mill where they are converted to pulp using the chemical Kraft process. The chip conveying system regulates the flow of chips from the silos in the Woodyard to one of the thirteen batch digesters (SN-59). The function of the digesters is to cook chips using white liquor, black liquor and steam from the boilers. In the digestion process these products are combined and cooked at a set pressure and temperature until a quality pulp is obtained. At the end of each cook the blow valve at the bottom of the digester is opened. The pressure in the digester forces the pulp mass through a blow line into the blow tanks.

The mill has two large cylindrical blow tanks. All remaining process equipment in the Pulp Mill is divided into two parallel but separate lines. The blow tanks are at atmospheric pressure. When the chips hit the lower pressure in the tank, the liquor and water flash, blowing apart the chips to produce the pulp fibers. The fibers and the spent cooking liquor fall to the bottom of the blow tank.

The vapors from the blow tanks exit through a vapor line at the top of each blow tank. The vapors from each tank are combined and sent to the blow heat condensing system. Flow to the condensing system is maintained in the absence of blow downs by steam supplements. There is a series of condensers that remove condensable gases (primarily turpentine) from the blow gas. The steam vapors are condensed in the accumulator tank and used as hot water for the washers. Gases that do not condense are sent to the Incinerator (primary), or the Lime Kiln (primary until the Incinerator is installed, backup afterwards) and/or the 9A Boiler (backup) for thermal destruction.

During the loading of chips the digester caps are opened allowing for emissions.

Specific Conditions

85. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Condition #90. [Regulation No. 19 §19.501 et seq. effective May 28, 2006 and 40 CFR Part 52, Subpart E]

Table 17 - Maximum Criteria Pollutant Emission Rates for SN-59

Pollutant	lb/hr	ton/yr
VOC	55.9	244.7
TRS	4.3	18.9

86. The permittee estimates the pollutant emission rates set forth in the following table will not be exceeded. The pollutant emission rates are effectively limited by Specific Condition #90. [Regulation No.§18.801 effective February 15, 1999, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Table 18 - Maximum Non-Criteria Pollutant Emission Rates for SN-59

Pollutant	lb/hr	ton/yr
Acetone	0.1	0.2
Acetaldehyde	0.03	0.08
Acrolein	0.01	0.01
Benzene	0.01	0.01
Carbon Tetrachloride	0.01	0.01
Chloroform	0.03	0.10
1,2 Dichloroethylene	0.01	0.01
Formaldehyde	0.01	0.01
Hexane	0.01	0.01
Methanol	0.57	2.16
Methylene Chloride	0.01	0.01
Styrene	0.01	0.02
Tetrachloroethylene	0.01	0.01
Toluene	0.01	0.01
Trichloroethylene	0.01	0.01
1,2,4-Trichlorobenzene	0.01	0.01

87. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Condition #88. [§19.304 and §19.501 et seq. of Regulation #19, 40 CFR Part 52 Subpart E, and 40 CFR §60.283]

Table 19 - Maximum TRS Emission Rates for SN-59

Pollutant	lb/hr	ton/yr
TRS	4.3	18.9
	5 ppmdv corrected to 10% O_2	

88. The Batch Digesters (SN-59) are subject to and shall comply with all applicable provisions of §19.304 of Regulation 19 and 40 CFR Part 60 BB - *Standards of Performance for Kraft Pulp and Paper Mills.* A copy of Subpart BB is provided in Appendix C. Applicable provisions of Subpart BB include, but are not limited to, the following:

A. The permittee shall not cause to be discharged into the atmosphere from the digester system any gases which contain TRS in excess of 5 ppm by volume on a dry basis, corrected to 10 percent oxygen, unless the conditions of 40 CFR §60.283(a)(1)(i)-(vi) are met. [40 CFR §60.283(a)(1)]

B. The permittee shall install, calibrate, maintain, and operate a continuous monitoring system to monitor and record the concentration of TRS emissions on a dry basis and the percent of oxygen by volume on a dry basis in the gases discharged into the atmosphere from the digester system, except where the provisions of 40 CFR §60.283(a)(1)(iii) or (iv) apply. This system shall be

located downstream of the control device and the span shall be set at a TRS concentration of 30 ppm for the TRS continuous monitoring system and at 20 percent oxygen for the continuous oxygen monitoring system. [40 CFR §60.284(a)(2)]

C. The permittee shall calculate and record on a daily basis 12-hour average TRS concentrations for the two consecutive periods of each operating day. Each 12-hour average shall be determined as the arithmetic mean of the appropriate 12 contiguous 1-hour average total reduced sulfur concentrations provided by each continuous monitoring system installed under paragraph (a)(2) of this section. [40 CFR §284(c)(1), except where the provisions of 40 CFR §60.283(a)(1)(iv) or (a)(4) apply]

D. The permittee shall report semiannually periods of excess emissions. [40 CFR §60.284(d)]

E. The permittee shall use as reference methods and procedures the test methods in appendix A of this part or other methods and procedures in this section, except as provided in 40 CFR §60.8(b). Acceptable alternative methods and procedures are given in paragraph (f) of this section. [40 CFR §60.285(a]

89. The permittee may use the 9A Boiler or Lime Kiln (SN-25) as an incinerator for Low Volume High Concentration (LVHC) NCGs only during periods when the incinerator (SN-83) or its associated control equipment is inoperative. [§19.801 of Regulation #19]

90. The permittee shall not process in excess of 8,757 tons of wood chips per day, 30 day rolling average. [§19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR §70]

91. The permittee shall maintain records which demonstrate compliance with the limits specified in Specific Condition #90. The records shall be updated on a monthly basis. These records shall be kept on site, provided to Department personnel upon request and may be used by the Department for enforcement purposes. A twelve month total and each individual month's data shall be submitted in accordance with General Provision #7. [§19.705 of Regulation #19 and 40 CFR Part 52 Subpart E]

SN-#33, #34, #60 and #61

Pulp Mill Operations

Source Description

When the pulp and black liquor exit the blow tank, the pulp goes through several processing steps before it is stored in the unbleached high density storage chest. First, knots are removed prior to washing. The knots are recovered and used as woodwaste fuel. Second, the pulp is washed to separate the pulp from the spent cooking chemicals and the black liquor. There are two horizontal washers. The emissions from the associated black liquor storage tank and Line 1 Decker (SN-60) are routed to the Incinerator (SN-83), with the Lime Kiln scrubber operating as a backup control device. The Line 1 and Line 2 Washers (SN-33 and SN-34) are not equipped with any control equipment. Next, the pulp passes through the decker system. The decker system (SN-60 and 61) thickens the pulp for storage in the high density storage chests. Although the operations at the pulp mill are in parallel, the two lines are run separately**.**

Specific Conditions

92. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Condition #90. [Regulation No. 19 §19.501 et seq. effective May 28, 2006 and 40 CFR Part 52, Subpart E]

Table 20 - Maximum Criteria Pollutant Emission Rates for SN-33, 34, 60, and 61

SN	Description	Pollutant	lb/hr	ton/yr
33	Line 1 Washer	VOC TRS	5.7 2.9	21.7 10.9
34	Line 2 Washer	VOC TRS	5.7 2.9	21.7 10.9
60	Line 1 Decker	Emissions are routed to the Incinerator (SN-83)		
61	Line 2 Decker	VOC TRS	2.4 1.4	8.8 5.3

93. The permittee estimates the emission rates set forth in the following table will not be exceeded. The pollutant emission rates are effectively limited by Specific Condition #90. [Regulation No.§18.801 effective February 15, 1999, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Table 21 - Maximum Non-Criteria Pollutant Emission Rates for SN-33, 34, 60, and 61

SN	Description	Pollutant	lb/hr	ton/yr
33	Line 1 Washer	Acetone	0.3	1.1
		Acetaldehyde	0.12	0.44
		Acrolein	0.01	0.01
		Benzene	0.01	0.01
		Carbon Tetrachloride	0.03	0.12
		Chloroform	0.01	0.01
		Formaldehyde	0.01	0.01
		n-Hexane	0.01	0.03
		Methanol	4.32	16.38
		Styrene	0.01	0.04
		Toluene	0.01	0.04
		Trichloroethylene	0.01	0.01
		1,2,4-Trichlorobenzene	0.03	0.10
		o-Xylene	0.01	0.02
34	Line 2 Washer	Acetone	0.3	1.1
		Acetaldehyde	0.12	0.44
		Acrolein	0.01	0.01
		Benzene	0.01	0.01
		Carbon Tetrachloride	0.03	0.12
		Chloroform	0.01	0.01
		Formaldehyde	0.01	0.01
		n-Hexane	0.01	0.03
		Methanol	4.32	16.38
		Styrene	0.01	0.04
		Toluene	0.01	0.04
		Trichloroethylene	0.01	0.01
		1,2,4-Trichlorobenzene	0.03	0.10
		o-Xylene	0.01	0.02
60	Line 1 Decker	Emissions are routed to the Incinerator (SN-83)		
61	Line 2 Decker	Acetone	1.0	3.6
		Acetaldehyde	0.13	0.49
		Acrolein	0.01	0.04
		Benzene	0.01	0.01
		Carbon Tetrachloride	0.04	0.14
		Formaldehyde	0.01	0.04
		o-Cresol	0.57	2.13
		Methanol	5.87	22.28
		Proprionaldehyde	0.19	0.70
		Styrene	0.03	0.11
		Tetrachloroethylene	0.05	0.18
		Toluene	0.01	0.03

SN	Description	Pollutant	lb/hr	ton/yr
		Trichloroethylene	0.10	0.37
		1,2,4-Trichlorobenzene	0.17	0.62
		o-Xylene	0.01	0.03

94. The Line 1 Washer (SN-33) and the Line 2 Washer (SN-34) are subject to and shall comply with all applicable provisions of §19.304 of Regulation 19 and 40 CFR Part 60 Subpart BB - *Standards of Performance for Kraft Pulp and Paper Mills.*

A copy of Subpart BB is provided in Appendix C. See also Compliance Plan on page 169. Applicable provisions of Subpart BB include, but are not limited to, the following:

A. The permittee shall not cause to be discharged into the atmosphere from SN-33 and SN-34 any gases which contain TRS in excess of 5 ppm by volume on a dry basis, corrected to 10 percent oxygen, unless the conditions of 40 CFR §60.283(a)(1)(i)-(vi) are met. [40 CFR §60.283(a)(1)]

B The permittee shall install, calibrate, maintain, and operate a continuous monitoring system to monitor and record the concentration of TRS emissions on a dry basis and the percent of oxygen by volume on a dry basis in the gases discharged into the atmosphere from SN-33 and SN-34, except where the provisions of 40 CFR §60.283(a)(1)(iii) or (iv) apply. This system shall be located downstream of the control device and the span shall be set at a TRS concentration of 30 ppm for the TRS continuous monitoring system and at 20 percent oxygen for the continuous oxygen monitoring system. [40 CFR §60.284(a)(2)]

C. The permittee shall calculate and record on a daily basis 12-hour average TRS concentrations for the two consecutive periods of each operating day. Each 12-hour average shall be determined as the arithmetic mean of the appropriate 12 contiguous 1-hour average total reduced sulfur concentrations provided by each continuous monitoring system installed under paragraph (a)(2) of this section. [40 CFR §60.284(c)(1), except where the provisions of 40 CFR §60.283(a)(1)(iv) or (a)(4) apply]

D. For the purpose of reports required under 40 CFR §60.7(c), the permittee shall report semiannually periods of excess emissions. The applicant must also report the nature and cause of the excess emissions in accordance with 40 CFR §60.7(c)(2). [40 CFR §60.284(d)]

E. In conducting the performance tests required in 40 CFR §60.8, the permittee shall use as reference methods and procedures the test methods in appendix A of this part or other methods and procedures in this section, except as provided in 40 CFR §60.8(b). Acceptable alternative methods and procedures are given in paragraph (f) of this section. [40 CFR §60.285(a)]

95. The Line 1 Washer (SN-33) and the Line 2 Washer (SN-34) shall comply with applicable provisions of §19.304 of Regulation 19 and 40 CFR Part 63 Subpart S – *National Emission Standards for Hazardous Air Pollutants from the Pulp and Paper Industry*.

    A copy of Subpart S is provided in Appendix F. Applicable provisions include, but are not limited to, the following:

    A. The permittee shall visually inspect each closed-vent system every 30 days. The visual inspection shall include inspection of ductwork, piping, enclosures, and connections to covers for visible evidence of defects. [40 CFR §63.453(k)(2)]

    B. The permittee shall demonstrate no detectable leaks as specified in §63.450(c) measured initially and annually by the procedures specified in §63.457(d). [40 CFR §63.453(k)(3)]

    C. The permittee shall operate the closed-vent system with no detectable leaks as indicated by an instrument reading of less than 500 parts per million by volume (ppm) above background as specified by §63.457(d). [40 CFR §63.450(c)]

    D. The permittee shall perform corrective action, in the event of visible leak detection or instrument reading of 500 ppm above background, according to §63.453(k)(6)(i) and (ii). [40 CFR §63.457(k)(6)]

    As part of an alternative monitoring requirement approved by the EPA, a copy of which is located in Appendix J, the permittee shall comply with the following:

    E. In lieu of monthly visual monitoring, the permittee shall conduct monthly Method 21 monitoring of leaks found around the feed and exit roll seals and along the side gaskets of the washers. [40 CFR §63.453(d)(4)]

SN-#30

Bleach Plant

Source Description

The unbleached Kraft pulp is taken from the high density storage chest for further processing in the bleach plant. The bleaching process removes lignin and Kraft color from the unbleached pulp.

Bleaching is performed in several stages using chlorine/chlorine dioxide, caustic soda, oxygen, acid, hydrogen peroxide, and other non-chlorine bleaching aids. Chlorine dioxide is generated using sodium chlorate, methanol and sulfuric acid. The chlorine dioxide gas that is produced is absorbed in chilled water and sent to storage for further use in the bleaching operations.

The bleach plant uses a scrubber (SN-30) to control chlorine/chlorine dioxide emissions. All equipment in the bleach plant is either pressurized or is kept under negative pressure and connected to the scrubbing system. The Bleach Plant scrubber is a packed tower with mist eliminators. In order to satisfy Cluster Rule requirements, Crossett Paper Operations has phased out Cl_2 and hypochlorite usage by the Cluster Rule compliance date of deadline of April 16, 2001.

As part of permit revision 597-AOP-R4, the Bleach Plant was required to undergo BACT for CO. Due to the phasing out of hypochlorite and limited available data concerning the resulting carbon monoxide emissions, the facility was required to modify the permit. The increase was above the PSD significance threshold for CO. BACT was determined to be no controls.

Specific Conditions

96. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Condition #98. [Regulation No. 19 §19.501 et seq. effective May 28, 2006 and 40 CFR Part 52, Subpart E]

Table 22 - Maximum Criteria Pollutant Emission Rates for SN-30

Pollutant	lb/hr	ton/yr
VOC	20.9	79.1
CO	136.1	596.1

97. The permittee shall not exceed the pollutant emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Condition #98. [Regulation No.§18.801 effective February 15, 1999, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Table 23 - Maximum Non-Criteria Pollutant Emission Rates for SN-30

Pollutant	lb/hr	ton/yr
Acetone	0.4	1.3
Acetaldehyde	0.10	0.37
Acrolein	0.01	0.01
Benzene	0.01	0.01
Carbon tetrachloride	0.01	0.01
Chlorine	2.53	9.63
Chloroform	6.82	26.00
Formaldehyde	0.03	0.11
Hexane	0.01	0.01
Hexachlorocyclo-pentadiene	0.18	0.67
Hexachloroethane	0.24	0.88
Hydrogen chloride	2.53	9.63
o-Cresol	0.07	0.24
Methanol	13.20	50.20
Methylene Chloride	0.06	0.25
Phenol	0.04	0.12
Propionaldehyde	0.06	0.22
Styrene	0.03	0.10
Tetrachloroethylene	0.02	0.04
Toluene	0.01	0.01
Trichloroethylene	0.01	0.02
1,2,4-trichlorobenzene	0.01	0.03

98. The permittee shall not produce in excess of 2,150 air dried tons of bleached pulp per day, 30 day rolling average. [§19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR §70.6]

99. The permittee shall maintain records which demonstrate compliance with the limits listed in Specific Condition #98. The records shall be updated on a monthly basis. These records shall be kept on site, provided to Department personnel upon request and may be used by the Department for enforcement purposes. A twelve month total and each individual month's data shall be submitted in accordance with General Provision #7. [§19.705 of Regulation #19 and 40 CFR Part 52 Subpart E]

100. The permittee shall annually determine emissions of chlorine and chloroform using NCASI Methods TB 520 and TB 531 or an alternative method approved by the Air Division. Records of emission tests shall be kept onsite, provided to Department personnel upon request and may be used for enforcement purposes. The annual total shall be submitted in accordance with General Provision #7. During the test the permittee shall operate the plant within 10 percent of the rated throughput capacity. If 90 percent of the rated throughout capacity can not be achieved, the permittee shall be limited to 11 percent above the actual tested throughput. [§18.1002 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

101. The permittee shall annually test for carbon monoxide emissions from the Bleach Plant Scrubber (SN-30). Testing shall be performed in accordance with Plantwide Condition #3 and EPA Reference Method 10 as found in 40 CFR Appendix A. During the test the permittee shall operate the plant within 10 percent of the rated throughput capacity. If 90 percent of the rated throughout capacity cannot be achieved, the permittee shall be limited to 11 percent above the actual tested throughput. [§19.702 of Regulation #19 and 40 CFR Part 52 Subpart E]

102. The Bleach Plant is subject to and shall comply with applicable provisions of §19.304 of Regulation 19 and 40 CFR Part 63 Subpart S – *National Emission Standards for Hazardous Air Pollutants from the Pulp and Paper Industry*.

    A copy of Subpart S is provided in Appendix F. Applicable provisions include, but are not limited to, the following.

    A. The equipment at each bleaching stage, of the bleaching systems listed in paragraph (a) of 40 CFR §63.445, where chlorinated compounds are introduced shall be enclosed and vented into a closed-vent system and routed to a control device that meets the requirements specified in paragraph (c) of 40 CFR §63.445. The enclosures and closed-vent system shall meet the requirements specified in 40 CFR §63.450. [40 CFR §63.445(b)]

    B. The control device used to reduce chlorinated HAP emission (not including chloroform) from the equipment specified in paragraph (b) of 40 CFR §63.445, the permittee shall comply with the emissions limitations required for bleaching systems by one of the following methods 1) achieving a 99% reduction efficiency across the scrubber or 2) achieving <10 ppm HAPs or 0.002 lbs/ODTP, measured as chlorine. [40 CFR §63.445(c)(3)]

    C. The owner or operator of each bleaching system subject to paragraph (a)(2) of 40 CFR §63.445 shall comply with paragraph (d)(1) or (d)(2) of 40 CFR §63.445 to reduce chloroform air emissions to the atmosphere, except where the owner or operator of each bleaching system complying with extended compliance under 40 CFR §63.440(d)(3)(ii) shall comply with paragraph (d)(1) of 40 CFR §63.445. [40 CFR §63.445(d)]

    D. The permittee shall use no hypochlorite or elemental chlorine for bleaching in the bleaching system or line. [40 CFR §63.445(d)(2)]

103. The Bleach Plant is subject to and shall comply with applicable provisions of §19.304 of Regulation 19 and 40 CFR Part 63 Subpart S – *National Emission Standards for Hazardous Air Pollutants from the Pulp and Paper Industry*. A copy of Subpart S is provided in Appendix F. Applicable provisions include, but are not limited to, the following.

    The scrubber shall be kept in good working condition at all times and shall meet the following conditions as part of an alternative monitoring requirement approved by the EPA on July 26, 2001. A copy of this letter is included in appendix H. [40 CFR 63.453(m)]

A. Perform a successful initial performance test to determine an acceptable range of electrical current (amps) within which the fan needs to be operated. Testing shall be completed and reported to the Department no more than six months from final permit.

B. Continuously record and monitor the fan motor amperage loading to ensure proper rotational fan speed and pressure drop for the bleach plant scrubber fan.

C. Conduct monthly visual inspections under the Leak Detection and Repair plan provisions for the scrubber fan and associated process.

D. Conduct annual negative pressure checks to ensure that the bleach plant scrubber fan induces the desired negative pressure across the system.

E. Conduct periodic preventative maintenance of the bleach plant scrubber fan to ensure safe and proper operation of the system.

F. Respond immediately to any signs or indications of visible emissions from the scrubber stack, washer hoods, or towers at the bleach plant.

G. Replacement of fan blades or fan motor will require a demonstration by the facility that gas flow rate to the scrubber has not increased or a performance test to ensure that the scrubber meets the emission limitations.

SN-26 and 96

8R Recovery Furnace and Salt Cake Mix Tank

Source Description

Recovery is the set of operations that recover spent cooking chemicals for reuse in the digesters. The recovery process uses a multi-effect evaporator to concentrate weak black liquor. Concentrated black liquor is burned in the 8R Recovery Furnace (SN-26) to recover spent chemicals, the inorganic chemicals that are necessary for pulp making. Auxiliary fuels, such as oil, may be used by the furnace for startup or to augment liquor combustion. Exhaust gases from the recovery furnace are treated in an electrostatic wet bottom precipitator. The spent chemicals leave the recovery furnace in a molten form and enter the smelt dissolving tanks.

Evaporation and concentration operations remove water from the black liquor in order to facilitate combustion in the recovery furnace. The solids in the liquor are generated from the digester and washing filtrates. The evaporators convert the weak black liquor to strong (heavy) black liquor.

There are six effects in the evaporator train at the mill, each effect operating at a different pressure. Plant steam flows countercurrent to the black liquor through the evaporators. Combined condensate from the evaporator is used in washing and recausticizing. A Low Energy Environmental Pre-evaporator and Stripper (LEEPS) system added to the evaporator system treats the foul (or strip) condensates produced in the evaporation process. The LEEPS system also treats foul condensates generated from the pulping process. The clean water produced is re-used for pulp washing. The stripped condensate (methanol) is routed to the incinerator as a liquid for destruction. The stripper overhead gases (SOGs) are routed to the incinerator for destruction, or as a backup, to the No. 4 Lime Kiln or the 9A Boiler.

Black liquor of varying concentration is stored in above ground storage tanks. There are two large weak black liquor tanks and one weak black liquor storage basin (approximately 4 acres, SN-76F). In addition, there are two strong black liquor tanks and two concentrated strong black liquor holding tanks. There are also seven multiple service tanks that may store black liquor. There are also additional, smaller black liquor storage tanks.

The concentrated black liquor is burned in the 8R Recovery Furnace with the heat being used to produce steam and electricity. Flue gas from the furnace is sent through an economizer followed by an electrostatic precipitator (ESP). The ESP is used to control particulate matter emissions. Salt cake from the ESP is sent to the Salt Cake Mix Tank (SN-96).

The 8R Recovery Furnace was installed in 1981. It is subject to regulation under NSPS Subpart BB and NESHAP Subpart MM. As a result of the R10 modification, this source has undergone PSD review for PM/PM_{10}, SO_2, VOC, CO, and NO_x. BACT is defined as the use of an ESP, boiler design, and combustion control.

Specific Conditions

104. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Conditions #115 and #118. [Regulation No. 19 §19.501 et seq. effective May 28, 2006 and 40 CFR Part 52, Subpart E]

Table 24 - Maximum Criteria Pollutant Emission Rates for SN-26 and SN-96

SN	Description	Pollutant	lb/hr	ton/yr
26	8R Recovery Furnace	Pb	0.1	0.1
96	Salt Cake Mix Tank	VOC TRS	0.7 0.7	2.2 2.5

105. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Conditions #115, #116, #118, #119, #120. [§19.501 et seq. and §19.901 of Regulation #19, and 40 CFR Part 52 Subpart E]

Table 25- Maximum SO_2Emission Rates for SN-26

Pollutant	lb/hr	ton/yr
Startup – Specification Oil Only		
SO_2	989.1	371.0
Normal Operation – BLS with Supplemental Specification Oil Firing		
SO_2	84.7	371.0

106. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Conditions #115, #116, and #122. [§19.501 et seq. and §19.901 of Regulation #19, and 40 CFR Part 52 Subpart E]

Table 26 - Maximum NO_x Emission Rates for SN-26

Pollutant	lb/hr	ton/yr
NO_x	276.0	1,208.6
	110 ppmdv @ 8% O_2	

107. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Conditions #115 and #116 [§19.501 et seq. , §19.901 of Regulation #19, and 40 CFR Part 52 Subpart E]

Table 27 - Maximum CO Emission Rates for SN-26

Pollutant	lb/hr	ton/yr
CO	1,704.0	7,463.5
	930 ppmdv	

108. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Conditions #115, #116, #118, and #121. [§19.304, §19.501 et seq., §19.901 of Regulation #19, 40 CFR Part 52 Subpart E]

Table 28 - Maximum PM/PM_{10} Emission Rates for SN-26

Pollutant	lb/hr	ton/yr
PM PM_{10}	60.0	262.8
	0.02 gr/dscf @ 8% O_2	

109. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Conditions #115 and #126. [§19.304, §19.501 et seq., and §19.801 of Regulation #19; 40 CFR Part 52 Subpart E; and 40 CFR §60.283]

Table 29 - Maximum TRS Emission Rates for SN-26

Pollutant	lb/hr	ton/yr
TRS	12.4	54.2
	5 ppm @ 8% O_2	

110. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Conditions #115, #116, #118, #119, #120. [§19.501 et seq. and §19.901 of Regulation #19, and 40 CFR Part 52 Subpart E]

Table 30 - Maximum Sulfuric Acid Emission Rates for SN-26

SN	Description	Pollutant	lb/hr	ton/yr
26	8R Recovery Furnace	Sulfuric Acid	7.3	27.6

111. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Conditions #115 #116, and #118. [Regulation No. §18.801 effective February 15, 1999, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Table 31- Maximum Non-Criteria Pollutant Emission Rates for SN-26 and SN-96

SN	Pollutant	lb/hr	ton/yr
26	PM	14.4	54.8
	Acetone	0.1	0.1
	Acetaldehyde	0.05	0.19
	Acrolein	0.01	0.01
	Arsenic	0.01	0.01
	Benzene	0.01	0.01
	Beryllium	0.01	0.01
	Chloroform	0.01	0.01
	Chromium , Hex	0.01	0.01
	Chromium, total	0.01	0.03
	Formaldehyde	0.45	1.71
	n-Hexane	0.01	0.01
	Manganese	0.01	0.02
	Mercury	0.01	0.01
	Methanol	0.87	3.29
	Methylene Chloride	0.01	0.01
	Napthalene	0.05	0.17
	Selenium	0.01	0.01
	Styrene	0.02	0.04
	Tetrachloroethylene	0.01	0.02
	Toluene	0.01	0.01
	1,2,4-Trichlorobenzene	0.02	0.07
	o-Xylene	0.01	0.01
96	Acetone	0.1	0.2
	Acetaldehyde	0.03	0.10
	Acrolein	0.01	0.01
	Carbon Tetrachloride	0.01	0.01
	Benzene	0.01	0.01
	Formaldehyde	0.01	0.01
	Hexane	0.01	0.01
	Methanol	0.06	0.21
	Styrene	0.01	0.01
	Tetrachloroethylene	0.01	0.01
	Toluene	0.01	0.01
	1,2,4-Trichlorobenzene	0.01	0.01
	o-Xylene	0.01	0.01

112. The permittee shall not cause to be discharged to the atmosphere from the 8R Recovery Furnace gases which exhibit opacity greater than 20%. The opacity shall be measured in accordance with EPA Reference Method 9 as found in 40 CFR Part 60 Appendix A. Compliance shall be demonstrated by the use of the Recovery Furnace's continuous opacity monitor. [§19.503 of Regulation #19 and 40 CFR Part 52 Subpart E]

113. The 8R Recovery Furnace (SN-26) is subject to and shall comply with all applicable provisions of §19.304 of Regulation 19, 40 CFR Part 60 Subpart BB - *Standards of Performance for Kraft Pulp and Paper Mills,* and 40 CFR Part 63 Subpart MM - *National Emission Standards for Hazardous Air Pollutants for Chemical Recovery Combustion Sources at Kraft, Sulfite, and Stand-Alone Semichemical Pulp Mills.*

    A copy of Subpart BB is provided in Appendix C. A copy of Subpart MM is provided in Appendix I. Applicable provisions of both subparts include, but are not limited to, the following:

    A. The permittee shall not cause to be discharged into the atmosphere from the recovery furnace gases which contain particulate matter in excess of 0.044 gr/dscf corrected to 8 percent oxygen. [40 CFR §60.282(a)(1)(i) and 40 CFR §63.862(a)(i)(A)]

    B. The permittee shall not cause to be discharged into the atmosphere from the recovery furnace gases which exhibit 35 percent opacity or greater. [40 CFR §60.282(a)(1)(ii)]

    C. The permittee shall not cause to be discharged into the atmosphere from the recovery furnace gases which contain TRS in excess of 5 ppm by volume on a dry basis, corrected to 8 percent oxygen. [40 CFR §60.283(a)(2)]

    D. The permittee shall install, calibrate, maintain, and operate continuous monitoring systems (CEMs) to monitor and record the concentration of TRS emissions on a dry basis and the percent of oxygen by volume on a dry basis in the gases discharged into the atmosphere from the recovery furnace. This system shall be located downstream of the control device and the span shall be set at a TRS concentration of 50 ppm for the TRS continuous monitoring system and at 20 percent oxygen for the continuous oxygen monitoring system. [40 CFR §60.284(a)(2)]

    E. The permittee shall calculate and record on a daily basis 12-hour average TRS concentrations for the two consecutive periods of each operating day. Each 12-hour average shall be determined as the arithmetic mean of the appropriate 12 contiguous 1-hour average total reduced sulfur concentrations provided by each continuous monitoring system installed under paragraph (a)(2) of this section. [40 CFR §60.284(c)(1)]

    F. The permittee shall calculate and record on a daily basis 12-hour average oxygen concentrations for the two consecutive periods of each operating day for the recovery furnace. These 12-hour averages shall correspond to the 12-hour average TRS concentrations under paragraph (c)(1) of this section and shall be determined as an arithmetic mean of the appropriate 12 contiguous 1-hour average oxygen concentrations provided by each continuous monitoring system installed under paragraph (a)(2) of this section. [40 CFR §60.284(c)(2)]

G. The permittee shall report semiannually periods of excess emissions. [40 CFR §60.284(d)]

H. The permittee shall use as reference methods and procedures the test methods in appendix A of this part or other methods and procedures in this section, except as provided in 40 CFR §60.8(b). Acceptable alternative methods and procedures are given in paragraph (f) of this section. [40 CFR §60.285(a)]

I. The permittee is limited to a particulate concentration of no more than 0.044 gr/scf at 8% O_2. [40 CFR §60.282, and 40 CFR §63.862(a)(i)(A)

114. In accordance with §19.304 of Regulation #19, 40 CFR §60.7(c), and 40 CFR §60.284, the permittee shall continue to quarterly submit excess emission reports to the following address:

Arkansas Department of Environmental Quality
Air Division
Attn: Air Enforcement Branch
Post Office Box 8913
Little Rock, Arkansas 72119

115. The permittee shall not fire in excess of 1.095 million tons of black liquor solids to the recovery furnace per twelve consecutive months. [§19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR §70.6]

116. Specification grade oil may be used as fuel in the 8R Recovery Furnace (SN-26) during startup and to supplement BLS firing during periods deemed necessary by operations. [§19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR §70.6]

117. The permittee shall maintain records which demonstrate compliance with Specific Conditions #115 and #116. These records shall be updated monthly, kept on site, provided to Department personnel upon request and may be used by the Department for enforcement purposes. A twelve month total and each month's individual data shall be submitted to the Department in accordance with General Provision #7. [§19.705 of Regulation #19 and 40 CFR Part 52 Subpart E]

118. The sulfur content of the specification grade oils received by the facility shall not exceed 1.5% by weight. [§19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR §70.6]

119. The sulfur content of the fuel oil shall be verified by testing or vendors' guarantees. The permittee shall maintain a record of each fuel shipment and the associated sulfur content. This record shall be updated with each shipment, kept on site, shall be made available to Department personnel upon request and may be used by the Department for enforcement purposes. This report shall be submitted to the Department in accordance with General Provision #7. [§19.705 of Regulation #19 and 40 CFR Part 52 Subpart E]

120. Sulfur dioxide emission shall be determined through a mass balance based on incoming materials and worst-case firing of specification grade oil based on the limits in Condition #118. This mass balance shall be submitted to the Department in accordance with General

Provision #7. [§19.703 of Regulation #19, 40 CFR Part 52 Subpart E, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

121. The permittee shall annually test particulate matter emissions from the 8R Recovery Furnace (SN-26). Annual testing shall be performed in accordance with Plantwide Condition #3 and using EPA Reference Method 5 and 202 as found in 40 CFR Part 60 Appendix A. During the test the permittee shall operate the source within 10 percent of the rated throughput capacity. If 90 percent of the rated throughout capacity can not be achieved, the permittee shall be limited to 11 percent above the actual tested throughput. [§19.702 of Regulation #19 and 40 CFR Part 52 Subpart E]

122. The permittee shall perform annual testing of the hourly NO_x emissions rate on the 8R Recovery Furnace (SN-26) for compliance and enforcement purposes. Compliance with the NO_x limit will be based on the average of three one-hour tests. Testing shall be performed in accordance with Plantwide Condition #3 and EPA Reference Method 7E as found in 40 CFR Part 60 Appendix A. During the test, the permittee shall operate the source within 10 percent of the rated throughput capacity. If 90 percent of the rated throughput capacity cannot be achieved, the permittee shall be rated to 11 percent above the actual tested throughput. [§19.702 and §19.901 Regulation #19, and 40 CFR Part 52, Subpart E]

123. The permittee shall continue to operate and maintain opacity, TRS and O_2 continuous emission monitors at the 8R Recovery Furnace (SN-26). [§19.304 and §19.703 of Regulation #19, 40 CFR Part 52 Subpart E, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR §60.284]

124. The continuous emission monitors for TRS and O_2 at the 8R Recovery Furnace shall be operated in accordance with the Department Continuous Emission Monitoring Systems Conditions (Appendix A) and the applicable Performance Standards of 40 CFR Part 60 Appendix B. [§19.703 of Regulation #19, 40 CFR Part 52 Subpart E, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

125. All continuous monitoring data may, at the discretion of the Department, be used to determine violations of the emissions limits or conditions of this permit. [§19.703 of Regulation #19, 40 CFR Part 52 Subpart E, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

126. The TRS concentration of gases leaving the 8R Recovery Furnace (SN-26) shall not exceed 5 ppm, measured as H_2S on a dry basis and on a 12 hour average, corrected to 8% volume oxygen. The permittee shall continue to operate and maintain CEMs which record the TRS concentration of gases leaving the 8R Recovery Furnace (SN-26). The TRS monitors shall be operated in accordance with the requirements of 40 CFR §60.284 (date of installation notwithstanding) and the Department Continuous Emission Monitoring Systems Conditions (Appendix A). [§19.304 and §19.801 of Regulation #19, 40 CFR §60.283, and 40 CFR §60.284]

SN-#27A and #27B

Smelt Dissolving Tanks

Source Description

The combusted black liquor generates molten salts that are drained from the bottom of the 8R Recovery Furnace into one of two smelt dissolving tanks (SN-27A and SN-27B) on either side of the 8R Recovery Furnace. The smelt dissolving tanks cool the molten salts in large water tanks. Each smelt dissolving tank has an independent stack that is routed through a wet scrubber. The smelt dissolving tanks are subject to NSPS Subpart BB - *National Emission Standards for Hazardous Air Pollutants from the Pulp and Paper Industry* and NESHAP Subpart MM - *National Emission Standards for Hazardous Air Pollutants for Chemical Recovery Combustion Sources at Kraft, Sulfite, and Stand-Alone Semichemical Pulp Mills.*

Specific Conditions

127. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Condition #115. [Regulation No. 19 §19.501 et seq. effective May 28, 2006 and 40 CFR Part 52, Subpart E]

Table 32 - Maximum Criteria Pollutant Emission Rates for SN-27A and B

SN	Description	Pollutant	lb/hr	ton/yr
27A	Smelt Dissolving Tank (East)	SO_2 VOC NO_X Pb	1.3 5.7 2.9 0.1	5.0 21.7 11.0 0.1
27B	Smelt Dissolving Tank (West)	SO_2 VOC NO_X Pb	1.3 5.7 2.9 0.1	5.0 21.7 11.0 0.1

128. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Condition #115 and #136. [§19.304 and §19.501 et seq. of Regulation #19, and 40 CFR Part 52 Subpart E, and 40 CFR §63.862(a)(i)(B)]

Table 33 - Maximum PM/PM_{10} Emission Rates for SN-27A and B

SN	Description	Pollutant	lb/hr	ton/yr
27A	Smelt Dissolving	PM	14.4	54.8

SN	Description	Pollutant	lb/hr	ton/yr
			0.2 lb PM/PM_{10} per ton of black liquor solids(TBLS)	
27B	Smelt Dissolving Tank (West)	PM PM_{10}	14.4	54.8
			0.2 lb PM/PM_{10} per ton of black liquor solids (TBLS)	

129. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Condition #115 and #137. [§19.304, §19.501 et seq., and §19.801 of Regulation #19; 40 CFR Part 52 Subpart E, 40 CFR §60.283]

Table 34 - Maximum TRS Emission Rates for SN-27A and B

SN	Description	Pollutant	lb/hr	ton/yr
27A	Smelt Dissolving Tank (East)	TRS	2.4	9.1
			0.016 g TRS per kg of black liquor solids 0.033 lb/TBLS) as H_2S	
27B	Smelt Dissolving Tank (West)	TRS	2.4	9.1
			0.016 g TRS per ton of black liquor solids (0.033 lb/TBLS) as H_2S	

130. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Condition #115. [Regulation No.§18.801 effective February 15, 1999, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Table 35 - Maximum Non-Criteria Pollutant Emission Rates for SN-27A and B

SN	Description	Pollutant	lb/hr	ton/yr
27A	Smelt Dissolving Tank (East)	Acetone	0.1	0.1
		Acetaldehyde	0.05	0.19
		Acrolein	0.01	0.01
		Arsenic	0.01	0.01
		Benzene	0.01	0.01
		Beryllium	0.01	0.01
		Chloroform	0.01	0.01

SN	Description	Pollutant	lb/hr	ton/yr
		Chromium , Hex	0.01	0.01
		Chromium, total	0.01	0.03
		Formaldehyde	0.45	1.71
		n-Hexane	0.01	0.01
		Manganese	0.01	0.02
		Mercury	0.01	0.01
		Methanol	0.87	3.29
		Methylene Chloride	0.01	0.01
		Napthalene	0.05	0.17
		Selenium	0.01	0.01
		Styrene	0.02	0.04
		Tetrachloroethylene	0.01	0.02
		Toluene	0.01	0.01
		1,2,4-Trichlorobenzene	0.02	0.07
		o-Xylene	0.01	0.01
27B	Smelt Dissolving Tank (East)	Acetone	0.1	0.1
		Acetaldehyde	0.05	0.19
		Acrolein	0.01	0.01
		Arsenic	0.01	0.01
		Benzene	0.01	0.01
		Beryllium	0.01	0.01
		Chloroform	0.01	0.01
		Chromium , Hex	0.01	0.01
		Chromium, total	0.01	0.03
		Formaldehyde	0.45	1.71
		n-Hexane	0.01	0.01
		Manganese	0.01	0.02
		Mercury	0.01	0.01
		Methanol	0.87	3.29
		Methylene Chloride	0.01	0.01
		Napthalene	0.05	0.17
		Selenium	0.01	0.01
		Styrene	0.02	0.04
		Tetrachloroethylene	0.01	0.02
		Toluene	0.01	0.01
		1,2,4-Trichlorobenzene	0.02	0.07
		o-Xylene	0.01	0.01

131. The permittee shall not cause to be discharged from the Smelt Dissolving Tanks (SN-27A and 27B) gases which exhibit opacity greater than 20%. Compliance with this opacity limit shall be demonstrated by compliance with Specific Condition #133. The opacity shall be measured in accordance with EPA Reference Method 9 as found in 40 CFR Part 60 Appendix A. [§19.503 of Regulation #19 and 40 CFR Part 52 Subpart E]

132. The permittee shall continue to operate and maintain a monitoring device for the continuous measurement of the differential pressure drop across the scrubber. [§19.304 and §19.703 of Regulation #19, 40 CFR Part 52 Subpart E, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR §60.284]

133. The scrubbers shall be kept in good working condition at all times and shall meet the conditions shown in the following table. The scrubber liquid flow rate and the gas pressure drop across the units shall be measured daily. The results shall be kept on site and be available to the Department personnel upon request. Future compliance tests may be used to establish the daily average pressure drop and flowrate values that are contained in the permit. The pressure drop and flow rate values recorded during a compliant test event may be used as subsequent minimum values. [§19.303 of Regulation #19 and A.C.A §8-4-203 as referenced by §8-4-304 and §8-4-311]

Table 36 - Control Equipment Parameters for SN-27A and B

SN	Control Equipment	Parameter	Units	Operation Limits (minimum)
27A	scrubber	liquid flow rate, top	gal/min	35
		liquid flow rate, bottom	gal/min	100
		gas pressure drop across unit	inches, H_2O	5
27B	scrubber	liquid flow rate, top	gal/min	35
		liquid flow rate, bottom	gal/min	100
		gas pressure drop across unit	inches, H_2O	5

134. The permittee shall abide by the following alternative scenario only during emergency maintenance for scrubbers for the Smelt Dissolving Tanks (SN-27A and 27B). [§19.303 of Regulation #19 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

A. Black liquor solids feed to the 8R Boiler (SN-26) shall be reduced to 3.91 MM lb/day.

B. Uncontrolled emissions shall be quantified and recorded.

C. Repair time must not extend beyond a 6 hour period.

D. Down time of the equipment will be monitored and submitted to the Department in accordance with General Provision 8.

135. The Smelt Dissolving Tanks (SN-27A and 27B) are subject to and shall comply with all applicable provisions of §19.304 of Regulation 19, 40 CFR Part 60 Subpart BB - *Standards of Performance for Kraft Pulp and Paper Mills* and 40 CFR Part 63 Subpart MM - *National Emission Standards for Hazardous Air Pollutants for Chemical Recovery Combustion Sources at Kraft, Sulfite, and Stand-Alone Semichemical Pulp Mills.*

    A copy of Subpart BB is provided in Appendix C. A copy of Subpart MM is provided in Appendix I. Applicable provisions of both subparts include, but are not limited to, the following:

    A. The permittee shall not cause to be discharged into the atmosphere from the smelt dissolving tanks any gases which contain particulate matter in excess of 0.2 lb/ton black liquor solids (dry weight). [40 CFR §60.282(a)(2) and 40 CFR §63.862(a)(i)(B)]

    B. The permittee shall not cause to be discharged into the atmosphere from the smelt dissolving tanks any gases which contain TRS in excess of 0.033 lb/ton black liquor solids as H_2S. [40 CFR §60.283(a)(4)]

    C. The permittee shall install, calibrate, maintain, and operate continuous monitoring devices for the smelt dissolving tanks because they use a scrubber emission control device. [40 CFR §60.284(b)(2)]

    D. The permittee shall report semiannually periods of excess emissions. [40 CFR §60.284(d)]

    E. The permittee shall use as reference methods and procedures the test methods in appendix A of this part or other methods and procedures in this section, except as provided in 40 CFR §60.8(b). Acceptable alternative methods and procedures are given in paragraph (f) of this section. [40 CFR §60.285(a)]

136. The permittee shall annually test particulate matter emissions from the Smelt Dissolving Tanks (SN-27A and 27B). Testing shall be performed in accordance with Plantwide Condition #3 and EPA Reference Method 5 as found in 40 CFR Part 60 Appendix A. During the test the permittee shall operate the sources within 10 percent of the rated throughput capacity. If 90 percent of the rated throughout capacity cannot be achieved, the permittee shall be limited to 11 percent above the actual tested throughput. [§19.702 of Regulation #19 and 40 CFR Part 52 Subpart E]

137. The TRS concentration of gases leaving the Smelt Dissolving Tanks (SN-27A and 27B) shall not exceed 0.0168 g TRS per kg of black liquor solids. The permittee shall conduct annual compliance testing of TRS emissions from the Smelt Dissolving Tanks (SN-27A and 27B). Data reduction shall be performed as set forth in 40 CFR 60.8. Testing shall be performed in accordance with Plantwide Condition #3 and EPA Reference Method 16 as found in 40 CFR Part 60 Appendix A. During the test the permittee shall operate the source within 10 percent of the rated throughput capacity. If 90 percent of the rated throughout capacity cannot be achieved, the permittee shall be limited to 11 percent above the actual

tested throughput. [§19.702 and §19.801 et seq of Regulation #19, and 40 CFR Part 52 Subpart E]

SN-#25

No. 4 Lime Kiln

Source Description

The lime kiln heats calcium carbonate (lime mud) to form calcium oxide (lime product). Fuels used in the lime kiln include specification grade oil and natural gas. Emissions from the lime kiln are controlled by a wet scrubber. Non-condensable gases (NCGs) from processes are routed to the lime kiln for thermal destruction. The lime kiln is subject to NSPS Subpart BB and NESHAP Subpart MM. The maximum firing rate of the lime kiln is 150 million Btu per hour.

NCGs from several pulp mill sources are collected and routed to the lime kiln for combustion. The evaporator vents, digester vents and blow tank condensers are all part of the NCG system at the Crossett Paper Operations.

Reburnt lime product from the lime kiln is conveyed to a lime bin where it is fed into the slaker. The lime handling and storage system includes elevators, conveyors and lime bins. Conveyors transport lime from the storage silos to the slakers. Fresh lime is added to the system from delivery trucks by pneumatic conveyance to the two lime silos.

Specific Conditions

138. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Conditions #146 and #147. [Regulation No. 19 §19.501 et seq. effective May 28, 2006 and 40 CFR Part 52, Subpart E]

Table 37 - Maximum Criteria Pollutant Emission Rates for SN-25

Pollutant	lb/hr	ton/yr
SO_2	14.3	54.1
VOC	7.2	27.2
CO	11.0	41.9
NO_X	66.3	252.1
Pb	0.1	0.1

139. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Condition #146 and #149. [§19.304 and §19.501 et seq. of Regulation #19, 40 CFR Part 52 Subpart E, and 40 CFR §63.862(a)(i)(C)]

Table 38 - Maximum PM/PM_{10} Emission Rates for SN-25

Pollutant	lb/hr	ton/yr
Natural gas or natural gas and specification oil		
PM PM_{10}	28.3	124.0
	0.064 gr/dscf corrected to 10% oxygen	

140. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Conditions #148 and #154. [§19.304, §19.501 et seq., §19.801 of Regulation #19; CFR Part 52 Subpart E; and 40 CFR §60.283]

Table 39 - Maximum TRS Emission Rates for SN-25

Pollutant	lb/hr	ton/yr
Natural gas or natural gas and specification oil firing.		
TRS	2.2	9.6
	8 ppm measured as H_2S on a dry basis, on a 12-hour average, corrected to 10% O_2	

141. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Condition #146. [Regulation No.§18.801 effective February 15, 1999, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Table 40 - Maximum Non-Criteria Pollutant Emission Rates for SN-25

Pollutant	lb/hr	ton/yr
Sulfuric Acid	0.7	2.6
Acetone	0.1	0.1
Acetaldehyde	0.18	0.67
Acrolein	0.01	0.01
Arsenic	0.01	0.01
Benzene	0.02	0.04
Beryllium	0.01	0.01
Cadmium	0.01	0.01
Chloroform	0.01	0.01
Chromium, Hex	0.01	0.01
Chromium, Total	0.01	0.03
Cobalt	0.01	0.01
Formaldehyde	0.18	0.67

Pollutant	lb/hr	ton/yr
Hexane	0.01	0.01
Hydrogen Chloride	0.01	0.03
Manganese	0.01	0.04
Methanol	0.04	0.15
Mercury	0.01	0.01
Methylene Chloride	0.01	0.01
Napthalene	0.42	1.57
Nickel	0.01	0.02
Phenol	0.01	0.04
Selenium	0.01	0.01
Styrene	0.01	0.01
Tetrachloroethylene	0.01	0.04
Toluene	0.01	0.01
o-Xylene	0.01	0.03

142. The permittee shall not cause to be discharged to the atmosphere gases which exhibit opacity greater than 20%. Compliance with this opacity limit shall be demonstrated by compliance with Specific Condition #143. The opacity shall be measured in accordance with EPA Reference Method 9 as found in 40 CFR Part 60 Appendix A. [§19.503 of Regulation #19 and 40 CFR Part 52 Subpart E]

143. The scrubbers shall be kept in good working condition at all times and shall meet the conditions shown in the following table. The scrubber liquid flow rate and the gas pressure drop across the units shall be measured daily. The results shall be kept on site and be available to the Department personnel upon request. [§19.303 of Regulation #19 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Table 41 – Control Equipment Parameters for SN-25

SN	Control Equipment	Parameter	Units	Operation Limits (minimum)
25	scrubber	liquid flow rate	gal/min	500
		gas pressure drop across unit	inches, H_2O	25

144. The No. 4 Lime Kiln (SN-25) is subject to and shall comply with all applicable provisions of §19.304 of Regulation 19, 40 CFR Part 60 Subpart BB - *Standards of Performance for Kraft Pulp and Paper Mills* and 40 CFR Part 63 Subpart MM - *National Emission Standards for Hazardous Air Pollutants for Chemical Recovery Combustion Sources at Kraft, Sulfite, and Stand-Alone Semichemical Pulp Mills.*

A copy of Subpart BB is provided in Appendix C. A copy of Subpart MM is provided in Appendix I. Applicable provisions of both subparts include, but are not limited to, the following:

A. The permittee shall not cause to be discharged into the atmosphere from the lime kiln any gases which contain particulate matter in excess of 0.064 gr/dscf corrected to 10 percent oxygen, when gaseous fossil fuel is burned. [40 CFR §63.862(a)(i)(C)]

B. The permittee shall not cause to be discharged into the atmosphere from the lime kiln gases which contain TRS in excess of 8 ppm by volume on a dry basis, corrected to 10 percent oxygen. [40 CFR §60.283(a)(5)]

C. The permittee shall install, calibrate, maintain, and operate continuous monitoring systems to monitor and record the concentration of TRS emissions on a dry basis and the percent of oxygen by volume on a dry basis in the gases discharged into the atmosphere from the lime kiln. This system shall be located downstream of the control device and the span shall be set at a TRS concentration of 30 ppm for the TRS continuous monitoring system and at 20 percent oxygen for the continuous oxygen monitoring system. [40 CFR §60.284(a)(2)]

D. The permittee shall install, calibrate, maintain, and operate continuous monitoring devices (CEMs) for the lime kiln because it uses a scrubber emission control device. [40 CFR §60.284(b)(2)]

E. The permittee shall calculate and record on a daily basis 12-hour average TRS concentrations for the two consecutive periods of each operating day. Each 12-hour average shall be determined as the arithmetic mean of the appropriate 12 contiguous 1-hour average total reduced sulfur concentrations provided by each continuous monitoring system installed under paragraph (a)(2) of this section. [40 CFR §60.284(c)(1)]

F. The permittee shall calculate and record on a daily basis 12-hour average oxygen concentrations for the two consecutive periods of each operating day for the lime kiln. These 12-hour averages shall correspond to the 12-hour average TRS concentrations under paragraph (c)(1) of this section and shall be determined as an arithmetic mean of the appropriate 12 contiguous 1-hour average oxygen concentrations provided by each continuous monitoring system installed under paragraph (a)(2) of this section. [40 CFR §60.284(c)(2)]

G. The permittee shall report semiannually periods of excess emissions. [40 CFR §60.284(d)]

H. The permittee shall use as reference methods and procedures the test methods in appendix A of this part or other methods and procedures in this section, except as provided in 40 CFR §60.8(b). Acceptable alternative methods and procedures are given in paragraph (f) of this section. [40 CFR §60.285(a)]

145. The permittee shall continue to quarterly submit excess emission reports to the following address:

Arkansas Department of Environmental Quality
Air Division
Attn: Air Enforcement Branch
Post Office Box 8913
Little Rock, Arkansas 72119

[§19.304 of Regulation #19, 40 CFR §60.7(c), and 40 CFR §60.284]

146. Either natural gas, specification oil, or a combination of natural gas and specification oil may be used as fuel in the No. 4 Lime Kiln. [§19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR §70.6]

147. The permittee may not use specification grade oil at this source unless it contains no more than 1.5% sulfur by weight. [§19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR §70.6]

148. The sulfur content of the specification grade oil shall be verified by testing or vendors' guarantees. The permittee shall maintain a record of each fuel shipment and the associated sulfur content. This record shall be updated with each shipment, kept on site, shall be made available to Department personnel upon request and may be used by the Department for enforcement purposes. [§19.705 of Regulation #19 and 40 CFR Part 52 Subpart E]

149. The permittee shall annually test particulate matter emissions from the No. 4 Lime Kiln (SN-25). Testing shall be performed in accordance with Plantwide Condition #3 and EPA Reference Method 5 as found in 40 CFR Part 60 Appendix A. During the test the permittee shall operate the source within 10 percent of the rated throughput capacity. If 90 percent of the rated throughout capacity can not be achieved, the permittee shall be limited to 11 percent above the actual tested throughput. [§19.702 of Regulation #19 and 40 CFR Part 52 Subpart E]

150. The permittee shall continue to operate and maintain for the No. 4 Lime Kiln a continuous monitoring system to monitor and record TRS concentration on a dry basis, percent of O_2 by volume on a dry basis, pressure drop across the scrubber and liquid supply pressure. [§19.304 and §19.703 of Regulation #19, 40 CFR Part 52 Subpart E, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR §60.284]

151. The continuous emission monitors at the No. 4 Lime Kiln shall be operated in accordance with the Department Continuous Emission Monitoring Systems Conditions (Appendix A) and the applicable Performance Standards of 40 CFR Part 60 Appendix B. [§19.703 of Regulation #19, 40 CFR Part 52 Subpart E, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

152. All continuous monitoring data may, at the discretion of the Department, be used to determine violations of the emissions limits or conditions of this permit. [§19.703 of Regulation #19, 40 CFR Part 52 Subpart E, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

153. The permittee may use the No. 4 Lime Kiln (SN-25) as an alternate incinerator for NCGs and SOGs during periods when the Incinerator (SN-83) or its associated control equipment is inoperative. [§19.304 of Regulation #19 and 40 CFR §63.443(d)(4)]

154. The TRS concentration of gases leaving the No. 4 Lime Kiln (SN-25) shall not exceed 8 ppm, measured as H_2S on a dry basis and on a 12 hour average, corrected to 10% volume oxygen. The permittee shall continue to operate and maintain CEMs which record the TRS concentration of gases leaving the No. 4 Lime Kiln (SN-25). The TRS monitors shall be operated in accordance with the requirements of 40 CFR §60.284 (date of installation notwithstanding) and the Department Continuous Emission Monitoring Systems Conditions (Appendix A). [§19.304, §19.501 et seq., and §19.801 et seq of Regulation #19; 40 CFR §60.283; and 40 CFR §60.284]

SN-#55F, 56F, SN-94, SN-98, SN-99, SN-100
SN-103, SN-105, SN-106, SN-107, SN-108, SN-109, and SN-110

Slaker Vents, Green Liquor Clarifier A, "A" and "B" Side Causticizers, White Liquor Storage Tanks, Green Liquor Clarifier A, White Liquor Clarifier, Mud Washers A and B, Pre-Coats Filter, Green Liquor Stabilization Tank, and White Liquor Splitter Box

Source Description

Causticizing vents contributions are also included with the slaker emission estimates. The causticizing operation reacts molten inorganic salts from the smelt dissolving tanks with weak wash to form green liquor. Undissolved particles in the green liquor are allowed to settle out in the Green Liquor Clarifiers A or B (SN-94 and SN-103).

The mixing of green liquor with lime to form a slurry is termed slaking. The slaking process is designed to combine green liquor and burnt lime (CaO). This mixing, which involves an exothermic chemical reaction, takes place in one of two Slakers. The emissions are exhausted through two adjacent Slaker Vents, SN-55 and SN-56. After being mixed with lime in the slakers the green liquor goes through a series of causticizing tanks. These causticizers provide the residence time necessary for the lime to react with the green liquor and form white liquor.

White liquor is used as the main cooking liquor in the digester. The white liquor is allowed to settle in the White Liquor Clarifier (SN-105).

The facility also has four white liquor storage tanks (SN-100) of approximately 1 million (3) and 5 million (1) gallons.

As a result of the R10 modification, SN-103, SN-105, SN-106, SN-107, SN-108, SN-109, and SN-110 underwent PSD review for VOC. BACT is defined as no controls.

Specific Conditions

155. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition is demonstrated by compliance with Specific Condition #90. [Regulation No. 19 §19.501 et seq. effective May 28, 2006 and 40 CFR Part 52, Subpart E]

Table 42– Maximum Criteria Pollutant Emission Rates for SN-#55F, 56F, 94, 98, 99, 100 103, 105, 106, 107, 108, 109, and 110

SN	Description	Pollutant	lb/hr	ton/yr
55F	Lime Slaker Vent #1	VOC	1.7	6.3
56F	Lime Slaker Vent #2	VOC	1.7	6.3
94	Green Liquor Clarifier A	VOC	2.0	7.6
98	"A" Side Causticizers	VOC	0.1	0.2

SN	Description	Pollutant	lb/hr	ton/yr
		TRS	0.4	1.2
99	"B" Side Causticizers	VOC TRS	0.1 0.4	0.3 1.2
100	White Liquor Storage Tanks (4 total)	VOC	0.6	2.2
103	Green Liquor Clarifier B	VOC	0.2	0.8
105	White Liquor Clarifier	VOC	0.2	0.7
106	Mud Washer A	VOC TRS	1.4 0.1	5.2 0.1
107	Mud Washer B	VOC TRS	1.4 0.1	5.2 0.1
108	Pre-Coats Filter	VOC TRS	0.1 0.1	0.2 0.1
109	Green Liquor Stabilization Tank	VOC TRS	0.6 0.1	2.4 0.3
110	White Liquor Splitter Box	VOC	0.2	0.7

156. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition is demonstrated by compliance with Specific Condition #90. [Regulation No.§18.801 effective February 15, 1999, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Table 43– Maximum Non-Criteria Pollutant Emission Rates for SN-#55F, 56F, 94, 98, 99, 100 103, 105, 106, 107, 108, 109, and 110

SN	Description	Pollutant	lb/hr	ton/yr
55F	Lime Slaker Vent #1	PM Acetone Acetaldehyde Benzene Methanol Styrene Toluene	0.5 0.1 0.81 0.01 0.81 0.02 0.01	1.8 0.4 3.10 0.01 3.10 0.07 0.02
56F	Lime Slaker Vent #2	PM Acetone Acetaldehyde	0.5 0.1 0.81	1.8 0.4 3.10

SN	Description	Pollutant	lb/hr	ton/yr
		Benzene	0.01	0.01
		Methanol	0.81	3.10
		Styrene	0.02	0.07
		Toluene	0.01	0.02
94	Green Liquor Clarifier	Acetone	0.1	0.1
		Acetaldehyde	0.01	0.01
		Benzene	0.01	0.01
		Chloroform	0.01	0.01
		Hexane	0.01	0.01
		Methanol	0.04	0.13
		Tetrachloroethylene	0.01	0.01
98	"A" Side Causticizers	Acetone	0.1	0.1
		Acetaldehyde	0.02	0.06
		Benzene	0.01	0.01
		Methanol	0.01	0.04
		Styrene	0.01	0.01
99	"B" Side Causticizers	Acetone	0.1	0.1
		Acetaldehyde	0.02	0.06
		Benzene	0.01	0.01
		Methanol	0.01	0.04
		Styrene	0.01	0.01
100	White Liquor Storage Tanks (4 total)	Acetone	0.1	0.1
		Benzene	0.01	0.01
		Formaldehyde	0.07	0.26
		Methanol	0.50	1.80
		Styrene	0.01	0.10
103	Green Liquor Clarifier B	Acetone	0.1	0.1
		Acetaldehyde	0.01	0.01
		Benzene	0.01	0.01
		Chloroform	0.01	0.01
		Hexane	0.01	0.01
		Methanol	0.01	0.02
		Tetrachloroethylene	0.01	0.01
105	White Liquor Clarifier	Acetone	0.1	0.1
		Benzene	0.01	0.01
		Formaldehyde	0.07	0.27
		Methanol	0.05	0.18
		Styrene	0.01	0.01
		o-Xylene	0.01	0.01
106	Mud Washer A	Acetone	0.1	0.3
		Benzene	0.01	0.01

SN	Description	Pollutant	lb/hr	ton/yr
		Methanol	0.30	1.12
		Toluene	0.01	0.01
		o-Xylene	0.01	0.01
		Styrene	0.01	0.02
107	Mud Washer B	Acetone	0.1	0.3
		Benzene	0.01	0.01
		Methanol	0.30	1.12
		Toluene	0.01	0.01
		o-Xylene	0.01	0.01
		Styrene	0.01	0.02
108	Pre-Coats Filter	Acetone	0.1	0.1
		Benzene	0.01	0.01
		Formaldehyde	0.07	0.27
		Methanol	0.05	0.18
		Styrene	0.01	0.01
		o-Xylene	0.01	0.01
109	Green Liquor Stabilization Tank	Acetone	0.2	0.7
		Acetaldehyde	0.04	0.17
		o-Cresol	0.03	0.14
		Methanol	0.45	1.95
		Phenol	0.03	0.11

SN-#62 and #63

Fine Paper Machines No. 1 and No. 2

Source Description

Communication paper is made on the two fine paper machines (No. 1 and 2 Fine Paper Machines). Each machine includes its own stock preparation, head box, wire section, press section, dryer sections, coater section, calendar stacks, reel and drum winder. The fine paper machines produce a variety of products, including but not limited to, bond paper, envelope, tablet and copier paper. Emissions from Fine Paper Machine No. 1 (SN-62) occur primarily from the fourdrinier vacuum pump exhausts, press section vents, dryer exhaust and coating section. Fine Paper Machine No. 2 (SN-63) is nearly identical to Fine Paper Machine No. 1.

Specific Conditions

157. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Condition #159. [Regulation No. 19 §19.501 et seq. effective May 28, 2006, §19.901, and 40 CFR Part 52, Subpart E]

Table 44 – BACT Emission Rates for SN-62 and 63

SN	Description	Pollutant	lb/hr	ton/yr
62	Fine Paper Machine No. 1	VOC	18.6	81.3
			0.89 lb/MDT	
63	Fine Paper Machine No. 2	VOC	11.3	49.3
			0.54 lb/MDT	

158. The permittee estimates the emission rates set forth in the following table will not be exceeded. The pollutant emission rates are effectively limited by Specific Condition #159. [Regulation No.§18.801 effective February 15, 1999, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Table 45 – Maximum Non-Criteria Pollutant Emission Rates for SN-62 and 63

SN	Description	Pollutant	lb/hr	ton/yr
62	Fine Paper Machine No. 1	Acetone	0.8	3.3
		Acetaldehyde	1.00	4.38
		Acrolein	0.04	0.17
		1,2 Dichloroethylene	0.10	0.40
		Methanol	0.86	3.75
		Tetrachloroethylene	0.05	0.22
		1,2,4-Trichlorobenzene	0.04	0.15

SN	Description	Pollutant	lb/hr	ton/yr
63	Fine Paper Machine No. 2	Acetone	0.9	3.9
		Acetaldehyde	1.10	4.82
		Acrolein	0.05	0.19
		1,2 Dichloroethylene	0.10	0.44
		Methanol	0.94	4.12
		Tetrachloroethylene	0.06	0.25
		1,2,4-Trichlorobenzene	0.04	0.17

159. The permittee shall not produce in excess of 1050 machine dried tons of paper per day from the Fine Paper Machines No. 1 and No. 2 combined, 30 day rolling average. [§19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR §70.6]

160. The permittee shall maintain records which demonstrate compliance with the paper production limits, VOC annual emission, and VOC BACT limits listed in Specific Conditions #157 and #159. The records shall be updated on a monthly basis. These records shall be kept on site, provided to Department personnel upon request and may be used by the Department for enforcement purposes. A twelve month total and each individual month's data shall be submitted in accordance with General Provision #7. [§19.705 of Regulation #19 and 40 CFR Part 52 Subpart E]

SN-#64 and #65

Board Machine No. 3

Source Description

The Board Machine No. 3 produces bleached board using the wet end, dry end and broke systems. The board is used primarily as cup stock and liner board for boxes. Emissions from Board Machine No. 3 occur primarily from the vacuum pump exhausts, press section vents, dryer exhausts, coating section and combustion sources in the coating section. Emissions from the wet end, dry end and coating operations of Board Machine No. 3 are bubbled together (SN-64). There are sixteen gas burners (SN-65) with a total heating value of 12.3 million Btu per hour located on the board machine following the coating operations.

Specific Conditions

161. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Conditions #165 and #166. [Regulation No. 19 §19.501 et seq. effective May 28, 2006 and 40 CFR Part 52, Subpart E]

Table 46 – Maximum Criteria Pollutant Emission Rates for 65

SN	Description	Pollutant	lb/hr	ton/yr
65	Board Machine No. 3 Burners	PM_{10}	0.2	0.5
		SO_2	0.1	0.1
		VOC	0.1	0.4
		CO	1.3	5.4
		NO_X	1.5	6.5

162. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Conditions #166. [Regulation No. 19 §19.501 et seq. effective May 28, 2006, §19.901, and 40 CFR Part 52, Subpart E]

Table 47 – BACT Emission Rates for SN-64

SN	Description	Pollutant	lb/hr	ton/yr
64	Board Machine No. 3	VOC	10.6	46.4
			0.31 lb/MDT	

163. The permittee estimates the emission rates set forth in the following table will not be exceeded. The pollutant emission rates are effectively limited by Specific Conditions #165 and #166. [Regulation No.§18.801 effective February 15, 1999, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Table 48 – Maximum Non-Criteria Pollutant Emission Rates for SN-64 and 65

SN	Description	Pollutant	lb/hr	ton/yr
64	Board Machine No. 3	Acetone	1.3	5.6
		Acetaldehyde	1.70	7.45
		Acrolein	0.07	0.29
		Methanol	1.46	6.37
		Tetrachloroethylene	0.09	0.38
		1,2,4-Trichlorobenzene	0.06	0.25
65	Board Machine No. 3 Burners	PM	0.2	0.5
		Arsenic	0.01	0.01
		Benzene	0.01	0.01
		Cadmium	0.01	0.01
		Chromium, total	0.01	0.01
		Cobalt	0.01	0.01
		Formaldehyde	0.01	0.02
		Hexane	0.03	0.12
		Manganese	0.01	0.01
		Mercury	0.01	0.01
		Napthalene	0.01	0.01
		Nickel	0.01	0.01
		Toluene	0.01	0.01

164. The permittee shall not cause to be discharged to the atmosphere from the Board Machine No. 3 Burners (SN-65) gases which exhibit opacity greater than 5%. The opacity shall be measured in accordance with EPA Reference Method 9 as found in 40 CFR Part 60 Appendix A. Compliance with this opacity limit shall be demonstrated by the use of natural gas. [§18.501 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-11]

165. Natural gas shall be the only fuel used for the Board Machine No. 3 Burners (SN-65). [§18.1004 of Regulation #18, §19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR §70.6]

166. The permittee shall not produce in excess of 850 machine dried tons of paper per day, 30 day rolling average, from the Board Machine No. 3. [§18.1004 of Regulation #18, §19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR §70.6]

167. The permittee shall maintain records which demonstrate compliance with the paper production limits, VOC annual emission, and VOC BACT limits listed in Specific Conditions #162 and #166. The records shall be updated on a monthly basis. These records shall be kept on site, provided to Department personnel upon request and may be used by the Department for enforcement purposes. A twelve month total and each individual month's data shall be submitted in accordance with General Provision #7. [§18.1004 of Regulation #18, §19.705 of Regulation #19, 40 CFR Part 52 Subpart E, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Tissue Machines No. 4 through No. 8

Source Description

There are currently five tissue machines (Tissue Machines No. 4 through No. 8) at the Georgia-Pacific Crossett Paper Mill which manufacture tissue for conversion into bathroom tissue, towel, facial tissues, and napkins. In addition, the Mill also has an additional three machines that produce communications papers and bleached paperboard.

Pulp is supplied to the five tissue machines in varying proportions depending upon the desired product. The tissue papermaking process involves stock preparation, wet end - fourdrinier, press sections mix tanks and blend tanks, dry end - dryer sections with air hoods, reel and winder, and broke system finishing operations. Pulp stock is made into paper by forming a sheet on a continuously moving wire screen (the fourdrinier); removing water by gravity, vacuum and pressing, and drying with heated rolls. The water removed from the stock is called white water. The white water is collected for reuse in stock preparation or sewered as wastewater. Scrubbers control particulate from the reel sections of the No. 4 through No. 8 Tissue machines as well as the Rewinder of the No. 6 Tissue Machine.

Tissue converting includes the operations involved in converting large parent rolls of tissue from the tissue machines into finished products. This includes rewinding into smaller sized rolls, folding, printing, cutting, packaging and shipping.

Dust in the tissue converting area is controlled using filters with the exhaust air being recycled back into the building. Trim from the converting operations is sent to the repulpers by pneumatic systems. A cyclone removes the trim from the air stream prior to discharging the air through the roof. Minimal amounts of VOCs may be emitted from the glue that is used to seal boxes, the lubricants used on the machines and the dye used for printing patterns on the material.

SN-#46, #66 and #67

Tissue Machine No. 4

Emissions from the wet end and dry end of Tissue Machine No. 4 (SN-66) have been bubbled together. The Tissue Machine No. 4 Burners (SN-46) combust natural gas at a total heating rate of 20 million Btu per hour. Tissue Machine No. 4 Dust System (SN-67) uses a 20,000 cfm scrubber to control particulate matter emissions.

Specific Conditions

168. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Conditions #171 and #174. [Regulation No. 19 §19.501 et seq. effective May 28, 2006 and 40 CFR Part 52, Subpart E]

Table 49 – Maximum Criteria Pollutant Emission Rates for SN-46, 66, and 67

SN	Description	Pollutant	lb/hr	ton/yr
46	Tissue Machine No. 4 Burners	PM_{10} SO_2 VOC CO NO_X Pb	0.2 0.1 1.2 4.3 2.4 0.1	0.8 0.1 5.0 18.8 10.6 0.1
66	Tissue Machine No. 4	TRS	0.1	0.2
67	Tissue Machine No. 4 Dust System	PM_{10}	0.3	1.1

169. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Conditions #171 and #174. [Regulation No. 19 §19.501 et seq. effective May 28, 2006, §19.901, and 40 CFR Part 52, Subpart E]

Table 50 – BACT Emission Rates for Emission Rates for SN-66

SN	Description	Pollutant	lb/hr	ton/yr
66	Tissue Machine No. 4	PM_{10}	0.5	2.0
		VOC	17.0	74.5
			2.47 lb/MDT	

170. The permittee estimates the emission rates set forth in the following table will not be exceeded. The pollutant emission rates are effectively limited by Specific Conditions #171

and #174. [Regulation No.§18.801 effective February 15, 1999, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Table 51 – Maximum Non-Criteria Pollutant Emission Rates for SN-46, 66, and 67

SN	Description	Pollutant	lb/hr	ton/yr
46	Tissue Machine No. 4 Burners	PM	0.2	0.8
		Arsenic	0.01	0.01
		Benzene	0.01	0.01
		Cadmium	0.01	0.01
		Chromium, total	0.01	0.01
		Cobalt	0.01	0.01
		Formaldehyde	0.01	0.01
		Hexane	0.05	0.19
		Manganese	0.01	0.01
		Mercury	0.01	0.01
		Napthalene	0.01	0.01
		Nickel	0.01	0.01
		Toluene	0.01	0.01
66	Tissue Machine No. 4	PM	0.5	2.0
		Acetone	0.3	1.2
		Acetaldehyde	0.35	1.52
		Acrolein	0.02	0.06
		1,2 Dichloroethylene	0.04	0.14
		Formaldehyde	0.05	0.21
		Methanol	0.35	1.53
		Methylene Chloride	0.03	0.12
		Tetrachloroethylene	0.02	0.08
		1,2,4-Trichlorobenzene	0.02	0.06
67	Tissue Machine No. 4 Dust System	PM	0.3	1.1

171. The permittee shall not cause to be discharged to the atmosphere from SN-46 gases which exhibit opacity greater than 5%. Compliance with this opacity limit shall be demonstrated by the use of natural gas.

The permittee shall not cause to be discharged to the atmosphere from SN-67 gases which exhibit opacity greater than 5%. Compliance with this opacity limit shall be demonstrated by compliance with Specific Condition #176.

The opacity shall be measured in accordance with EPA Reference Method 9 as found in 40 CFR Appendix A. [§18.501 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

172. The permittee shall not cause to be discharged to the atmosphere from SN-66 gases which exhibit any visible emissions exceeding 6 minutes during a 60-minute period. The permittee shall check for the presence of visible emissions from each corner of the building housing SN-66 once during each calendar week. This test will not be an EPA Method 9 test, only a yes/no check for visible emissions, and does not require that the observer be a certified visibile emission reader. If visible emissions are detected for more than 6 minutes per hour, then the permittee shall determine the source of the visible emissions. Once the source is identified, the permittee shall immediately take action to identify the cause of the visible emissions, implement corrective action, and document that visible emissions did not appear following the corrective action. The permittee shall maintain log records which contain the following items in order to demonstrate compliance with this specific condition. These records shall be updated weekly, kept on site, and made available to Department personnel upon request. [§19.503 and §19.901 et seq of Regulation #19, and 40 CFR Part 52 Subpart E]

    A. The date and time of the observation

    B. If visible emissions were detected

    C. If visible emissions were detected, the source number causing the visible emissions, the cause of the visible emissions, the corrective action taken, and whether any visible emissions appeared after the corrective action was taken.

    D. The name of the person conducting the observation.

173. Natural gas shall be the only fuel used for Tissue Machine No. 4 Burners (SN-46). [§18.1004 of Regulation #18, §19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR §70.6]

174. The permittee shall not produce in excess of 173 machine dried tons of paper per day, 30 day rolling average, from the Tissue Machine No. 4. [§18.1004 of Regulation #18, §19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR §70.6,

175. The permittee shall maintain records which demonstrate compliance with the paper production limits, VOC annual emission, and VOC BACT limits listed in Specific Conditions #169 and #174. The records shall be updated on a monthly basis. These records shall be kept on site, provided to Department personnel upon request and may be used by the Department for enforcement purposes. A twelve month total and each individual month's data shall be submitted in accordance with General Provision #7. [§18.1004 of Regulation #18, §19.705 of Regulation #19, 40 CFR Part 52 Subpart E, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

176. The scrubber shall be kept in good working condition at all times and shall meet the conditions shown in the following table. The scrubber liquid flow rate shall be measured daily. The results shall be kept on site and be available to Department personnel upon request. [§18.1104 of Regulation #18, §19.303 of Regulation #19, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Table 52 – Control Equipment Parameters for SN-67

SN	Control Equipment	Parameter	Units	Minimum Operating Limits
67	scrubber	liquid flow rate	gal/min	70

177. The permittee may, in the event of emergency maintenance on SN-67 (Tissue No. 4 Dust System), shut down the dust collection system and contain the tissue dust within the building during the continued operation of the paper machine. Good housekeeping practices shall be used to control tissue dust and prevent visible emissions to the atmosphere. In the event that repairs on a scrubber extend beyond 12 hours, then a 6-minute observation for visible emissions shall be conducted once per 12-hour shift. The observation shall be a yes/no check and shall be conducted at the outside corners of the affected Tissue Machine building. If visible tissue dust emissions are detected for more than 6 minutes per hour, then corrective action shall be taken to reduce emissions and document that visible emissions do not appear after corrective action is taken. [§19.303 of Regulation #19 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

SN-#47, #54 and #68

Tissue Machine No. 5

Emissions from the wet end and dry end of Tissue Machine No. 5 (SN-68) have been bubbled together. The Tissue Machine No. 5 Burners (SN-47) are rated at 21 million Btu per hour. The burners are low NO_X burners. The Tissue Machine No. 5 Dust System (SN-54) uses a 20,000 cfm scrubber to control particulate matter emissions. The No. 5 Tissue Machine Burners (SN-47) under went a BACT review in Air Permit 597-AOP-R0. Clean fuel, good combustion practice, and low NO_x burners were chosen as BACT at the time.

Specific Conditions

178. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Condition #186 and #187. [Regulation No. 19 §19.501 et seq. effective May 28, 2006 and 40 CFR Part 52, Subpart E]

Table 53 – Maximum Criteria Pollutant Emission Rates for SN-47, SN-54, and 68

SN	Description	Pollutant	lb/hr	ton/yr
47	Tissue Machine No. 5 Burners	PM_{10} NO_X Pb	0.2 1.2 0.1	0.9 5.0 0.1
54	Tissue Machine No. 5 Dust System	PM_{10}	0.3	1.1
68	Tissue Machine No. 5	PM_{10} VOC TRS	0.3 13.0 0.1	1.1 57.0 0.2

179. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Conditions #186, #187, and #189. [§19.501 et seq. and §19.901 of Regulation #19, and 40 CFR Part 52 Subpart E]

Table 54–BACT Emission Rates for SN-47 and SN-68

SN	Description	Pollutant	lb/hr	ton/yr
47	Tissue Machine No. 5 Burners	PM PM_{10}	0.4	1.5
			0.0164 lb/MMBtu	
		SO_2	0.1	0.1
			0.0007 lb/MMBtu	

SN	Description	Pollutant	lb/hr	ton/yr
		VOC	1.2	5.2
			0.0564 lb/MMBtu	
		CO	4.5	19.7
			0.2142 lb/MMBtu	
		NO_X	2.0	8.4
			0.0913 lb/MMBtu	
68	Tissue Machine No. 5	PM_{10}	0.3	1.1
		VOC	13.0	57.0
			3.37 lb/MDT	

180. The permittee estimates the emission rates set forth in the following table will not be exceeded. The pollutant emission rates are effectively limited by Specific Conditions #186 and #187. [Regulation No.§18.801 effective February 15, 1999, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Table 55 – Maximum Non-Criteria Pollutant Emission Rates for SN-46, 47, 66, and 67

SN	Description	Pollutant	lb/hr	ton/yr
47	Tissue Machine No. 5 Burners	Arsenic	0.01	0.01
		Benzene	0.01	0.01
		Cadmium	0.01	0.01
		Chromium, total	0.01	0.01
		Cobalt	0.01	0.01
		Formaldehyde	0.01	0.01
		Hexane	0.05	0.20
		Manganese	0.01	0.01
		Mercury	0.01	0.01
		Napthalene	0.01	0.01
		Nickel	0.01	0.01
		Toluene	0.01	0.01
54	Tissue Machine No. 5 Dust System	PM	0.3	1.1

SN	Description	Pollutant	lb/hr	ton/yr
68	Tissue Machine No. 5	PM	0.3	1.1
		Acetone	0.2	0.7
		Acetaldehyde	0.20	0.85
		Acrolein	0.01	0.04
		1,2 Dichloroethylene	0.02	0.08
		Formaldehyde	0.03	0.12
		Methanol	0.20	0.86
		Methylene Chloride	0.02	0.08
		Tetrachloroethylene	0.01	0.05
		1,2,4-Trichlorobenzene	0.01	0.03

181. The permittee shall not cause to be discharged to the atmosphere from SN-54 gases which exhibit opacity greater than 5%. Compliance with this opacity limit shall be demonstrated by compliance with Specific Condition #181. The opacity shall be measured in accordance with EPA Reference Method 9 as found in 40 CFR Part 60 Appendix A. [§18.501 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

182. The permittee shall not cause to be discharged to the atmosphere from SN-68 gases which exhibit any visible emissions exceeding 6 minutes during a 60-minute period. The permittee shall check for the presence of visible emissions from each corner of the building housing SN-68 once during each calendar week. This test will not be an EPA Method 9 test, only a yes/no check for visible emissions, and does not require that the observer be a certified visibile emission reader. If visible emissions are detected for more than 6 minutes per hour, then the permittee shall determine the source of the visible emissions. Once the source is identified, the permittee shall immediately take action to identify the cause of the visible emissions, implement corrective action, and document that visible emissions did not appear following the corrective action. The permittee shall maintain log records which contain the following items in order to demonstrate compliance with this specific condition. These records shall be updated weekly, kept on site, and made available to Department personnel upon request. [§19.503 and §19.901 et seq of Regulation #19, and 40 CFR Part 52 Subpart E] The date and time of the observation

    A. If visible emissions were detected

    B. If visible emissions were detected, the source number causing the visible emissions, the cause of the visible emissions, the corrective action taken, and whether any visible emissions appeared after the corrective action was taken.

    C. The name of the person conducting the observation.

183. The scrubber shall be kept in good working condition at all times and shall meet the conditions shown in the following table. The scrubber liquid flow rate and the gas pressure drop across the unit shall be measured daily. The results shall be kept on site and be available to the Department personnel upon request. [§18.1104 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Table 56 – Control Equipment Parameters for SN-54

SN	Control Equipment	Parameter	Units	Minimum Operating Limits
54	scrubber	liquid flow rate	gal/min	70
		gas pressure drop across unit	inches, H_20	8

184. The permittee may, in the event of emergency maintenance on SN-54, shut down the dust collection system and contain the tissue dust within the building during the continued operation of the paper machine. Good housekeeping practices shall be used to control tissue dust and prevent visible emissions to the atmosphere. In the event that repairs on a scrubber extend beyond 12 hours, then a 6-minute observation for visible emissions shall be conducted once per 12-hour shift. The observation shall be a yes/no check and shall be conducted at the outside corners of the affected Tissue Machine building. If visible tissue dust emissions are detected for more than 6 minutes per hour, then corrective action shall be taken to reduce emissions and document that visible emissions do not appear after corrective action is taken. [§19.303 of Regulation #19 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

185. The permittee shall not cause to be discharged to the atmosphere from SN-47 gases which exhibit opacity greater than 5%. The opacity shall be measured in accordance with EPA Reference Method 9 as found in 40 CFR Part 60 Appendix A. Compliance with this opacity limit shall be demonstrated by the use of natural gas. [§19.503 and §19.901 et seq of Regulation #19, and 40 CFR Part 52 Subpart E]

186. Natural gas shall be the only fuel used for the Tissue Machine No. 5 Burners (SN-47). [§19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR §70.6]

187. The permittee shall not produce in excess of 97 machine dried tons of paper per day, 30 day rolling average, from the Tissue Machine No. 5. [§18.1004 of Regulation #18, §19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR §70.6]

188. The permittee shall maintain records which demonstrate compliance with the paper production limits, paper machine VOC annual emission, and paper machine VOC BACT limits listed in Specific Conditions #179 and #187. The records shall be updated on a monthly basis. These records shall be kept on site, provided to Department personnel upon request and may be used by the Department for enforcement purposes. A twelve month total and each individual month's data shall be submitted in accordance with General Provision #7. [§18.1004 of Regulation #18, §19.705 of Regulation #19, 40 CFR Part 52 Subpart E, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311,

189. The permittee shall test SN-47 for CO and NO_X to verify compliance with the BACT emission limits specified in Specific Condition #179 initially and once every three years thereafter. The first test shall be conducted within 60 days of achieving the maximum production rate, but in no event later than 180 days after initial start-up of the modified permitted source. Testing shall be performed in accordance with Plantwide Condition #3. Testing for CO and NO_X shall also be performed in accordance with EPA Reference Methods 10 and 7E respectively.

During the test the permittee shall operate the source within 10 percent of the rated throughput capacity. If 90 percent of the rated throughout capacity can not be achieved, the permittee shall be limited to 11 percent above the actual tested throughput. [§19.702 and §19.901 et seq of Regulation #19, and 40 CFR Part 52 Subpart E]

SN-#48, #51, #52 and #69

Tissue Machine No. 6

Emissions from the wet end and dry end of Tissue Machine No. 6 (SN-69) have been bubbled together. The Tissue Machine No. 6 Burners (SN-48) are rated at 58.4 million Btu per hour. The burners are low NO_X burners. Tissue Machine No. 6 Dust System (SN-52) uses a 47,000 cfm scrubber to control particulate matter emissions. A 47,000 cfm scrubber is used to control particulate emissions from the rewinder (SN-51) near Tissue Machine No. 6. The No. 6 Tissue Machine Burners (SN-48) under went a BACT review in Air Permit 597-AOP-R0. Clean fuel, good combustion practice, and low NO_x burners were chosen as BACT at the time.

Specific Conditions

190. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Conditions #199 and #201. [Regulation No. 19 §19.501 et seq. effective May 28, 2006 and 40 CFR Part 52, Subpart E]

Table 57– Maximum Criteria Pollutant Emission Rates for SN-48, SN-51, 52, and 69

SN	Description	Pollutant	lb/hr	ton/yr
48	Tissue Machine No. 6 Burners (58.4 MMBtu/hr)	PM_{10} NO_X	0.6 3.2	2.3 13.8
51	Tissue Machine No. 6 Rewinder	PM_{10}	0.5	1.9
52	Tissue Machine No. 6 Dust System	PM_{10}	0.5	1.9
69	Tissue Machine No. 6	TRS	0.1	0.3

191. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Conditions #200. [§19.501 et seq. and §19.901 of Regulation #19, and 40 CFR Part 52 Subpart E]

Table 58 – BACT Emission Rates for SN-48

SN	Description	Pollutant	lb/hr	ton/yr
48	Tissue Machine No. 6 Burners	PM	1.0	4.2
		PM_{10}	0.0164 lb/MMBtu	

SN	Description	Pollutant	lb/hr	ton/yr
	(58.4 MMBtu/hr)	SO_2	0.1	0.2
			0.0007 lb/MMBtu	
		VOC	1.2	4.9
			0.0192 lb/MMBtu	
		CO	6.7	29.1
			0.1139 lb/MMBtu	
		NO_X	5.4	23.5
			0.0913 lb/MMBtu	
69	Tissue Machine No. 6	PM_{10}	0.7	3.1
		VOC	26.7	116.6
			2.48 lb/MDT	

192. The permittee estimates the emission rates set forth in the following table will not be exceeded. The pollutant emission rates are effectively limited by Specific Conditions #199 and #201. [Regulation No.§18.801 effective February 15, 1999, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Table 59 – Maximum Non-Criteria Pollutant Emission Rates for SN-48, 51, 52, and 69

SN	Description	Pollutant	lb/hr	ton/yr
48	Tissue Machine No. 6 Burners	Arsenic	0.01	0.01
		Benzene	0.01	0.01
		Cadmium	0.01	0.01
		Chromium, total	0.01	0.01
		Cobalt	0.01	0.01
		Formaldehyde	0.01	0.01
		Hexane	0.05	0.20
		Manganese	0.01	0.01
		Mercury	0.01	0.01
		Napthalene	0.01	0.01
		Nickel	0.01	0.01
		Toluene	0.01	0.01
51	Tissue Machine No. 6 Rewinder	PM	0.5	1.9
52	Tissue Machine	PM	0.5	1.9

SN	Description	Pollutant	lb/hr	ton/yr
	No. 6 Dust System			
69	Tissue Machine No. 6	PM	0.7	3.1

193. The permittee shall not cause to be discharged to the atmosphere from SN-51 or SN-52 gases which exhibit opacity greater than 5%. Compliance with this opacity limit shall be demonstrated by compliance with Specific Conditions #193 and #196. The opacity shall be measured in accordance with EPA Reference Method 9 as found in 40 CFR Part 60 Appendix A. [§18.501 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

194. The permittee shall not cause to be discharged to the atmosphere from SN-69 gases which exhibit any visible emissions exceeding 6 minutes during a 60-minute period. The permittee shall check for the presence of visible emissions from each corner of the building housing SN-69 once during each calendar week. This test will not be an EPA Method 9 test, only a yes/no check for visible emissions, and does not require that the observer be a certified visibile emission reader. If visible emissions are detected for more than 6 minutes per hour, then the permittee shall determine the source of the visible emissions. Once the source is identified, the permittee shall immediately take action to identify the cause of the visible emissions, implement corrective action, and document that visible emissions did not appear following the corrective action. The permittee shall maintain log records which contain the following items in order to demonstrate compliance with this specific condition. These records shall be updated weekly, kept on site, and made available to Department personnel upon request. [§19.503 and §19.901 et seq of Regulation #19, and 40 CFR Part 52 Subpart E] The date and time of the observation

A. If visible emissions were detected

B. If visible emissions were detected, the source number causing the visible emissions, the cause of the visible emissions, the corrective action taken, and whether any visible emissions appeared after the corrective action was taken.

C. The name of the person conducting the observation.

195. The permittee shall conduct weekly observations of the opacity from SN-51 and keep a record of these observations. If visible emissions are detected, then the permittee shall conduct a 6-minute opacity reading in accordance with EPA Reference Method 9. The results of these observations shall be kept on site and shall be made available to Department personnel upon request. [§18.1004 of Regulation #18, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

196. The permittee shall keep the scrubber on SN-52 in good working condition at all times and shall meet the conditions shown in the following table. The scrubber liquid flow rate and the gas pressure drop across the unit shall be measured daily. The results shall be kept on site and be available to the Department personnel upon request. [§18.1104 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Table 60 –Control Equipment Parameters for SN-52

SN	Control Equipment	Parameter	Units	Minimum Operating Limits
52	scrubber	liquid flow rate	gal/min	300
		gas pressure drop across unit	inches, H_20	8

197. The permittee may, in the event of emergency maintenance on SN-52, shut down the dust collection system and contain the tissue dust within the building during the continued operation of the paper machine. Good housekeeping practices shall be used to control tissue dust and prevent visible emissions to the atmosphere. In the event that repairs on a scrubber extend beyond 12 hours, then a 6-minute observation for visible emissions shall be conducted once per 12-hour shift. The observation shall be a yes/no check and shall be conducted at the outside corners of the affected Tissue Machine building. If visible tissue dust emissions are detected for more than 6 minutes per hour, then corrective action shall be taken to reduce emissions and document that visible emissions do not appear after corrective action is taken. [§19.303 of Regulation #19 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

198. The permittee shall not cause to be discharged to the atmosphere from SN-48 gases which exhibit opacity greater than 5%. The opacity shall be measured in accordance with EPA Reference Method 9 as found in 40 CFR Part 60 Appendix A. Compliance with this opacity limit shall be demonstrated by the use of natural gas. [§19.503 and §19.901 et seq of Regulation #19, and 40 CFR Part 52 Subpart E]

199. Natural gas shall be the only fuel used for the Tissue Machine No. 6 Burners (SN-48). [§19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR §70.6]

200. The permittee shall test SN-48 for CO and NO_X to verify compliance with the BACT emission limits specified in Specific Condition #191 initially and once every three years thereafter. The first test shall be conducted within 60 days of achieving the maximum production rate, but in no event later than 180 days after initial start-up of the modified permitted source. Testing shall be performed in accordance with Plantwide Condition #3. Testing for CO and NO_X shall also be performed in accordance with EPA Reference Methods 10 and 7E respectively. During the test the permittee shall operate the source within 10 percent of the rated throughput capacity. If 90 percent of the rated throughout capacity can not be achieved, the permittee shall be limited to 11 percent above the actual tested throughput. [§19.702 and §19.901 of Regulation #19, and 40 CFR Part 52 Subpart E]

201. The permittee shall not produce in excess of 270 machine dried tons of paper per day, 30 day rolling average, from the Tissue Machine No. 6. [§18.1004 of Regulation #18, §19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311, and 40 CFR §70.6]

202. The permittee shall maintain records which demonstrate compliance with the paper production limits, the paper machine VOC annual emissions, and the paper machine VOC BACT limits

Specific Condition #191 and #201. The records shall be updated on a monthly basis. These records shall be kept on site, provided to Department personnel upon request and may be used by the Department for enforcement purposes. A twelve month total and each individual month's data shall be submitted in accordance with General Provision #7. [§18.1004 of Regulation #18, §19.705 of Regulation #19, 40 CFR Part 52 Subpart E, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

SN-#49, #50 and #70

Tissue Machine No. 7

Emissions from the wet end and dry end of Tissue Machine No. 7 (SN-70) have been bubbled together. The Tissue Machine No. 7 Burners (SN-49) combust natural gas at a total heating rate of 41 million Btu per hour. The burners are low NO_X burners. Tissue Machine No. 7 Dust System (SN-50) uses a 44,000 cfm scrubber to control particulate matter emissions.

Specific Conditions

203. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Conditions #207 and #209. [Regulation No. 19 §19.501 et seq. effective May 28, 2006 and 40 CFR Part 52, Subpart E]

Table 61 – Maximum Criteria Pollutant Emission Rates for SN-49, 50, and 70

SN	Description	Pollutant	lb/hr	ton/yr
49	Tissue Machine No. 7 Burners	PM_{10} SO_2 VOC CO NO_X	0.4 0.1 2.4 8.8 2.3	1.8 0.1 10.1 38.5 9.7
50	Tissue Machine No. 7 Dust System	PM_{10}	0.5	2.1
70	Tissue Machine No. 7	TRS	0.1	0.3

204. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Conditions #210. [§19.501 et seq. and §19.901 of Regulation #19, and 40 CFR Part 52 Subpart E]

Table 62 – BACT Emission Rates for SN-70

SN	Description	Pollutant	lb/hr	ton/yr
70	Tissue Machine No. 7	PM_{10}	0.7	2.9
		VOC	17.7	77.4
			1.78 lb/MDT	

205. The permittee estimates the emission rates set forth in the following table will not be exceeded. The pollutant emission rates are effectively limited by Specific Conditions #207 and #209. [Regulation No.§18.801 effective February 15, 1999, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Table 63 – Maximum Non-Criteria Pollutant Emission Rates for SN-49, 50, and 70

SN	Description	Pollutant	lb/hr	ton/yr
49	Tissue Machine No. 7 Burners	PM	0.4	1.8
		Arsenic	0.01	0.01
		Benzene	0.01	0.01
		Cadmium	0.01	0.01
		Chromium, total	0.01	0.01
		Cobalt	0.01	0.01
		Formaldehyde	0.01	0.02
		Hexane	0.09	0.39
		Manganese	0.01	0.01
		Mercury	0.01	0.01
		Napthalene	0.01	0.01
		Nickel	0.01	0.01
		Toluene	0.01	0.01
50	Tissue Machine No. 7 Dust System	PM	0.5	2.1
70	Tissue Machine No. 7	PM	0.7	2.9
		Acetone	0.4	1.8
		Acetaldehyde	0.50	2.19
		Acrolein	0.02	0.09
		1,2 Dichloroethylene	0.05	0.20
		Formaldehyde	0.07	0.30
		Methanol	0.51	2.21
		Methylene Chloride	0.04	0.17
		Tetrachloroethylene	0.03	0.11
		1,2,4-Trichlorobenzene	0.02	0.08

206. The permittee shall not cause to be discharged to the atmosphere from SN-49 gases which exhibit opacity greater than 5%. Compliance with this opacity limit shall be demonstrated by the use of natural gas.

The permittee shall not cause to be discharged to the atmosphere from SN-50 gases which exhibit opacity greater than 5%. Compliance with this opacity limit shall be demonstrated by compliance with Specific Condition #211.

The opacity shall be measured in accordance with EPA Reference Method 9 as found in 40 CFR Appendix A. [§18.501 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

207. The permittee shall not cause to be discharged to the atmosphere from SN-70 gases which exhibit any visible emissions exceeding 6 minutes during a 60-minute period. The permittee shall check for the presence of visible emissions from each corner of the building housing SN-70 once during each calendar week. This test will not be an EPA Method 9 test, only a yes/no check for visible emissions, and does not require that the observer be a certified visibile emission reader. If visible emissions are detected for more than 6 minutes per hour, then the permittee shall determine the source of the visible emissions. Once the source is identified, the permittee shall immediately take action to identify the cause of the visible emissions, implement corrective action, and document that visible emissions did not appear following the corrective action. The permittee shall maintain log records which contain the following items in order to demonstrate compliance with this specific condition. These records shall be updated weekly, kept on site, and made available to Department personnel upon request. [§19.503 and §19.901 et seq of Regulation #19, and 40 CFR Part 52 Subpart E]

    A. The date and time of the observation

    B. If visible emissions were detected

    C. If visible emissions were detected, the source number causing the visible emissions, the cause of the visible emissions, the corrective action taken, and whether any visible emissions appeared after the corrective action was taken.

    D. The name of the person conducting the observation.

208. Natural gas shall be the only fuel used for Tissue Machine No. 7 Burners (SN-49). [§18.1004 of Regulation #18, §19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR §70.6]

209. The permittee shall not produce in excess of 250 machine dried tons of paper per day, 30 day rolling average, from the Tissue Machine No. 7. [§18.1004 of Regulation #18, §19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR §70.6]

210. The permittee shall maintain records which demonstrate compliance with the paper production limits, the VOC annual emissions, and the VOC BACT limits Specific Condition #204 and #209. The records shall be updated on a monthly basis. These records shall be kept on site, provided to Department personnel upon request and may be used by the Department for enforcement purposes. A twelve month total and each individual month's data shall be submitted in accordance with General Provision #7. [§18.1004 of Regulation #18, §19.705 of Regulation #19, 40 CFR Part 52 Subpart E, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

211. The Tissue Machine No. 7 Dust System (SN-50) is subject to and shall comply with all applicable provisions of §19.304 of Regulation 19, 40 CFR Part 52 Subpart E, and Part §64.6 for Compliance Assurance Monitoring.

    E. The permittee shall maintain a scrubber liquid flowrate of at least 300 gallons per minute. [40 CFR Part §64.6(c)(1)]

F. The permittee shall monitor and maintain daily records to demonstrate compliance with Specific Condition #211 (A). Records shall be kept onsite and made available to the Department upon request. [40 CFR Part §64.6(c)(3)]

G. The permittee shall maintain the scrubber in good working condition at all times so that pollutant removal is maintained. [40 CFR Part §64.6(c)(1)]

212. The Tissue Machine No. 7 Dust System (SN-50) is subject to and shall comply with all applicable provisions §19.304 of Regulation 19, 40 CFR Part 52 Subpart E, and Part §64.6 for Compliance Assurance Monitoring. The following information pertaining to exceedances or excursions from permitted values shall be submitted in semi-annual reports in accordance with General Provision #7 as outlined in 40 CFR §70.6.

A. The permittee shall maintain records for SN-50 that summarizes the number, duration, and cause of excursions or exceedances of emission limits as well as corrective action taken. [40 CFR §64.9(a)(2)(i) and §64.9(b)]

B. The permittee shall maintain records for SN-50 that summarizes the number, duration, and cause of monitoring equipment downtime incidents, other than routine downtime for calibration checks. [40 CFR §64.9(a)(2)(ii) and §64.9(b)]

C. The permittee shall maintain a quality improvement plan (QIP) threshold for each indicator of no more than nine excursions or 5% of the daily averages in a six-month period. [40 CFR §64.9(a)(2)(iii) and §64.9(b)]

D. The permittee shall develop and implement a new QIP if the threshold is exceeded during any six-month period. [40 CFR §64.9(a)(2)(iii) and §64.9(b)]

E. The permittee shall maintain records for SN-50 that describes the actions taken to implement the QIP. Upon completion of the QIP, documentation shall be maintained to confirm that the plan was completed and reduced the likelihood of similar excursions or exceedances. [40 CFR §64.9(a)(2)(iii) and §64.9(b)]

213. The permittee may, in the event of emergency maintenance on SN-50, shut down the dust collection system and contain the tissue dust within the building during the continued operation of the paper machine. Good housekeeping practices shall be used to control tissue dust and prevent visible emissions to the atmosphere. In the event that repairs on a scrubber extend beyond 12 hours, then a 6-minute observation for visible emissions shall be conducted once per 12-hour shift. The observation shall be a yes/no check and shall be conducted at the outside corners of the affected Tissue Machine building. If visible tissue dust emissions are detected for more than 6 minutes per hour, then corrective action shall be taken to reduce emissions and document that visible emissions do not appear after corrective action is taken. [§19.303 of Regulation #19 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

SN-79, 80 and 81

Tissue Machine No. 8

Proposed emissions from the wet end and dry end of Tissue Machine No. 8 (SN-80) have been bubbled together. The Tissue Machine No. 8 Burners (SN-79) combusts natural gas at a total heating rate of 50 million Btu per hour. The burners are low NO_X burners. Tissue Machine No. 8 Dust System (SN-81) is equipped with a 55,000 cfm wet venturi scrubber dust system to control particulate matter emissions.

The No. 8 Tissue Machine and associate equipment under went a BACT review in Air Permit 597-AOP-R0. Clean fuel, good combustion practice, and low NO_x burners were chosen as BACT for the burners. For particulate control on the dust system, a wet scrubber was determined as BACT.

Specific Conditions

214. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Conditions #217 and #224. [Regulation No. 19 §19.501 et seq. effective May 28, 2006 and 40 CFR Part 52, Subpart E]

Table 64 – Maximum Pb Emission Rates for SN-79

SN	Description	Pollutant	lb/hr	ton/yr
79	Tissue Machine No. 8 Burners	Pb	0.1	0.1

215. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Conditions #217, #224, #226, and #227. [§19.501 et seq. and §19.901 of Regulation #19, and 40 CFR Part 52 Subpart E]

Table 65 –BACT Emission Rates for SN-79, 80, and 81

SN	Description	Pollutant	lb/hr	ton/yr
79	Tissue Machine No. 8 Burners (50 MMBtu/hr)	PM_{10}	0.9	3.6
			0.0164 lb/MMBtu	
		SO_2	0.1	0.2
			0.0007 lb/MMBtu	
		VOC	1.0	4.2
			0.0192 lb/MMBtu	

SN	Description	Pollutant	lb/hr	ton/yr
80	Tissue Machine No. 8	CO	5.7	24.9
			0.1139 lb/MMBtu	
		NO_X	4.6	20.0
			0.0913 lb/MMBtu	
		VOC	8.5	47.7
			1.29 lb/MDT	
		TRS	0.1	0.3
81	Tissue Machine No. 8 Dust System	PM_{10}	1.7	7.2
			0.0035 gr/dscf	

216. The permittee estimates the emission rates set forth in the following table will not be exceeded. The pollutant emission rates are effectively limited by Specific Condition #217 and #224. [Regulation No.§18.801 effective February 15, 1999, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Table 66 – Maximum Non-Criteria Pollutant Emission Rates for SN-79 and 80

SN	Description	Pollutant	lb/hr	ton/yr
79	Tissue Machine No. 8 Burners	Arsenic	0.01	0.01
		Benzene	0.01	0.01
		Cadmium	0.01	0.01
		Chromium, total	0.01	0.01
		Cobalt	0.01	0.01
		Formaldehyde	0.01	0.02
		Hexane	0.11	0.47
		Manganese	0.01	0.01
		Mercury	0.01	0.01
		Napthalene	0.01	0.01
		Nickel	0.01	0.01
		Toluene	0.01	0.01
80	Tissue Machine No. 8	Acetone	0.4	1.5
		Acetaldehyde	0.43	1.86
		Acrolein	0.02	0.08
		1,2 Dichloroethylene	0.04	0.17
		Formaldehyde	0.06	0.25
		Methanol	0.43	1.88
		Methylene Chloride	0.04	0.15
		Tetrachloroethylene	0.03	0.10

SN	Description	Pollutant	lb/hr	ton/yr
		1,2,4-Trichlorobenzene	0.02	0.07
81	Tissue Machine No. 8 Dust System	PM	1.7	7.2

217. The permittee shall not cause to be discharged to the atmosphere from SN-79 gases which exhibit opacity greater than 5%. Compliance with this opacity limit shall be demonstrated by the use of natural gas.

The permittee shall not cause to be discharged to the atmosphere from SN-81 gases which exhibit opacity greater than 5%. Compliance with this opacity limit shall be demonstrated by Specific Condition #221.

The opacity shall be measured in accordance with EPA Reference Method 9 as found in 40 CFR Part 60 Appendix A. [§19.503 and §19.901 of Regulation #19, and 40 CFR Part 52 Subpart E]

218. The permittee shall not cause to be discharged to the atmosphere from SN-80 gases which exhibit any visible emissions exceeding 6 minutes during a 60-minute period. The permittee shall check for the presence of visible emissions from each corner of the building housing SN-80 once during each calendar week. This test will not be an EPA Method 9 test, only a yes/no check for visible emissions, and does not require that the observer be a certified visibile emission reader. If visible emissions are detected for more than 6 minutes per hour, then the permittee shall determine the source of the visible emissions. Once the source is identified, the permittee shall immediately take action to identify the cause of the visible emissions, implement corrective action, and document that visible emissions did not appear following the corrective action. The permittee shall maintain log records which contain the following items in order to demonstrate compliance with this specific condition. These records shall be updated weekly, kept on site, and made available to Department personnel upon request. [§19.503 and §19.901 et seq of Regulation #19, and 40 CFR Part 52 Subpart E] The date and time of the observation

A. If visible emissions were detected

B. If visible emissions were detected, the source number causing the visible emissions, the cause of the visible emissions, the corrective action taken, and whether any visible emissions appeared after the corrective action was taken.

C. The name of the person conducting the observation.

219. Natural gas shall be the only fuel used for Tissue Machine No. 8 Burners (SN-79). [§19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR §70.6]

220. The permittee shall operate and maintain a device to measure the pressure drop across the wet venturi scrubber on the Tissue Machine No. 8 Dust System (SN-81). [§19.703 and §19.901 et

seq of Regulation #19, 40 CFR Part 52 Subpart E, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

221. The Tissue Machine No. 8 Dust System (SN-81) is subject to and shall comply with all applicable provisions of §19.304 of Regulation 19, 40 CFR Part 52 Subpart E, and Part §64.6 for Compliance Assurance Monitoring

A. The permittee shall maintain a scrubber liquid pressure of at least 8 inches of water. [40 CFR Part §64.6(c)(1)]

B. The permittee shall monitor and maintain daily records to demonstrate compliance with Specific Condition #221(A). Records shall be kept onsite and made available to the Department upon request. [40 CFR Part §64.6(c)(3)]

C. The permittee shall maintain the scrubber in good working condition at all times so that pollutant removal is maintained. [40 CFR Part §64.6(c)(1)]

222. The Tissue Machine No. 8 Dust System (SN-81) is subject to and shall comply with all applicable provisions of §19.304 of Regulation 19, 40 CFR Part 52 Subpart E, and Part §64.6 for Compliance Assurance Monitoring. The following information pertaining to exceedances or excursions from permitted values shall be submitted in semi-annual reports in accordance with General Provision 7 as outlined in 40 CFR §70.6.

A. The permittee shall maintain records for SN-81 that summarizes the number, duration, and cause of excursions or exceedances of emission limits as well as corrective action taken. [40 CFR §64.9(a)(2)(i) and §64.9(b)]

B. The permittee shall maintain records for SN-81 that summarizes the number, duration, and cause of monitoring equipment downtime incidents, other than routine downtime for calibration checks. [40 CFR §64.9(a)(2)(ii) and §64.9(b)]

C. The permittee shall maintain a quality improvement plan (QIP) threshold for each indicator of no more than nine excursions or 5% of the daily averages in a six-month period. [40 CFR §64.9(a)(2)(iii) and §64.9(b)]

D. The permittee shall develop and implement a new QIP if the threshold is exceeded during any six-month period. [40 CFR §64.9(a)(2)(iii) and §64.9(b)]

E. The permittee shall maintain records for SN-81 that describes the actions taken to implement the QIP. Upon completion of the QIP, documentation shall be maintained to confirm that the plan was completed and reduced the likelihood of similar excursions or exceedances. [40 CFR §64.9(a)(2)(iii) and §64.9(b)]

223. The permittee may, in the event of emergency maintenance on SN-81, shut down the dust collection system and contain the tissue dust within the building during the continued operation of the paper machine. Good housekeeping practices shall be used to control tissue dust and prevent visible emissions to the atmosphere. In the event that repairs on a scrubber extend beyond 12 hours, then a 6-minute observation for visible emissions shall be conducted once per 12-hour shift. The observation shall be a yes/no check and shall be conducted at the

outside corners of the affected Tissue Machine building. If visible tissue dust emissions are detected for more than 6 minutes per hour, then corrective action shall be taken to reduce emissions and document that visible emissions do not appear after corrective action is taken. [§19.303 of Regulation #19 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

224. The permittee shall not produce in excess of 212 machine dried tons of paper per day, 30 day rolling average, from the Tissue Machine No. 8. [§18.1004 of Regulation #18, §19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR §70.6]

225. The permittee shall maintain records which demonstrate compliance with the paper production limits, the paper machine VOC annual emissions, and the paper machine VOC BACT limits listed in Specific Conditions #215 and #224. The records shall be updated on a monthly basis. These records shall be kept on site, provided to Department personnel upon request and may be used by the Department for enforcement purposes. A twelve month total and each individual month's data shall be submitted in accordance with General Provision #7. [§18.1004 of Regulation #18, §19.705 of Regulation #19, 40 CFR Part 52 Subpart E, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

226. The permittee shall test SN-79 for CO and NO_X to verify compliance with the BACT emission limits specified in Specific Condition #214 initially and once every three years thereafter. The first test shall be conducted within 60 days of achieving the maximum production rate, but in no event later than 180 days after initial start-up of the permitted source. Testing for CO and NO_X shall be performed in accordance with Plantwide Condition #3 and EPA Reference Methods 10 and 7E respectively. During the test the permittee shall operate the source within 10 percent of the rated throughput capacity. If 90 percent of the rated throughout capacity can not be achieved, the permittee shall be limited to 11 percent above the actual tested throughput. [§19.702 and §19.901 et seq of Regulation #19, and 40 CFR Part 52 Subpart E]

227. The permittee shall test SN-81 for PM/PM_{10} to verify compliance with the BACT emission limit specified in Specific Conditions #214 initially and once every three years thereafter. Testing shall be performed in accordance with Plantwide Condition #3 and EPA Reference Method 5 with inclusion of back half sampling train particulate. During the test the permittee shall operate the source within 10 percent of the rated throughput capacity. If 90 percent of the rated throughout capacity can not be achieved, the permittee shall be limited to 11 percent above the actual tested throughput. [§19.702 and §19.901 et seq of Regulation #19, and 40 CFR Part 52 Subpart E]

SN-71 and SN-72

No. 8 and No. 9 Extruder Machines

Source Description

The extrusion plant includes the No. 8 and No. 9 extruder machines which polycoat board. The extrusion plant receives board from the board machine and outside board customers and applies a polymer coating. Rolls of board are loaded onto an unwind stand. The board passes through a calender stack and is subjected to a burner which flame seals the board. An extruded poly sheet is then pressed together with the board. The combined product is then passed through an electrostatic treater (SN-71 for No. 8 Extruder and SN-72 for No. 9 Extruder) which enhances the surface quality of the product. Each extruder has two electrostatic treaters which emit ozone.

Both extrusion lines also include rewinding facilities which can be used to cut the extruded product to size and rewind the material so poly can be applied to the opposite side. The extrusion plant also performs shredding, trim chopping and spool cutting. Particulate matter emissions from these activities are controlled by cyclones.

Specific Conditions

228. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Conditions #230. [§19.501 et seq. and §19.901 et seq of Regulation #19, and 40 CFR Part 52 Subpart E]

Table 67 – Maximum Criteria Pollutant Emission Rates for SN-71 and 72

SN	Description	Pollutant	lb/hr	ton/yr
71	No. 8 Extruder Electrostatic Treaters (A&B)	PM_{10}	0.4	1.4
72	No. 9 Extruder Electrostatic Treater	PM_{10}	0.6	2.5

229. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Condition #230. [Regulation No.§18.801 effective February 15, 1999, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Table 68 – Maximum Non-Criteria Pollutant Emission Rates for SN-71 and 72

SN	Description	Pollutant	lb/hr	ton/yr
71	No. 8 Extruder Electrostatic Treaters (A&B)	PM Ozone	0.4 1.8	1.4 7.9

SN	Description	Pollutant	lb/hr	ton/yr
72	No. 9 Extruder Electrostatic Treater	PM Ozone	0.6 1.5	2.5 6.3

230. The permittee shall not produce in excess of 750 machine dried tons of coated paper per day, 30 day rolling average, from the No. 8 and No. 9 Extruder Machines combined. [§18.1004 of Regulation #19 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

231. The permittee shall maintain records which demonstrate compliance with the limits listed in Specific Condition #230. The records shall be updated on a monthly basis. These records shall be kept on site, provided to Department personnel upon request and may be used by the Department for enforcement purposes. A twelve month total and each individual month's data shall be submitted in accordance with General Provision #7. [§18.1004 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

SN-35F

Aeration Stabilization Basin

Source Description

Wastewater is treated by the Crossett Paper Operations treatment plant. The wastewater is gathered in two open sewers, a bleach plant/utilities sewer and a process sewer. Wastewater Treatment System nutrients are added to the bleach plant/utilities sewer to enhance biological activity. After primary clarification, the process sewer and the bleach plant/utilities sewer combine and flow into one of two settling basins. The effluent travels through a surge basin and is combined with the City of Crossett's treated effluent as it enters a 265 acre extended aeration stabilization basin (ASB, SN-35F). The effluent from the ASB is sent to a holding basin called Mossy Lake, which has a surface area that varies from 200 to 600 acres. Treated effluent is discharged from Mossy Lake to the Ouachita River via Coffee Creek.

Air emissions result from the biological wastewater treatment processes. The air emissions are a factor of such things as the flow to the secondary treatment, the volume of the aeration stabilization basin, the temperature of the aeration stabilization basin and the surface area of the aeration stabilization basin. Also included in the estimation, are contributions from the wastewater clarifier, settling ponds, and sludge dewatering. These potential emissions were not accounted for in the initial permit.

Specific Conditions

232. The permittee shall not exceed the emission rates set forth in the following table. The emissions from this source are limited by the production levels of the mill. [Regulation No. 19 §19.501 et seq. effective May 28, 2006 and 40 CFR Part 52, Subpart E]

Table 69 – Maximum Criteria Pollutant Emission Rates for SN-35F

Pollutant	lb/hr	ton/yr
VOC	16.5	70.8

233. The permittee shall not exceed the emission rates set forth in the following table. The emissions from this source are limited by the production levels of the mill. [Regulation No. §18.801 effective February 15, 1999, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Table 70 – Maximum Non-Criteria Pollutant Emission Rates for SN-35F

Pollutant	lb/hr	ton/yr
Chloroform	1.53	6.69
Methanol	0.08	0.36
Napthalene	0.01	0.05

SN-40, 75, 76F, 78F, 82F, and SN-97

Tanks and Miscellaneous Activities

Source Description

There are nine large pulp storage tanks located at Crossett Paper Operations (SN-75). An open storage basin (SN-76F) at the facility stores black liquor. The front black liquor storage basin at the facility was closed in 1996.

Fugitive emissions from unpaved roads (SN-78F) are generated by vehicle traffic. Unpaved roads are located in the utilities area, woodyard, laydown area, contractors area and around the wastewater treatment system.

The Methanol Tank (SN-40) is subject to regulation under NSPS Subpart Kb. The emissions are due to the working and standing losses from the tank.

There are two landfills at Crossett Paper Operations, the East Landfill and the North Landfill. The East Landfill is permitted to operate as a Class IV Landfill and accepts only woodwaste and concrete debris. The North Landfill is an industrial landfill which accepts general waste from the mill. No municipal waste is disposed in either landfill. The only significant source of emissions expected from these landfills is VOC emissions from the North Landfill. The North Landfill was permitted by the Department and began operation on September 1, 1998. The North Landfill is located approximately two miles north of the mill. The West Landfill ceased operation on September 1, 1998. The West Landfill is currently undergoing closure activities.

Specific Conditions

234. The permittee shall not exceed the emission rates set forth in the following table. Compliance with the pollutant emission rates associated with the Methanol Tank are demonstrated by compliance with Specific Condition #237. The emissions from the other sources are limited by the production levels of the mill. [Regulation No. 19 §19.501 et seq. effective May 28, 2006 and 40 CFR Part 52, Subpart E]

Table 71 – Maximum Criteria Pollutant Emission Rates for SN-40, 75, 76F, 78F, 82F, and SN-97

SN	Description	Pollutant	lb/hr	ton/yr
40	Methanol Storage Tank	VOC	37.5	1.2
75	Pulp Storage Chests	VOC	9.3	40.7
97	Storage Tanks	VOC	33.0	6.8
76F	Black Liquor Storage Basin No. 1	VOC	28.1	122.8
78F	Road Emissions	PM_{10}	15.3	67.1

SN	Description	Pollutant	lb/hr	ton/yr
82F	Landfill Operations	PM_{10} VOC	1.3 4.3	0.3 18.7

235. The permittee estimates the emission rates set forth in the following table will not be exceeded. The pollutant emission rates associated with the Methanol Tank are effectively limited by Specific Condition #237. The emissions from the other sources are limited by the production levels of the mill. [Regulation No.§18.801 effective February 15, 1999, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Table 72– Maximum Non-Criteria Pollutant Emission Rates for SN-40, 75, 76F, 78F, 82F, and SN-97

SN	Description	Pollutant	lb/hr	ton/yr
40	Methanol Storage Tank	Methanol	37.50	1.20
97	Storage Tanks	Methanol	1.5	6.0
75	Pulp Storage Chests	Methanol	2.16	9.47
76F	Black Liquor Storage Basin No. 1	Acetaldehyde Acetone Methanol	1.31 2.3 16.07	5.72 9.9 70.38
78F	Road Emissions	PM	44.8	195.8
82F	Landfill Operations	PM	2.7	0.5

236. The Methanol Tank is subject to and shall comply with all applicable provisions of 40 CFR Part 60 Subpart Kb - *Standards of Performance for Volatile Organic Liquid Storage Vessels.* A copy of Subpart Kb is provided in Appendix D.

Applicable provisions include, but are not limited to, maintaining records showing the dimension of the storage vessel, and an analysis showing the design capacity of the storage vessel. [§19.304 of Regulation #19 and 40 CFR 60.116b (a) and (b)]

237. Throughput of methanol at SN-40 shall not exceed 40,000 barrels per twelve consecutive months. [§19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR §70.6]

238. The permittee shall maintain records which demonstrate compliance with the limits listed in Specific Condition #237. These records shall be updated on a monthly basis. These records shall be kept on site, provided to Department personnel upon request and may be used by the Department for enforcement purposes. A twelve month total and each individual month's data shall be submitted in accordance with General Provision #7. [§19.705 of Regulation #19 and 40 CFR Part 52 Subpart E]

239. The permittee shall maintain sufficient records to demonstrate compliance with the throughput limits listed in the Tanks Table. These records shall be updated on a monthly basis. These records shall be kept on site, provided to Department personnel upon request and may be used by the Department for enforcement purposes. An annual total and each individual month's data shall be submitted in accordance with General Provision #7. [§19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR §70.6]

Table 73 – Tanks Table

Contents	Capacity (bbl)	Throughput (bbl/yr)
Gasoline	71	857

SN-#93

Repulpers A, B, and C

Source Description

Three repulpers are used to reprocess broke. These are identified as Repulpers A, B, and C. Each repulper is identical. The repulpers operate without any hoods or fans. The repulpers apply a sodium hypochlorite pulping aid which is added subsurface. All VOC emissions are non-stack in nature. The broke that is repulped is stored in the existing broke stock chests. As part of the permit renewal, the repulpers were added as permitted sources. A minor modification allowed the reconstruction of Repulper A.

Specific Conditions

240. The permittee shall not exceed the emission rates set forth in the following table. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Condition #242. [Regulation No. 19 §19.501 et seq. effective May 28, 2006 and 40 CFR Part 52, Subpart E]

Table 74 – Maximum Criteria Pollutant Emission Rates for SN-93

Pollutant	lb/hr	ton/yr
VOC	0.6	2.3

241. The permittee estimates the emission rates set forth in the following table will not be exceeded. Compliance with this Specific Condition shall be demonstrated by compliance with Specific Condition #242. [Regulation No.§18.801 effective February 15, 1999, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Table 75 – Maximum Non-Criteria Pollutant Emission Rates for SN-93

Pollutant	lb/hr	ton/yr
Chloroform	0.60	2.30

242. The permittee shall not use in excess of 1,971,000 pounds per year of hypochlorite at SN-93. This limit is based on a 12-month rolling total. [§18.1004 of Regulation #18, §19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR §70.6]

243. The permittee shall maintain records which demonstrate compliance with the limits listed in Specific Condition #242. These records shall be updated on a monthly basis. These records shall be kept on site, provided to Department personnel upon request and may be used by the Department for enforcement purposes. A twelve month total and each individual month's data shall be submitted in accordance with General Provision #7. [§19.705 of Regulation #19 and 40 CFR Part 52 Subpart E]

CLUSTER RULE PULPING REQUIREMENTS

The Cluster Rule imposes HAP control on the pulping system, which is comprised of all pulping process equipment beginning with the digester system, up to and including the last piece of pulp conditioning equipment prior to the bleaching system. Total HAP control (as methanol) is divided into three source groups: the low volume – high concentration (LVHC) system, the high volume – low concentration (HVLC) system, and the pulping process condensates.

The incinerator (SN-83) is the only source of additional emissions. The incinerator is collecting emissions from other sources for combustion. The emissions from the new Incinerator will be an increase to actual emissions. The Incinerator will be combusting new (natural gas, SOGs, and HVLC NCGs) and existing (LVHC NCGs) fuels. The additional equipment will not increase the emissions or the pulp throughput limits.

Low Volume – High Concentration (LVHC) Collection System

Crossett Paper Operations has an existing LVHC Collection System that routes HAP emissions from the Digester, Turpentine Recovery, and the Evaporator System to the No. 4 Lime Kiln (SN-25) for control. Per the requirements of the Cluster Rule, the only additional LVHC sources that need to be added to the collection system are the Turpentine Decanter and the Foul Condensate Collection Tank.

At Crossett Paper Operations, the digestion of wood chips occurs in a batch operation rather than on a continuous basis. In batch digesters, NCGs, along with steam and HAPs, are removed from the digesters while the chips "cook" – convert to pulp. This stream is cooled to produce batch digester relief steam condensate. When Crossett Paper Operations pulps softwood, especially pine, the resulting condensates contain turpentine. These condensates are sent to the Turpentine Recovery System for extraction of the turpentine. The foul condensates will leave the turpentine recovery area as turpentine decanter underflow. In the Turpentine Recovery System, underflow from both the decanter and storage tanks are considered Kraft pulping condensates.

At the end of the cook, the pulp, cooking chemicals, and gases from the digesters are sent to the Blow Tank where large quantities of steam and some HAPs are released. This steam is condensed to form batch digester blow steam condensate. The fraction of HAPs that do not leave with the relief and blow steam continue with the pulp and weak black liquor to be collected by the HVLC Collection System and Evaporator Liquor Feed Stages described below.

Weak black liquor is fed to multiple effects in the evaporator. When the liquor is initially subjected to evaporation, the majority of the HAPs are removed from the liquor along with water vapor. The HAPs and water vapor are then condensed, thereby producing evaporator foul condensate which is routed along with the rest of the pulp process condensates to the LEEPS System described below.

The LVHC gas sources that will be collected and routed to the Incinerator (SN-83) are as follows. Crossett Paper Operations will design and operate this equipment as a closed-vent system that will have no detectable leaks. These sources have a Cluster Rule compliance deadline of April 16, 2001.

- Turpentine decanter
- Turpentine underflow tank
- Foul condensate storage tank
- NCG condensate seal tank

High Volume – Low Concentration (HVLC) Collection System

The HVLC System is a closed-vent system. The intent is to control HAP emissions from the Pulp Washing Systems, Knotter Systems, Screening Systems, and Decker Systems. The emissions will be controlled as outlined in 40 CFR §63.443. HVLC sources are required to be controlled within eight years from the publication date of the Cluster Rule in the Federal Register – i.e. April 17, 2006.

Small amounts of HVLC condensates form in the HVLC Collection System. The condensates will be removed at low points in the system. Although this condensate has a low volume, it is usually foul with TRS compounds. The collected HVLC condensates will be routed to the LEEPS System.

Low Energy Environmental Pre-Evaporator & Stripper (LEEPS) System

In order to meet the Cluster Rule condensate standards, Crossett Paper Operations will install a LEEPS System that will be comprised of pre-evaporators, a concentrator, and a steam stripper. Pulping condensates from the Digester System, Turpentine Recovery System, Evaporator Liquor Feed Stages, and The LVHC and HVLC Collection Systems are sent directly to the steam stripper. At the same time, condensates from the new pre-evaporators/ concentrator are also routed to the steam stripper. Steam from the stripper drives off the HAPs and TRS from the condensate. The clean condensates are then recycled to various processes in the Mill. The liquid and gaseous (SOGs) phases of the stripped portion are segregated. The liquid portion is routed to a storage tank from which it is routed to the Incinerator for destruction. Meanwhile, the SOGs are routed to the Incinerator (SN-83) for control. The No. 4 Lime Kiln or the 9A Boiler serves as backup destruction devices for the SOGs.

Incinerator (SN-83)

Gas streams from the LVHC Collection System, the HVLC Collection System, and SOGs from the LEEPS System are fed into the Incinerator via a common burner. The HVLC system is diluted with combustion air before being fed to the combustion chamber. The Incinerator consists of a horizontal combustion chamber followed by a vertical SO_2 caustic packed-tower scrubber which, in turn, is followed by several mist eliminators.

Minimum incineration temperature in the primary combustion zone is required for efficient oxidation. For this Kraft mill application, combustion requirements dictate a minimum temperature of 1,600°F with a 0.75 second retention time (*see* 40 CFR §63.443(d)(3)).

Since the Incinerator combusts NCGs from both LVHC and HVLC Collection Systems, it has to meet a 96% uptime requirement. Crossett Paper Operations complies by using the Incinerator as the primary combustion device with the No. 4 Lime Kiln (SN-25) and the 9A Boiler (SN-22) as backup combustion devices for the LVHC NCGs and SOGs only. The HVLC gases, which by definition have lower concentrations of NCGs, are vented to the atmosphere when the Incinerator is down. In the event that downtime occurs, excess emissions will be reported as required by 40 CFR §63.455.

Under normal operation, the fuel flow is controlled by the operating temperature in the Incinerator. The fuel requirements will vary with the amount of waste gases introduced into the collection system. Maximum fuel consumption will be required to bring the system up to temperature, but the consumption will be greatly reduced during normal incineration of the NCGs and SOGs. The NCGs have some heat content which reduces fuel consumption once normal incineration begins.

The Incinerator system consists of a refractory lined Incinerator, a waste heat boiler, a cooler section, an SO_2 scrubber, a sulfuric acid removal system, and a discharge stack.

The waste heat boiler is located between the Incinerator outlet and the scrubber inlet. This boiler is a fire-tube type boiler with three passes. The boiler does not combust fuels, rather it scavenges the waste heat from the Incinerator to produce steam.

The gases exiting the Incinerator are in excess of 1,600^{o}F. In order to scrub the SO_2 from these gases, the temperature is lowered. The gases pass through a waste heat boiler. The boiler is followed by a vertical SO_2 scrubber that continues to lower the temperature as it removes most of the sulfur gases from the combustion exhaust.

The adsorption tower is followed by a sulfuric acid removal system that uses a caustic solution. A recirculation loop is used to minimize caustic use. The makeup caustic is controlled by scrubber pH to maintain scrubbing effectiveness and efficiency.

The primary fuels for the Incinerator are methanol recovered from the foul condensates via the steam stripper and the LVHC gases. Natural gas is used as a backup fuel. For a given pollutant, the combustion of methanol produces the highest emission rates. The Incinerator is equipped with low-NO_x burners to control NO_x emissions and a scrubber to control PM/PM_{10} and SO_2 emissions.

Specific Conditions

The Incinerator (SN-83)

244. The permittee shall not exceed the emission rates set forth in the following table for the Incinerator (SN-83). Emissions are based on maximum capacity. Initial compliance with the PM_{10} and VOC emission rates shall be demonstrated by Specific Conditions #253 and #255, respectively. Annual compliance with the SO_2, CO, NO_x, and TRS emission rates shall be demonstrated by Specific Conditions #254, #256, #257, #258 respectively. [Regulation No. 19 §19.501 et seq. effective May 28, 2006 and 40 CFR Part 52, Subpart E]

Table 77 – Maximum Criteria Pollutant Emission Rates for SN-83

Pollutant	lb/hr	ton/yr
PM_{10}	2.7	11.8
SO_2	9.1	39.9
VOC	0.8	3.5
CO	6.0	26.3
NO_x	23.0	100.7
TRS	0.9	3.8

245. The permittee estimates the emission rates set forth in the following table for the Incinerator (SN-83) will not be exceeded. Emissions are based on maximum capacity. Initial compliance with the PM and Methanol emissions shall be demonstrated by Specific Conditions #253 and #259, respectively. [Regulation No.§18.801 effective February 15, 1999, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Table 78 – Maximum Non-Criteria Pollutant Emission Rates for SN-83

Pollutant	lb/hr	ton/yr
PM	2.7	11.8
Methanol	0.80	3.50

246. The permittee shall not cause to be discharged to the atmosphere from the Incinerator gases which exhibit opacity greater than 20% as measured by EPA Reference Method 9. Compliance shall be demonstrated by the proper operation of the scrubber per Specific Condition #247. [§19.503 of Regulation #19 and 40 C.F.R. Part 52 Subpart E]

247. Natural gas may be used as a backup fuel for the Incinerator. [§19.705 of Regulation #19, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR §70.6]

248. The permittee shall maintain records which demonstrate compliance with Specific Condition #247. These records shall be updated on a monthly basis and shall include periods of usage of natural gas, (not quantities) of fuel used. These records shall be kept on site, provided to Department personnel upon request and may be used by the Department for enforcement purposes. A twelve month total and each individual month's data shall be submitted in accordance with General Provision #7. [§19.705 of Regulation #19 and 40 CFR Part 52 Subpart E]

249. Incinerator (SN-83) is subject to and shall comply with all applicable provisions §19.304 of Regulation 19, 40 CFR Part 52 Subpart E, and Part §64.6 for Compliance Assurance Monitoring. Future compliance tests may be used to establish the daily average pressure drop and flowrate values that are contained in the permit. The pressure drop and flow rate values recorded during a compliant test event may be used as subsequent minimum values.

    A. The permittee shall maintain a scrubber liquid flowrate of at least 768 gallons per minute. [40 CFR Part §64.6(c)(1)]

B. The permittee shall maintain pH of at least 7.6. [40 CFR Part §64.6(c)(1)]

C. The permittee shall monitor and maintain daily records to demonstrate compliance with Specific Condition #249 (A) and (B). Records shall be kept onsite and made available to the Department upon request. [40 CFR Part §64.6(c)(3)]

D. The permittee shall maintain the caustic scrubber in good working condition at all times so that SO_2 removal is maintained. [40 CFR Part §64.6(c)(1)]

250. The Incinerator (SN-83) is subject to and shall comply with all applicable provisions §19.304 of Regulation 19, 40 CFR Part 52 Subpart E, and Part §64.9 for Compliance Assurance Monitoring. The following information pertaining to exceedances or excursions from permitted values shall be submitted in semi-annual reports in accordance with General Provision 7 as outlined in 40 CFR §70.6.

A. The permittee shall maintain records for SN-83 that summarizes the number, duration, and cause of excursions or exceedances of emission limits as well as corrective action taken. [40 CFR §64.9(a)(2)(i) and §64.9(b)]

B. The permittee shall maintain records for SN-83 that summarizes the number, duration, and cause of monitoring equipment downtime incidents, other than routine downtime for calibration checks. [40 CFR §64.9(a)(2)(ii) and §64.9(b)]

C. The permittee shall maintain a quality improvement plan (QIP) threshold for each indicator of no more than nine excursions or 5% of the total daily averages in a six-month period.

D. The permittee shall develop and implement a new QIP if the threshold is exceeded during any six-month period. [40 CFR §64.9(a)(2)(iii) and §64.9(b)]

E. The permittee shall maintain records for SN-83 that describe the actions taken to implement the QIP. Upon completion of the QIP, documentation shall be maintained to confirm that the plan was completed and reduced the likelihood of similar excursions or exceedances. [40 CFR §64.9(a)(2)(iii) and §64.9(b)]

251. The Incinerator (SN-83) is subject to and shall comply with applicable provisions of §19.804 of Regulation #19, NSPS Subpart BB, and NESHAP Subpart S. Section 19.804 of Regulation #19 and NSPS Subpart BB both require incineration of NCGs at a minimum temperature of 1200°F for at least 0.5 seconds. NESHAP Subpart S requires incineration at a minimum temperature of 1600°F for at least 0.75 seconds. [§19.804 of Regulation #19, NSPS Subpart BB, and NESHAP Subpart S]

252. The permittee shall maintain records which demonstrate compliance with Specific Condition #251. These records shall be kept on site, provided to Department personnel upon request and may be used by the Department for enforcement purposes. [§19.705 of Regulation #19 and 40 CFR Part 52 Subpart E]

253. The permittee shall initially test particulate matter emissions from the Incinerator. Testing shall be performed in accordance with Plantwide Condition #3 and EPA Reference Method 5 as found in 40 CFR Part 60 Appendix A. This initial test was completed in September 2001. [§18.1002 of Regulation #18, §19.702 of Regulation #19, 40 CFR Part 52 Subpart E, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

254. The permittee shall annually test sulfur dioxide emissions from the Incinerator. Testing shall be performed in accordance with Plantwide Condition #3 and EPA Reference Method 6C as found in 40 CFR Part 60 Appendix A. [§19.702 of Regulation #19 and 40 CFR Part 52 Subpart E]

255. The permittee shall initially test volatile organic compound emissions from the Incinerator. Testing shall be performed in accordance with Plantwide Condition #3 and EPA Reference Method 25A as found in 40 CFR Part 60 Appendix A. This initial test was completed in September 2001. [§19.702 of Regulation #19 and 40 CFR Part 52 Subpart E]

256. The permittee shall annually test carbon monoxide emissions from the Incinerator. Testing shall be performed in accordance with Plantwide Condition #3 and EPA Reference Method 10 as found in 40 CFR Part 60 Appendix A. [§19.702 of Regulation #19 and 40 CFR Part 52 Subpart E]

257. The permittee shall annually test nitrogen oxides emissions from the Incinerator. Testing shall be performed in accordance with Plantwide Condition #3 and EPA Reference Method 7E as found in 40 CFR Part 60 Appendix A. [§19.702 of Regulation #19 and 40 CFR Part 52 Subpart E]

258. The permittee shall annually test total reduced sulfur emissions from the Incinerator. Testing shall be performed in accordance with Plantwide Condition #3 and EPA Reference Method 16 as found in 40 CFR Part 60 Appendix A. [§19.702 of Regulation #19 and 40 CFR Part 52 Subpart E]

259. The permittee shall initially test methanol emissions from the Incinerator. Testing shall be performed in accordance with Plantwide Condition #3 and EPA Reference Method 18 as found in 40 CFR Part 60 Appendix A. This initial test was completed in September 2001. [§18.1002 of Regulation #18 and A.C.A. §8-4-203 ad referenced by §8-4-304 and §8-4-311]

The Pulping System

260. The pulping system (which is comprised of all pulping process equipment beginning with the digester system, up to and including the last piece of pulp conditioning equipment prior to the bleaching system) is subject to and shall comply with applicable provisions of 40 CFR Part 63 Subpart S – National Emission Standards for Hazardous Air Pollutants from the Pulp and Paper Industry. A copy of Subpart S is provided in Appendix F. Applicable provisions include, but are not limited to, the following:

Standards for the Kraft pulping systems.

A. The permittee shall control the total HAP emissions from the equipment systems listed in 40 CFR §63.443(a), as specified in paragraphs (c) and (d) of 40 CFR §63.443. [§19.304 of Regulation #19 and 40 CFR §63.443(a)]

B. The equipment systems listed in paragraphs (a) and (b) of 40 CFR §63.443 shall be enclosed and vented into a closed-vent system and routed to a control device that meets the requirements specified in paragraph (d) of 40 CFR §63.443. The enclosure and closed-vent system shall meet the requirements specified in 40 CFR §63.450. [§19.304 of Regulation #19 and 40 CFR §63.443(c)]

C. The control device used to reduce total HAP emissions from each equipment system listed in paragraphs (a) and (b) of 40 CFR §63.443 shall reduce total HAP emissions using a thermal oxidizer designed and operated at a minimum temperature of 871°C (1600°F) and a minimum residence time of 0.75 seconds. [§19.304 of Regulation #19 and 40 CFR §63.443(d)(3)]

D. Periods of excess emissions reported under 40 CFR §63.455 shall not be a violation of 40 CFR §63.443 (c) and (d) provided that the time of excess emissions (excluding periods of startup, shutdown, or malfunction) divided by the total process operating time in a semi-annual period does not exceed the following levels: (1) one percent for control devices used to reduce the total HAP emissions from the LVHC system; and (2) four percent for control devices used to reduce the total HAP emissions from the HVLC system; and (3) four percent for control devices used to reduce the total HAP emissions from both the LVHC and HVLC systems. [§19.304 of Regulation #19 and 40 CFR §63.443(e)]

Standards for kraft pulping process condensates.

E. The pulping process condensates from the equipment systems listed in 40 CFR §63.446(b) shall be treated to meet the requirements specified in paragraphs (c), (d), and (e) of 40 CFR §63.446. [§19.304 of Regulation #19 and 40 CFR §63.446(b)]

F. One of the combinations of HAP-containing pulping process condensates listed in 40 CFR §63.446(c) which is generated, produced, or associated with the equipment systems listed in paragraph (b) of 40 CFR §63.446 shall be subject to the requirements of paragraph (d) and (e) of 40 CFR §63.446. [§19.304 of Regulation #19 and 40 CFR §63.446(c)]

G. The pulping process condensates from the equipment systems listed in paragraph (b) of 40 CFR §63.446 shall be conveyed in a closed collection system that is designed and operated to meet the requirements specified in paragraphs (d)(1) and (d)(2) of 40 CFR §63.446. [§19.304 of Regulation #19 and 40 CFR §63.446(d)]

H. Each pulping process condensate from the equipment systems listed in paragraph (b) of 40 CFR §63.446 shall be treated according to the following option: at mills

that perform bleaching, treat the pulping process condensates to remove 5.1 kilograms or more of total HAP per megagram (10.2 pounds per ton) of ODP (bleached), or achieve a total HAP concentration of 330 parts per million or less by weight at the outlet of the control device. [§19.304 of Regulation #19 and 40 CFR §63.446(e)(5)]

I. Each HAP removed from a pulping process condensate stream during treatment and handling under paragraph (d) or (e) of 40 CFR §63.446 shall be controlled as specified in 40 CFR §43.443(c) and (d). [§19.304 of Regulation #19 and 40 CFR §63.446(f)]

J. The permittee shall evaluate all new or modified pulping process condensates or changes in the annual bleached or non-bleached ODP used to comply with paragraph (i) of 40 CFR §63.446, to determine if they meet the applicable requirements of 40 CFR §63.446. [§19.304 of Regulation #19 and 40 CFR §63.446(h)]

K. For the purposes of meeting the requirements in paragraphs (c)(2), (e)(4), or (e)(5) of 40 CFR §63.446 at mills producing both bleached and unbleached pulp products, the permittee may meet a prorated mass standard that is calculated by prorating the applicable mass standards (kilograms of total HAP per megagram of ODP) for bleached and unbleached specified in paragraphs (c)(2), (e)(4), or (e)(5) of 40 CFR §63.446 by the ratio of annual megagrams of bleached and unbleached ODP. [§19.304 of Regulation #19 and 40 CFR §63.446(i)]

Monitoring Requirements

L. The Incinerator shall meet the monitoring requirements set forth in 40 CFR §63.453(b). [§19.304 of Regulation #19 and 40 CFR §63.453(b)]

M. The Steam Stripper shall meet the monitoring requirements set forth in 40 CFR §63.453(g). [§19.304 of Regulation #19 and 40 CFR §63.453(g)]

N. The Closed Vent System shall meet the monitoring requirements set forth in 40 CFR §63.453(k). [§19.304 of Regulation #19 and 40 CFR §63.453(k)]

Recordkeeping and Reporting Requirements

O. The permittee shall prepare and maintain a site-specific inspection plan for the closed vent LVHC, HVLC, and SOG collection systems. [§19.304 of Regulation #19 and 40 CFR §63.454(b)]

P. Excess emissions shall be reported as required by 40 CFR §63.455. [§19.304 of Regulation #19 and 40 CFR §63.455]

261. The permittee may allow emissions from the incinerator and associated scrubber to be released to the atmosphere bypassing the associated candle filter sulfuric acid mist eliminator.

Bypass shall only be allowed during periods of emergency maintenance to the sulfuric acid mist eliminator system. [A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Section V: COMPLIANCE PLAN AND SCHEDULE

Georgia-Pacific LLC - Crossett Paper Operations will continue to operate in compliance with those identified regulatory provisions. The facility will examine and analyze future regulations that may apply and determine their applicability with any necessary action taken on a timely basis.

Section VI: PLANT WIDE CONDITIONS

1. The permittee will notify the Director in writing within thirty (30) days after commencing construction, completing construction, first placing the equipment and/or facility in operation, and reaching the equipment and/or facility target production rate. [Regulation No. 19 '19.704, 40 CFR Part 52, Subpart E, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

2. If the permittee fails to start construction within eighteen months or suspends construction for eighteen months or more, the Director may cancel all or part of this permit. [Regulation No.19 §19.410(B) and 40 CFR Part 52, Subpart E]

3. The permittee must test any equipment scheduled for testing, unless stated in the Specific Conditions of this permit or by any federally regulated requirements, within the following time frames: (1) New Equipment or newly modified equipment within sixty (60) days of achieving the maximum production rate, but no later than 180 days after initial start-up of the permitted source or (2) operating equipment according to the time frames set forth by the Department or within 180 days of permit issuance if no date is specified. The permittee must notify the Department of the scheduled date of compliance testing at least fifteen (15) days in advance of such test. The permittee will submit the compliance test results to the Department within thirty (30) days after completing the testing. [Regulation No.19 §19.702 and/or Regulation No. 18 §18.1002 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

4. The permittee must provide: [Regulation No.19 §19.702 and/or Regulation No.18 §18.1002 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

   a. Sampling ports adequate for applicable test methods

   b. Safe sampling platforms

   c. Safe access to sampling platforms

   d. Utilities for sampling and testing equipment.

5. The permittee must operate the equipment, control apparatus and emission monitoring equipment within the design limitations. The permittee will maintain the equipment in good condition at all times. [Regulation No.19 §19.303 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

6. This permit subsumes and incorporates all previously issued air permits for this facility. [Regulation No. 26 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

7. The permittee must prepare and implement a Startup, Shutdown, and Malfunction Plan (SSM). If the Department requests a review of the SSM, the permittee will make the SSM available for review. The permittee must keep a copy of the SSM at the source's location and retain all previous versions of the SSM plan for five years. [Regulation No. 19 §19.304 and 40 CFR 63.6(e)(3)]

Chemical Accident Prevention Provisions

8. The permittee shall comply with all applicable provisions of 40 CFR §68.1 through §68.220. [40 CFR Part 68]

Acid Rain (Title IV)

9. The Director prohibits the permittee to cause any emissions exceeding any allowances the source lawfully holds under Title IV of the Act or the regulations promulgated under the Act. No permit revision is required for increases in emissions allowed by allowances acquired pursuant to the acid rain program, if such increases do not require a permit revision under any other applicable requirement. This permit establishes no limit on the number of allowances held by the permittee. However, the source may not use allowances as a defense for noncompliance with any other applicable requirement of this permit or the Act. The permittee will account for any such allowance according to the procedures established in regulations promulgated under Title IV of the Act. [Regulation No. 26 §26.701 and 40 CFR 70.6(a)(4)]

Title VI Provisions

10. The permittee must comply with the standards for labeling of products using ozone-depleting substances. [40 CFR Part 82, Subpart E]

    a. All containers containing a class I or class II substance stored or transported, all products containing a class I substance, and all products directly manufactured with a class I substance must bear the required warning statement if it is being introduced to interstate commerce pursuant to §82.106.

    b. The placement of the required warning statement must comply with the requirements pursuant to §82.108.

    c. The form of the label bearing the required warning must comply with the requirements pursuant to §82.110.

    d. No person may modify, remove, or interfere with the required warning statement except as described in §82.112.

11. The permittee must comply with the standards for recycling and emissions reduction, except as provided for MVACs in Subpart B. [40 CFR Part 82, Subpart F]

    a. Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to §82.156.

    b. Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to §82.158.

c. Persons performing maintenance, service repair, or disposal of appliances must be certified by an approved technician certification program pursuant to §82.161.

d. Persons disposing of small appliances, MVACs, and MVAC-like appliances must comply with record keeping requirements pursuant to §82.166. ("MVAC-like appliance" as defined at §82.152.)

e. Persons owning commercial or industrial process refrigeration equipment must comply with leak repair requirements pursuant to §82.156.

f. Owners/operators of appliances normally containing 50 or more pounds of refrigerant must keep records of refrigerant purchased and added to such appliances pursuant to §82.166.

12. If the permittee manufactures, transforms, destroys, imports, or exports a class I or class II substance, the permittee is subject to all requirements as specified in 40 CFR Part 82, Subpart A, Production and Consumption Controls.

13. If the permittee performs a service on motor (fleet) vehicles when this service involves ozone-depleting substance refrigerant (or regulated substitute substance) in the motor vehicle air conditioner (MVAC), the permittee is subject to all the applicable requirements as specified in 40 CFR part 82, Subpart B, Servicing of Motor Vehicle Air Conditioners.

    The term "motor vehicle" as used in Subpart B does not include a vehicle in which final assembly of the vehicle has not been completed. The term "MVAC" as used in Subpart B does not include the air-tight sealed refrigeration system used as refrigerated cargo, or the system used on passenger buses using HCFC-22 refrigerant.

14. The permittee can switch from any ozone-depleting substance to any alternative listed in the Significant New Alternatives Program (SNAP) promulgated pursuant to 40 CFR Part 82, Subpart G, "Significant New Alternatives Policy Program".

Oil Tank Requirement for SN-19, SN-22, SN-25, and SN-26

15. The permittee shall monitor and record on a daily basis the fuel oil storage tank level which will be used to calculate the as fired sulfur content on a 30-day rolling average. The recorded 30-day rolling average value shall not exceed 1.0% by weight. This record shall be updated on a monthly basis. This report shall be submitted to the Department in accordance with General Provision #7 [§19.705 of Regulation #19 and 40 CFR Part 52 Subpart E]

Future MACT Requirements

16. The permittee shall submit a permit modification application demonstrating how the facility will comply with 40 CFR Part 63, Subpart DDDDD – *National Emission Standards for Industrial, Commercial, and Institutional Boilers and Process Heaters* or submit a notification citing how the current permit demonstrates compliance with the subpart. The Department may extend this deadline by up to one year if so requested by the permittee. Such a request shall detail why such an extension is necessary and shall contain a schedule

for compliance with the MACT rule and submittal of the required application. The application must be submitted by March 13, 2007. This application was submitted on March 13, 2007, thus satisfying the requirements of this condition. [§19.304 of Regulation 19, 40 CFR Part 63, Subpart DDDDD, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Additional Requirements

17. The permittee shall not commence operation of the modified or new sources from Air Permit 597-AOP-R10 until the following stack height changes are made at Georgia-Pacific Plywood & Studmill facility:

Description	SN#	Existing Height (ft)	Minimum Height (ft)	Comment
P-2 Residuals Collection	SN-C9	36	59	Vertical Stack
P-1 Dry Residuals Glueline Flying saw	SN-C12	43	53	Modify to Vertical Stack
P-2 Spec Saw Dust	SN-F22	9	45	Vertical Stack; Combined with SN-F24
P-2 Sander Dust	SN-F24	23	45	Vertical Stack; Combined with SN-F24
Dryer #1; Vent #1 (1)	SN-100C	44.3	54.3	Vertical Stack
Dryer #1; Vent #2 (2)	SN-100C	44.3	54.3	Vertical Stack
Dryer #2; Vent #1 (3)	SN-100C	42.3	52.3	Vertical Stack
Dryer #2; Vent #2(4)	SN-100C	42.3	52.3	Vertical Stack
Dryer #2; Vent #3 (5)	SN-100C	42.3	52.3	Vertical Stack
Dryer #3; Vent #1 (6)	SN-100C	42.7	52.7	Vertical Stack
Dryer #3; Vent #2(7)	SN-100C	42.7	52.7	Vertical Stack
Dryer #3; Vent #3 (8)	SN-100C	42.7	52.7	Vertical Stack
Dryer #4; Vent #1 (9)	SN-100C	41.6	51.6	Vertical Stack
Dryer #4; Vent #2(10)	SN-100C	41.9	51.9	Vertical Stack
Dryer #4; Vent #3 (11)	SN-100C	42.5	52.5	Vertical Stack

Description	SN#	Existing Height (ft)	Minimum Height (ft)	Comment
Dryer #5; Vent #1 (12)	SN-100C	51.0	61.0	Vertical Stack
Dryer #5; Vent #2 (13)	SN-100C	50.0	60.0	Vertical Stack
Dryer #5; Vent #3 (14)	SN-100C	50.0	60.0	Vertical Stack
Dryer #6; Vent #1 (15)	SN-100C	51.0	61.0	Vertical Stack
Dryer #6; Vent #2 (16)	SN-100C	49.9	59.9	Vertical Stack
Dryer #6; Vent #3 (17)	SN-100C	49.9	59.9	Vertical Stack
Dryer #7; Vent #1 (18)	SN-100C	45.0	60.0	Vertical Stack
Dryer #7; Vent #2(19)	SN-100C	45.0	60.0	Vertical Stack
Dryer #7; Vent #3 (20)	SN-100C	45.0	60.0	Vertical Stack
Dryer #8; Vent #1 (21)	SN-100C	35.0	45.0	Vertical Stack
Dryer #8; Vent #2 (22)	SN-100C	49.0	59.0	Vertical Stack
Dryer #8; Vent #3 (23)	SN-100C	49.0	59.0	Vertical Stack
Sanding (Plant No.1)	SN-F10	67.0	75.0	Vertical Stack
Residuals Collection Systems (Plant #2)	SN-C3	54.0	64.0	Vertical Stack
Residuals Collection Systems	SN-C5	53.0	63.0	Vertical Stack
Residuals Collection Systems (Plant #1)	SN-F23	24.0	34.0	Vertical Stack

Upon completion, Georgia-Pacific - Crossett Paper Operations will submit a written report to the Department that certifies all the modifications to the stacks are complete. [Regulation No. 19 §19.705 and 40 CFR Part 52, Subpart E]

Section VII:INSIGNIFICANT ACTIVITIES

The following sources are insignificant activities. Any activity that has a state or federal applicable requirement is a significant activity even if this activity meets the criteria of §304 of Regulation 26 or listed in the table below. Insignificant activity determinations rely upon the information submitted by the permittee in an application dated October 23, 2003.

Table 80 - Insignificant Activities

Description	Category
9A Cyclone	A-13
Trim Paper Cyclone	A-13
Perini Towel Rewinder and Spectrum Towel Printer Baghouse	A-13
Spectrum Towel Printer, utilizing 0.21 wt% VOC, no HAP inks	A-13
Diesel Fuel Tank	A-3
Xylene Tank	A-3
Turpentine Tank	A-3
No. 8 Extruder Burner, 1.55 MMBTU/hr	A-1
No. 8 Extruder Burner, 0.85 MMBTU/hr	A-1
No. 9 Extruder Burners, 1.0 MMBTU/hr (total)	A-1

Pursuant to §26.304 of Regulation 26, the Department determined the emission units, operations, or activities contained in Regulation 19, Appendix A, Group B, to be insignificant activities. Activities included in this list are allowable under this permit and need not be specifically identified.

Section VIII: GENERAL PROVISIONS

1. Any terms or conditions included in this permit which specify and reference Arkansas Pollution Control & Ecology Commission Regulation No. 18 or the Arkansas Water and Air Pollution Control Act (A.C.A. §8-4-101 *et seq*.) as the sole origin of and authority for the terms or conditions are not required under the Clean Air Act or any of its applicable requirements, and are not federally enforceable under the Clean Air Act. Arkansas Pollution Control & Ecology Commission Regulation 18 was adopted pursuant to the Arkansas Water and Air Pollution Control Act (A.C.A. §8-4-101 *et seq*.). Any terms or conditions included in this permit which specify and reference Arkansas Pollution Control & Ecology Commission Regulation 18 or the Arkansas Water and Air Pollution Control Act (A.C.A. §8-4-101 *et seq*.) as the origin of and authority for the terms or conditions are enforceable under this Arkansas statute.[40 CFR 70.6(b)(2)]

2. This permit shall be valid for a period of five (5) years beginning on the date this permit becomes effective and ending five (5) years later. [40 CFR 70.6(a)(2) and §26.701(B) of the Regulations of the Arkansas Operating Air Permit Program (Regulation 26), effective August 10, 2000]

3. The permittee must submit a complete application for permit renewal at least six (6) months before permit expiration. Permit expiration terminates the permittee's right to operate unless the permittee submitted a complete renewal application at least six (6) months before permit expiration. If the permittee submits a complete application, the existing permit will remain in effect until the Department takes final action on the renewal application. The Department will not necessarily notify the permittee when the permit renewal application is due. [Regulation No. 26 §26.406]

4. Where an applicable requirement of the Clean Air Act, as amended, 42 U.S.C. 7401, *et seq.* (Act) is more stringent than an applicable requirement of regulations promulgated under Title IV of the Act, the permit incorporates both provisions into the permit, and the Director or the Administrator can enforce both provisions. [40 CFR 70.6(a)(1)(ii) and Regulation No. 26 §26.701(A)(2)]

5. The permittee must maintain the following records of monitoring information as required by this permit. [40 CFR 70.6(a)(3)(ii)(A) and Regulation No. 26 §26.701(C)(2)]

    a. The date, place as defined in this permit, and time of sampling or measurements;

    b. The date(s) analyses performed;

    c. The company or entity performing the analyses;

    d. The analytical techniques or methods used;

    e. The results of such analyses; and

    f. The operating conditions existing at the time of sampling or measurement.

6. The permittee must retain the records of all required monitoring data and support information for at least 5 years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. [40 CFR 70.6(a)(3)(ii)(B) and Regulation No. 26 §26.701(C)(2)(b)]

7. The permittee must submit reports of all required monitoring every 6 months. If permit establishes no other reporting period, the reporting period shall end on the last day of the anniversary month of the initial Title V permit. The report is due within 30 days of the end of the reporting period. Although the reports are due every six months, each report shall contain a full year of data. The report must clearly identify all instances of deviations from permit requirements. A responsible official as defined in Regulation No. 26 §26.2 must certify all required reports. The permittee will send the reports to the address below: [40 C.F.R. 70.6(a)(3)(iii)(A) and §26.701(C)(3)(a) of Regulation #26]

   Arkansas Department of Environmental Quality
   Air Division
   ATTN: Compliance Inspector Supervisor
   Post Office Box 8913
   Little Rock, AR 72219

8. The permittee will report to the Department all deviations from permit requirements, including those attributable to upset conditions as defined in the permit.

   a. For all upset conditions (as defined in Regulation 19.601), the permittee will make an initial report to the Department by the next business day after the discovery of the occurrence. The initial report may be made by telephone and shall include:

      i. The facility name and location,

      ii. The process unit or emission source deviating from the permit limit,

      iii. The permit limit, including the identification of pollutants, from which deviation occurs,

      iv. The date and time the deviation started,

      v. The duration of the deviation,

      vi. The average emissions during the deviation,

      vii. The probable cause of such deviations,

      viii. Any corrective actions or preventive measures taken or being taken to prevent such deviations in the future, and

      ix. The name of the person submitting the report.

The permittee will make a full report in writing to the Department within five (5) business days of discovery of the occurrence. The report must include, in addition to the information required by the initial report, a schedule of actions taken or planned to eliminate future occurrences and/or to minimize the amount the permit's limits were exceeded and to reduce the length of time the limits were exceeded. The permittee may submit a full report in writing (by facsimile, overnight courier, or other means) by the next business day after discovery of the occurrence, and the report will serve as both the initial report and full report.

For all deviations, the permittee will report such events in semi-annual reporting and annual certifications required in this permit**.** This includes all upset conditions reported in 8a. above. The semi-annual report must include all the information as required in the initial and full report required in 8a**.** [40 CFR 70.6(a)(3)(iii)(B), Regulation No. 26 §26.701(C)(3)(b), Regulation No. 19 §19.601 and §19.602]

9. If any provision of the permit or the application thereof to any person or circumstance is held invalid, such invalidity will not affect other provisions or applications hereof which can be given effect without the invalid provision or application, and to this end, provisions of this Regulation are declared to be separable and severable. [40 CFR 70.6(a)(5), §26.701(E) of Regulation No. 26, and A.C.A. §8-4-203, as referenced by §8-4-304 and §8-4-311]

10. The permittee must comply with all conditions of this Part 70 permit. Any permit noncompliance with applicable requirements as defined in Regulation No. 26 constitutes a violation of the Clean Air Act, as amended, 42 U.S.C. §7401, *et seq.* and is grounds for enforcement action; for permit termination, revocation and reissuance, for permit modification; or for denial of a permit renewal application. [40 CFR 70.6(a)(6)(i) and Regulation No. 26 §26.701(F)(1)]

11. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity to maintain compliance with the conditions of this permit. [40 CFR 70.6(a)(6)(ii) and Regulation No. 26 §26.701(F)(2)]

12. The Department may modify, revoke, reopen and reissue the permit or terminate the permit for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition. [40 CFR 70.6(a)(6)(iii) and Regulation No. 26 §26.701(F)(3)]

13. This permit does not convey any property rights of any sort, or any exclusive privilege. [40 CFR 70.6(a)(6)(iv) and Regulation No. 26 §26.701(F)(4)]

14. The permittee must furnish to the Director, within the time specified by the Director, any information that the Director may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the permittee must also furnish to the Director copies of records required by the permit. For information the permittee claims confidentiality, the Department may require the permittee to furnish such records directly to the Director along with a claim of confidentiality. [40 CFR 70.6(a)(6)(v) and Regulation No. 26 §26.701(F)(5)]

15. The permittee must pay all permit fees in accordance with the procedures established in Regulation No. 9. [40 CFR 70.6(a)(7) and Regulation No. 26 §26.701(G)]

16. No permit revision shall be required, under any approved economic incentives, marketable permits, emissions trading and other similar programs or processes for changes provided for elsewhere in this permit. [40 CFR 70.6(a)(8) and Regulation No. 26 §26.701(H)]

17. If the permit allows different operating scenarios, the permittee will, contemporaneously with making a change from one operating scenario to another, record in a log at the permitted facility a record of the operational scenario. [40 CFR 70.6(a)(9)(i) and Regulation No. 26 §26.701(I)(1)]

18. The Administrator and citizens may enforce under the Act all terms and conditions in this permit, including any provisions designed to limit a source's potential to emit, unless the Department specifically designates terms and conditions of the permit as being federally unenforceable under the Act or under any of its applicable requirements. [40 CFR 70.6(b) and Regulation No. 26 §26.702(A) and (B)]

19. Any document (including reports) required by this permit must contain a certification by a responsible official as defined in Regulation No. 26 §26.2. [40 CFR 70.6(c)(1) and Regulation No. 26 §26.703(A)]

20. The permittee must allow an authorized representative of the Department, upon presentation of credentials, to perform the following: [40 CFR 70.6(c)(2) and Regulation No. 26 §26.703(B)]

    a. Enter upon the permittee's premises where the permitted source is located or emissions-related activity is conducted, or where records must be kept under the conditions of this permit;

    b. Have access to and copy, at reasonable times, any records required under the conditions of this permit;

    c. Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit; and

    d. As authorized by the Act, sample or monitor at reasonable times substances or parameters for assuring compliance with this permit or applicable requirements.

21. The permittee will submit a compliance certification with the terms and conditions contained in the permit, including emission limitations, standards, or work practices. The permittee must submit the compliance certification annually within 30 days following the last day of the anniversary month of the initial Title V permit. The permittee must also submit the compliance certification to the Administrator as well as to the Department. All compliance certifications required by this permit must include the following: [40 CFR 70.6(c)(5) and Regulation No. 26 §26.703(E)(3)]

a. The identification of each term or condition of the permit that is the basis of the certification;

b. The compliance status;

c. Whether compliance was continuous or intermittent;

d. The method(s) used for determining the compliance status of the source, currently and over the reporting period established by the monitoring requirements of this permit; and

e. Such other facts as the Department may require elsewhere in this permit or by §114(a)(3) and §504(b) of the Act.

22. Nothing in this permit will alter or affect the following: [Regulation No. 26 §26.704(C)]

a. The provisions of Section 303 of the Act (emergency orders), including the authority of the Administrator under that section;

b. The liability of the permittee for any violation of applicable requirements prior to or at the time of permit issuance;

c. The applicable requirements of the acid rain program, consistent with §408(a) of the Act or,

d. The ability of EPA to obtain information from a source pursuant to §114 of the Act.

23. This permit authorizes only those pollutant-emitting activities addressed in this permit. [A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]