

**NORTH CAROLINA DIVISION OF
AIR QUALITY**

Air Permit Review

Permit Issue Date: **date, 2009**

Region: Asheville Regional Office
County: Jackson
NC Facility ID: 5000119
Inspector's Name: Brendan Davey
Date of Last Inspection: 08/12/2008
Compliance Code: W/In Violation W/regard To Proc Compliance

Facility Data			Permit Applicability (this application only)		
Applicant (Facility's Name): Jackson Paper Manufacturing Company Facility Address: Jackson Paper Manufacturing Company 152 West Main Street Sylva, NC 28779 SIC: 2631 / Paperboard Mills NAICS: 32213 / Paperboard Mills Facility Classification: Before: Title V After: Title V Fee Classification: Before: Title V After: Title V			SIP: NSPS: NESHAP: PSD: PSD Avoidance: NC Toxics: 112(r): Other:		
Contact Data			Application Data		
Facility Contact	Authorized Contact	Technical Contact	Application Number: 5000119.05A Date Received: 06/30/2005 Application Type: Renewal Application Schedule: TV-Renewal Existing Permit Data Existing Permit Number: 04665/T11 Existing Permit Issue Date: 09/07/2004 Existing Permit Expiration Date: 03/31/2006		
Josh Carnes Environmental Coordinator (828) 586-5534 P O Box 667 Sylva NC, 28779	Dan Roland Operations Manager (828) 586-5534 P O Box 667 Sylva NC, 28779	Josh Carnes Environmental Coordinator (828) 586-5534 P O Box 667 Sylva NC, 28779			
Review Engineer: Mark Cuilla Review Engineer's Signature: Date: date, 2009			Comments / Recommendations: Issue 04665/T12 Permit Issue Date: date, 2009 Permit Expiration Date: date, 2014		

I. Purpose of Application

This permitting action is a renewal of an existing Title V permit pursuant to 2Q .0513. The existing Title V permit (**04665T11**) was issued on **September 7, 2004**, and expired on **March 31, 2006**. The renewal application was received on **June 30, 2005**, or at least nine months prior to the expiration date. Therefore, the existing permit shall not expire until the renewal permit has been issued or denied. All terms and conditions of the existing permit shall remain in effect until the renewal permit has been issued or denied.

II. Facility Description

The facility is a manufacturer of recycled corrugated paper.

III. History/Background/Application Chronology

April 5, 2001 – Initial Title V permit **04665T09** issued.

April 22-24, 2003 – Jackson Paper completed Methods 5, 202, 9, 7E, 10, and 3A emissions testing on its boiler (**ID No. JP-021**).

November 7, 2003 – Ms. Shannon Vogel of DAQ SSCB completed her review of the emissions testing report. She notes “compliance with the applicable emissions standards was demonstrated.”

June 22, 2004 – Permit **04665T10** issued for the construction and operation of one paper-making machine (**ID No. PM-01**).

September 7, 2004 – Permit **04665T11** issued as an administrative amendment.

June 30, 2005 – Permit application **5000119.05A** received for renewal of current Title V permit. Application was deemed complete and assigned to Mr. Gautam Patnaik for processing. The application contained a response to ARO’s **September 2, 2004** “Inspection and Permitting Issues” letter.

July 1, 2005 – Mr. Brendan Davey submitted an email to Mr. Don Arrington of Jackson Paper informing him that his permit application did not contain a complete response to his **September 2, 2004** letter.

July 10, 2005 – Application was reassigned to Mr. Wallace Pitts for processing.

July 14, 2005 – ARO received additional information in response to Mr. Davey’s **September 2, 2004** letter.

July 28, 2005 – Received ARO comments and recommendations on permit renewal application. See Section IX of this Document for a discussion of issues.

July 12, 2007 – DAQ met with representatives of Jackson Paper to discuss boiler MACT compliance deadline and possible coverage under Commercial and Industrial Solid Waste Incineration (CISWI) NSPS instead, compliance assurance monitoring (applicability/non-applicability), boiler size, biological sludge limit, and coal and TDF fuel issues.

August 7, 2007 – Representatives of Jackson Paper met with Wallace Pitts to discuss the permit renewal. Specific points of interest (heat content of plastic, sludge limit, scrubber operation, and multicyclone inspections) were discussed at the meeting and again via letter. The Permittee provided follow-up answers to specific DAQ questions in a **September 6, 2007** letter as follows (*Permittee responses in italics*):

1. The title V renewal application Form B1 included a specific heat content of plastics and paper (wet) of 16,770 Btu per pound. Please verify the heat content of the plastic. *After reviewing our records, the specific heat content of the wet plastics and paper is approximately 6,000 Btu per pound.*

2. The current title V permit has a biological sludge limit to the boiler of 300 pounds per hour. You requested a limit on the total amount of sludge including the biological sludge that is burned in the boiler, which will be easier to track than the amount of biological sludge that is burned in the boiler. Please provide a limit on the amount of total sludge. *An approximate limit for the total amount of sludge burned in the boiler is 600 dry pounds per hour. Page No. 5 (c)(iii) notes that the maximum allowable biological paper mill sludge combustion limit is 300 pounds per hour. During our meeting with DAQ in August of 2007 we expressed our concern about the 300 pounds per hour total sludge burning limit. We pointed out to the DAQ staff at that time that there was a discrepancy in our permit pertaining to the sludge limit. On page No. 6 in the existing expired permit a limit of 300 pounds per hour of biological sludge was mentioned and on page No. 12 a limit of 300 pounds per hour of sludge was included. We always assumed the limit of biological sludge was 300 pounds per hour. Based on our discussion with staff during our meeting we were requested to provide a total sludge limit (biological and non-biological). Based on our evaluation we provided a 600 pounds per hour limit (on a dry basis) to DAQ in our September 6, 2007 letter. We have been burning total sludge in this range and reporting to DAQ in our quarterly reports. On average our sludge is around 23 percent solids and from our estimates the sludge is only about 10 percent biological solids. Prior to combusting the sludge, we mix the sludge with dry kiln sawdust.*
3. To ensure proper operation of the scrubber (the emission control device for the boiler) provide two pressure drops in inches of water column; one used as an action level and one as a limit. *After reviewing operational information on the scrubber, it was determined that the pressure drop across the scrubber is dependent on the amount of steam flow. Therefore, when the steam demand is low, the pressure drop on the scrubber is also low and fluctuates in a range that is hard to monitor. Instead of pressure drop monitoring across the scrubber, we propose to monitor the water supply pressure of the water flow circulating in the scrubber. The water supply pressure is independent of the steam demand. Under normal operations, the water supply pressure remains between 20 and 35 psi. A normal operating action level is at 25 psi, and we request a minimum pressure limit of 20 psi for water supply pressure to the scrubber. Upon your agreement with this limit, we will install an alarm to sound when the water supply pressure drops below 25 psi. In addition, we will physically inspect the lines once per day to make sure that there is a positive water flow, and we will Hydroblast the lines a minimum of once per year to make sure they are clean. With this being noted, the requirement to record pressure drop across the scrubber once daily has been retained in the renewed permit.*
4. Provide a reasonable inspection schedule for the multicyclone. *We will conduct a monthly external visual inspection of the system ductwork and material collection unit for leaks, and we will conduct an annual inspection of the multicyclone's structural integrity. The renewed permit has been modified to include this inspection and maintenance frequency.*
5. Provide information on the fuel mix during stack testing conducted in 2003. *During the April 2003 stack testing, the following fuels were burned (on a wet basis): 8.33 tons per hour wood; 1000 pounds per hour total sludge; 760.9 pounds per hour plastics.*

August 12, 2008 – ARO completed annual inspection of the facility. See Section IX of this Document for a discussion of issues.

September 18, 2008 – Application was reassigned to Mr. Mark Cuilla for processing.

January 6, 2009 – DRAFT permit sent to Permittee and Regional Office for comment prior to public notice and EPA review.

April 24, 2009 - ARO completed annual inspection of the facility. See Section IX of this Document for a discussion of issues (carried over from August 12, 2008 inspection report).

Date, 2009 – DRAFT sent to 30-day public notice and 45-day EPA review prior to issuance.

IV. Permit Modifications/Changes and ESM Discussion

The following table describes the modifications to the current permit as part of the renewal process.

Page	Section	Description
Attachment	Insignificant activities	-added equipment per ARO inspection recommendations
Cover	-	-amended all dates and permit revision numbers
TOC	-	-removed reference to Part II
All	Header	-amended permit revision number
3	Equipment table	-added new fuel type with limitations and control device parameter clarifications
4	2.1 A 2.1 A (table) 2.1 A.1.a 2.1 A.1.b	-amended equipment description to add new fuel type -added CAM reference -added NC Air Toxics avoidance condition for waste oil combustion reference -added ID numbers -added ID numbers
5	2.1 A.1.c 2.1 A.1.d 2.1 A.1.e 2.1 A.1.f 2.1 A.1.h	-clarified paper mill sludge content and added ID numbers -corrected testing cross reference -added new PM testing requirement per ARO request -updated shell language and added ID numbers -added monitoring requirement for water flow rate per ARO
5-6	2.1 A.1.i	-added monitoring requirement for water flow rate per ARO
6	2.1 A.2.a 2.1 A.2.b 2.1 A.2.c 2.1 A.2.d 2.1 A.2.e	-added ID numbers -corrected testing cross reference -updated shell language/added fuel type/added ID numbers -updated shell language for monitoring sulfur content of coal -updated shell language
7	2.1 A.2.g 2.1 A.3.a 2.1 A.3.b 2.1 A.3.c 2.1 A.3.d	-added “no reporting” language for non-coal combustion -added ID numbers -corrected testing cross reference -added new VE testing requirement per ARO request -updated shell language
8	2.1 A.3.e 2.1 A.4.a 2.1 A.4.b 2.1 A.4.c 2.1 A.4.d	-added missing recordkeeping requirement -updated shell language and added ID numbers -corrected testing cross reference -updated shell language -added TDF to list of fuels requiring sulfur dioxide reporting
8-9	2.1 A.4.e	-modified reporting language to require sulfur dioxide reporting for TDF and coal and modified reporting time from quarterly to semiannually

Page	Section	Description
9	2.1 A.5.a 2.1 A.5.b 2.1 A.5.c 2.1 A.5.d 2.1 A.5.e 2.1 A.5.f	-added ID numbers -corrected testing cross reference -added CO testing requirement per ARO request -updated shell language -added ID numbers -changed quarterly reporting to semiannual
10-11	2.1 A.6	-added CAM for particulate matter
11	2.1 B (table)	-added work practice standard rule reference
11-12	2.1 B.1	-moved 2D .0958 language to this Section from previous location, Section 2.2
13	2.2 A (table)	-added NC Toxics avoidance reference for waste oil combustion
14-15	2.2 A.3	-added NC Toxics avoidance language for waste oil combustion
15-24	General Conditions	-updated conditions (v2.22.1)
-	Part II	-removed Part II

Other than minor updating of equipment descriptions, there were no necessary modifications to ESM as a result of this permit renewal.

V. Regulatory Review

The facility is currently subject to the following regulations:

- 15A NCAC 2D .0504, Particulates from Woodburning Indirect Heat Exchangers
- 15A NCAC 2D .0516, Sulfur Dioxide Emissions from Combustion Sources
- 15A NCAC 2D .0521, Control of Visible Emissions
- 15A NCAC 2D .1806, Control and Prohibition of Odorous Emissions
- 15A NCAC 2D .0958, Work Practices for Sources of Volatile Organic Compounds
- 15A NCAC 2Q .0317, Avoidance Conditions (for 15A NCAC 2D .0530, Prevention of Significant Deterioration)
- 15A NCAC 2Q .0711, Emission Rates Requiring a Permit

A regulatory review for the existing sources will not be included in this document. However, as part of this renewal, the following regulations have been added to the permit:

- 15A NCAC 2D .0614, Compliance Assurance Monitoring
- 15A NCAC 2Q .0317, Avoidance Conditions (for 15A NCAC 2D .0700, NC Air Toxics – waste oil stipulation).

VI. NSPS, NESHAPS/MACT, PSD, 112(r), CAM

NSPS – The facility is not currently subject to any New Source Performance Standards. This permit renewal does not affect this status.

NESHAPS/MACT – The facility is not currently subject to any National Emission Standards for Hazardous Air Pollutants. This permit renewal does not affect this status.

PSD – The facility currently operates under two separate Prevention of Significant Deterioration avoidance conditions as follows:

1. Section 2.1 A.4 limits emissions of sulfur dioxide from the facility’s one boiler (**ID No. JP-021**) to less than 250 tons per year. To ensure compliance, the Permittee is required to monitor fuel usage and sulfur content. These monitoring and recordkeeping activities are **ONLY** required if the facility reverts to combusting coal or, as modified, TDF. No reporting is required unless coal or TDF is being combusted. This permit renewal does not affect this status except to add TDF. In addition, the quarterly reporting, if required, is being modified per DAQ current practices to semi-annual as part of this renewal.
2. Section 2.1 A.5 limits emissions of carbon monoxide from the facility’s one boiler (**ID No. JP-021**) to less than 250 tons per year. To ensure compliance, the Permittee is required to monitor fuel usage and complete monthly records of the usage and carbon monoxide emissions. This permit renewal does not affect this status. However, the quarterly reporting is being modified per DAQ current practices to semi-annual as part of this renewal.

112(r) – The facility is not subject to Section 112(r) of the Clean Air Act requirements because it does not store any of the regulated substances in quantities above the thresholds in the Rule. This permit renewal does not affect this status.

CAM – 40 CFR 64 requires that a continuous compliance assurance monitoring plan be developed for all equipment located at a major facility, that have pre-control emissions above the major source threshold, and use a control device to meet an applicable standard. The following table indicates the current equipment/control device relationships at the facility:

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
JP-021	One wood/coal/tire-derived fuel (TDF)/plastic waste/paper mill sludge/waste oil-fired boiler (70,000 pounds per hour steam capacity; 145.1 million Btu per hour maximum heat input capacity from wood combustion; 99.1 million Btu per hour maximum heat input capacity from non-wood combustion)	CD-1-1 CD-1-2	One multicyclone (99 nine-inch diameter tubes) One venturi scrubber (540 gallons per minute)

The following table indicates the specific permit conditions for each source/control device arrangement and if the control device is installed to comply with that requirement:

Emission Source ID Nos.	Control Device ID Nos.	Permit Conditions	Control Equipment Installed to Meet Permit Limit?
JP-021	CD-1-1 CD-2-1	15A NCAC 2D .0504 – Particulate matter 15A NCAC 2D .0516 – Sulfur dioxide 15A NCAC 2D .0521 – Visible emissions 15A NCAC 2D .1806 – Odorous emissions 15A NCAC 2Q .0317 – Sulfur dioxide 15A NCAC 2Q .0317 – Carbon monoxide 15A NCAC 2Q .0317 – NC Air Toxics 15A NCAC 2Q .0711 – NC Air Toxics	Yes No, coal supplier certs. No, not criteria pollutant No, not criteria pollutant No, fuel usage No, fuel usage No, not criteria pollutant No, not criteria pollutant

This source is described as a wood/coal/tire-derived fuel (TDF)/plastic waste/paper mill sludge/waste oil-fired boiler with a heat input capacity of 145.1 million Btu per hour while combusting wood fuel and 99.1 million Btu per hour while combusting all other non-wood fuels. A check against the DAQ fuel combustion spreadsheets indicates that potential before control PM₁₀ emissions from this source for all fuel types is greater than major source thresholds for CAM applicability. Therefore, CAM will be required for PM₁₀ control as follows:

6. 15A NCAC 2D .0614: COMPLIANCE ASSURANCE MONITORING

- a. Per 40 CFR 64 and 15A NCA 2D .0614, the Permittee shall comply with the following requirements.
- b. Background.
 - i. Emission Unit – One wood/coal/tire-derived fuel (TDF)/plastic waste/paper mill sludge/waste oil-fired boiler (ID No. JP-021).
 - ii. Applicable regulations, emission limit, and associated control devices –
 - A. Regulation – 15A NCAC 2D .0504
 - B. Emission Limit – 0.39 pounds particulate matter per million Btu heat input while firing wood and an emission limit as calculated by the following equation while combusting wood with other non-wood fuels:

$$E = [(0.39)(Q_w) + (0.33)(Q_o)]/(Q_t)$$

Where: Q_w = actual wood heat input rate in Btu per hour
 Q_o = actual other fuel heat input rate in Btu per hour
 $Q_t = Q_w + Q_o$

- C. Control Technology – One multicyclone (ID No. CD-1-1) in series with one venturi scrubber (ID No. CD-1-2).
- c. Monitoring approach – The key elements of the monitoring approach for particulate matter, including parameters to be monitored, parameter ranges and performance criteria are presented in the following table. The selected indicator is scrubber water flow rate.

Scrubber Indicator 1	
I. Indicator	Scrubber water flow rate
Measurement approach	Water flow entering the scrubber will be monitored with a flow meter.

Scrubber Indicator 1	
<p>II. Indicator range</p> <p><i>QIP threshold</i></p>	<p>An excursion is defined as a flow rate reading less than 550 gallons per minute.</p> <p>The <i>QIP threshold</i> is an excursion occurring at any time if the total duration of the excursions is greater than 5% of the total boiler operating time during the reporting period*. An excursion triggers an inspection, corrective action, and a reporting requirement.</p>
<p>III. Performance criteria</p> <p>A. Data representativeness</p> <p>B. Verification of Operational Status</p> <p>C. QA/QC Practices</p> <p>D. Monitoring Frequency</p> <p>Data collection procedures</p> <p>Averaging periods</p>	<p>The flow meter can be installed at any point on the water line because the flow will be consistent throughout the line and the gauges have an accuracy of +5%.</p> <p>Flow rate above the indicator range indicates normal operation of the scrubber.</p> <p>At a minimum, the flow meter is calibrated annually or per manufacturer's instructions.</p> <p>Measurements are made once per shift.</p> <p>Measurements are manually recorded at each interval.</p> <p>None.</p>

* Total boiler operating time for the purpose of this permit requirement is limited to normal operation. Start-up/shut-down/malfunction time is handled via the requirements of General Condition I.A and I.B in Section 3 – General Conditions.

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

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

Rationale for selection of performance indicators – The existing monitoring includes monthly external inspections and annual internal inspections of the control equipment. The addition of monitoring of water flow will ensure that sufficient flow is present for effective particulate removal. This parameter can be controlled or adjusted, as necessary, to provide reasonable assurance of compliance. The multicyclone is a mechanical collector that has no controls or adjustable features. Therefore, no monitoring requirements will be applied to it.

Rationale for selection of indicator ranges – The primary parameter used to evaluate the scrubber performance is water flow rate. This parameter was evaluated using data collected during a PM stack test conducted in April 2003. The water flow rate was set at that time. The multicyclone has no controls or adjustable features; rather the unit is designed to operate efficiently between the minimum turndown flow of the boiler and the maximum boiler capacity.

VII. Facility Wide Air Toxics

The Permittee has made a demonstration that the following NC Toxic Air Pollutants are below their respective Toxic Pollutants Emission Rates: This permit renewal does not affect this status.

Pollutant(s) (CAS number)	TPER Limitations			
	Carcinogens (lbs/yr)	Chronic Toxicants (lbs/day)	Acute Systemic Toxicants (lbs/hr)	Acute Irritants (lbs/hr)
Benzyl chloride (100-44-7)			0.13	
1,3-butadiene (106-99-0)	12			
Dichlorodifluoromethane (75-71-8)		5,200		
p-dichlorobenzene (106-46-7)				16.8
Methyl chloroform (71-55-6)		250		64
Nickel (7440-01-0)		0.13		
Perchloroethylene (127-18-4)	13,000			
Phenol (108-95-2)			0.24	
Styrene (100-42-5)			2.7	
1,1,2,2-tetrachloroethane (79-34-5)	430			
Trichloroethylene (79-01-6)	4,000			
Trichlorofluoromethane (75-69-4)			140	
Vinyl chloride (75-01-4)	26			
Xylene (1330-20-7)		57		16.4

In addition to this demonstration, Section 2.2 A.2 allows the Permittee to combust waste oil that does not exceed the following allowable constituent/property levels:

Constituent/Property	Allowable Limit
Arsenic	1 ppm
Cadmium	2 ppm
Chromium	5 ppm
Lead	100 ppm
Total Halogens	1000 ppm
Flash Point	100 degrees Fahrenheit minimum

Constituent/Property	Allowable Limit
Sulfur	1.0% maximum
Ash	1.0% maximum

To ensure compliance, the Permittee is required to annually certify that any waste oil combusted in the boiler is below these limits and report those results to the ARO within 30 days after the end of the calendar year. In addition, any waste oil combusted shall not exceed 5 pounds per hour and the total amount of paper sludge shall not exceed 600 dry pounds per hour. This permit renewal does not affect this status. However, these requirements will be placed in a separate NC Air Toxics Avoidance Condition as Section 2.2 A.3 in the renewed permit.

VIII. Facility Emissions Review

The following table represents the latest years emission inventory from the facility:

Pollutant(s)	2006 Actual Emissions (tpy)	2007 Actual Emissions (tpy)
CO	237.87	233.33
NO _x	108.79	106.7
PM ₁₀	75.39	73.93
SO ₂	9.23	8.62
VOC	23.71	32.48
Total HAP/TAP	14.72	13.39

IX. Stipulation Review

Brendan Davey of the ARO noted the following issues in his permit application review (*RCO response/action shown in italics*):

1. The facility should be thoroughly reviewed for CAM applicability. The company is claiming scrubber water flow monitoring is not required. Regardless of CAM, this office recommends scrubber water flow monitoring be required. *DAQ has confirmed that CAM is applicable to the control devices installed on the boiler (ID No. JP-021) because potential before-control emissions of PM₁₀ exceed the major source thresholds for CAM applicability. CAM has been included (see above for a discussion) which includes a requirement to monitor water flow rate. In addition per the ARO, a monitoring requirement for the venturi scrubber has been added requiring water flow rate to be maintained above 540 gallons per minute.*
2. RCO should review the wood fuel storage piles and wood fuel conveying system to permit applicability and include on the permit insignificant activities list if necessary. *Agree; see Inspection Items 1, 2, and 3 below for a discussion.*
3. It is requested that this permit renewal address pulper waste and sludge firing in some manner. *Agree; see Inspection Item 4 below for a discussion.*
4. Plastic waste firing should be addressed. *Agree; see Inspection Item 7 below for a discussion.*

5. Particulate, Method 9, and carbon monoxide stack testing should be required for both TDF and non-TDF scenarios. Since the company no longer burns TDF (but may in the future), the stipulation should be written upon commencement of TDF firing. The last stack test was conducted in April of 2003. *Agree, testing conditions will be added as suggested. Testing shall be required to be completed within one year of permit issuance except for the TDF operating scenario that will be upon commencement of TDF combustion.*

Brendan Davey of the ARO noted the following issues in his current inspection report:

1. Recommends listing the gluing operation separately on the list of insignificant activities. *Based on observations from his latest facility inspection, Brendan Davey estimates that the facility uses about 55 gallons of glue every 2 weeks, at 6 g VOC/liter (9.2 lb/gal), and 1.1 SG. He estimates that the facility emits 71.5 pounds of VOC per year. Therefore, this source qualifies as an exempt source and will be listed in the renewed permit.*
2. A wood fuel conveyor system (consisting of truck dumps, drag conveyors, hog, belt conveyors, and screens) was observed to be in operation. This source is not listed on the Title V permit and should be reviewed for permit applicability. The facility has responded through the renewal application to a letter sent to them by the ARO. *See Response for Inspection Item 3 below.*
3. The wood fuel storage piles do not appear on the Title V permit and should be reviewed for permit applicability. The facility has responded through the renewal application to a letter sent to them by the ARO. *The Permittee has estimated emissions from this source as a combination of all wood handling equipment including the piles themselves. The emission factor used can be determined in AP-42, Chapter 13 Aggregate Handling and Storage Piles (as no emission factors are represented for wood handling). Taking into account, wind speed and moisture content of the wood (equation 13.2.4.3(1)), a particulate matter emission factor is calculated as 0.00037 pounds per tons processed. In 2004 the facility processed 59,704.05 tons (based on wood fuel purchase records). This equates to actual particulate emissions of 0.132 tons per year (taking into account the number of emission points). This is well below insignificant source threshold. It should be noted that a 5-ton per year insignificant activity threshold equates to a throughput of 2,252,252 tons per year with the established emission factor. Facility records indicate approximately 200-220 tons per day of wood is combusted (~80,300 tons per year); therefore, the wood handling and storage areas will be added to the renewed permit as an insignificant activity.*
4. The facility combusts 10 to 20.5 wet tons per day of sludge. This could possible exceed the 300 pounds per hour limit depending on the solids content and the proportion of biological sludge. The weight of sludge includes the weight of reject fiber from the recycle plant and it is impossible to determine the true weight of biological sludge alone. The facility has responded through the renewal application to a letter sent to them by the ARO. *The Permittee has noted that the wastewater sludge is a mixture of biological and non-biological sludge (pulper rejects) that is in the same vessel at all times. Therefore, quantifying the biological sludge independently is difficult. As such, the ARO has always agreed in principle that the sludge-firing rate is artificially higher due to the inclusion of the pulper waste and therefore, considers Jackson Paper in compliance with the 300 pounds per hour biological paper mill sludge firing limit (dry basis) as long as the combined rate is below the limit. If the Permittee expects to exceed this limit on a combined basis, a permit application shall be submitted prior to exceeding the limit to address the fact that the two weights are combined. The Permittee contends that it does not approach the hourly limit either at generation or combustion. In support of this contention, the Permittee submitted results from a one-month daily percent solids test. This test indicated that the four sources of waste were the Uniflow Tank, Hydrocal, and the Primary and Secondary Clarifiers.*

The Permittee notes that only the Secondary Clarifier contains a biological component and supplies approximately 50 pounds per hour (dry basis) to the sludge stream. The Permittee also notes that, on the dates when the dry solids are above the 300 pound per hour (dry basis) the highest solids were created by the material exiting the Uniflow Tank.

5. The inspection and maintenance activities described in the permit for the venturi scrubber do not specify a time frame for the inspections. The facility conducts twice a year (fall/spring) internal inspections and cleanouts and also as needed during other times of the year. The scrubber does not have spray nozzles like other scrubbers, but four “hose-like” discharges into a reservoir that dumps onto the conical structure. ARO recommends that the required time frame be included with the required inspections. *Agree. The time frame for inspection and maintenance activities has been set in the renewed permit consistent with current facility practices.*
6. The recordkeeping condition for visible emissions appears to have been left out of the Title V permit. It should be re-added the next time the permit is opened. *Agree. Section 2.1 A.3.d has been included adding the recordkeeping requirements for visible emissions from this source (ID No. JP-021).*
7. The sulfur dioxide PSD avoidance condition does not specifically require the plastic waste be recorded in the monthly fuel records. This issue should be addressed during the air permit renewal. In addition per Brendan Davey, “The air permit does not appear to refer to the small amount of plastic the facility burns from the recycle process. The plastic has been noted during past inspections, past letter, and appears to have been referenced in the Title V application as ‘cardboard wrappings’. The permit should take this into account and provide a maximum feed rate of plastic. The DAQ letter dated September 2, 2005 to the company requested this plastic feed be included in the Title V permit renewal application. The TV renewal application received July 14, 2006 incorporates this information.” *The Permittee is currently subject to an avoidance condition limiting emissions of sulfur dioxide from the boiler to less than 250 tons per year. Other than a recordkeeping requirement of fuel usage and sulfur content, the permit does not require further recordkeeping or reporting unless the use of coal (or as modified, TDF) is started. This amount of recordkeeping and reporting was deemed appropriate during the drafting of the initial Title V permit. Maximum potential emissions for the combustion of wood, TDF, sludge, and waste oil were computed and found to be approximately 244.2 tons per year (coal was determined to be 989.65 tons per year – See Susan McCarthy Permit Application Review (April 5, 2001)). The ARO requested that the Permittee provide information on plastic waste combustion as part of the renewal application. The Permittee provided a maximum design capacity of 1,522 pounds per hour with a sulfur content (% by weight) of 0.1524. Maximum sulfur dioxide emissions from the plastic combustion component is calculated as:*

$$\begin{aligned} &= (0.1524 \text{ wt}\% \text{ S}) \times (1522 \text{ lbs/hour}) \times (2 \text{ lbs SO}_2/\text{lb sulfur}) \times (1 \text{ ton}/2000 \text{ lbs}) \times (8760 \text{ hrs/year}) \\ &= 20.32 \text{ tons SO}_2/\text{year} \end{aligned}$$

This calculated amount when added to the potentials from all other fuel types (excluding coal) equals a new potential SO₂ of 264.2 tons per year (over the 250 ton per year emission limit). Therefore, the avoidance condition has been modified to reflect the need to monitor SO₂ emissions at all times for all fuel types. The exclusion for monitoring/recordkeeping/reporting previously allowed for coal has been modified to add TDF combustion (see below for a discussion). In addition, “plastic waste” has been added to the list of allowed fuel types for this source.

Brendan Davey of the ARO was given a chance to review a pre-draft version of the renewed permit prior to sending a copy to the Permittee. He had the following additional comments on the version he reviewed.

1. For CAM, Suez Energy (5600164) is required to have continuous monitoring of scrubber pressure drop, scrubber water flow, and multicyclone pressure drop, with data logging and averaging. Suez is a very similar scrubber-controlled wood-burning facility to Jackson Paper but has more stringent CAM conditions. Why are the CAM requirements for these similar facilities so drastically different? I think the two permit conditions should be compared for consistency. *Current guidance only requires that CAM be applied to the unit directly emitting to the atmosphere when control devices are installed in series. The Permittee is required by permit to properly operate, maintain, and inspect the multicyclone to ensure compliance with the emission limit. This requirement is maintained in the renewed permit rather than directly in the new CAM condition.*
2. Any text regarding data availability (and monitor downtime) in the CAM permit condition? If they miss recording every two hours are they in violation of permit condition? If the monitor is malfunctioning are they in violation of the permit condition? I know Samir had pointed out some portions of the CAM rule that address monitor downtime. Maybe our CAM conditions should include references to these portions of the rule. *40 CFR 64.7(c) states "...data recorded during monitoring malfunctions, associated repairs, and required quality assurance of control activities shall not be used for purposes of this part, including data averages and calculations, or fulfilling a minimum data availability requirement, if applicable." The rule continues by defining what a monitoring malfunction may be considered. The Permittee should handle malfunctions and deviations as they happen through the current General Conditions I.A and I.B as appropriate.*
3. The pressure drop in 6.c (the first paragraph) indicates it is over the scrubber, but the following table indicates "multicyclone". Should they both be scrubber? *Pressure drop has been removed from the draft CAM plan for the facility.*
4. Add accuracy requirements for the scrubber flow measurements. *Agree; renewed permit will include accuracy requirements for flow meter.*
5. For the 300 pounds per hour limit on biological sludge, I suppose their one time submittal with this renewal application will fulfill the requirement of "*ii. the maximum allowable biological paper mill sludge combusted in this sources (ID No. JP-021) shall not exceed 300 pounds per hour. The facility shall keep records on-site that verify the above limits are not exceeded.*" The permit does not seem to be requiring they repeat their study. *Because of the complexity in quantifying biological and non-biological portions of the waste sludge allowed to be combusted in the boiler, the Permittee has requested that the permit be modified to only allow 600 dry pounds per hour of sludge (biological and non-biological combined) to be combusted in the boiler. With this modification, the Permittee does not have to revisit the evaluation made as part of the permit renewal application. The renewed permit has been modified accordingly.*
6. The TDF particulate, CO, and VE testing is required upon recommencement of TDF firing. Can it be more specific (i.e., within 90 or 180 days of re-firing TDF)? *Agree; testing and submittal of results will be required within 180 days of re-commencement of TDF firing.*

7. What about including NOx testing per pervious permits? *Disagree; the current permit does not specify a NOx emission limit. Actual emissions reported for the past two years indicate an actual emission rate of ~107 tons per year. The facility would have to more than double its current emission rate to approach PSD Avoidance levels. The facility most recently tested in 2003. At that time, testing results for NOx (although not required) were reported as 241 tons per year potential for Non-TDF runs and 99 tons per year potential for TDF runs.*
8. Condition 5.f has a type (“tore” should be “tire”). *Agree; typo has been corrected.*
9. Now that plastic waste is listed as a permitted fuel, should we specify they are only allowed to burn on-site generated from specific portions of the pulping process (i.e., they cannot purchase waste to burn). Also, some of the pulping process plastic waste is not burned (e.g., rag rope). *Agree; per the most recent facility inspection report the facility combusts plastic floaters consisting of lightweight plastics from tape, labels, etc which come into the plant attached to the cardboard. The plastic fired is from three sources at the recycle plant (Sepraplast, scavenger, and junk tower). The rag rope plastic and metal collected from the pulper are not fired in the boiler and are landfilled instead. The inspection report notes that the company has temporarily suspended feeding scavenger and junk tower plastic scrap to the boiler to address opacity issues. The company hopes to install a device to dewater and shred this plastic for easier fuel feed. The renewed permit specifies allowed plastic waste for combustion. The permit will note the requirements for on-site generated plastic combustion as suggested.*

Brendan also went on to state that we could make the Permittee’s life simpler by not requiring sulfur dioxide reporting and recordkeeping as long as they are not firing coal or TDF (no recordkeeping and reporting is currently required as long as coal is not combusted). *This has been added to the renewed permit.* He also requested a final draft be submitted to him for review.

X. Public Notice/EPA and Affected State(s) Review

Pursuant to 15A NCAC 2Q .0521, a notice of the DRAFT Title V Permit shall be placed in a newspaper of general circulation in the area where the facility is located. The notice will provide for a 30-day comment period, with an opportunity for a public hearing. Copies of the public notice shall be sent to persons on the Title V mailing list and EPA. Pursuant to 15A NCAC 2Q .0522, a copy of each permit application, each proposed permit and each final permit shall be provided to EPA. Also pursuant to 2Q .0522, a notice of the DRAFT Title V Permit shall be provided to each affected State at or before the time notice provided to the public under 2Q .0521 above. Tennessee, Georgia and South Carolina are affected States and The Western NC Regional Local Program is an affected program all within 50 miles of the facility.

XI. Conclusions, Comments, and Recommendations

A professional engineer’s seal was not required for this renewal.

A consistency determination was not required for this renewal.

ARO recommends issuance of the permit and **was presented** with a DRAFT permit prior to notice and issuance.

RCO concurs with ARO’s recommendation to issue the renewed air permit.