

Prevention of Significant Air Quality Deterioration Review
Koch Cellulose, LLC – Brunswick Cellulose Inc. Pulp & Paper Mill,
located in Brunswick, Georgia (Glynn County)

FINAL DETERMINATION

Application No. 16576 dated January 18, 2006



State of Georgia
Department of Natural Resources
Environmental Protection Division

Heather Abrams – Chief, Air Protection Branch

Stationary Source Permitting Program

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BACKGROUND

On January 18, 2006, Brunswick Cellulose, Inc. Pulp and Paper Mill (BCI) submitted an application for an air quality permit to modify, construct, and operate equipment at their Brunswick, Georgia mill. The proposed project includes the installation of Lime Kiln #6 (Source Code: L560) and associated air pollution control equipment (Source Codes: LEP2 and LKS2); installation of Petroleum Coke Grinding Equipment (Source Code: PC01) and associated air pollution control equipment (Source Codes: BIN1-BIN3) for fuel for Lime Kiln #6; installation of 4 digesters (Source Codes: P230-P233); the replacement of 3 existing bleach plants with new Bleach Plant #4 (Source Code: BG06) and scrubber (Source Code: BPS4); installation of new Evaporator set #6 (Source Code: R495) to replace sets #3 and #4; modifications to Recovery Boilers #5 and #6 (Source Codes: R407 and R401); modifications to Nos. 3, 4, and 5 Paper Machines (Source Codes: MG03-MG05); the replacement of 2 existing washer lines with new Brownstock Washer System (Source Code: PG30); replacement of 1 existing slaker with new Lime Slaker #3 (Source Code: L561); replacement of Smelt Tank #6 Scrubber (Source Code: RSS6); and other modifications and upgrades as specified in Application No. 16576 to the facility in order to attain a future potential mill capacity of 3,000 ADTPD.

On March 9, 2007, the Division issued a Preliminary Determination stating that the modifications described in Application No. 16576 should be approved. The Preliminary Determination contained a draft Air Quality Permit for the construction and operation of the projects.

The Division requested that BCI place a public notice in a newspaper of general circulation in the area of the existing facility notifying the public of the proposed construction and providing the opportunity for written public comment. Such public notice was placed in *The Brunswick News* (legal organ for Glynn County) on March 17, 2007. The public comment period expired on April 16, 2007.

During the comment period, comments were received from U.S. EPA Region 4, the facility, and one member of the general public. A copy of the final permit amendment is included in Appendix A. A copy of written comments received during the public comment period is provided in Appendix B.

U.S. EPA REGION 4 COMMENTS

Comments were received from Jim Little, signing for Greg Worley – Chief of the Air Permits Section at EPA Region 4 on April 16, 2007 regarding the Draft Title V Permit terms and conditions.

Comment received from U.S. EPA dated April 13, 2007

Comment 1: Particulate Matter Emissions Limits

The draft permit contains “PM” emissions limits for the following emissions units: Recover Boiler #5, Recovery Boiler #6, Lime Slaker #3, Petroleum Coke Grinding Storage Silo, Lime Kiln #6. The proposed project triggers PSD review for both PM and PM₁₀. We understand that the acronym “PM” in the draft permit means both PM and PM₁₀ wherever it appears. Please explain in the final determination or final permit if this is not the case.

EPD Response: EPA is correct. “PM” refers to both PM and PM₁₀.

Comment 2: Compliance Averaging Times and Emissions Limits

Emissions limits are provided in Section 3.2 of the draft PSD permit. However, this section for the most part does not contain the compliance averaging times associated with the emissions limits. We understand that the compliance averaging times can be obtained from Condition 6.1.7 of the draft permit where excess emissions, exceedances, and excursions are explained. Based on our review of Condition 6.1.7, we have prepared the attached table in which we show (1) our understanding of the compliance averaging times where we can find them, and (2) emissions limits for which we can not find compliance averaging times. We request that the final determination provide (1) confirmation of the compliance averaging times listed and (2) identification of the compliance averaging times we could not find (with a reference to the permit conditions that contain these averaging times).

EPD Response: See the table below for the information requested.

Emissions Unit	Emissions Limit	Compliance Averaging Time	Permit Conditions
Recovery Boiler #5 – modified equipment	TRS - 20 ppmv	24-hour	6.1.7.a.i(A)(I)
	TRS - 10 ppmv*	12-hr	6.1.7.a.i(A)(II)
	PM - 0.044 gr/dscf	Stack test biennially. Monitor and record surrogate (total secondary ESP Power level) once per 8 hours.	5.2.3.d.ii, 6.1.7.c.iv(C)
	PM - 0.021 gr/dscf*	Stack test biennially. Monitor and record surrogate (total secondary ESP Power level) once per 8 hours.	4.2.19.a, 5.2.3.d.ii, 6.1.7.c.iv(C)
	NO _x - 100 ppmv*	12-hour	6.1.7.a.i(F)
	CO - 300 ppmv*	30-day	6.1.7.a.i(G)
	VOC - 0.04 lb/MMBtu*	Stack test biennially. 30-day since based on CO.	4.2.19.b
Recovery Boiler #6 – modified equipment	H ₂ S - 4 ppmv*	12-hour	6.1.7.b.iii(D)
	PM - 0.044 gr/dscf	Stack test biennially. Monitor and record surrogate (total secondary ESP Power level) once per 8 hours.	5.2.3.d.ii, 6.1.7.c.iv(B)
	PM - 0.021 gr/dscf*	Stack test biennially. Monitor and record surrogate (total secondary ESP Power level) once per 8 hours.	4.2.20.a, 5.2.3.d.ii, 6.1.7.c.iv(B)
	TRS - 5 ppmv	12-hour	6.1.7.a.i(B)
	NO _x - 180 ppmv	Stack test biennially.	None in existing permit

	NO _x - 100 ppmv*	12-hour	6.1.7.a.i(F)
	CO - 300 ppmv*	30-day rolling average	6.1.7.a.i(G)
	VOC - 0.04 lb/MMBtu*	Stack test biennially. 30-day since based on CO.	4.2.20.b
	H ₂ S - 4 ppmv*	12-hour	6.1.7.b.iii(D)
NCG Incinerators – modified equipment	NO _x - 215.5 ton	12-month	6.1.7.b.vii(A)(I)
	NO _x - 0.456 lb/ADTP*	30-day	6.1.7.b.vii(A)(III)
	NO _x - 100 ton (Backup)*	12-month	6.1.7.b.vii(A)(II)
Lime Slaker #3 – new equipment	PM - 0.07 lb/ton CaO	Stack test. On-going - good work practices.	4.2.21, 6.2.36
Petroleum Coke Grinding- new equipment	PM - 0.01 gr/dscf	Stack test. Daily inspection.	4.2.26, 5.2.7 6.2.36
	NO _x - 0.1 lb/MMBtu	Daily inspection should indicate any potential problems. Emissions are expected to be very low.	6.2.36
	CO - 84 lb/MMscf	Daily inspection should indicate any potential problems. Emissions are expected to be very low.	6.2.36
	VOC - 5.5 lb/MMscf	Daily inspection should indicate any potential problems. Emissions are expected to be very low.	6.2.36
Bleach Plants – existing equipment	Cl ₂ - various lb/hr	Stack test – 3-hour avg.	5.2.3.f, 6.1.7.c.vi
	ClO ₂ - various lb/hr	Stack test – 3-hour avg.	5.2.3.f, 6.1.7.c.vi
Bleach Plant #4 – new equipment	CO - 1.69 lb/UODTP	Stack test. Monitor and record surrogate (liquid-to-air and oxidation/reduction potential) once per hour. Report any value out of range.	4.2.23, 5.2.3.f 6.1.7.c.vi
	VOC - 0.92 lb/ADTP	Stack test. Monitor and record surrogate (liquid-to-air and oxidation/reduction potential) once per hour. Report any value out of range.	6.2.36
	Cl ₂ and ClO ₂	Stack test. Monitor and record surrogate (liquid-to-air and oxidation/reduction potential) once per hour. Report any value out of range.	4.2.23, 5.2.3.f, 6.1.7.c.vi
Lime Kiln #6 – new equipment	PM - 0.010 gr/dscf	Stack test annually. Monitor and record surrogate (total secondary ESP Power level) once per 3 hours.	6.1.7.b.v(H)
	TRS - 8 ppmvd	12-hour	6.1.7.a.vi(A)
	NO _x - 250 ppmv (w/ petcoke)	30-day	6.1.7.a.vi(B)
	NO _x - 145 lb/hr (w/ petcoke)	12-hour	6.1.7.b.viii(B)
	NO _x - 150 ppmv (w/o petcoke)	30-day	6.1.7.a.vi(C)
	CO - 1.12 lb/ton CaO	30-day	6.1.7.a.vi(D)
	VOC - 25 ppmv	Stack test biennially. 30-day since based on CO.	4.2.18.b
	H ₂ S - 8 ppmv	12-hour	4.2.18.b, 6.1.7.b.viii(A)
	SO ₂ - 0.41 lb/ton CaO	Stack test annually if firing pet coke. Continuously monitor and record surrogate (pH). 3-hour average.	4.2.2.f.iv, 6.1.7.c.xi

*Emissions limit after modifications

Comment 3: Total Mass Emissions Limits

The impact modeling analysis for PM₁₀, NO_x, and CO is based on total mass emissions to the atmosphere. Three of the biggest emitters of these pollutants are Lime Kiln #6, Recovery Boiler #5, and Recovery Boiler #6. The limits for emissions of PM₁₀, NO_x, and CO from these emissions units are for the most part in concentration units and not total mass units. (By “concentration unit” we mean ppmv or gr/dscf.) If total mass per unit time emissions limits (e.g., lb/hr) are not included in the final permit, please explain how the concentration limits provide assurance that the emissions rates used in the modeling analysis will not be exceeded.

EPD Response:Lime Kiln #6

PM/PM₁₀ The proposed BACT limit for PM/PM₁₀ is 0.010 gr/dscf @ 10% O₂. Based on an air flow rate of 78,853 dscfm (which was calculated as a ratio based on the air flow rate of the current lime kiln as measured during recent testing), 0.010 gr/dscf converts to 29.60 tpy PM/PM₁₀ which is equivalent to 0.85 g/s. The project was modeled at the rate of 0.85 g/s. The facility has proposed to use a ESP to control PM/PM₁₀ emissions. The facility will establish ESP parameters (minimum total secondary power) during a performance that should provide a reasonable assurance of compliance with the emission limit. The only factors that would impact emissions are actual air flow rate and actual hours of operation. Therefore, continuous monitoring of the ESP parameters should assure that the emissions rates used in the modeling analysis will not be exceeded.

NO_x The original proposed BACT limit for NO_x was 300 ppm @ 10% O₂ while firing pet coke. However, the facility agreed to drop the NO_x limit to 250 ppm @ 10% O₂ while firing pet coke, or 150 ppm @ 10% O₂ while firing fuels other than pet coke. Based on an air flow rate of 78,853 dscfm, 250 ppm converts to 618.98 tpy NO_x, which is equivalent to 17.81 g/s. The project was modeled at the original proposed rate of 21.37 g/s (based on 300 ppm). The facility has proposed to use a NO_x CEM to assure compliance with the emission limit. The only factors that would impact emissions are actual air flow rate and actual hours of operation. Therefore, the use of a CEMs to monitor the 250 ppm @ 10% O₂ emission limit should assure that the emissions rates used in the modeling analysis will not be exceeded.

CO The proposed BACT limit for CO is 1.12 lb/ton CaO. Based on a maximum calcium oxide production rate of 310,250 tpy, 1.12 lb/ton CaO converts to 173.74 tpy CO, which is equivalent to 5.00 g/s. The project was modeled at the rate of 5.00 g/s. The facility has proposed to use a CO CEM to assure compliance with the emission limit. The only factors that would impact emissions are actual calcium oxide production. Therefore, the use of a CEMs to monitor the 1.12 lb/ton CaO emission limit should assure that the emissions rates used in the modeling analysis will not be exceeded.

Recovery Boilers #5 and #6

PM/PM₁₀ The proposed BACT limit for both recovery boilers for PM/PM₁₀ is 0.021 gr/dscf @ 8% O₂. The calculations are based on an air flow rate of 230,000 dscfm for #5 and 276,000 dscfm for #6, which was calculated based on the air flow rate of the measured during recent testing and scaling up to the targeted levels of 4,000,000 lb BLS/day for #5 and 6,000,000 lb BLS/day for #6. 0.021 gr/dscf converts to 181.33 tpy PM/PM₁₀ from #5, and 217.60 tpy PM/PM₁₀ from #6, which is equivalent to 5.22 g/s and 6.26 g/s, respectively. The project was modeled at the rate of 1.61 g/s for each stack of #5 and 6.26 g/s for #6. The facility has proposed to use a ESP to control PM/PM₁₀ emissions. The facility will establish ESP parameters (minimum total secondary power) during a performance that should provide a reasonable assurance of compliance with the emission limit. The only factors that would impact emissions are actual air flow rate and actual flow of black liquor solids. Therefore, continuous monitoring of the ESP parameters should assure that the emissions rates used in the modeling analysis will not be exceeded.

NO_x The proposed BACT limit for both recovery boilers for NO_x is 100 ppm @ 8% O₂. Based on an air flow rate of 78,853 dscfm, 250 ppm converts to 618.98 tpy NO_x, which is equivalent to 17.81 g/s. The project was modeled at the rate of 21.37 g/s. The facility has proposed to use a NO_x CEM to assure compliance with the emission limit. The only factors that would impact emissions are actual air flow rate and actual hours of operation. Therefore, the use of a CEMs to monitor the 250 ppm @ 10% O₂ emission limit should assure that the emissions rates used in the modeling analysis will not be exceeded.

CO The proposed BACT limit for CO is 1.12 lb/ton CaO. Based on a maximum calcium oxide production rate of 310,250 tpy, 1.12 lb/ton CaO converts to 173.74 tpy CO, which is equivalent to 5.00 g/s. The project was modeled at the rate of 5.00 g/s. The facility has proposed to use a CO CEM to assure compliance with the emission limit. The only factors that would impact emissions are actual calcium oxide production. Therefore, the use of a CEMs to monitor the 1.12 lb/ton CaO emission limit should assure that the emissions rates used in the modeling analysis will not be exceeded.

Comment 4: Averaging Time for Carbon Monoxide Emissions Limits and Modeling

The modeling analysis for carbon monoxide (CO) emissions was performed to show the impact of the project in comparison with the 1-hour and 8-hour CO significant impact levels and the 8-hour CO *de minimis* monitoring concentration. The only CO emissions limits we find in the draft permit, however, are emissions limits with an apparent 30-day compliance averaging time. We request that the final determination include an explanation of how 30-day CO limits provide assurance that the analysis of 1-hour and 8-hour impact levels is valid.

EPD Response: The CO emissions were calculated as 48% of the allowable significant impact level for the 1-hour, 31% of the allowable for the 8-hour, and 27% of the *de minimis* monitoring concentration. EPD believes that a 30-day limit is sufficient to provide assurance of compliance with the significant impact levels and *de minimis* monitoring concentration.

Comment 5: Lime Kiln #6 Nitrogen Oxides Emissions Limit for Petroleum Coke Firing

Condition 3.2.27.c.i in the draft permit contains a NO_x emissions limit of 250 ppmv (corrected to 10 percent oxygen) when firing petroleum coke. We understand this to be a 30-day limit. If this understanding is correct, please explain whether the limit applies if petroleum coke is fired on any day during a 30-day period or only if petroleum coke is fired every day during a 30-day period. Also please explain the reporting procedure that will be used to demonstrate compliance with the applicable limit (either the petroleum coke limit or the limit without petroleum coke).

EPD Response: EPA is correct about the 30-day average for the 250 ppmv limit (corrected to 10 percent oxygen) when firing petroleum coke. The facility has proposed to use the same reporting procedures as used for their existing power boilers (PB6 and PB7) that fire two different fuels with different NO_x limits (see Permit Conditions 3.3.6 and 3.3.7). BCI submits separate 30-day rolling average NO_x emissions reports for each respective fuel for each boiler. All of the reports show the emissions of the source on a daily average, but only the hourly averages which occurred while burning the respective fuel is included in the report for that fuel (also reported in an accompanying set of data). For example, if the 6PB burned No. 2 fuel oil for 4 hours and then burned natural gas for 20 hours, then 4 hourly emission averages would be included in the data that makes up the 30-day NO_x emissions report for the No. 2 fuel oil report and 20 hours of emissions data would be entered into the data set that is used to determine the emissions of the boiler while operating on natural gas. Emissions data on the two fuels is not mixed in the reporting. The emission limits on the fuel are different and the data is kept separated. 30-day rolling averages are calculated using the respective data sets and two separate reports are issued comparing the emissions to the respective fuel emission limits. Fuel oil emissions data is compared only to a fuel oil burning emissions limit and natural gas emissions data is compared to a natural gas burning emissions limit.

Comment 6: Project netting vs. Full Contemporaneous Netting

Under current EPA regulations, the first step in a PSD applicability assessment is to look just at the emissions increases associated with a proposed change. If the increase of a regulated NSR pollutant exceeds the defined PSD significant emissions increase level for that pollutant, then that pollutant must undergo a full contemporaneous netting analysis if the applicant wishes to show that PSD review is not triggered. The use of “project netting” for PSD avoidance is not currently accepted by EPA. Project netting refers to calculating the net changes due to the combination of increases and decreases associated just with the project itself. It appears to us that project netting may have been used for SO₂ emissions in this instance, although the overall result would have been the same. Specifically, in Table 3-1 of the permit application, the applicant used emissions decreases from Recovery Boiler #5 to show that the project itself did not result in a significant emissions increase for SO₂. Instead, the applicant should have shown that the project results in a significant increase in SO₂ increases and then used the decreases from Recovery Boiler #5 as part of a full contemporaneous netting analysis to demonstrate that PSD review was not triggered for SO₂. Since apparently no other SO₂ increases or decreases occurred during the contemporaneous period, a full contemporaneous netting analysis would have led to the same result as the project netting analysis.

EPD Response: The issue has been noted. Since the outcome is the same result, no changes were made to the Permit.

Comment 7: Need for Enforceable Sulfur Dioxide Emission Decrease

As discussed above, the applicant used decreases in SO₂ emissions from Recovery Boiler #5 to net out of PSD review for SO₂. For emissions decreases to be creditable for netting purposes, they have to be enforceable. Enforceability typically requires a permitted emissions limit. We understand that GEPD intends the 12-month fuel oil consumption limit in Condition 3.2.21 of the draft permit to be the enforceable mechanism for limiting SO₂ emissions. However, this condition does not include a restriction on the sulfur content of the fuel oil fired in Recovery Boiler #5. A sulfur content restriction is needed for SO₂ emissions enforceability purposes.

EPD Response: EPD agrees with this comment. Existing permit condition 3.4.20 limits the sulfur content in the fuel oil fired in Recovery Boiler #5 to 3 percent or less, by weight.

BRUNSWICK CELLULOSE MILL COMMENTS

Comments were received from Jill Holmes, Senior Environmental Engineer on April 16, 2007 regarding the Draft Title V Permit terms and conditions.

Comment 1: Condition 3.2.23

The condition states “*The Permittee shall use only fresh process water in the causticizing area...*” but later in the same condition references “*freshwater*” to refer to the same process substance. BCI suggests that the words “*fresh process water*” be changed to “*freshwater*” to better clarify the meaning of the condition.

EPD Response: Change made as requested.

Comment 2: Condition 3.2.24.b (EPD – 3.2.24.c)

The word “*powered*” should read “*powder*”.

EPD Response: Change made as requested.

Comment 3: Condition 3.3.38

The reference for this condition [40 CFR 63.443(a)(2)] implies that the changes which were requested in the permit application constitute a “*new source*” as defined in the regulations. However, BCI does not believe that this is the case. A *new source* (or a reconstructed source) as it relates to this particular permit condition is defined in Subpart S as that of an entirely new Pulping System or one in which at least half of the replacement costs of an entirely new Pulping System are expended. If the planned equipment changes of the Asset Optimization Project (“A/O Project”) that are included in the Pulping System do not meet this definition, then Condition 3.3.38 would not be applicable and the appropriate requirement would remain that which is already in BCI’s existing permit as Condition 3.3.10, which references 40 CFR 63.443(a)(1) for existing sources. BCI is currently preparing an evaluation of equipment replacement costs such that a proper determination can be made as to how the *new source* definition applies to the equipment being replaced by the A/O Project. The information will be submitted to the Division in a separate letter by the end of next week.

EPD Response: Based on the information provided in the letter dated May 1, 2007 from BCI, EPD agrees that the equipment does not meet the requirements of “new or reconstructed source” as defined by 40 CFR 63.5(e). Condition 3.3.38 will be removed from the permit. The equipment will be subject to Condition 3.3.10. All references to Condition 3.3.38 will be changed to 3.3.10.

Comment 4: Condition 3.4.23

This condition states that both Nos. 5 and 6 Recovery Boilers are subject to an opacity limit of 40% when not burning liquor. This is only true for No. 5 Recovery Boiler as No. 6 Recovery Boiler has a limit of 20% (with the exception of one six-minute period per hour of not more than 27%) when burning fuel oil as stated in existing permit Condition 3.2.9 h. [40 CFR 60.43b]. We request that the reference to No. 6 Recovery Boiler be removed from this condition and that the entire condition be reworded as follows for clarity:

*“The Permittee shall not cause, let, suffer, permit or allow emissions from Recovery Boiler #5 the opacity of which is equal to or greater than forty (40) percent when not firing Black Liquor Solids.
[391-3-1-.02(2)(b)1]”*

EPD Response: Change made as requested.

Comment 5: Condition 4.2.2

This condition requires that the No. 6 Lime Kiln be tested for SO₂ emissions annually. It is BCI’s understanding that this requirement was put in place to confirm SO₂ emissions while burning petroleum coke. Based upon this, BCI does not believe that SO₂ testing should be required if there is no petroleum coke burned in the lime kiln on an annual basis. We request that this permit condition be changed such that SO₂ testing would not be required for years during which no petroleum coke has been fired. This could be done by adding clarifying language beneath the condition table to make SO₂ testing required only for years during which petroleum coke is fired.

EPD Response: EPD agrees with this comment. A note has been added to the table in Condition 4.2.2 to clarify that SO₂ testing is only required when petroleum coke was fired in Lime Kiln #6 since the previous test.

Comment 6: Condition 4.2.22.b

BCI requests that the first part of this condition be changed to the following for clarity:

“The Permittee shall conduct a performance test for the Primary NCG Thermal Oxidizer (Source Code: R488) to re-establish the minimum temperature requirements...”

EPD Response: Change made as requested.

Comment 7: Condition 6.1.7.a.i(A)(II)

This condition states a 24-hour average requirement for TRS for No. 5 Recovery Boiler. This period average should be based on a 12-hour average not a 24-hour average.

EPD Response: Change made as requested.

Comment 8: Condition 6.1.7.a.iv(A)

This condition establishes a minimum operating temperature for the Primary Incinerator of 1290 deg F. This number has been updated and should be changed to 1355 deg F as established by stack testing and correspondence to Mr. Sid Stevens dated November 22, 2006.

EPD Response: Change made as requested.

Comment 9: Condition 6.1.7.b.v

BCI requests that the last sentence of this condition be changed to the following for clarity:

“Single event exceedances of the following parameters may still occur for other regulations.”

EPD Response: Change made as requested.

GLYNN ENVIRONMENTAL COALITION

Comments were received from Daniel Parshley, Project Manager on April 16, 2007 regarding the Draft Title V Permit terms and conditions.

Comment 1:

The Brunswick Cellulose (pulp mill) Air Quality Operating Permit No. 2631-127-0003-V-040 (Permit Application) states that the pulp mill is requesting 800 tons per day increase in production. This is contrary to the NPDES permit application by Brunswick Cellulose that represents that the pulp mill is requesting 400 tons per day increase in production. There does not appear to be agreement between the permit applications being submitted to the Georgia Environmental Protection Division GA-EPD. The pulp mill should be submitting permit applications to the GA-EPD with the same information concerning any plans to expand production. Either the NPDES or Air Permit Application need to be modified for agreement.

EPD Response: The Air Branch used all values as provided by Brunswick Cellulose, Inc. in Application No. 16576 dated January 18, 2006. We forwarded this comment to the Permitting, Compliance, and Enforcement Program within the Watershed Protection Branch, which is responsible for issuing the NPDES permit. In the air permit application, the facility utilized a future potential capacity of 3,000 ADTP per day, whereas in the NPDES application, the facility used a value of 2,600 tons per day. Per conversations with the PCEP, the value for future mill capacity does not affect the resulting NPDES permit.

Comment 2: Condition 3.2.24.b

Several industries have recently located to Glynn County because the communities they were located in had air quality that was injurious to their products (i.e. car import). Even though the air met the letter of the law, the air conditions were still not sufficient to prevent damage to products. The GA-EPD should do sufficient analysis of the pulp mill air permit to assure the releases will not be economically destructive to other businesses in our area under all atmospheric conditions.

EPD Response: The emissions as provided in Application No. 16576 dated January 18, 2006 were modeled and passed all applicable PSD and Class I Area modeling.

EPD CHANGES**Permit Condition 3.2.27**

The words “by volume” were added to Conditions 3.2.27.b 3.2.27.c.i, 3.2.27.d, 3.2.27.f, and 3.2.27.g for clarification.

Conditions in this amendment have been renumbered as needed due to the addition or deletion of requirements based on the above-discussed comments. The condition numbers listed in the Emissions Unit table have also been updated as necessary.

The following conditions were modified following the comment period.

- 3.2.23 The Permittee shall use only freshwater in the causticizing area, including the Recausticizer, Green Liquor Clarifier, and Lime Mud Washer (Source Codes: L556, L557, and L558) and shall use only freshwater in making up lime in the Lime Slaker (Source Code: L561) in order to minimize volatile organic compound (VOC) emissions.
[40 CFR 52.21 BACT Work Practice]
- 3.2.24 The Permittee shall conduct the following in order to reduce emissions for the Paper Machines (Source Code: MG10):
[40 CFR 52.21 BACT Work Practice]
- a. A final rinse to the pulp at the bleach plant prior entering the Paper Machines with either freshwater or whitewater to reduce volatile organic compound (VOC) emissions.
 - b. Use no-VOC containing or negligible-VOC content additives in the Paper Machines.
 - c. If using a solid powder additive, it will be handled in an enclosure in order to minimize particulate matter (PM) emissions.
- 3.2.27 The Permittee shall not discharge or cause the discharge into the atmosphere from Lime Kiln #6 any gases which contain emissions in excess of the following:
- a. 0.023 g/dscm (0.010 gr/dscf) of particulate matter (PM) (corrected to 10 percent oxygen).
[40 CFR 52.21 BACT Limit and 40 CFR 63.862(b)(3); 40 CFR 60.282(a)(3) subsumed]
 - b. 8 ppm by volume on a dry basis of total reduced sulfur (TRS) (corrected to 10 percent oxygen).
[40 CFR 60.283(a)(5)]
 - c. While firing petroleum coke,
 - i. 250 ppm by volume of nitrogen oxides (NO_x) (corrected to 10 percent oxygen).
[40 CFR 52.21 BACT Limit]

- ii. 145 pounds of nitrogen oxides (NO_x) per hour.
[40 CFR 52.21 BACT Limit]
 - d. 150 ppm by volume of nitrogen oxides (NO_x) (corrected to 10 percent oxygen) while firing fuels other than petroleum coke.
[40 CFR 52.21 BACT Limit]
 - e. 1.12 pounds of carbon monoxide (CO) per ton of calcium oxide (CaO).
[40 CFR 52.21 BACT Limit]
 - f. 25 ppm by volume of volatile organic compounds (VOC) (corrected to 10 percent oxygen).
[40 CFR 52.21 BACT Limit]
 - g. 8 ppm by volume of hydrogen sulfide (H₂S) (corrected to 10 percent oxygen).
[40 CFR 52.21 BACT Limit]
 - h. 0.41 pounds of sulfur dioxide (SO₂) per ton of calcium oxide (CaO).
[Avoidance of 40 CFR 52.21]
- 3.3.30 The Permittee shall control the HAP emissions from each component of the HVLC systems (including Equipment Group Source Codes: PG27, PG28, PG35, and PG30) using Recovery Boilers #5 and #6 (Source Codes: R401 and R407). An HVLC system is defined as the collection of equipment including the pulp washing, knoter, screen, decker, and oxygen delignification systems, weak liquor storage tanks, and any other equipment serving the same function as those previously listed, as applicable by Condition 3.3.10.
[40 CFR 63.443(a)(1)(ii) through (iv), 40 CFR 63.443(a)(2), 40 CFR 63.443(d)(4), and 40 CFR 63.440(d)(1)]
- 3.3.38 Deleted
- 3.4.23 The Permittee shall not cause, let, suffer, permit or allow emissions from Recovery Boiler #5 the opacity of which is equal to or greater than forty (40) percent when not firing Black Liquor Solids.
[391-3-1-.02(2)(b)1]

4.2.2 Table only

Equipment	Testing Frequency
Lime Kiln #5	PM – annually
Power Boiler #4	PM – annually
Recovery Boiler #5	PM, VOC – biennially
Recovery Boiler #6	PM, SO ₂ , VOC - biennially
Primary NCG Incinerator	PM, VOC, SAM, SO ₂ , NO _x – annually
Backup NCG Incinerator	SO ₂ , NO _x - annually
Smelt Tank #5	PM, TRS – biennially
Smelt Tank #6	SO ₂ , PM, TRS – biennially
Lime Kiln #6	PM, SO ₂ * – annually VOC - biennially

*Annual SO₂ test can be skipped if no petroleum coke was fired in Lime Kiln #6 since the previous test.

4.2.22 Within 60 days after achieving the maximum production rate at which the Primary and Backup Incinerators (Source Codes: R488 and R480) will be operated after the modifications to the Incinerators as described in Application No. 16576, but not later than 180 days after initial startup of the incinerators after the modifications to the Incinerators as described in Application No. 16576, the Permittee shall conduct a performance test for the presence of the following pollutants in order to demonstrate compliance with the emission limits contained in Condition 3.2.9. The Permittee shall also establish any operating parameter that is identified.

- a. Nitrogen oxides (NO_x) in order to demonstrate compliance with the emission limits contained in Condition 3.2.16. The Permittee shall establish the NO_x emission rate used to calculate NO_x emissions per Condition 6.1.7.d.iii(B) and (C).
[40 CFR 52.21 BACT Limit and 391-3-1-.02(6)(b)1]
- b. The Permittee shall conduct a performance test for the Primary NCG Thermal Oxidizer (Source Code: R488) to re-establish the minimum temperature required to meet the limitations in 40 CFR 63.443 and 40 CFR 63.446 and to be reported as an excess emission in Condition 6.1.7.a.iv(A).
[40 CFR 63.7 and 40 CFR 63.457]
- c. Sulfur dioxide (SO₂) emissions while firing the maximum amount of LVHC gases. The Permittee shall verify or reestablish the operating parameters (pH and recirculation rates for the Primary and Backup Incinerator Scrubbers (Source Codes: RIS1 and RIS2) to be reported as excursions in Condition 6.1.7.c.vii(B) through 6.1.7.c.vii(E).
[40 CFR 63.7 and 40 CFR 63.453]

6.1.7.a.i. Recovery Boilers #5 and #6 (Source Codes: R401 and R407)

(A) TRS Emissions from Recovery Boiler #5:

- (I) Any 24-hour average greater than 20 ppm TRS on a dry basis, corrected to 8% oxygen.
- (II) Any 12-hour average greater than 10 ppm TRS on a dry basis, corrected to 8% oxygen, after the modifications to Recovery Boiler #5 as described by Application No. 16576 dated January 18, 2006.
[40 CFR 52.21 BACT]

6.1.7.a.iv Steam Strippers, Incinerator/ Scrubber System (Source Codes: R441, R480, R488, RIS2, RIS1, and R500)

- (A) Any 3-hour average during which the temperature in the Primary NCG Incinerator (Source Code R488) is below 1355°F or the temperature established by Condition 4.2.22 after the performance test is approved (after the modifications to the Primary Incinerator as described in Application No. 16576 are completed).
[40 CFR 63.443(d)]

6.1.7.b.v Periods of monitoring exceedances reported for 6.1.7.b.v(A) through (J) shall be a violation of 40 CFR 63 Subpart MM when six or more 3-hour average parameter values (excluding periods of startup, shutdown, or malfunction) within any 6-month reporting period are outside the parameter limits listed below. For purposes of determining the number of non-opacity monitoring exceedances, no more than one exceedance will be attributed in any given 24-hour period. Note: The above-mentioned provisions are only for determining 40 CFR 63 Subpart MM exceedances. Single event exceedances of the following parameters may still occur for other regulations.

[40 CFR 63.864(k)(2)(iii) and (vi) and 40 CFR 63.864(k)(3)]

APPENDIX A

AIR QUALITY AMENDMENT

2631-127-0003-V-04-6

APPENDIX B

**WRITTEN COMMENTS
RECEIVED DURING
COMMENT PERIOD**