

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. 15920

August 2005



State of Georgia  
Department of Natural Resources  
Environmental Protection Division

Ron Methier – Chief, Air Protection Branch

Stationary Source Permitting Program

Planning & Support Program

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## BACKGROUND

On December 22, 2004, Brunswick Cellulose, Inc Pulp and Paper Mill (Brunswick Mill) submitted an application for an air quality permit to modify, construct, and operate equipment at their Brunswick, Georgia mill. The proposed project includes the modification of Power Boiler #4 (Source Code: U700), including the installation of an over fired air system, the replacement of the first fields on the Power Boiler #4 ESP (Source Code: UEP4), improvements to the bark delivery system and a new bark transfer cyclone (Source Code: U703), and various other projects to improve the efficiency of the boiler.

On June 23, 2005, the Division issued a Preliminary Determination stating that the proposed projects should be approved. The Preliminary Determination contained a draft Air Quality Permit for the construction and operation of the projects.

The Division requested that the Brunswick Mill 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 July 8, 2005. The public comment period also ended on August 8, 2005.

During the comment period, comments were received from U.S. EPA Region 4 and the facility. There were no written comments received from 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 July 22, 2005 regarding the Draft Title V Permit terms and conditions.

Comment received from U.S. EPA dated July 22, 2005.

### **Comment: Verification of Compliance with the Emission Limits**

The PSD applicability analysis indicates that the increase in emission of SO<sub>2</sub>, NO<sub>x</sub>, CO, and VOC are very close to the significance thresholds for PSD applicability. EPA understands that avoidance limits were taken to prevent PSD review. However, due to the narrow avoidance of PSD review, there should be more data to verify that the facility can comply with the emissions limits.

#### **EPD Response:**

EPD has provided a reasonable assurance of compliance with the PSD avoidance limits in Conditions 3.2.17 – 3.2.20 through adequate performance testing, monitoring, and recordkeeping. The facility submitted sufficient data in Application 15920 in Exhibit A, which defined emission factors, proposed limits, and emission calculations. Therefore, based on these calculations, the continuous and daily fuel records, and fuel analysis, the facility will be able to assure compliance with the annual PSD avoidance conditions.

## **BRUNSWICK CELLULOSE MILL COMMENTS**

Comments were received from Steven Royer, Manager – Environmental Compliance on August 5, 2005 regarding the Draft Title V Permit terms and conditions.

### **Comment 1: Bark Transfer Cyclone Monitoring and Reporting**

The facility requested a wording change to permit Conditions 5.2.5 and 5.2.6. Condition 5.2.5 requires the facility to visually observe the opacity from Bark Transfer Cyclone U703 and report any incident. Likewise, Condition 5.2.6 required the facility to visually inspect the exterior of Bark Transfer Cyclone U703 and report for holes in the body or evidence of malfunction in the interior and report any incident. The facility commented that the wording was unclear and proposed alternative wording as follows:

- For Condition 5.2.5, the first and last sentences are acceptable as written, however the wording in the second sentence, “The Permittee shall record any incident as an excursion and note the corrective action taken, “ is unclear. Therefore, the facility requested the following sentence be used:

*The Permittee shall record any observable change in emission and note the corrective action taken.*

- For Condition 5.2.6, the last sentence is acceptable as written. The first sentence should include the word “visually” before inspect, because the observation of the cyclone is intended to be a visual inspection and not a particular reference method (e.g. Method 9). Also, the first sentence includes directions for noting any evidence of malfunction in the interior. This seems to imply that an inspection of the interior is required. By striking the phrase “in the interior”, this should clarify that no daily interior visual inspection is being required. Likewise, similar to Condition 5.2.5, the second sentence requires the facility to note any incident during the visual inspection, which the facility believes is unclear. Therefore, the facility requested the following language for the first two sentences of Condition 5.2.6:

*The Permittee shall visually inspect the exterior of the Bark Transfer Cyclone (Source Code: U703) once per day for holes in the body or evidence of malfunction for each day or portion of each day of operation of the bark transfer system. The Permittee shall record any adverse condition discovered by the visual inspection and note the corrective action taken.*

- Also with regards to Bark Transfer Cyclone U703, Condition 6.1.7.c.viii(A) requires the facility to note any incident, observable change, or adverse condition as recorded by Conditions 5.2.5 and 5.2.6. The facility requested that instead of making the adverse condition immediately reportable that any two consecutive adverse conditions be reported to give the facility the opportunity to correct the problem. The facility proposed the following language for Condition 6.1.7.c.viii(A):

*Any two consecutive adverse condition discovered by the inspections of the Bark Transfer Cyclone per Conditions 5.2.5 and 5.2.6.*

**EPD Response:**

The Division agrees and the appropriate changes were made to the permit.

**Comment 2: No. 4 Power Boiler “Maximum Production Rate”**

Conditions 4.2.11-4.2.13 require the facility to perform performance tests on No. 4 Power Boiler at the “maximum production rate” for PM, CO, and VOCs. The facility interpreted the “maximum production rate” as the steaming capacity of the unit.

**EPD Response:**

EPD agrees and no changes were made to the permit regarding this comment.

**Comment 3: Biomass, Sludge, and TDF Fuel Monitoring**

Condition 5.2.2.iii-vii requires the facility to continuously monitor the feed rate of No. 6 fuel oil, bark, TDF, wastewater sludge, and natural gas flow to the No. 4 Power Boiler. The facility states that the bark, fuel oil, and natural gas will all be directly measured. The TDF will be calculated based on continuous monitoring of the screw feeder rate, which can be calibrated to the mass consumed.

However, the mechanism that the facility anticipates using to measure the amount of sludge burned is either by measuring the amount of sludge transferred onto the bark pile or by the number of sludge trucks delivered in a 24-hour day.

**EPD Response:**

The current language used in Condition 5.2.2 for the No. 6 fuel oil, bark, TDF, and natural gas is satisfactory for the continuous monitoring. However, since the wastewater sludge cannot be monitored continuously, Condition 5.2.2.a.vi was deleted. To account for the wastewater sludge combustion, Condition 5.2.3.h was added to the permit to monitor the amount of sludge combusted in the No. 4 Power Boiler in a 24-hour period.

**Comment 4: Fuel and Site-specific Emission Factors**

In Conditions 6.2.28-6.2.30 the facility is required to keep emission records using “fuel-specific and site-specific emissions factors”. For clarification, the facility states,

“...that the site-specific emission factors would be developed in conjunction with the performance testing where testing is performed, but that fuel receipts or fuel testing, or other accepted industry emissions factors (like NCASI and AP-42), could be utilized in development of these factors.”

It is the intent of the facility to incorporate the development of the emission factors in the performance test plan that will be submitted to the Division for approval prior to such testing or factors being developed.

**EPD Response:**

EPD agrees with the facility and no changes were made in the permit.

**EPD CHANGES**

Conditions in this amendment have been renumbered as needed due to the addition or deletion of requirements based on facility and U.S. EPA 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.

- 5.2.2. The Permittee shall install, calibrate, maintain, and operate a system to continuously monitor and record the indicated parameters on the following equipment. Where such performance specification(s) exist, each system shall meet the applicable performance specification(s) of the Division's monitoring requirements.

[391-3-1-.02(6)(b)1 and 40 CFR 70.6(a)(3)(i)]

a. Power Boilers

- iii. No. 6 fuel oil flow to Power Boiler #4 (Source Code: U700).
- iv. Bark feed rate to Power Boiler #4 (Source Code: U700).
- v. Tire Derived Fuel (TDF) feed rate to Power Boiler #4 (Source Code: U700).
- vi. Natural gas flow rate to Power Boiler #4 (Source Code: U700).

5.2.3 The Permittee shall install, calibrate, maintain, and operate monitoring devices for the measurement of the indicated parameters on the following equipment. Data shall be recorded at the frequency specified below. Where such performance specification(s) exist, each system shall meet the applicable performance specification(s) of the Division's monitoring requirements. [391-3-1-.02(6)(b)1 and 40 CFR 70.6(a)(3)(i)]

h. Power Boiler #4 (Source Code: U700)

- i. Wastewater sludge combusted in the Power Boiler #4 (Source Code: U700). Data shall be recorded once per 24-hours of operation.

5.2.5 The Permittee shall visually observe the opacity from the Bark Transfer Cyclone (Source Code: U703) once during the daylight shift for each day or portion of each day of operation of the bark transfer system. The Permittee shall record any observable change in emissions and note the corrective action taken. A checklist or similar log may be used for this purpose. [391-3-1-.02(6)(b)1 and 40 CFR 70.6(a)(3)(i)]

5.2.6 The Permittee shall visually inspect the exterior of the Bark Transfer Cyclone (Source Code: U703) once per day for holes in the body or evidence of malfunction for each day or portion of each day of operation of the bark transfer system. The Permittee shall record any adverse condition discovered by the visual inspection and note the corrective action taken. A checklist or similar log may be used for this purpose. [391-3-1-.02(6)(b)1 and 40 CFR 70.6(a)(3)(i)]

6.1.7 For the purpose of reporting excess emissions, exceedances or excursions in the report required in Condition 6.1.4, the following excess emissions, exceedances, and excursions shall be reported:

[391-3-1-.02(6)(b)1 and 40 CFR 70.6(a)(3)(i)]

c. Excursions: (means for the purpose of this Condition and Condition 6.1.4, any departure from an indicator range or value established for monitoring consistent with any averaging period specified for averaging the results of the monitoring)

viii. Bark Transfer Cyclone (Source Code: U703)

(A) Any two consecutive adverse condition discovered by the inspections of the Bark Transfer Cyclone per Conditions 5.2.5 and 5.2.6.

**APPENDIX A**

**AIR QUALITY AMENDMENT**

**2631-127-0003-V-04-4**

**APPENDIX B**

**WRITTEN COMMENTS  
RECEIVED DURING  
COMMENT PERIOD**