

# Part 70 Operating Permit Amendment

**Permit Amendment No.:** 2631-127-0003-V-04-4    **Effective Date:** August 31, 2005

**Facility Name:**            **Brunswick Cellulose, Inc.**  
1400 West Ninth Street  
Brunswick, Georgia 31521 (Glynn County)

**Mailing Address:**        Post Office Box 1438  
Brunswick, Georgia 31521

**Parent/Holding Company:**    Koch Cellulose, Inc.

**Facility AIRS Number:**    04-13-127-00003

In accordance with the provisions of the Georgia Air Quality Act, O.C.G.A. Section 12-9-1, et seq and the Georgia Rules for Air Quality Control, Chapter 391-3-1, adopted pursuant to and in effect under the Act, the Permittee described above is issued a construction permit for:

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.

This Permit Amendment shall also serve as a final amendment to the Part 70 Permit unless objected to by the U.S. EPA or withdrawn by the Division. The Division will issue a letter when this Operating Permit amendment is finalized.

This Permit Amendment is conditioned upon compliance with all provisions of The Georgia Air Quality Act, O.C.G.A. Section 12-9-1, et seq, the Rules, Chapter 391-3-1, adopted and in effect under that Act, or any other condition of this Permit Amendment and Permit No. 2631-127-0003-V-04-0. Unless modified or revoked, this Permit Amendment expires upon issuance of the next Part 70 Permit for this source.

This Permit Amendment may be subject to revocation, suspension, modification or amendment by the Director for cause including evidence of noncompliance with any of the above; or for any misrepresentation made in Application No. 15920 dated December 22, 2004; any other applications upon which this Permit Amendment or Permit No. 2631-127-0003-V-04-0 are based; supporting data entered therein or attached thereto; or any subsequent submittal or supporting data; or for any alterations affecting the emissions from this source.

This Permit Amendment is further subject to and conditioned upon the terms, conditions, limitations, standards, or schedules contained in or specified on the attached **10** pages, which pages are a part of this Permit Amendment, and which hereby become part of Permit No. 2631-127-0003-V-04-0.

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Director  
Environmental Protection Division

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**PART 1.0 FACILITY DESCRIPTION**

**1.3 Process Description of Modification**

Application No. 15920 was submitted by the facility to make several modifications to Power Boiler #4 (Source Code: U700) in order to improve combustion efficiencies. The proposed project includes modifications to the boiler and bark delivery system to improve combustion efficiency in the boiler and reduce the mill's dependency on No. 6 fuel oil. The bark fuel feeders will be relocated lower in the furnace and a new Over Fire Air (OFA) system will be installed above these fuel feeders. The bark delivery system, including a new bark transfer cyclone (Source Code: U703), will be improved to ensure a steady and sufficient supply of bark to the boiler. Additionally, the first fields in Power Boiler #4 ESP (Source Code: UEP4) will be replaced.

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### PART 3.0 REQUIREMENTS FOR EMISSION UNITS

Note: Except where an applicable requirement specifically states otherwise, the averaging times of any of the Emissions Limitations or Standards included in this permit are tied to or based on the run time(s) specified for the applicable reference test method(s) or procedures required for demonstrating compliance.

#### 3.1.4 Modifications and Additions to Emission Units Table 3.1

Emission Units		Specific Limitations/Requirements		Air Pollution Control Devices	
ID No.	Description	Applicable Requirements/Standards	Corresponding Permit Conditions	ID No.	Description
U700	Power Boiler #4	40 CFR 52.21 40 CFR 61 Subpart E 391-3-1-.02(2)(b) 391-3-1-.02(2)(d) 391-3-1-.02(2)(g)	3.2.1, 3.2.2, 3.2.17, 3.2.18, 3.2.19, 3.2.20, 3.3.32, 3.3.33, 3.3.34, 3.3.35, 3.4.6, 3.4.7, 3.4.8, 3.4.20, 4.2.1, 4.2.2, 4.2.11, 4.2.12, 4.2.13, 5.2.1, 5.2.2, 5.2.3, 6.1.7, 6.2.3, 6.2.4, 6.2.12, 6.2.28, 6.2.29, 6.2.30	UEP4	Power Boiler #4 ESP
U703	Bark Transfer Cyclone	40 CFR 52.21 391-3-1-.02(2)(b) 391-3-1-.02(2)(e)	3.4.21, 3.4.22, 4.2.14, 5.2.5, 5.2.6, 6.1.7	None	None

\* Generally applicable requirements contained in this permit may also apply to emission units listed above.

#### 17-3.2 Equipment Emission Caps and Operating Limits

##### Power Boilers

- 3.2.1 The Permittee shall not discharge, or cause the discharge, into the atmosphere, from Power Boiler #4 (Source Code: U700), any gases which contain particulate matter (PM) emissions in excess of 0.05 lb/MMBtu heat input.  
[40 CFR 52.21 BACT Limit]
  
- 3.2.17 The Permittee shall not discharge, or cause the discharge, into the atmosphere, from Power Boiler #4 (Source Code: U700), any gases which contain sulfur dioxide (SO<sub>2</sub>) emissions in excess of 2,187 tons during any twelve consecutive month period.  
[Avoidance of 40 CFR 52.21]
  
- 3.2.18 The Permittee shall not discharge, or cause the discharge, into the atmosphere, from Power Boiler #4 (Source Code: U700), any gases which contain nitrogen oxides (NO<sub>x</sub>) emissions in excess of 682 tons during any twelve consecutive month period.  
[Avoidance of 40 CFR 52.21]
  
- 3.2.19 The Permittee shall not discharge, or cause the discharge, into the atmosphere, from Power Boiler #4 (Source Code: U700), any gases which contain carbon monoxide (CO) emissions in excess of 1,183 tons during any twelve consecutive month period.  
[Avoidance of 40 CFR 52.21]

- 3.2.20 The Permittee shall not discharge, or cause the discharge, into the atmosphere, from Power Boiler #4 (Source Code: U700), any gases which contain volatile organic compounds (VOC) emissions in excess of 63 tons during any twelve consecutive month period.  
[Avoidance of 40 CFR 52.21]

### **3.3 Equipment Federal Rule Standards**

#### Power Boilers

- 3.3.32 The Permittee shall not discharge or cause the discharge into the atmosphere from Power Boiler #4 (Source Code: U700) any gases that contain mercury in excess of 7.1 pounds per 24-hour period while burning mill wastewater sludge.  
[40 CFR 61.52(b)]

#### General

- 3.3.33 The Permittee shall be subject to all applicable provisions of 40 CFR 61 Subpart A - "General Provisions" for Power Boiler #4 (Source Code: U700) while combusting mill wastewater sludge.  
[40 CFR 61 Subpart A]
- 3.3.34 The Permittee shall be subject to all applicable provisions of 40 CFR 61 Subpart E - "National Emission Standards for Hazardous Air Pollutants for Mercury" for Power Boiler #4 (Source Code: U700) while combusting mill wastewater sludge.  
[40 CFR 61 Subpart E]
- 3.3.35 The Permittee shall comply with all applicable provisions of 40 CFR 63 Subpart DDDDD - "National Emission Standards for Hazardous Air Pollutants for Industrial/Commercial/Institutional Boilers and Process Heaters" for Power Boiler #4, Power Boiler #6, and Power Boiler #7 (Source Codes: U700, U706, and U707) on and after September 13, 2007.  
[40 CFR 63.7495(b)]

### **3.4 Equipment SIP Rule Standards**

#### Power Boilers

- 3.4.7 The Permittee shall not cause, let, suffer, permit, or allow the emissions of fly ash and/or other particulate matter from:  
[391-3-1-.02(2)(d)1(ii)]
- a. Power Boiler #4 (Source Codes U700) in amounts equal to or exceeding the rate derived from  $P=0.7(10/R)^{0.202}$  pounds per million BTU heat input where P equals the allowable weight of emissions of fly ash and/or particulate matter in pounds per million BTU heat input and R equals heat input of fuel-burning equipment in million BTU per hour.

Bark Transfer System

3.4.21 The Permittee shall not cause, let, suffer, permit or allow emissions from the Bark Transfer Cyclone (Source Code: U703) the opacity of which is equal to or greater than forty (40) percent opacity.

[391-3-1-.02(2)(b)1]

3.4.22 The Permittee shall not cause, let, permit, suffer, or allow the rate of emission from the Bark Transfer Cyclone (Source Code: U703), particulate matter in total quantities equal to or exceeding the allowable rates calculated using the following equation:

[391-3-1-.02(2)(e)1(i)]

$E = 4.1P^{0.67}$ ; for process input weight rate up to and including 30 tons per hour.

$E = 55P^{0.11} - 40$ ; for process input weight rate over 30 tons per hour.

E = emission rate in pounds per hour

P = process input weight rate in tons per hour

**PART 4.0 REQUIREMENTS FOR TESTING****4.2 Specific Testing Requirements**

- 4.2.11 Within 60 days after achieving the maximum production rate at which Power Boiler #4 (Source Code: U700) will be operated after the modifications listed in Application No. 15920, but not later than 180 days after initial startup of the boiler after the modifications, the Permittee shall conduct a performance test for the presence of particulate matter (PM) emissions in order to demonstrate compliance with the emission limit in Condition 3.2.1. The Permittee shall also verify or reestablish the operating parameter that is identified as an excursion in Condition 6.1.7.c.iii.  
[40 CFR 52.21 BACT Limit and 391-3-1-.02(6)(b)1]
- 4.2.12 Within 60 days after achieving the maximum production rate at which Power Boiler #4 (Source Code: U700) will be operated after the modifications listed in Application No. 15920, but not later than 180 days after initial startup of the boiler after the modifications, the Permittee shall conduct a performance test for the presence of carbon monoxide (CO) emissions in order to demonstrate compliance with the emissions limit in Condition 3.2.19. The Permittee shall determine a site-specific emission factor for CO emissions from Power Boiler #4.  
[Avoidance of 40 CFR 52.21 and 391-3-1-.02(6)(b)1]
- 4.2.13 Within 60 days after achieving the maximum production rate at which Power Boiler #4 (Source Code: U700) will be operated after the modifications listed in Application No. 15920, but not later than 180 days after initial startup of the boiler after the modifications, the Permittee shall conduct a performance test for the presence of volatile organic compounds (VOC) emissions in order to demonstrate compliance with the emissions limit in Condition 3.2.20 while firing a maximum rate of tire-derive fuel (TDF) and bark. The Permittee shall determine a site-specific emission factor for VOC emissions from Power Boiler #4 while firing TDF and bark.  
[Avoidance of 40 CFR 52.21 and 391-3-1-.02(6)(b)1]
- 4.2.14 Within 60 days after achieving the maximum production rate at which Power Boiler #4 (Source Code: U700) will be operated, but not later than 180 days after initial startup of the bark transfer system after the modifications, the Permittee shall conduct a performance test for opacity while operating the Bark Transfer Cyclone (Source Code: U703) in order to demonstrate compliance with the emission limit in Condition 3.4.21.  
[391-3-1-.02(6)(b)1]

**PART 5.0 REQUIREMENTS FOR MONITORING (Related to Data Collection)****5.2 Specific Monitoring Requirements**

- 5.2.1 The Permittee shall install, calibrate, maintain, and operate a system to continuously monitor and record the indicated pollutants on the following equipment. 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)]
- f. NO<sub>x</sub> from Power Boiler #4 (Source Code: U700).  
[Avoidance of 40 CFR 52.21]
- 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)]

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- 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)]

**PART 6.0 OTHER RECORD KEEPING AND REPORTING REQUIREMENTS****6.1 General Record Keeping and Reporting Requirements**

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)]

a. Excess emissions: (means for the purpose of this Condition and Condition 6.1.4, any condition that is detected by monitoring or record keeping which is specifically defined, or stated to be, excess emissions by an applicable requirement)

iii. Power Boilers (Source Codes: U700, U706, and U707)

(F) Any twelve consecutive month period during which sulfur dioxide (SO<sub>2</sub>) emissions from Power Boiler #4 (Source Code: U700) exceed 2,187 tons.  
[Avoidance of 40 CFR 52.21]

(G) Any twelve consecutive month period during which nitrogen oxides (NO<sub>x</sub>) emissions from Power Boiler #4 (Source Code: U700) exceed 682 tons.  
[Avoidance of 40 CFR 52.21]

(H) Any twelve consecutive month period during which carbon monoxide (CO) emissions from Power Boiler #4 (Source Code: U700) exceed 1,183 tons.  
[Avoidance of 40 CFR 52.21]

(I) Any twelve consecutive month period during which volatile organic compound (VOC) emissions from Power Boiler #4 (Source Code: U700) exceed 63 tons.  
[Avoidance of 40 CFR 52.21]

b. Exceedances: (means for the purpose of this Condition and Condition 6.1.4, any condition that is detected by monitoring or record keeping that provides data in terms of an emission limitation or standard and that indicates that emissions (or opacity) do not meet the applicable emission limitation or standard consistent with the averaging period specified for averaging the results of the monitoring)

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

(A) Any monthly determination in which the twelve consecutive month total of tire derived fuel (TDF) combusted in Power Boiler #4 exceeds 36,500 tons.  
[Avoidance of 40 CFR 52.21]

(B) Any monthly determination in which the twelve consecutive month total of bone dry sludge combusted in Power Boiler #4 exceeds 25,550 tons.  
[Avoidance of 40 CFR 52.21]

- 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)
- iii. Power Boiler #4 (Source Code U700)
    - (A) Any required determination in which the secondary power for the precipitator on Power Boiler #4 (Source Code UEP4) is less than the 8,000 volt-amps or less than the value established in Condition 4.2.11, whichever is lower.
  - 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.
- d. In addition to the excess emissions, exceedances and excursions specified above, the following should also be included with the report required in Condition 6.1.4:
- v. Power Boiler #4 (Source Code: U700)
    - (A) Each month's twelve-month rolling total sulfur dioxide emissions from Power Boiler #4 as calculated by Condition 6.2.28.
    - (B) Each month's twelve-month rolling total carbon monoxide emissions from Power Boiler #4 as calculated by Condition 6.2.29.
    - (C) Each month's twelve-month rolling total volatile organic compound emissions from Power Boiler #4 as calculated by Condition 6.2.30.
    - (D) Each month's twelve-month rolling total nitrogen oxides emissions from Power Boiler #4 as determined by Condition 6.2.31.

## 6.2 Specific Record Keeping and Reporting Requirements

### Power Boilers

- 6.2.28 Using the fuel usage records required by Condition 6.2.3, the Permittee shall use fuel-specific and site-specific emission factors to calculate monthly sulfur dioxide emissions from Power Boiler #4 (Source Code: U700). All calculations used to determine the total must be kept as part of the record. The monthly emissions shall be used to calculate the twelve-month rolling total sulfur dioxide emissions. Each month's twelve-month rolling total shall be the sum of the current month's emissions plus the previous eleven months' emissions. Any twelve-month rolling total that exceeds 2,187 tons sulfur dioxide per year must be reported per Condition 6.1.7.a.iii(F).  
[Avoidance of 40 CFR 52.21]

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- 6.2.29 Using the fuel usage records required by Condition 6.2.3, the Permittee shall use fuel-specific and site-specific emission factors established in Condition 4.2.12 to calculate monthly carbon monoxide emissions from Power Boiler #4 (Source Code: U700). All calculations used to determine the total must be kept as part of the record. The monthly emissions shall be used to calculate the twelve-month rolling total carbon monoxide emissions. Each month's twelve-month rolling total shall be the sum of the current month's emissions plus the previous eleven months' emissions. Any twelve-month rolling total that exceeds 1,183 tons carbon monoxide per year must be reported per Condition 6.1.7.a.iii(H).  
[Avoidance of 40 CFR 52.21]
- 6.2.30 Using the fuel usage records required by Condition 6.2.3, the Permittee shall use fuel-specific and site-specific emission factors established in Condition 4.2.13 to calculate monthly volatile organic compound (VOC) emissions from Power Boiler #4 (Source Code: U700). All calculations used to determine the total must be kept as part of the record. The monthly emissions shall be used to calculate the twelve-month rolling total VOC emissions. Each month's twelve-month rolling total shall be the sum of the current month's emissions plus the previous eleven months' emissions. Any twelve-month rolling total that exceeds 63 tons VOC per year must be reported per Condition 6.1.7.a.iii(I).  
[Avoidance of 40 CFR 52.21]
- 6.2.31 Using the data acquired by Condition 5.2.1.f, the Permittee shall determine monthly nitrogen oxide emissions from Power Boiler #4 (Source Code: U700). All calculations used to determine the total must be kept as part of the record. The monthly emissions shall be used to calculate the twelve-month rolling total nitrogen oxide emissions. Each month's twelve-month rolling total shall be the sum of the current month's emissions plus the previous eleven months' emissions. Any twelve-month rolling total that exceeds 682 tons nitrogen oxides per year must be reported per Condition 6.1.7.a.iii(G).  
[Avoidance of 40 CFR 52.21]