

Prevention of Significant Air Quality Deterioration Review
Procter & Gamble Paper Products Company - Albany,
located in Albany, Georgia (Dougherty County)

FINAL DETERMINATION
SIP/Title V Permit Application No. 17242
October 2007



State of Georgia
Department of Natural Resources
Environmental Protection Division

Air Protection Branch

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BACKGROUND

On February 1, 2007, Procter & Gamble Paper Products Company (hereafter P&G) submitted an application for an air quality permit to modify Waste Fuel Boiler No. 2 (Source Code: B002). The facility is located at 512 Liberty Expressway Southeast in Albany, Dougherty County. This Boiler 2 project will consist of a major upgrade of the overfire air system, controls and instrumentation, induced draft fan, the bottom ash handling system, and the fuel delivery system. The objective of the proposed Boiler 2 upgrade project is to conduct the repair and maintenance activities necessary to allow the operation of the boiler at its full rated capacity on a consistent basis.

On August 21, 2007, the Division issued a Preliminary Determination stating that the modifications described in Application No. 17242 should be approved. The Preliminary Determination contained a draft Air Quality Permit for the construction and operation of the modified equipment.

The Division requested that P&G 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 Albany Herald* (legal organ for Dougherty County) on August 30, 2007. The public comment period expired on October 1, 2007.

During the comment period, comments were received from the facility. There were no formal comments received from the U.S. EPA Region IV and the general public.

A copy of the final permit is included in Appendix A. A copy of written comments received during the public comment period is provided in Appendix B.

Procter & Gamble Paper Products Company COMMENTS

Comments were received from George Bloodworth, Plant Manager, by letter on September 26, 2007. Each comment is reproduced below, followed by the Georgia Environmental Protection Division (EPD) responses.

Comment 1

Part 1.0 Facility Description, Section 1.3 – P&G is requesting three changes to the second paragraph of this section. The first change requests addition of word “forest” in the parenthetical explanation of biomass at Line 3. This change is consistent with the recent Title V Permit Amendment No. 2676-095-0071-V-01-6, issued on July 24, 2007. The second change relates to correcting of pecan misspelling on the same line. The third requested change is addition of new economizer installation in the project scope discussion. The revised paragraph with the above changes will read as:

Application No. 17242 is being submitted to modify the Waste Fuel Boiler No. 2 (Source Code: B002) at the Albany, Georgia Plant. This 216 million Btu per hour boiler is permitted to burn fuel oil and biomass (wood waste, peanut hull, ~~peacan~~ pecan hull, fines, plastic, and agricultural and forest refuse). Particulate Matter (PM) emissions from this boiler are currently controlled by a wet electrostatic precipitator (APCD No. B002ESP). The proposed project will allow Boiler 2 to operate at its full rated capacity on a consistent basis. Boiler 2, installed in 1981, has been experiencing reliability and capacity derating problems in the recent years due to aging. This Boiler 2 project will consist of activities such as major upgrade of the overfire air system, controls and instrumentation, induced draft fan, new economizer, the bottom ash handing system, and the fuel delivery system. The objective of the proposed Boiler 2 upgrade project is to conduct the repair and maintenance activities necessary to allow the operation of the boiler at its full rated capacity on a consistent basis.”

EPD Response.

The Division agrees. The requested changes have been made.

Comment 2

Part 3.0 Requirements for Emission Units, Condition 3.3.11 - P&G requests that the reference to any 30 day consecutive period be removed from this condition to read it as:

“The Permittee shall not discharge or cause the discharge into the atmosphere from Boiler B002, any emissions, which contain NO_x in excess of 0.28 pounds per million Btu heat input, ~~for any 30 consecutive day period.~~”

EPD Response.

The Division agrees. The requested change has been made. The facility will show compliance with this short term NO_x limit on Boiler B002 with a performance test once every 2 years.

3.3.11 The Permittee shall not discharge or cause the discharge into the atmosphere from Boiler B002, any emissions, which contain NO_x in excess of 0.28 pounds per million Btu heat input.

Comment 3

Part 3.0 Requirements for Emission Units, Condition 3.3.18.c - P&G is requesting a VOC emission limit of 0.03 lb/MMBtu heat input consistent with the supplier guarantee (please see attached letter from Detroit Stoker). P&G is requesting that the revised condition read as:

“Contain VOCs in excess of 0.03 pounds per million Btu heat input.”

EPD Response.

The Division agrees. The requested change has been made.

Please note that the facility’s VOC emissions calculations for solid fuels (Table 8 of the PSD Review Document on page 40) are based on an emission factor of 0.017 pounds per million Btu heat input. Therefore, this Boiler 2 project will now result in an increase of 9.34 tons per year of VOC emissions (instead of 5.34 tons per year), which is still less than significant modification threshold for VOC emissions.

- 3.3.18 The Permittee shall not discharge or cause the discharge into the atmosphere from Boiler B002, when firing any solid fuels listed in Table 3.2.a, any emissions which:
- a. Contain PM in excess of 0.03 pounds per million Btu heat input.
 - b. Contain CO in excess of 0.5 pounds per million Btu heat input.
 - c. Contain VOCs in excess of 0.03 pounds per million Btu heat input.
 - d. Contain SO₂ in excess of 0.025 pounds per million Btu heat input.

Comment 4

Part 3.0 Requirements for Emission Units, Condition 3.4. - P&G is respectfully request that this condition be deleted from the permit. As demonstrated in the toxic impact analysis section of our application documents for this permit, the maximum ground-level concentration (MGLC) of acrolein based on AP-42 emission factor rate of 0.864 lb/hr, is below the Acceptable Ambient Concentration (AAC) value.

The EPD toxic assessment guidance provides for the use of more recent and toxicity data. P&G believes that the California Office of Environmental Health Hazard Assessment (OEHHA) data used in our application is valid for assessing the toxic impact of acrolein because the OEHHA data is the most current available data.

EPD Response.

The Division disagrees. The Division’s research shows that the most recent toxicity value for acrolein is 0.02 $\mu\text{g}/\text{m}^3$ using the IRIS database. The maximum ground-level concentration (MGLC) of acrolein, based on AP-42 emission factor of 0.864 lb/hr, is not below the Acceptable Ambient Concentration (AAC) value. In order for the facility to successfully pass the toxic impact assessment, the facility must limit acrolein emissions from Boiler B002 to 0.75 pounds per hour or less. Therefore, no change will be made to this condition.

Comment 5

Part 4.0 Requirements for Testing, Condition 4.2.3 – P&G is requesting that the first part of the first sentence ending with comma be deleted from this condition because it conflicts with Condition 4.2.7. Condition 4.2.3 requires testing for PM and NO_x within twelve months of the date of issuance of the permit, whereas Condition 4.2.7 requires testing within 60 days and no later than 180 days after achieving the maximum production rate. The testing timeframe in Condition 4.2.7 is more appropriate for the Boiler 2 project. P&G is suggesting that that first part of this condition be revised to read:

~~“Within twelve (12) months of the date of issuance of this permit, the~~ The Permittee shall conduct performance tests for Total Particulate Matter (PM) and Nitrogen Oxides (NO_x) emissions from Boiler B002. Following the first performance test for PM and NO_x emissions, performance tests shall be conducted at least once every two years. If the Condensable PM emissions are less than 10 percent of the Total PM emissions, future PM tests do no need to include Method 202. The tests shall be performed under the following conditions:”

EPD Response.

The Division agrees. The requested changes have been made.

- 4.2.3 The Permittee shall conduct performance tests for Total Particulate Matter (PM) and Nitrogen Oxides (NO_x) emissions from Boiler B002. Following the first performance test for PM and NO_x emissions, performance tests shall be conducted at least once every two years. If the Condensable PM emissions are less than 10 percent of the Total PM emissions, future PM tests do no need to include Method 202. The tests shall be performed under the following conditions:
- a. The steam generator is firing a combination of wood bark, peanut hulls, pecan hulls, fines and biomass materials with the percentage of peanut and pecan hulls to be at least the highest level expected until the next test. Should the Permittee expect to fire plastic waste prior to the next test, the plastic waste would be fired at the highest rate expected until the next test.
 - b. The steam generator test shall be performed at the maximum operating rate expected until the next test. The Permittee shall maintain steam production records to verify the operating rate of the boiler during each test.
 - c. The wet electrostatic precipitator serving the steam generator shall be operated during the PM test at the lowest total power and at the lowest water flow rates to the pre-quench chamber.
 - d. One test run during each PM performance test shall be conducted while grate raking and soot blowing. The Permittee shall report the frequency and duration of soot blowing and grate raking during normal operation with each PM test report.
 - e. One test run during each PM performance test shall be conducted during a wash cycle for B002ESP.

Comment 6

Part 4.0 Requirements for Testing, Condition 4.2.7 - P&G is requesting an insertion of "Total" in Line 4 of this condition where it refers to PM. This change is consistent with the reference to PM in other conditions of the permit.

EPD Response.

The Division agrees. The requested change has been made.

- 4.2.7 Within 60 days after achieving the maximum production rate at which the affected equipment will be operated, but no later than 180 days after initial startup of the boiler following completion of the upgrade project, the Permittee shall conduct performance tests for Total Particulate Matter (PM) and Nitrogen Oxides (NO_x) emissions from Boiler B002. Following the first performance test for PM and NO_x emissions, performance tests shall be conducted at least once every two years as required in accordance with Condition 4.2.3. All the tests shall be done in accordance with the requirements in Condition 4.2.3(a-e).
- a. The initial test shall be used to show that the hourly emissions for PM and NO_x (in pounds per hour) will not increase after this boiler upgrade project. This test emissions data shall be compared with the results from the last pre-modification performance test approved by the Division.
 - b. If this initial test shows that post modification hourly emissions for PM and NO_x increase, then the facility must comply with all applicable provisions of the New Source Performance Standards (NSPS) as found in 40 CFR 60 Subpart Db - "Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units," for Boiler B002.
 - c. The initial and subsequent tests shall be used to show compliance with the applicable NO_x and PM limits in Conditions 3.3.11, 3.3.17 and 3.3.18. These tests shall also be used to develop excursion values for the average total power and flow rate for the pre-quench chamber.

Comment 7

Part 4.0 Requirements for Testing, Condition 4.2.9 - This condition is related to Condition 3.4, and P&G is requesting that along with Condition 3.4, this condition be deleted from the permit because MGLC for acrolein based on AP-42 factor is shown to be below AAC.

EPD Response.

The Division disagrees. Please refer to the Division's response to Comment #4.

Comment 8

Part 5.0 Requirements for Monitoring, Condition 5.2.3.a - It is our understanding that Method ASTM D 6522 has not been approved for solid fuels. The current facility permit includes Gas Research Institute (GRI) Method CTM-30. EPD may want to consider including CTM-30 as option in this condition. P&G

is also requesting that as currently permitted, measurement of nitrogen oxides (NO_x) include alternative Methods 7E and 3A. The revised condition is as follows:

“Measurements of nitrogen oxides (NO_x) and oxygen concentrations shall be conducted according to ASTM D 6522 – Standard Test Method for Determination of Nitrogen Oxides, Carbon Monoxide, and Oxygen Concentrations in Emissions from Natural Gas-Fired Reciprocating Engines, Combustion Turbines, Boilers, and Process Heaters Using Portable analyzers or the combination of Methods 7E and 3A to determine nitrogen oxides (NO_x) and oxygen emissions. The measurement period shall consist of one (1) test run thirty minutes in duration.”

EPD Response.

The Division agrees. The requested changes have been made.

5.2.3 The Permittee shall, within 90 days following the date of issuance of this permit, monitor emissions of nitrogen oxides from the Paper Machine Burners (Emission Unit ID Nos. 2AYD, 3AYD, 4AYD, 5APD, 5AYD, 6APD, and 6AYD) and Boiler B002 using the following protocol:

- a. Measurements of nitrogen oxides (NO_x) and oxygen concentrations shall be conducted according to *ASTM D 6522 – Standard Test Method for Determination of Nitrogen Oxides, Carbon Monoxide, and Oxygen Concentrations in Emissions from Natural Gas-Fired Reciprocating Engines, Combustion Turbines, Boilers, and Process Heaters Using Portable analyzers or the combination of Methods 7E and 3A to determine nitrogen oxides (NO_x) and oxygen emissions.* The measurement period shall consist of one (1) test run thirty minutes in duration.

Comment 9

Part 5.0 Requirements for Monitoring, Condition 5.2.6.a - It is our understanding that Method ASTM D 6522 has not been approved for solid fuels. The current facility permit includes Gas Research Institute (GRI) Method CTM-30. We are also requesting that as currently permitted, measurement of carbon monoxide (CO) include alternative Methods 10 and 3A. The revised condition is as follows:

“Measurements of carbon monoxide (CO) and oxygen concentrations shall be conducted according to ASTM D 6522 – Standard Test Method for Determination of Nitrogen Oxides, Carbon Monoxide, and Oxygen Concentrations in Emissions from Natural Gas-Fired Reciprocating Engines, Combustion Turbines, Boilers, and Process Heaters Using Portable analyzers or the combination of Methods 10 and 3A to determine carbon monoxide (CO) and oxygen emissions. The measurement period shall consist of one (1) test run thirty minutes in duration.”

EPD Response.

The Division agrees. The requested changes have been made.

5.2.6 The Permittee shall, within 90 days following the date of issuance of this permit, monitor emissions of carbon monoxide from Boiler B002 using the following protocol:

- a. Measurements of carbon monoxide (CO) and oxygen concentrations shall be conducted according to *ASTM D 6522 – Standard Test Method for Determination of Nitrogen Oxides, Carbon Monoxide, and Oxygen Concentrations in Emissions from*

Natural Gas-Fired Reciprocating Engines, Combustion Turbines, Boilers, and Process Heaters Using Portable analyzers or the combination of Methods 10 and 3A to determine carbon monoxide (CO) and oxygen emissions. The measurement period shall consist of one (1) test run thirty minutes in duration.

Comment 10

Part 5.0 Requirements for Monitoring, Condition 5.2.8, Table Item D – P&G is requesting the monitoring frequency under Item D for total power and prequench chamber water flowrate be required for each hour of operation. We are suggesting that the monitoring frequency be modified to read as “Each hour of operation” both for the total power and prequench chamber water flowrate.

EPD Response.

The Division agrees. The requested changes have been made.

5.2.8 The Permittee shall comply with the performance criteria listed in the table below for the PM emissions from Boiler B002.

Performance Criteria [64.4(a)(3)]	Indicator No. 1 Total Power	Indicator No. 2 Prequench Chamber Water Flowrate
A. Data Representativeness [64.3(b)(1)]	Average secondary voltage, secondary current, and total power for the Wet Electrostatic Precipitator (B002ESP)	Prequench chamber water flowrate on the Wet Electrostatic Precipitator (B002ESP)
B. Verification of Operational Status (new/modified monitoring equipment only) [64.3(b)(2)]	Confirm the operational status of the secondary voltage, secondary current, and total power meters as per manufacturer’s specifications	N/A
C. QA/QC Practices and Criteria [64.3(b)(3)]	Follow calibration and maintenance procedures recommended by the manufacturer	Follow calibration and maintenance procedures recommended by the manufacturer
D. Monitoring Frequency [64.3(b)(4)]	Each hour of operation	Each hour of operation
Data Collection Procedures [64.3(b)(4)]	Computerized data logger	Computerized data logger
Averaging Period [64.3(b)(4)]	3 hour period	3 hour period

Comment 11

Part 6.0 Other Record Keeping and Reporting Requirements, Condition 6.2.14.b – P&G is requesting that the monthly records for solid fuels combusted refer to “total” solid fuel instead of “each” solid fuel. Because the solid fuels are mixed in the fuel yard prior to being fed to the boiler, it is not possible to record the quantity of each fuel separately. The proposed revised condition wording is”

“Quantity of ~~each~~ total solid fuel combusted monthly”

EPD Response.

The Division partially agrees. Condition 6.2.14.b will be modified to require the facility to record the as-received pounds of various solid fuels on a monthly basis. The F-factor, which is determined using a fuel analysis, is required for solid fuels mixture in accordance with Conditions 5.2.3.c and 5.2.6.b. Condition 6.2.14.c will be added to require the facility to record the total quantity of solid fuels combusted each month.

6.2.14 The Permittee shall maintain the following records regarding fuel fired in Boiler B002.

- a. Quantity of fuel oil combusted monthly
- b. Quantity of as-received pounds of various solid fuels monthly
- c. Quantity of total solid fuels combusted monthly

Comment 12

Part 7.0 Other Specific Requirements, Condition 7.14.1 - P&G is requesting a minor rewording of this condition to make it specific to the Boiler 2 Modification Project. The suggested revised language is:

“This permit amendment shall become null and void if the modification of Boiler B002 is not commenced within eighteen (18) months of the effective date of this amendment.”

EPD Response.

The Division agrees. The requested changes have been made.

7.14.1 This permit amendment shall become null and void if the modification of Boiler B002 is not commenced within eighteen (18) months of the effective date of this amendment.

APPENDIX A

AIR QUALITY PERMIT

2676-095-0071-V-01-8

APPENDIX B

**WRITTEN COMMENTS
RECEIVED DURING
COMMENT PERIOD**