

Prevention of Significant Air Quality Deterioration Review

Final Determination

September 2011

Facility Name: Graphic Packaging International, Inc.

City: Macon

County: Bibb

AIRS Number: 04-13-021-00001

Application Number: 20207

Date Application Received: January 28, 2011; updated April 19 and August 10, 2011



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BACKGROUND

On January 28, 2011, Graphic Packaging International, Inc. (hereafter GPI) submitted an application for an air quality permit to expand utilization of biomass energy, allow the mill to be largely self-sufficient from an electrical power generation standpoint, and substantially reduce reliance on coal combustion. The facility is located at 100 Graphic Packaging International Way in Macon, Bibb County.

The proposed project will install a new bubbling fluidized bed (BFB) boiler (No. 3 Biomass Boiler), rated at approximately 620 MMBtu/hr to be equipped with flue gas recirculation, a baghouse, a selective non-catalytic (SNCR) reduction system, and potentially an acid gas control system (some type of sorbent injection). The No. 3 Biomass Boiler will combust biomass, natural gas, and mill wastewater treatment plant (WWTP) sludge. The facility will shutdown existing No. 1 Power Boiler which combusts coal, fuel oil, and natural gas upon normal operation of No. 3 Biomass Boiler. Coal and fuel oil will no longer be used as fuel in the No. 2 Power Boiler with natural gas combustion capability being retained. Existing biomass fuel storage and handling system will be supplemented with new conveyors to transport biomass to the No. 3 Biomass Boiler. A new sand silo with fabric filtration system and associated conveyors will be installed to accommodate the BFB sand bed. A new fly ash handling system and ash storage silo with fabric filtration system will be constructed to accommodate the fly ash captured by the new baghouse associated with the No. 3 Biomass Boiler. New bottom ash and boiler hopper ash handling equipment will be installed to remove and store the bottom ash generated by the No. 3 Biomass Boiler. A sorbent handling system and storage silo equipped with a fabric filtration system may be required. The facility will also install a new steam turbine generator rated at 40 MW and new cooling tower and generator lube oil and hydraulic oil process tanks to support the new steam turbine.

On August 17, 2011, the Division issued a Preliminary Determination stating that the modifications described in Application No. 20207 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 GPI 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 Macon Telegraph* (legal organ for Bibb County) on August 20, 2011. The public comment period expired on September 23, 2011.

During the comment period, comments were received from the facility. Due to an odor release that occurred during the public comment period, two comments were received from the public via the EPD general comment email about the odor, but did not pertain to the proposed project. There were no comments received from the U.S. EPA Region IV.

A Public Meeting and Public Hearing were held on September 20, 2011 in Macon. There were no comments received during the Hearing.

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.

Graphic Packaging International COMMENTS

Comments were received from Steven Hanson, Resident Manager, by letter on September 7, 2011.

Comment 1

Table 3.1.1 – Please add 7.14.3 to the list of corresponding permit conditions for the No. 1 Power Boiler.

EPD Response: Modification made as requested.

Comment 2

Condition 3.4.16 – Please update the superscript in equation “a” to match the formula in Georgia Rule for Air Quality Control (GRAQC) 391-3-1-.02(2)(e)1.(i) as follows:

$$E = 4.1P^{0.67}$$

EPD Response: Modification made as requested. Condition now reads as:

3.4.16 The Permittee shall not cause, let, permit, suffer or allow the rate of emission from the Bark Hog Tower and Hammer Hog, particulate matter in total quantities equal to or exceeding the allowable rates calculated using the following equations:
[391-3-1-.02(2)(e)1.(i)]

- a. $E = 4.1P^{0.67}$; for process input weight rate up to and including 30 tons per hour.
- b. $E = 55P^{0.11} - 40$; for process input weight rate above 30 tons per hour.

where:

E = total particulate matter emission rate in pounds per hour; and

P = dry process input weight rate in tons per hour.

Comment 3

Condition 6.2.35 – Please update the reference to Condition 5.2.1.c to Condition 5.2.1.d.

EPD Response: Modification made as requested. Condition now reads as:

6.2.35 The Permittee shall use the NO_x emissions data measured and recorded in accordance with Condition 5.2.1.d and the fuel firing rates measured and recorded in accordance with Conditions 5.2.3.k in order to calculate monthly NO_x emissions. The monthly emissions shall be used to calculate the twelve-month rolling total NO_x emissions. The monthly and annual NO_x emission rates shall be expressed in terms of tons of pollutant per month or year. Each month's twelve-month rolling total shall be the sum of the current month's emissions plus the previous eleven months' emissions. Records of the calculations shall be maintained in a form suitable for inspection by, or submittal to, the Division. The Permittee shall include in the quarterly report required by Condition No. 6.1.4 a copy of the rolling twelve month total NO_x emissions for each twelve consecutive month period that ends during the reporting quarter.

[Avoidance of PM_{2.5} Nonattainment NSR, 391-3-1-.02(6)(b)1]

Comment 4

Condition 6.2.37 – Please update the reference to Condition 5.2.1.c to Condition 5.2.1.e.

EPD Response: Modification made as requested. Condition now reads as:

6.2.37 The Permittee shall use the CO emissions data measured and recorded in accordance with Condition 5.2.1.e and the fuel firing rates measured and recorded in accordance with Conditions 5.2.3.k in order to calculate monthly CO emissions. The monthly emissions shall be used to calculate the twelve-month rolling total CO emissions. The monthly and annual CO emission rates shall be expressed in terms of tons of pollutant per month or year. Each month's twelve-month rolling total shall be the sum of the current month's emissions plus the previous eleven months' emissions. Records of the calculations shall be maintained in a form suitable for inspection by, or submittal to, the Division. The Permittee shall include in the quarterly report required by Condition No. 6.1.4 a copy of the rolling twelve month total CO emissions for each twelve consecutive month period that ends during the reporting quarter.
[40 CFR 52.21, 391-3-1-.02(6)(b)1]

Comment 5

Preliminary Determination - There were several comments on the Preliminary Determination, mostly corrections. The Preliminary Determination is not revised after the draft permit issuance; therefore it is not actually changed. However, several items can be addressed here.

- Page ii – please change “greenhouses gases” to “greenhouse gases”

EPD Response: Typographical errors will not be addressed.

- Table 1-3, footnote ** and Page 5, sentence prior to Table 1-5a – incorrectly state that the CO₂ emission include CO₂ emissions from biogenic sources. Please update to “excluded”.

EPD Response: Modifications noted below.

** Based on a ruling signed by EPA on July 1, 2011 and published in the Federal Register on July 20, 2011 (Vol. 76, No. 139, page 43490), greenhouse gas (GHG) permitting requirements for carbon dioxide (CO₂) emissions from biomass-fired and other biogenic sources are deferred for a period of three years. During the next three years, the EPA will conduct a “study to consider technical issues that must be resolved in order to account for biogenic CO₂ emissions in ways that are scientifically sound and also manageable in practice.” EPA will also develop “a final rule by the conclusion of the three year deferral period regarding how biogenic CO₂ emissions should be treated and accounted for in PSD and Title V permitting based on the feedback from the scientific and technical review.” The CO₂ emission values exclude CO₂ emissions from biogenic sources.

Note: The CO_{2e} emission values specified in Table 1-5A, 1-5B, 1-5C, and 1-6 exclude CO₂ emissions from biogenic combustion.

- Table 1-6 – please update the net emissions increases for NO_x and PM to 38.3 tpy and 14.5 tpy, respectively, to match the August 10, 2011 submittal.

EPD Response: Modifications noted below.

Table 1-6: Net Five-Year Contemporaneous Period Projects Emission Summary

	CO (tpy)	NOx (tpy)	SO2 (tpy)	SAM (tpy)	Total PM (tpy)	PM₁₀ (tpy)	PM_{2.5} (tpy)	CO₂e (tpy)
Total Contemporaneous Period Emissions (tpy)	421.7	38.3	-459.9	6.9	-13.9	14.5	9.6	68,649.50
PSD/NNSR Threshold	100	40	40	7	25	15	10	75,000
PSD/NNSR Permitting?	Yes	No	No	No	No	No	No	No

- Page 18, Table – please add a line to the last column for the No. 3 Biomass Boiler listing the 249 MMBtu/hr natural gas heat input capacity limitation to avoid NSPS Subpart Da.

EPD Response: The statement is made later in the Preliminary Determination and is contained in a permit Condition.

- Page 21, Part 63 Subpart DDDDD Table – GPI requests that the specific limitations of NESAHF Subpart DDDDD be removed from the table because these limits are very likely to change when the regulations is repropose, and GPI does not want to imply that these limitations listed will apply once the regulation is effective.

EPD Response: The included statement of “As of July 1, 2011 the following table represents the limits and monitoring with which the facility would have to comply if the compliance date was not stayed” is sufficient to assuage the concerns about potential changes to the rule.

- Pages 28-29 – Please specify that the application date is the revised application.

EPD Response: Typographical errors will not be addressed.

- Page 32 - Please remove “in conjunction with Method 202” for item e, since Method 202 does not apply for filterable PM and the NSPS Subpart Db limitation is a filterable limit. Also, as the draft permit requires an O₂ monitor, please correct the statement in i. indicated CO₂ or O₂ monitors to reflect the O₂ monitor requirement.

EPD Response: Modifications noted below.

EPD proposes the following monitoring and testing requirements for the new No. 3 Biomass Boiler:

- a. NOx CEMS to verify compliance with the NNSR Avoidance emission standards.
- b. CO CEMS to verify compliance with the CO BACT emission standards.
- c. Continuous Opacity Monitor to verify compliance with the opacity standard.
- d. Initial performance tests and annually thereafter (Method 5 in conjunction with Method 202) to verify compliance with the PM₁₀ PSD Avoidance standards.
- e. Initial performance tests and annually thereafter (Method 5) to verify compliance with the filterable PM NSPS Db emission standard.
- f. Initial performance tests and annually thereafter (Method 5 in conjunction with Method 202) to verify compliance with the PM_{2.5} NNSR Avoidance emission standards.
- g. Initial performance tests (Method 26 or Method 26A) to establish an emission factor and verify compliance with hydrogen chloride (HCl) emission rate standard.
- h. Initial performance tests (Method 8) to establish emissions factor value for sulfuric acid mist emissions.

- i. O₂ monitors at each location where emissions are monitored to measure the O₂ content of the flue gas to correct pollutant emission concentration.
 - j. Instrumentation to continuously measure the sorbent injection rate into a sorbent injection system, if determined to be required.
 - k. Instrumentation to measure the steam production rate of the No. 3 Biomass Boiler.
 - l. Instrumentation to measure the pressure drop across the No. 3 Biomass Boiler baghouse
- Page 33 - Please update “date” to “dated” in the last sentence of the second paragraph.

EPD Response: Typographical errors will not be addressed.

- Page 43, New Permit Condition 6.2.34 - Please update “supplies” to “suppliers”.

EPD Response: Typographical errors will not be addressed.

PUBLIC COMMENTS

Comments were received from “Papa Paul” and Margo Murdock, by email on September 15, 2011. GPI had an emissions release on September 15, 2011 and the comments submitted by these individuals were in regards to the release, not the proposed project. Therefore, the comments are entered into the record since they were received during the public comment period, but are not addressed, as they do not pertain to the proposed project.

APPENDIX A

AIR QUALITY PERMIT

2631-021-0001-V-03-2

APPENDIX B

WRITTEN COMMENTS RECEIVED DURING COMMENT PERIOD