

Prevention of Significant Air Quality Deterioration Review

Final Determination

July 2008

Facility Name: Temple – Inland (Rome Linerboard Mill)

City: Rome

County: Floyd

AIRS Number: 04-13-11500021

Application Number: 17678

Date Application Received: September 17, 2007



State of Georgia
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BACKGROUND

On September 7, 2007, Temple – Inland (Rome Linerboard Mill) (hereafter Rome Linerboard Mill) submitted an application for an air quality permit to make modifications to the Recovery Furnace and the Linerboard Machines. The facility is located at 238 Mays Bridge Road in Rome, Floyd County. The modifications on the recovery furnace will include general repairs and the replacement of the floor tube portion of the unit. This may increase the black liquor solids firing capacity of the unit from 5.3 million pounds per day to 5.44 million pounds per day. The modifications to the linerboard machines may include, but are not limited to, new primary headboxes, the addition of suction roll steam boxes, the removal of breaker stack rolls and the reinstallation of dryer cans, the installation of new closed-vent hoods with pocket ventilation systems and exhaust fans, the installation of new motors and gear boxes on drive systems as needed, the modification of the dryer section and line shaft progressive drive systems, and possible press modifications. The facility may also modify the stock prep area and winders to achieve production goals. The linerboard machine modifications will allow 2,600 machine-dried tons per day (MDTPD) of linerboard production on a consistent basis. The facility also will implement a fugitive dust mitigation plan for roads at the facility.

On May 29, 2008, the Division issued a Preliminary Determination stating that the modifications described in Application No. 17678 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 the Rome Linerboard 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 Rome News-Tribune (legal organ for Floyd County) on June 3, 2008. The public comment period expired on July 3, 2008.

During the comment period, comments were received from the facility. There were no comments received from the U.S. EPA region IV. Comments were received from Ela Orenstein of GreenLaw on behalf of the Coosa River Basin Initiative, Inc.

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.

TEMPLE – INLAND (ROME LINERBOARD MILL) COMMENTS

Comments were received from Ken Hiltgen, Project Manager/Principal Engineer, MACTEC Engineering and Consulting, Inc., on behalf of the facility, by email on June 23, 2008.

Comment 1

The Georgia EPD provided the Temple-Inland Rome Linerboard Mill with a draft permit for its proposed project for the modification of its No. 5 Recovery Furnace and Linerboard Machines on May 29th, 2008. MACTEC Engineering and Consulting (MACTEC) is submitting the following comment on behalf of Temple Inland. Permit condition 6.17. a xxii. requires the mill to demonstrate compliance with the new NO_x limit on the No. 5 Recovery Furnace on a 3-hour average basis. Temple-Inland would request that the limit be based on a 30 day average instead a 3-hour average.

The National Council for Air and Stream Improvement (NCASI) evaluated NO_x emissions from Recovery Furnaces in Technical Bulletin 636 (July 1992) and found that a number of factors could influence the formation of NO_x in Kraft recovery furnaces. These include:

- (1) Liquor nitrogen content,
- (2) Liquor solids content and heating value,
- (3) Excess air or oxygen content in the economizer or stack gases,
- (4) Furnace load, and
- (5) Combustion air distribution.

These variables will be changing continually depending on the operating demands from the mill and the feedstock to the mill. Because of the large number of number of variables involved and because they can vary over a short period of time, we would request a 30 day averaging period for determination of compliance.

This averaging period would be consistent with the fact that the proposed NO_x emission level is for PSD avoidance and is not a Best Available Control Technology (BACT) based limit. Historically, EPD has based PSD avoidance limits on longer term averaging period limits (i.e ton/yr).

EPD Response.

The EPD finds the averaging period proposed by the facility to be acceptable. The comment results in changes to the permit. Condition 6.1.7.a(xxii) has been modified to read as follows:

- xxii. Any 30-day rolling period during which the average nitrogen oxides concentration from Recovery Furnace 5 (Source Code RF5), measured and recorded in accordance with Condition 5.2.1.b, is in excess of 94.0 ppm corrected to 8 percent oxygen.
[Avoidance of 40 CFR 52.21]

COOSA RIVER BASIN INITIATIVE, INC. COMMENTS

Comments were received from Ela Orenstein, Staff Attorney, GreenLaw on behalf of the Coosa River Basin Initiative, Inc. by fax on July 3, 2008.

Comment 1

Please accept the following comments regarding the Prevention of Significant Deterioration (“PSD”) draft permit for the Temple Inland facility in Rome, Georgia. These comments are submitted on behalf of the Coosa River Basin Initiative, Inc. (“CRBI”). CRBI is a not-for-profit organization in Rome, Georgia, with the mission of informing and empowering citizens so that they may become involved in the process of creating a cleaner, healthier, more economically viable Coosa River Basin. CRBI’s primary concerns with the draft permit issued to Temple Inland are threefold: 1) the draft permit does not adequately address PM 2.5 non-attainment requirements; 2) the draft permit does not contain an opacity limit; and 3) no state-licensed professional engineer was involved with setting the emissions limits contained in the draft permit.

EPD Response.

Please see the responses to Comment 2 and Comment 5 for information regarding PM_{2.5} and opacity.

Regarding the comment concerning the involvement of a “licensed professional engineer”:

The Georgia Air Quality Act (Act) gives the authority to the EPD Director to issue Air Permits (see 12-2-2(c)(1)(A), "The director shall issue all orders and shall grant, deny, revoke, or amend all permits or variances provided for in the laws to be enforced by the division..."). The Act also gives the director the authority to identify the permit application review staff (see 12-2-2(c)(1)(B)(i), "The director may identify professionals qualified to review certain permit applications..."). The Act defines the required credentials for the EPD Director (see 12-2-2(b)(1), "The director and the assistant director shall be qualified professionals, competent in the field of environmental protection."). None of these passages require an air permit application to be reviewed by a registered professional engineer. The Georgia Air Quality Act contains no such requirement.

Nonetheless, the BACT part of this permit review has been reviewed and approved by Jimmy Johnston, who is a registered professional engineer in Georgia.

Comment 2**I. The Draft Permit, Preliminary Determination, and Modeling are Flawed in that They Do Not Adequately Address PM 2.5 Nonattainment NSR Requirements.****a. EPD Failed to Address NA NSR Requirements in the Following Areas:**

- i. The preliminary determination Section 3.0 “Review of Applicable Rules and Regulations” should indicate applicability to 40 CFR 51.165;
- ii. Table 3.1.1 “Applicable Requirements and Standards” of the draft Permit should identify 40 CFR 51.165 as applicable for the Recovery Boiler #5,

- for Linerboard Machines P101 through P203, and for the collection of roads “RD”;
- iii. Draft Condition No. 3.2.5 should have an emission limitation for PM 2.5 pursuant to 40 CFR 51.165 and for PM 10 pursuant 40 CFR 52.21;
 - iv. The modeled results for PM 2.5 should include a comparison of potential PM 2.5 emission rates against the 24-hour National Ambient Air Quality Standard (“NAAQS”).

b. EPA’s Final Implementation Rule for PM 2.5 Must Be Applied in the Final Permit.

Temple Inland is located in Floyd County which is designated by the US EPA and the GA EPD as “nonattainment” for the annual PM 2.5 standard under the National Ambient Air Quality Standards (NAAQS).

Because the facility is located in a nonattainment area and the permit will still be pending on the date the Final Implementation Rule for PM 2.5 takes effect, EPD cannot process the permit amendment under the PM 10 surrogate program. To the contrary, EPD must evaluate Temple Inland’s application according to the requirements set out in the Final Implementation Rule for PM 2.5, 73 FR 28321 (attached).

The Final Rule takes effect on July 15, 2008. On that date, this permit will still be pending as the submission of any comments requires EPD to delay issuance of any amendment to a Title V Permit to allow for a 45-day period for sequential review by the EPA. Further, since the Georgia SIP and Title V Permit programs do not provide for an administrative or technical completeness determination, a permit is “pending” until issuance of the Final Permit and Final Determination by EPD.

Because this permit will be pending on the date the Final Implementation Rule for PM 2.5 takes effect, and because the facility is located in a PM 2.5 nonattainment area, the permit must be reviewed according to the requirements set forth in the Final Rule. In the Final Rule, EPA states, “we do not believe it is appropriate to allow grandfathering of pending permits being reviewed under the PM 10 surrogate program in nonattainment areas” 73 FR 28342. The Rule also states “[a]fter the effective date of the amended rule (that is July 15, 2008) states will no longer be permitted to implement a NA NSR Program for PM 10 as a surrogate for the PM 2.5 NA NSR requirements. . . . States that have nonattainment regulations which need to be amended to incorporate the new PM 2.5 requirements. . . . will have to implement a transitional NA NSR permitting program for PM 2.5 pursuant to 40 C.F.R. 52.24(k) and Appendix S” 73 FR 28342.

As such, because Temple Inland’s permit will be pending on the effective date of the Final Rule, and because the facility is located in a PM 2.5 nonattainment area, EPD is required to review Temple Inland’s requested permit amendment according to the requirements of the Final Rule, 40 C.F.R. 52.24(k), and Appendix S.

Temple Inland is an existing “major stationary source” of an NSR-regulated pollutant as defined under 40 CFR Part 51, 52, and 70.

The application for this modification indicates potential and net actual PM 2.5 emission rates of 11.6 tons per year which exceeds the threshold (10 TPY) for “significant” emissions rates for PM 2.5 provided in 40 C.F.R. § 51.165, Appendix S § 10(i), as amended.

Therefore, the proposed modifications constitute a “major modification” under 40 CFR Part 51 for PM 2.5. As such, Temple Inland and the GA EPD are required by 40 CFR 52.24(k) to conduct a review in accordance with the revised Appendix S to 40 CFR Part 51 which requires the following:

1. Temple Inland must apply the Lowest Achievable Emission Rate (“LAER”) for PM 2.5, 73 FR 28337-28338 ;
2. Temple Inland must conduct an alternative site analysis, *id.*;
3. Temple Inland must certify that all sources owned by its parent company in Georgia are in compliance with all air quality regulations *id.*; and
4. Temple Inland must obtain emission offsets of the proposed PM 2.5 rates, including emissions for precursors NOX and SO2, at a 1:1 offset ratio, at least. 40 C.F.R. § 51.165, Appendix S § 31(IV)(G)(1), as amended.

c. EPD Was on Notice of the Final Implementation Rule for PM 2.5 Prior to the Modeling Analysis and Prior to the Release of the Draft Permit.

The modeling results from Peter Courtney dated May 29, 2008; and the June 03, 2008 Public Notice published by the Air Protection Branch Permitting Program Manager, James A. Capp, and Air Protection Branch Chief, Heather Abrams, as well as the draft permit for Temple Inland were published after the promulgation (May 16, 2008) of the final PM 2.5 Implementation Rule and the standards contained therein.

In addition, staff of the Air Protection Branch had the opportunity to participate in a conference call conducted by Raj Rao of the US EPA *discussing the new requirements of the Final Implementation Rule for PM 2.5* on May 14, 2008, two days in advance of the rule change.

In light of the fact that EPD was on notice of the Final Implementation Rule for PM 2.5, upon receipt of guidance from the US EPA, Temple Inland should have submitted and GA EPD should have required and reviewed for compliance the application of LAER, 1:1 offsets, a certification that all sources owned by Temple Inland in the state are in compliance with all applicable air quality rules, and an alternative site analysis prior to publication of a draft permit for the proposed modifications at Temple Inland.

The modeling results prepared by Peter Courtney on May 29, 2008, state that “PM 10 modeling was conducted and compared to PM 10 Ambient Air Quality Standards, in part as a surrogate for modeling PM 2.5; in accordance with current EPA policy”. This is not current EPA policy as of May 16, 2008. In order to comply with the law, and current EPA policy, the modeling must be redone in accordance with the controlling requirements of the Final Rule and Appendix S.

Further, since Temple Inland has quantified emissions of PM 2.5 separate from PM 10 and since GA EPD has recommended in a letter to US EPA Region 4 dated December 18, 2007 that Floyd County be classified as “unclassifiable/attainable” for the 24-hour PM 2.5 NAAQS, the modeling submitted by Temple Inland should be reviewed by the GA EPD to ensure compliance with the 24-hour PM 2.5 NAAQS, not just the PM 10 NAAQS.

CRBI is hereby requesting that the application submitted by Temple Inland be updated to include these analyses and that both GA EPD and the US EPA review the application, preliminary determination, air impact analysis, and draft permit for compliance with the requirements of 40 CFR 51 and 52 and its amendments.

EPD Response.

The PSD permit for this project will be issued prior to July 15, 2008; therefore, the PM_{2.5} provisions referenced by the commenter will not be in effect and are not required as part of the application review. Also, all PM is classified as PM₁₀ for the purposes of the PSD analysis; therefore, a separate PM₁₀ limit is not necessary. No changes have been made as a result of this comment.

Comment 3**II. The PM Emissions Limit Contained in the Draft Permit is Improper.**

The PM 2.5 emissions from the Recovery Furnace #5 and the Linerboard Machines are subject to 40 CFR 51.165. A review of query results from the US EPA RACT/BACT/LAER/ (RBLC) Clearinghouse's "Find Lowest Emission rate" reveal that the Preliminary Determination issued by GA EPD and the application submitted by Temple Inland erroneously assert that emissions less than that proposed by Temple Inland (0.021 gr/dscf @8% O₂) are only associated with "newly constructed" recovery furnaces. In fact, there is an entry for International Paper – Mansfield Mill (LA-0122) dated 08/14/2001 with a PM limit of 0.0090 gr/dscf @8% O₂.

Since PM 2.5 is a subset of PM emissions, GA EPD and Temple Inland must justify why this emission rate is not achievable or why the control efficiency associated with this emission rate is not achievable or this emission rate should be established in the permit as the LAER or the BACT emission limit for the Recovery Furnace #5.

EPD Response.

The recovery boilers at the International Paper Mansfield Mill have been the subject to two PSD reviews. The first permit was issued in 2001 and the second was issued in 2004. The entry for the 2001 permit includes a primary limit of 96.5 lb/hr PM and a black liquor solids (BLS) throughput of 71 ton/hr. This yields an emission rate of 1.36 pounds PM per ton of BLS. This is higher than Inland's proposal of 0.52 pound filterable PM per ton of BLS. The entry also includes a secondary limit of 190.3 tpy and a standardized value of 0.009 gr/dscf.

The entry for the 2004 permit includes a primary limit of 100.5 lb/hr PM and a BLS throughput of 84 ton/hr. This yields an emission rate of 1.20 pounds filterable PM per ton of BLS, which is still higher than Inland's proposal. The entry also includes a secondary limit of 198 tpy and a standardized value of 0.02 gr/dscf as an annual average. This information replaced the information from the 2001 review.

The information presented in the second entry indicates that the 0.009 gr/dscf value may be a calculation or entry error as the throughput and allowable emission rate did not change significantly from the 2001 permit to the 2004 permit. Second, it is more appropriate to compare the primary emission limit to the Inland's proposal because compliance will be based on a short-term (three-hour) performance test. Nonetheless, dividing the secondary limit of 198 tpy PM by the annual BLS throughput for the 2004 entry (703,850 tpy) yields 0.56 pound PM per ton of BLS. This is also slightly higher than Inland's proposal. Finally, as discussed in the preliminary determination, the ESP is the most effective and widely used control device for PM emissions from recovery boilers with efficiencies greater than 99%. Based on this information the EPD has not changed the results of the BACT analysis and no changes have been made to the permit.

Comment 4**III. Precursors for PM 2.5 Must Be Properly Evaluated.**

The PM 2.5 limits and offsets requested above should include offsets for precursors such as NOX and SO2 as well as for emissions of Sulfuric Acid Mist.

EPD Response.

See the response to Comment 2.

Comment 5**IV. The Permit Should Contain an Opacity Limit.**

Guidance documents released by the US EPA have indicated that opacity is an NSR-regulated pollutant. The amendment for these modifications should contain opacity limitations pursuant to 40 CFR 51.165 and 52.21 for each source emitting particulate matter.

EPD Response.

NSR regulations apply to Clean Air Act pollutants. While opacity may be used in some cases as a surrogate for particulate matter, it is not a pollutant for the purposes of setting limits under NSR. No changes have been made to the amendment as a result of this comment.

The best indicator of compliance with particulate matter limits for the recovery furnace is total power for the electrostatic precipitator (ESP). The ESP uses electrodes to create a negatively charged field through which the recovery furnace gases flow. The particles pick up the negative charge. The negatively charged particles are then attracted to the grounding collecting surfaces, which are positively charged. The cleaned gas then exits the device. The collecting surfaces are rapped periodically to remove the built up particulate.

The facility is required by the existing Title V permit to continuously monitor the ESP and calculate the total power. The total power is then compared to the value recorded during performance testing to determine if there is an excursion during any three-hour period. There is a reasonable assurance that the applicable particulate matter limits are met if the facility maintains the appropriate total power. The facility is also required by the existing Title V permit to conduct on-going performance testing for particulate matter. Because these provisions were already present in the current Title V permit; therefore, it was not necessary to include additional language for the PSD amendment.

Although NSR does not require opacity limits, the recovery furnace is subject to opacity limits under other regulations. 40 CFR 60 Subpart BB limits opacity to less than 35 percent when burning only black liquor solids and 40 CFR 60 Subpart Db limits opacity to less than 20 percent except for one six minute period per hour of not more than 27 percent when fossil fuel is fired. The facility is in violation of 40 CFR 63 Subpart MM if opacity from the unit exceeds 35 percent for 6 percent or more of a quarterly period and must take corrective action if opacity exceeds 20 percent for a certain period of time. Compliance with these opacity requirements is determined through the use of a continuous opacity monitor. Again, these provisions are already present in the current Title V permit. It was not necessary to include additional language for the PSD amendment.

Comment 6**V. The Permit Should Contain a Condition Requiring Notification of the Date of Repairs.**

The draft permit should include a condition requiring notification of the date that the proposed "repair" to the recovery furnace commences to ensure that Temple Inland is not allowed to commence any modifications to the Recovery Furnace #5 during any typical, planned plant shutdown on or after July 03, 2008, without a final permit to construct or modify from the GA EPD.

EPD Response.

The following condition has been added to the permit:

- 6.2.46 The Permittee shall provide written notification to the Division of the dates on which construction is commenced and completed. Such notifications shall be submitted in writing with 30 days of the dates of record.
[40 CFR 60.7 and 40 CFR 63.9]

Comment 7**VI. Conclusion.**

In light of the above comments and applicable law, the Temple Inland permit amendment must not be issued until the proper analyses have taken place in accordance with the Final Implementation Rule for PM 2.5.

EPD Response.

Please see the response to Comment 2.

APPENDIX A

AIR QUALITY PERMIT

2631-115-0021-V-02-1

APPENDIX B

WRITTEN COMMENTS RECEIVED DURING COMMENT PERIOD