

**Prevention of Significant Air Quality Deterioration Review
Of the International Paper Company, Inc.-Augusta Lumber Mill
Augusta, Georgia (Richmond County)**

**FINAL DETERMINATION
Permit Application No. 15723
October 25, 2004**



**State of Georgia
Department of Natural Resources
Environmental Protection Division
Air Protection Branch**

Ron Methier – Chief, Air Protection Branch

Stationary Source Permitting Program

**James Capp
John Yntema
Hem R. Sharma**

BACKGROUND 2

1.0 REVIEW OF AUGUSTA LUMBER MILL'S COMMENTS 3

2.0 REVIEW OF USEPA'S COMMENTS 7

APPENDIX A: Final PSD Permit 1

APPENDIX B: Public Comments..... 2

BACKGROUND

On October 25, 2004, International Paper Company, Inc. submitted an application for an air quality permit amendment for its Augusta Lumber Mill located at 4206 Mike Padgett Highway, in Augusta (Richmond County), Georgia, for the reasons stated below:

- (1) To remove the PSD avoidance production restrictions on two of the kilns (Emission Units ID No. KD02 and KD03), now limited to a total of 131.5 million board feet per any twelve consecutive months;
- (2) To obtain authorization to make changes to each of the three kilns (Emission Unit ID Nos. KD01, KD02, and KD03) to improve drying efficiency (the primary measure proposed is the installation of moisture meters); and
- (3) To increase the infeed capacity of the sharp chain in the sawmill area by installing a mini double length infeed.

On January 26, 2006, the Division issued a Preliminary Determination indicating that the Air Quality Permit for the Augusta Lumber Mill should be amended to remove the production limitations on the kilns, and to authorize the proposed changes in the kilns and infeed chain, which will allow an increase in the total lumber production capacity of the mill up to 157.0 million board feet per year in the three lumber drying kilns. The Preliminary Determination contained a draft Air Quality Permit Amendment for authorizing the facility to make above changes.

The Division requested that International Paper Company, Inc. place a public notice in a newspaper of general circulation in the area of the existing facility, notifying the public of the proposed modifications and providing the opportunity for written public comment. Such public notice was placed in *The Augusta Chronicle* (legal organ for Richmond County) on February 2, 2006. The public comment period expired on March 5, 2006.

During the 30-day public comment period, written comments were received from the facility and U.S. EPA. No comments were received from the public. Changes have been made to the final Permit. Included with this Final Determination in Appendix A is a copy of the final Air Quality Permit Amendment No. 2421-245-0047-V-01-3 as issued by the Division to the International Paper Company, Inc.-Augusta Lumber Mill Inc. for the modification of the three kilns to improve drying efficiency, the removal of the production restrictions on kilns and the modification of the infeed of the sharp chain (sawmill) by installing a mini double length infeed.

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

1.0 Review of Augusta Lumber Mill's Comments

The public comment period ended on March 5, 2006. Written comments were received on the draft permit from the Augusta Lumber Mill, by letter dated March 3, 2006. The comments are reproduced below, followed by a discussion of the comments and any changes made to the permit as a result. [Note that comments marked with asterisks (*) resulted in changes to the permit.]

Comment 1: On Page 3-3 of our PDD application, International Paper requested that Cyclone 2 be exempted because it is a product recovery unit and not a pollution control device. We would like the EPD to reconsider this request.

Division Response: *As indicated by the comment, the PSD application submitted by International Paper states that cyclone 2 operates as a product recovery unit and is "exempt." If that is so, the cyclone should not be included in the emission source table, nor addressed by any specific condition in the permit. The Division accepts that the cyclone does serve as a product recovery device; however, the cyclone also controls emissions of particulate matter. The Division will need more information about the cyclone, and how it is connected to the planer, in order to make a determination. The only consequence of Cyclone CL02 being a part of the Title permit is that a weekly exterior inspection is required. The Cyclone is not addressed at all in the PSD permit amendment. Since there is no urgency to consider the request, and since the Title V renewal permit review will be carried out immediately following the issuance of this PSD permit, the Division will consider this request during that review of the renewal application.*

***Comment 2:** Condition 3.2.3 b. describes the daily routine expected. Because most of these items must be performed when the kilns are down and some of the products we dry have a drying time greater than 24 hours, i.e. 4 x 4's; we would like this heading changed to "Before/During each Kiln Charge."

- b. Daily Routine:
 - i. Inspect wet bulb socks and replace as needed. Replace a sock daily if it has a tendency to become hard. Check water flow to the wet bulb.
 - ii. Ensure that all Resistance Temperature Detectors (RTDs) are in the airflow.

Division Response: *The correct condition is 5.2.3 b and not 3.2.3 b as reported by the Permittee. The Division agrees to make this change to Section 5.2.3.b heading; the revised condition will read as follows:*

- b. Routine Before or During each Kiln Charge:
 - i. Inspect wet bulb socks and replace as needed. Replace a sock daily if it has a tendency to become hard. Check water flow to the wet bulb.
 - ii. Ensure that all Resistance Temperature Detectors (RTDs) are in the airflow.

***Comment 3:** Condition 6.2.5.a requests that “manual” records be kept for each kiln charge and condition 6.2.5 requires the record retention to be 5 years. Since we process between 900 and 1000 charges per year, we would request that this documentation be kept in electronic form or the record retention be reduced to current + six months.

Division Response: *Since all records are required to be kept for five years under Title V, the Permittee cannot be allowed to keep records for current + six months as requested. However, the Division finds it completely acceptable that a maintenance log is kept in an electronic format.*

The Division agrees to make this change in Condition No. 6.2.5 a; the revised condition will read as follows:

6.2.5 The Permittee shall maintain a kiln operation and maintenance log for the following records in a permanent form. These records shall be retained for at least five years following the date of entry. The records shall be available for inspection or submittal to the Division upon request.
[40 CFR 52.21 and 391-3-1-.03(2)(c)]

- a. Reports shall be kept for each batch (or charge) processed and shall contain as a minimum the date, charge quantity, actual drying time, maximum wet-bulb actual and set-point temperatures, dry-bulb actual and set-point temperatures over the lumber drying time range, and the final target moisture content. Records may be kept in either paper or electronic format.

***Comment 4:** Section 6.1.7.c.iii classifies each item found during each inspection as an Excursion. The inspection process is designed to find and address items before they affect operations. Many items are recommended by the manufacturer that promote operational excellence but will not impact emissions. Our limiting condition is the production limit in Section 3.2.2. We would like this section removed from the final permit. To report every item found and repaired would be an unnecessary burden on the facility and i.e. we would report every wet bulb that was replaced due to drying out or every RTD that was adjusted. We would request that Section iii be removed or changed to “Any adverse condition(s) found for two consecutive days.” We would also ask that “excursion” be removed from section 5.2.3 g.

- iii. Any adverse condition(s) discovered and corrective action taken while following the work practice and preventive maintenance plan required in Condition 5.2.3.

Division Response: *The Division does not agree to remove this section completely as requested by the Permittee. The Division believes that excursions defined per Condition No. 5.2.3 g i and ii are for important parameters that should be monitored to minimize VOC emissions. Therefore, the Division does not agree to remove the reporting excursions specified in Condition 5.2.3 g. However, the Division agrees to change Condition No. 6.1.7.c. iii as requested by the Permittee. This will eliminate the reporting of every item found and repaired. However, the condition will still ensure prompt action, when problems exist for two consecutive days. This will reduce the burden on the facility for reporting.*

The revised Condition No. 6.1.7.c.iii will read as follows:

- iii. Any adverse condition(s) found for two consecutive days, and corrective action taken while following the work practice and preventive maintenance plan required in Condition 5.2.3.

***Comment 5:** Section 5.2.3.a.iii requires us to check all baffles for damage, and report problems in writing to the Maintenance Department. This is being performed and repaired, via our SAP system-but each repair is evaluated on a case by case basis-Some repairs may wait up for 2 weeks or until the next downtime day. Others will be repaired quickly. We would like this item removed.

- iii. Check all baffles for damage, and report problems in writing to the maintenance Department.

Division Response: *The condition that requires checking of baffles is No. 5.2.3 b. iii and not 5.2.3 a iii The Division does not agree to delete the condition but agrees to make a change in this reporting. Revised Condition No. 5.2.3.b.iii will read as follows:*

- iii. Check all baffles for damage, record problems found and repairs done or how this was otherwise resolved.

Written comments were also received on the proposed draft permit from the Augusta Lumber Mill, by emails dated January 26, 2006, as well as March 27 & 28, 2006. The comments are reproduced below, followed by a discussion of the comments and any changes made to the permit as a result. [Note that comments marked with asterisks (*) resulted in changes to the permit.]

***Comment 1:** Condition 6.1.7 b. ii must refer to Condition 5.2.3.

Division Response: *This condition references Condition No. 5.2.5 but there is no such condition in the permit. The Division agrees with the Permittee. The permit was amended to correct this typo error.*

***Comment 2:** The Permittee requested that Condition 5.2.3 g be changed to read, as follows. [The Permittee later also commented that this condition contradicts Condition 6.1.7 c. iii.]

- g. Any adverse condition discovered by an inspection done in accordance with this condition shall be corrected in the most expedient manner possible. The Permittee shall record the incident as an excursion and note the corrective action taken. The Permittee shall also record any exceedances of the work practice standards and preventive maintenance program and corrective action taken to prevent any future exceedances. The record must include the following:
 - i. Any time a wet bulb temperature set-point-drying scheduled more than 220°F.
 - ii. Any time a final moisture content drying operation targeted less than 12%.

Division Response: *The Division agrees to make this change, and Condition No 5.2.3 g is revised accordingly. Note that anything recorded as an “excursion” must be reported on the annual/semiannual reports. The revised Condition No. 5.2.3g will read as follows:*

- g. The Permittee shall correct any adverse condition, discovered by an inspection done in accordance with this condition, in the most expedient manner possible and note the corrective action taken. The Permittee shall also record any exceedances of the work practice standards and preventive maintenance program and corrective action taken to prevent any future exceedances. The record must include the following:
- i. Any time a wet bulb temperature set-point-drying scheduled more than 220°F.
 - ii. Any time a final moisture content drying operation targeted less than 12%.

***Comment 3:** The Permittee by e-mail dated March 27, 2006, requested clarification of the source of total VOCs detailed in the comment and response attached at the end of EPA's comment.

Specifically what is the 1.133 multiplier? Our facility has a different factor for formaldehyde than the 0.103.

Why are methanol and formaldehyde broken out versus adding in acetaldehyde or acrolein? Normally I have seen these listed separately with VOC (carbon) is this usually kept together?

Would a stack test provide this information or would it be through straight production through the kilns?

Division Response: *The Division has clarified the reason for the "1.133 multiplier" in the Division's response to EPA's comment 2, which is that all emission factors for VOCs and HAPs emissions have been taken from the NCASI Technical Bulletin No. 845 (May 2002). The Division has determined to use NCASI emission factors for the direct-fired lumber drying kilns, unless the facility has site-specific data.*

Note that VOC is measured by EPA Method 25A. Methanol and formaldehyde have very small relative response factors in a FID (Flame Ionization Detector). Since their contribution is not detected, they must be added for calculating total VOCs.

The VOCs emissions from the kilns are estimated by using the emission factor of 4.6 lb/1000 board feet for direct-fired lumber kilns. Presently no stack testing is required and the compliance will be determined by monitoring the quantity of lumber dried in the kilns. However, if the facility wants to use emission factors for VOCs and HAPs, other than recommended by NCASI, the facility can conduct stack testing.

2.0 Review of USEPA's Comments

Written comments were received on the draft permit from the USEPA Region 4 by email dated February 21, 2006. The comments are reproduced verbatim below, followed by a discussion of the comments and any changes made to the permit as a result. [Note that comments marked with asterisks (*) resulted in changes to the permit.]

Comment 1: On page 6 of the preliminary determination, EPD describes the permitting action under review as a "retroactive PSD" action. The action appears to us as more of a permit "relaxation" than a retroactive permit. In other words, increasing the production limits now in effect constitutes a relaxation of a limit previously taken by IP to avoid PSD review for reconstruction of Kiln No. 1. In accordance with the PSD rules now in effect for Georgia projects, relaxation means that the past reconstruction of Kiln No. 1 should be assessed "as though construction had not yet commenced on the ... modification." Viewing the change in production limits as a relaxation probably does not alter the permitting approach being taken by EPD. We simply wished to make this point in case it affects EPD's procedures in any way.

Division Response: *The Division agrees with the comments made by the USEPA. The use of "retroactive PSD," description in the preliminary determination was incorrect. The Division has actually reviewed and compared the emissions (past actual, before construction of kiln 1, and future potential) as if Kiln No. 1 had not yet been constructed . No change was required due to this comment.*

***Comment 2:** The draft permit contains a production limit (Condition 3.2.2), but it does not contain a volatile organic compounds (VOC) emissions limit. Permits for lumber dry kilns typically contain a VOC emissions limit in terms of pounds per thousand board feet of lumber throughput. We recommend that the final permit include an emissions limit that represents the best available control technology limit for the three kilns.

Division Response: *The Division agrees to include a BACT VOC limit, as requested by USEPA; Condition No. 3.2.3 now includes a volatile emission limit based on the emission factor of 4.6 lbs of VOC/1,000 bd-ft dried.*

It is noted that the NCASI Technical Bulletin No. 845 (May 2002) indicates that VOCs from drying southern yellow pine is currently estimated to be at 3.8 lbs VOC (as carbon)/MBF for direct-fired lumber kilns, whereas the facility reported this as the total VOCs from the kilns. Since there is no testing data from any kiln at this facility, the NCASI emission factors are considered to be more accurate.

The VOC emission factor of 3.8 lbs of VOC as C/MBF is equivalent to 4.6 lbs VOCs/MBF, as per the following calculation; this factor represent the BACT limit for direct fired lumber drying kilns:

$$\begin{aligned} \text{Total VOCs} &= \text{VOC as carbon} * 1.133 + \text{weight of methanol} + \text{weight of formaldehyde} \\ &= 3.8 * 1.133 + 0.16 \text{ lbs of methanol/MBF} + 0.103 \text{ lbs of formaldehyde /MBF} \\ &= 4.305 + 0.16 + 0.103 = 4.568 \text{ or } 4.6 \text{ lbs of VOCs/1,000bd-ft.} \end{aligned}$$

Note: 1.133 factor is for converting VOC (as carbon) to actual VOCs with the formula and molecular weight of terpenes and equals to 136 amu (weight of terpenes)/120 amu (the gram atomic weight of C in terpenes). The conversion of lumber drying kiln VOC emissions on a carbon basis to

actual emissions is based upon information contained in a PSD permit issued to the New South Lumber Company, Inc.-Camden Plant, Cassatt, S.C. (TV-1380-0025).

Comment 3: Condition 5.2 of the draft permit specifies requirements that comprise the minimum provisions of a "Work Practice and Preventative Maintenance Program" for the lumber dry kilns. This is a worthwhile permit condition. We will expect to see it (or something like it) in future permits for lumber dry kilns.

Division Response: *This is a general comment, and the Division agrees to include such a condition in other lumber mill PSD permits. This comment requests no change in this permit.*

Comment 4: EPD is using a VOC emission factor of 3.8 lb/MBF which we believe to be a factor for total speciated organic compounds and not an as carbon factor. We are not questioning this factor; but, as you know, various factors exist for lumber dry kilns. We request that EPD consider this factor for consistency as you review the other direct fired lumber dry kiln project now pending in Georgia.

Division Response: *Again, this is a general comment, and the Division agrees to consider this factor for consistency, for reviewing other direct fired lumber dry kiln project now pending in Georgia. This comment requests no change in this permit. Note: refer to the Division response to Comment 2.*

Comment 5: In its permit application (page 4-5), IP states that "PSD rules require that an evaluation be conducted to demonstrate that there are no violations of increment ... for Class I areas that are located within 100 kilometers of the proposed source." If you have the opportunity, please explain to IP that PSD rules do not specify a distance beyond which it is unnecessary to evaluate impacts on Class I areas. The need to evaluate Class I impacts is decided on a case-by-case basis. We agree for this project that an evaluation of impacts on distant Class I areas is not needed.

Division Response: *The Division agrees with the observation made by the USEPA. The Division has reminded the facility and their consultant of this. This comment requests no change in the permit.*

APPENDIX A: Final PSD Permit

International Paper Company, Inc.-Augusta Lumber Mill (Richmond County), Georgia

Part 70 Operating Permit Amendment No. 2421-245-0047-V-01-3.

APPENDIX B: Public Comments

International Paper Company, Inc.-Augusta Lumber Mill (Richmond County), Georgia

A copy of the full written comments received during the public comment period is provided, as below:

1. Comments received from the International Paper Company, Inc.-Augusta Lumber Mill by letter dated March 3, 2006.
2. Comments received from the International Paper Company, Inc.-Augusta Lumber Mill by their e-mails dated March 3, 2006, March 27, 2006, and March 28, 2006.
3. Comments received from the USEPA by e-mail dated February 21, 2006.