

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

January 28, 2002

4APT-APB

Mr. James P. Johnston, P.E.
Georgia Environmental Protection Division
Air Protection Branch
4244 International Pkwy., Suite 120
Atlanta, GA 30354

Dear Mr. Johnston:

Thank you for the letter dated April 19, 2001, from the Georgia Environmental Protection Division (GEPD) to the Region 4 office of the U.S. Environmental Protection Agency (EPA), regarding an applicability determination your office was making for the No. 3 Recovery Boiler at the Willamette Industries (Willamette) pulp and paper mill in Port Wentworth, Georgia. In particular, GEPD asked for our assistance in determining whether certain activities undertaken at the boiler in 1996 can be considered routine maintenance, repair or replacement, and therefore exempt from the prevention of significant deterioration (PSD) definition of major modification as allowed by the applicable PSD regulations in Georgia rule 391-3-1-.02(7). This rule adopts federal PSD rules in 40 C.F.R. § 52.21 by reference.

Based on our review of the information made available to us as explained below, EPA's opinion is that the changes in question would likely not be considered routine maintenance, repair or replacement under the federal PSD rules in Title 40 Code of Federal Regulations.

Background

The following background information, as described in correspondence from the current and prior owners, was taken into account as part of our assessment. The correspondence available for our review includes letters from Willamette dated March 13, 2001, and March 26, 2001, and a letter from Stone Container Corporation dated April 16, 2001.

- The Willamette mill changes in question pertain to the No. 3 Recovery Boiler and were carried out in the fall of 1996 when the mill was owned by Smurfit-Stone Container Corporation (Stone). Hereafter, we refer to these changes as the Fall 1996 changes.
- Using language from Stone's April 2001 letter, the changes consisted of "adding additional tubes from the upper steam drum to the lower water drum and changing the baffling in the main steam drum." The alleged primary objective of the Fall 1996

changes - as described in the April 2001 Stone letter - was to reduce the amount of water carryover in the boiler's circulation system for safety reasons (as further discussed in the next item).

- According to Stone's April 2001 letter, the Fall 1996 changes were prompted by a tube rupture that occurred in 1995. Because of another tube rupture prior to 1995 that had resulted in a fire and extensive damage, the mill's management staff initiated an investigation of the cause of the 1995 rupture. As stated in the April 2001 Stone letter, mill management also decided "to limit the steaming rate of the No. 3 Recovery Boiler while the unit was being investigated." As further stated in the April 2001 Stone letter, "for safety reasons, the mill decided to limit the firing rate to 4.2 MMLb/day until the cause of the tube failure had been thoroughly examined and corrected."
- Summarizing the purpose of the Fall 1996 changes, the April 2001 Stone letter contains the conclusion that "the 1996 work performed on the No. 3 Recovery Boiler at the Port Wentworth mill was implemented for the purpose of addressing the potential safety and property damage issues associated with water carryover in the unit. The project did not increase the Recovery Boiler's capacity."
- Notwithstanding the explanation of purpose in the April 2001 Stone letter, the purpose of the project as stated in the original Authorization Request (AR) for the Fall 1996 changes was in part to allow the mill to increase the boiler's black liquor firing rate (from 4.2 MMLb/day to about 4.6 MMLb/day). This increase could help justify the economics of the changes through the energy value obtained from increased firing and through cost savings that would result from eliminating the freight charges incurred from shipping black liquor from the mill to an offsite location.
- The amount of time allowed for completion of the Fall 1996 changes was 13 days, to be carried out concurrent with a scheduled outage.
- The estimated cost of the Fall 1996 changes was approximately \$750,000 (\$290,000 for materials and \$460,000 for labor).
- Recovery Boiler No. 3 was installed in 1979 and was therefore 17 years old at the time of the Fall 1996 changes.

Basis for Opinion

When assessing whether changes can be considered "routine" under PSD regulations, it has been EPA's longstanding practice to consider the nature, extent, purpose, frequency, and cost, as well as other relevant factors, to arrive at a common sense understanding of whether the changes are routine. An example of this is provided in a letter from EPA Region 5 dated

May 23, 2000, concerning changes at a Detroit Edison power plant. This letter can be obtained from EPA's NSR Internet database at www.epa.gov/ttn/nsr/poly_gui.html.

A summary of our assessment of the Fall 1996 changes is provided for your consideration as follows:

- Nature and Extent - The changes were beyond those of a simple repair activity, included the addition of substantive parts that were not part of the original boiler design, and required several days to accomplish (albeit a period of time that was concurrent with a planned outage).
- Purpose - One reference source we consider in assessing the purpose of a project is any internal company supporting documentation (if available) that accompanies an Authorization Request for a capital expense. Our understanding from letters submitted by both Willamette and Stone is that the AR documentation in this case provided support for the project in part on the basis that the requested work on the No. 3 Recover Boiler would allow the mill to increase the boiler's black liquor solids firing rate from 4.2 MMLb/day to about 4.6 MMLb/day. Although acknowledging this AR justification in its April 2001 letter, Stone then offers a context for dismissing the increased firing rate justification in the AR documentation. This after-the-fact rationale for dismissal is of interest, but we believe that credence must also be given to the plain language of the AR support documentation. Further related to firing rate, we note the information in the letter from Willamette dated March 26, 2001, that the 1988 PSD permit application for an upgrade of the No. 3 Recovery Boiler represented the design black liquor solids firing rate for the boiler as 4.1 MMLb/day. We understand that the permit issued on the basis of this application does not limit boiler firing rate, but the design firing rate information in the permit application does provide perspective on operating expectations as of that time. Consequently, it is possible to conclude that the boiler's actual black liquor solids firing rate could have increased as a result of the Fall 1996 changes.

Continuing our assessment of the purpose factor, we recognize that the Fall 1996 changes do not appear to have been essential to continued operation of the boiler and (based on the information provided) may not have resulted in an increase in rated capacity. Also, given the age of the boiler at the time of the changes in comparison to the typical lifetime of pulp and paper mill recovery boilers, the changes do not appear as though they extended the useful life of the boiler. However, according to information from the April 2001 Stone letter cited above, the changes allowed Stone to end an extended period of reduced boiler operation resulting from the 1995 tube failure and to operate the boiler at its full capacity as needed. The changes therefore served in effect as a means of restoring lost capacity. (Although Stone contends that operation of the boiler was reduced solely for safety purposes after the 1995 tube

rupture and was not the result of decreasing the physical capacity of the boiler, that contention supports the counter position that the boiler did not have the physical capacity to operate safely at a higher level before changes were made).

- Frequency - The No. 3 Recovery Boiler was installed in 1979. Based on the information presented to us, the previous owner of the mill never performed the same changes at the No. 3 Recovery Boiler during its entire 17-year operating history as occurred during the fall of 1996. Furthermore, the Fall 1996 changes appear to represent a design change that would not have been made if the 1995 tube rupture had not occurred. Therefore, the Fall 1996 changes would appear to be a rare and infrequent occurrence. In addition, the fact that an extended period of investigation elapsed before the mill owner decided on a remedy to the 1995 tube rupture indicates that this remedy was not a typical and frequent industry practice.
- Cost - Our understanding is that the estimated \$750,000 expenditure for the Fall 1996 changes was in addition to typical annual maintenance costs which ranged from \$455,000 to \$729,000 during the period 1988 to 1995 (prior to the Fall 1996 changes). The cost of this one project was therefore more than double the typical No. 3 Recovery Boiler maintenance costs for an entire year. In addition, although the cost of the Fall 1996 changes cost is only a small percentage of the cost of a new comparable recovery boiler, an added cost of \$750,000 is substantial when compared to typical annual maintenance costs.

We believe that the above facts and other relevant information when considered together do not appear to support a finding that the Fall 1996 changes were routine. Our response does not represent how you must interpret the PSD requirements that EPA has approved into Georgia's state implementation plan, nor does it represent final agency action. Instead, this letter is intended to provide guidance to you to consider in your role as the PSD permitting authority.

If you have any questions concerning this letter, please contact Jim Little at (404) 562-9118.

Sincerely,

/s/

Winston A. Smith
Director
Air, Pesticides & Toxics
Management Division