

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION III  
841 Chestnut Building  
Philadelphia, Pennsylvania 19107

SUBJECT: BACT Analysis for Westvaco Corporation Paper Mill in  
Luke, Maryland

FROM: Judith A. Katz, Acting Director  
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The following is a proposed PSD applicability determination for a proposed modification at the Westvaco Kraft pulp mill in Luke, Maryland. Please let us know by December 21 if you have questions or concerns regarding our interpretation of the emission units for which best available control technology (BACT) must be applied.

Westvaco operates twelve batch digesters and plans to replace the three oldest digesters with slightly larger digesters in April 1998. The replacement of the digesters will enable Westvaco to increase its pulp production capacity by approximately 3%. The actual-to-potential emissions increase associated with the digester replacement is greater than the significant level in 40 C.F.R. § 52.21(b)(23)(I) for sulfur dioxide (SO<sub>2</sub>). The emissions increase would occur at the recovery furnaces and coal-fired boilers.

The coal-fired power boilers are used to supply steam to the mill and to combust non-condensable digester gases containing total reduced sulfur (TRS). Thus, the power boilers also serve as a pollution control device to convert the digesters' TRS emissions into SO<sub>2</sub>. The control device for the new digesters would include non-condensable gas capture and transport equipment, as well as the primary and backup power boilers, to which the digester gases are routed. Westvaco estimates that the proposed modification will increase potential SO<sub>2</sub> emissions at the power boilers by a total of 760 tons per year (TPY). A large portion of the power boiler SO<sub>2</sub> emissions are formed from the combustion of coal, while a small portion of these emissions are formed from the combustion of TRS. The proposed modification of the digesters will cause an increase in TRS emissions from the digester system, which in turn will cause an estimated increase of about 15 TPY in SO<sub>2</sub> emissions from the digester system control device. The remaining plant-wide increase in SO<sub>2</sub> emissions would be attributable to increased coal combustion in the power boilers.

EPA Region III has determined that installation of BACT for SO<sub>2</sub> is required for the major modification described above, and that this BACT must be installed to control SO<sub>2</sub> emissions from the new digesters. While the SO<sub>2</sub> emissions are formed indirectly by combustion of digester gases, EPA Region III considers a process unit and its associated control equipment to be integral parts of a single emissions unit. Specifically, for the modification described above, the power boilers serve as a pollution control device for the digesters and Region III considers the power boilers, along with gas capture and transport equipment, to be an integral part of the emissions unit which is being modified (i.e., the digesters). Therefore, Region III has determined that BACT must be applied to the power boilers to control the SO<sub>2</sub> emissions occurring as a result of the replacement of the digesters.

Region III has reviewed the July 28, 1983, EPA memorandum from Edward Reich to Michael Johnston, which states that BACT is not applied to an unmodified process unit at which an emissions increase occurs due to modifications of a separate downstream or upstream process unit. While Region III acknowledges this policy memorandum, we believe it is distinguishable from the issue at hand in that, unlike the recovery boiler described in the memo, control equipment for a process unit is not in itself a separate downstream or upstream process unit.

As explained in a memorandum from John Calcagni to Winston A. Smith dated April 10, 1989, increases in one pollutant at a source resulting from the use of an air pollution control device to reduce another pollutant are not exempt from PSD review. This interpretation is supported by a memorandum from Gerald Emison, dated July 7, 1986, as well as BACT determinations found in the BACT/RACT/LAER clearinghouse, each of which required a scrubbing system to control SO<sub>2</sub> emissions from TRS incineration devices at Kraft pulp mills (see RBLC ID Nos. CA-0599, MS-0029, and SC-0045).

This determination is also relevant to historical modifications to the Westvaco facility. In 1982, Westvaco added two digesters to the facility, increasing the production and incineration of TRS gases. The increase in SO<sub>2</sub> emissions related to this modification did not undergo PSD review. Therefore, a determination on this issue will affect any decision by Region III to pursue enforcement of the PSD requirements applicable to the 1982 modification.

Finally, Region III has determined that BACT applies regardless of the magnitude of the emissions increase attributable to the digester system control device, which in the case of the proposed modification is approximately 15 TPY. BACT applicability, like major modification is applicability, is based on emissions increases plant wide. Once the major modification threshold is triggered, BACT will apply on a unit by unit basis, without having to demonstrate that the significance level is triggered on a unit by unit basis.

Region III needs to respond to the state with a final determination on this issue in the next few weeks. If you have any concerns about this interpretation, please contact us as soon as possible.

cc: Bruce Buckheit, OECA  
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