

February 8, 2000

(AR-18J)

Lloyd Eagan, Director
Bureau of Air Management
Wisconsin Department of Natural Resources P.O. Box 7921
101 South Webster Street
Madison, Wisconsin 53707-7921

Dear Ms. Eagan :

This letter is in regard to your November 12, 1999, letter concerning applicability of Prevention of Significant Deterioration (PSD) to debottlenecked sources. Below, we address the issues you raise, based on how we believe each question would be resolved under the federal PSD rules in Title 40 Code of Federal Regulations (CFR) Section 52.21. This does not represent how you must interpret the PSD regulations that the United States Environmental Protection Agency (USEPA) has approved into Wisconsin's state implementation plan, nor does it represent final agency action. Instead, this letter provides guidance for you to consider in your role as the PSD permitting authority.

In your letter, you describe three scenarios, each of which involves a modification to a process line that results in the debottlenecking of an on-site power boiler. You care to the conclusion that, in each of the scenarios, the modification would be considered major and subject to PSD review. EPA first agrees that it is appropriate to consider the increased emissions from the entire project (process line increases plus power boiler increases) in determining whether the increase is significant. See 40 CFR §52.21(b)(3)(I)(a) (defining "net emissions increase" to include "any increase . . . from a particular physical change or change in method of operation at a stationary source"). Further, we agree that the proper way of calculating the amount of the emissions increase from these units is to compare each unit's future potential emissions to its past actual emissions. See §§52.21(b)(21)(ii),(iv). With regard to your first conclusion, we concur that, barring additional information, each of the scenarios would be considered a major modification and subject to PSD review under the federal rules because, under each scenario, the net emission increase from the project (process line and power boiler increases) is significant. However, this simple analysis does not account for the fact, relevant particularly in Scenario #3, that if a source estimates that the resultant increase in actual emissions from its construction project will be less than significant, it may avoid PSD by committing to enforceable limitations on its emissions to ensure

that the potential emissions remain below the significance levels. See §52.21(b)(4).

As to your second conclusion, you request USEPA's concurrence on the application of BACT only to the process equipment and not to the power boiler (as described in the third scenario). Again, although we are pleased to give our view of how the Federal PSD rules would apply, we recognize that you have primary responsibility for determining how your SIP-approved PSD program may apply to specific activities, especially where that program varies from the Federal program. In brief summary, where an emissions unit has not undergone a physical or operational change, BACT does not apply.

See 40 CFR §52.21(j)(3) (stating that BACT applies to units that experience a net increase "as a result of a physical change or change in the method of operation in the unit" (emphasis added)). The USEPA's past policy confirms this approach. In a memorandum dated July 28, 1983, from Director, Stationary Source Compliance Division, Office of Air Quality Planning and Standards, to Michael M. Johnston, Chief, Air Operations Section - Region X, titled "PSD Applicability Pulp and Paper Mill" (enclosed), we addressed the issue of the application of BACT. The memorandum states that

since the recovery boiler could not have operated at a level higher than that provided by the existing digester capacity, any increase in actual emissions at the recovery boiler which will result from the increased capacity provided by the larger digester must be considered for the purposes of PSD applicability... Since the recovery boiler itself will not be undergoing a physical change or change in the method of operation, it will not have to apply Best Available Control Technology (BACT). However, all emissions increases must undergo air quality analysis and will consume applicable air quality increments.

In order to understand how this general policy would apply to specific cases, it is essential to establish whether individual units are being physically or operationally changed, and it is also vital to ensure that the emission unit is properly defined. For instance, in the enclosed December 24, 1997, memorandum from Judith A. Katz, Acting Director, Air Protection Division - Region III and Robert J. Simolski, Chief Air and Toxics Section, Office of Regional Counsel Region III to Greg B. Foote, Air Division, Office of General Counsel, titled "BACT Analysis for Westvaco Corporation Paper Mill in Luke, Maryland," USEPA addressed the question of whether or not a power boiler combusting digester gas should be considered a single emissions unit. This memorandum addresses a facility that was replacing three of its twelve digesters with slightly larger digesters. The future potential emissions to the past actual emissions associated with the replacement resulted in a significant net emission increase for sulphur dioxide (SO₂). The emissions increase occurred at the recovery furnaces and the power boilers. The memorandum concluded that

while the SO₂ emissions are formed indirectly by combustion of the digester gases, EPA Region III considers a process unit and its associated control equipment to be integral parts of a single

emission unit... Therefore, Region III has determined that BACT must be applied to the power boiler to control SO₂ emissions occurring as a result of the replacement of the digesters.

On March 18, 1998, Bruce C. Buckheit, Director, Air Enforcement Division, concurred with the above conclusion.

Of course, the specific facts surrounding a facility's modification are critical in making a BACT applicability determination. Because your incoming letter did not make clear the nature of the hypothetical facility and whether there may be other factors (including whether the source has existing permit conditions restricting their operations or emissions) that you may need to consider in reaching this conclusion, we do not reach any conclusion about where BACT must apply. Rather, as discussed above, you should carefully consider which units are being physically or operationally changed and should be careful to look at entire emissions units in doing so.

Further, we must stress that the memoranda we have referenced are in response to particular situations at particular facilities, based on the history and facts as presented to USEPA. We caution the careful use of this letter as a reply to a general PSD permit programmatic concern, and request that the WDNR contact us when the applicability issues discussed in your hypothetical are realized in the context of a specific source.

If you have any further questions, please feel free to contact me, or have your staff contact Constantine Blathras at (312) 886-0671.

Sincerely yours,

/s/

Robert B. Miller, Chief
Permits and Grants Section

Enclosures

State of Wisconsin \DEPARTMENT OF NATURAL RESOURCES

Tommy G. Thompson, Governor
George E. Meyer, Secretary

101 S. Webster St.
Box 7921
Madison, Wisconsin 53707-7921
Telephone 608-266-2621
FAX 608-267-3579
TDD 608-267-6897

November 12, 1999

Mr. Robert Miller, Chief
Permits and Grants Section, Air Programs Branch
USEPA Region V AT-18J
77 W Jackson Blvd.
Chicago, IL 60604

Subject: Applicability of PSD in Regard to Debottleneck Sources

Dear Mr. Miller:

The Wisconsin Department of Natural Resources (WDNR) has been presented with three scenarios in regard to process modifications that result in the debottlenecking of an on-site power boiler. These scenarios, presented by Wisconsin Manufactures and Commerce (WMC) on behalf of their members, are primarily concerned with the applicability of the Prevention of Significant Deterioration (PSD) program, as its applications are applied to the power boiler. WDNR is prepared to present its conclusion on these scenarios, however, we would appreciate concurrence from USEPA prior to providing our determination to WMC. Although the scenarios are presented as hypothetical situations, I assure you that they are very real and are common to several facilities within Wisconsin.

The three scenarios are basically identical with the varying factor being the emission rates of the emission units involved in the project. The core situation is this:

An existing process line at a major stationary source utilizes steam provided by an on-site power boiler. A physical change has been proposed to be made to that process line that will result in a net emission increase from the process line. The change will require an increase in the amount of steam that is provided to the process line by the power boiler. No physical change to the power boiler is necessary. The process line in this discussion clearly bottlenecks the power boiler's capabilities.

Scenario 1:

The net emission increase from the process line will exceed PSD significant thresholds. The net emission increase from the power boiler on a future potential to past actual emission basis also exceeds PSD significant thresholds. However, the increase in emissions on a predicted future actual to past actual emission basis from the power boiler do not exceed the PSD significant thresholds.

Scenario 2:

The net emission increase from the process line will exceed PSD significant thresholds. The net emission increase from the power boiler on a future potential to past actual emission basis also exceeds the PSD significant thresholds, as does the increase in emissions on a predicted future actual to past actual basis.

Scenario 3:

The net emission increase from the process line will not exceed PSD significant thresholds. The net emission increase from the power boiler on a future potential to past actual emission basis exceeds the PSD significant thresholds, however the increase in emissions on a predicted future actual to past actual emission basis does not.

In addressing the above scenarios, WDNR has relied upon USEP A rule making and USEP A decisions as they apply to debottlenecking.

40 CFR 52.21(b)(2) defines major modifications as "any physical change or change in the method of operation of a major stationary source that would result in a significant net emission increase of any pollutant subject to regulation under the Act". 40 CFR 52.21(b)(3) defines a net emission increase as "the amount by which the sum of the following exceeds zero: Any increase in actual emissions from a particular physical change or change in the method of operation at a stationary source; and any other increases and decreases in actual emissions at the source that are contemporaneous with the particular change and are otherwise creditable". Because these definitions require an examination of "any increases in actual emissions resulting from a particular physical change", all increases in actual emissions at the source resulting from proposed physical change to the process must be included in determining the net emission increase of the project. Thus, increases in actual emissions from the power boiler, due to the relief on the bottleneck provided by the process, must be included in the net emission increase determination.

40 CFR 52.21(b)(2)(i) defines actual emissions as "the actual rate of emissions of a pollutant from an emissions unit, as determined in accordance with (ii) through (iv) below:

(ii) In general, actual emissions as of a particular date shall equal the average rate, in tons per year, at which the unit actually emitted the pollutant during a two-year period which precedes the particular date and which is representative of normal operation of the source. The Administrator shall allow the use of a different time period upon a determination that it is more representative of normal source operation. Actual emissions shall be calculated using the unit's actual operating hours, production rates, and types of materials processed, stored, or combusted during the selected time period

(iii) The Administrator may presume that source-specific allowable emissions for the unit are equivalent to the actual emissions of the unit.

(iv) For any emissions unit (other than an electric utility steam generating unit) which has not begun normal operations on the particular date, actual emissions shall equal the potential to emit of the unit on that date.

Because the emissions units presented in the above scenarios are assumed to have begun normal operations under current conditions, actual emissions prior to the proposed project are determined using the procedures within (ii) above. However, since the process and the power boiler have not begun normal operations under the proposed conditions, actual emissions after modification are equal to the potential to emit of the units, per (iv) above. Thus, the potential actual emissions to past actual emissions determinations offered in these scenarios is irrelevant.

The above discussion leads WDNR to the conclusion that each of the three scenarios would be considered a major modification and subject to PSD review since the net emission increase from the project (process line increase plus power boiler increases) in each of the three scenarios is considered significant. Does USEP A concur with this conclusion?

40 CFR 52.21(j)(3) states that "a major modification shall apply best available control technology (BACT) for each pollutant subject to regulation under the Act for which it would result in a significant net

emission increase at the source. This requirement applies to each proposed emissions unit at which a net emissions increase in the pollutant would occur as a result of a physical change or change in the method of operation in the unit". The preamble to the August 7, 1980 rule making on the PSD program discusses the application of BACT at Item L, contained on page 52681 of the rule making. Item L states that BACT is required for "modifications only when a net emissions increase occurs at the changed unit(s) and a significant net emissions increase occurs at the plant; BACT applies only to the units actually modified". This requirement, along with its explanatory language, leads WDNR to the conclusion that since only the process equipment is actually being modified and that the power boiler will not be undergoing any physical or operational changes, BACT must be applied to the process equipment only, and is not required to be applied to the power boiler. Can USEPA offer its concurrence in this conclusion?

Although WDNR does have SIP approval of its PSD program, I would appreciate USEPA input on these scenarios. Wisconsin's PSD regulations are very similar to requirements of 40 CFR Part 52 and the decisions WDNR makes in regard to the PSD program are made taking past USEPA interpretations into consideration. This instance was no exception, as several decisions which USEPA and WDNR have made on similar cases have been reviewed in arriving at the WDNR conclusions stated above. Thus, WDNR wishes to obtain USEPA input on its conclusions presented here prior to providing them to WMC. Also, if possible WDNR would appreciate concurrence from USEPA's Compliance and Enforcement program, in addition to the Permit Program's perspective.

Thank you in advance for your willingness to consider this matter. Should you or your staff have any questions regarding these issues, please contact Jeffrey Hanson of my staff at (608) 266-6876.

Sincerely,

Lloyd L. Eagan, Director
Bureau of Air Management

Cc: Patrick Stevens, WMC, 501 East Washington Avenue, P.O. Box 352, Madison, WI 53703-2944