

February 24, 2005

(AR-18J)

Steve Dunn
NSR Team Leader
Wisconsin Department of Natural Resources
Bureau of Air Management
101 South Webster Street
Box 7921
Madison, Wisconsin 53707-7921

Re: Request for a PSD Applicability Determination for Murphy Oil,
Superior, Wisconsin

Dear Mr. Dunn:

Thank you for your letter dated August 14, 2003, regarding the regulatory aspects of a potential project at the Murphy Oil USA (Murphy) facility in Superior, Wisconsin.

Your letter requests the United States Environmental Protection Agency (EPA) to provide guidance on how to calculate the net emissions increase from the boilers from a proposed project at the Murphy facility, which is a major source under the Part 70 and Prevention of Significant Deterioration (PSD) programs. The situation at the facility is described in your letter as follows:

Murphy presently operates four oil/gas fired boilers at the Superior refinery with a reported steam capacity of slightly less than 140,000 pounds steam/hour. The minimum steam load required to operate the refinery processes is 80,000 pounds steam per hour with additional steam being primarily used in cold weather to keep process units and other equipment warm. Additionally, Murphy presently has in-place steam turbine back-ups for many electric pumps which could, if all were operated, use an additional 80,000 pounds steam per hour. The refinery reports that the boilers have, in the past 24 months, operated at full-capacity producing 140,000 pounds of steam per hour. This operation has been due to both cold weather and decisions by Murphy to operate additional steam turbines.

At issue is the method for calculating the "net emissions increase" resulting from increased utilization of upstream boilers due to projects that Murphy may undertake at the

facility. You characterize the project as "a non-exempt physical change (i.e. modification) to a process unit which does not involve any physical changes to the boiler," and point out that the proposed project would increase the steam needed to operate a process unit, and thus increase the minimum steam load at the refinery. Your request attaches a letter from Murphy which cites various site-specific evaluations by EPA, but provides few details on the actual proposed project at issue. In its letter, Murphy discusses their views regarding the de-bottlenecking concept, and argues that what it proposes constitutes "increased utilization" that would ignore emissions increases from the boilers.

We communicated with your office and with Murphy in November 2004, about the lack of specific information that the company has provided concerning the proposed project. We recently received some additional information from Murphy, as well as a copy of Wisconsin Department of Natural Resource's (WDNR) February 26, 2003 determination that Murphy's application is subject to review under the PSD program (ch. NR 405, Wis. Adm. Code). It is our understanding that Murphy disagrees with your determination, and has asked WDNR to seek EPA's input on the case. Accordingly, we provide you with the guidance below.

As a preliminary matter, we note that air emissions from Murphy's facility are governed by the Wisconsin State Implementation Plan (SIP) approved PSD program. The Wisconsin PSD program was approved by EPA on May 27, 1999, and does not include later federal changes to the New Source Review (NSR) regulations. Under the Wisconsin SIP, future emissions of modified non-electric utility steam generating units are calculated using the "actual to potential to emit" (PTE) method. We emphasize that NSR/PSD applicability calculations are governed by the applicability criteria in the currently approved and applicable SIPs, and recognize that States have the primary responsibility for determining how the SIP-approved NSR/PSD program applies to facilities within their jurisdiction. While EPA is providing input and guidance, we will defer to WDNR's final decision as long as it comports with applicable law, regulations and Agency guidance.

EPA provides site-specific responses on permitting issues¹. We

¹ The prior EPA analyses cited in Murphy's letter were also specific to the facilities and projects presented to the Agency in those cases. In one case, the Agency modified its determination when it became aware of new information about the facility at issue: the April 10, 1992 determination for the Hoechst Celanese facility was superseded by a March 14, 1997 letter that stressed the need for details on

note that the actual project submitted to WDNR for determination may differ from the project hypothetically described in the correspondence from Murphy attached to your August 14, 2003 letter. Murphy's letter does not provide sufficient details about the history of the current operations or the proposed changes and project(s) that are needed in order to make a determination.² Among other things, the submittal lacks information on the following: the affected units at the facility; the permit and/or other limits that apply; the duration and frequency of operation at maximum capacity of the steam generating units involved; current and historical production levels; other equipment, pumps, structures and processes that have been and will be involved or affected, and their history; the past and proposed emissions; the pollutants; and how the steam is being re-allocated. The details of the proposed project need to be fleshed out in order to make a determination. Based on what we have been presented, EPA generally agrees with WDNR's analysis in this matter, and provides the guidance below in order to assist you as you make a final determination once you receive the relevant information. We will offer you further guidance then, if it would be helpful in ensuring that the final decision comports with applicable law, regulations and guidance.

As you are aware, EPA's regulations define a "major modification" as one in which a physical change or a change in the method of operation of a major stationary source results in a significant net emissions increase. 40 C.F.R. 52.21(b)(2).³ The total increase in emissions that will result from the proposed changes at the source includes: (1) increases occurring at all new or modified units, and (2) any other increases at existing emissions units not being modified which could experience emissions increases as a result of the change.

With respect to the general concepts, the modification scenario as presented by Murphy's May 13, 2003 letter does not appear to fall within the concept of "debottlenecking." EPA's NSR/PSD

the proposed project.

² Omitted information about a proposed project vitiates regulatory determinations. In a case involving this same company, a Court held that Murphy withheld relevant information from WDNR regarding NSR/PSD aspects of a proposed modification of a distillate unifier. See U.S. v. Murphy Oil USA, Inc., 155 F. Supp. 2d 1117 (W.D.Wisc., August 1, 2001).

³ The Wisconsin SIP defines "major modification" in 405.02(21) as "any physical change in or change in the method of operation of a major stationary source that would result in a significant net emissions increase of any air contaminant subject to regulation under the act."

policies define "debottlenecking" to apply to a unit that has not been modified, but which experiences an increase in its effective capacity due to the removal of a capacity limitation on an associated unit.⁴ According to the information provided, the proposed project involves an increase in the boiler units' normal production of steam, not removal of capacity limitations. Emissions resulting from "increased utilization" of the boiler as part of the proposed project must be accounted for as set forth in the following paragraphs.

In determining whether a proposed change will be a major modification and will trigger PSD requirements, we calculate the total increase in emissions that will result from the proposed changes at the source. If all of the units affected by the project, not just those physically modified, collectively emit increased emissions in excess of the significance thresholds, the project is subject to PSD review. The total emissions increases attributable to the project (from the boilers and modified downstream units) are counted towards PSD applicability.

Because of the effective dates of your applicable SIP rules, the relevant analysis for the emissions from the new emissions unit(s) is actual-to-potential (PTE). See In re Rochester Public Utilities, PSD Appeal No. 03-03 (EAB August 3, 2004) at pg. 17. For any new unit(s) being added as part of the proposed project, actual emissions increases are calculated by determining the emissions levels at the maximum allowed production capacity for the unit(s) and subtracting the actual emissions at those units (presumably zero) averaged over the preceding two years (or other more representative period).

For a situation where the existing boilers are not being modified, the emissions increase from the existing boilers that occurs as a direct result of the proposed project should be based on the maximum utilization for which the new unit will be permitted.⁵ The emissions increases should be calculated as the worst case increases that could occur at those existing units if

⁴ See the *New Source Review Workshop Manual* for understanding the concept of "debottlenecking." Pages A.37 and A.46 both contain examples of "debottlenecking."

⁵ See September 17, 1993 letter from Jolie C. Luehrs, Chief, New Source Review Section, EPA Region 6 to Larry Devillier, Louisiana Dept. of Environmental Quality, regarding Union Carbide Chemicals and Plastics Company.

the new units were to operate at maximum capacity.⁶

If, as a result of the project, PSD significance thresholds for any of the PSD pollutants would be exceeded, then the project is subject to PSD requirements. Best Available Control Technology (BACT) will be required on all emission units that contribute to the emissions increase and are physically modified or experience a change in the method of operation. BACT would not apply to the boilers if no physical changes or change in the method of operation is planned for the boilers.

In sum, EPA defers to and generally agrees with the State's analysis, but lacks the details to provide final confirmation of the determination at this time. In order to assist you in going forward, we have clarified how applicable concepts would be applied under the federal regulations in effect at the time that the Wisconsin SIP was approved. If you obtain additional information on the project, we will be glad to offer you further guidance.

Please do not hesitate to contact Danny Marcus of my staff at (312) 353-8781, if you have any questions or comments; or to direct Murphy's attorneys to Andre Daugavietis, Associate Regional Counsel, at (312) 886-6663.

Sincerely yours,

/s/

Sam Portanova, Acting Section Chief
Air Permits Section

⁶ See July 25, 2001 letter from Rebecca Weber, Associate Director for Air Multimedia Planning and Permits Division, EPA Region 6 to Bliss Higgins, Louisiana Dept. of Environmental Quality, regarding Motiva Enterprises, LLC.