UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

MAR 13 1992

OFFICE OF
AIR AND RADIATION

MEMORANDUM

SUBJECT: Policy Determination on Limiting Potential to Emit for Koch Refining Company's Clean Fuels Project

FROM: John B. Rasnic, Director
Stationary Source Compliance Division
Office of Air Quality Planning and Standards

TO: David Kee, Director
Air and Radiation Division
Region V

This is in response to your memorandum dated January 24, 1992. As stated in your memorandum, the Koch Refining Company in Rosemount, Minnesota, has submitted a permit application for their Clean Fuels Project (CFP) to the Minnesota Pollution Control Agency. In addition, Koch is attempting to correct deficiencies in its refinery expansion. In order to limit potential emissions from these projects, Koch would like to have policy determinations made for several issues regarding the June 13, 1989, memorandum "Guidance on Limiting the Potential to Emit in New Source Permitting" signed by Terrell Hunt and John Seitz.

Koch specifically requests whether the following conditions could be used to limit their potential to emit to below major modification thresholds: bubble all process heater emissions for the existing heaters, take a federally enforceable emission limit on the heaters, use an averaging period of 365 consecutive days which are rolled daily for the heaters, bubble all VOC emissions for its storage tanks in the refinery tank farm, and take a federally enforceable emission limit for storage tanks.

With regard to the bubble for the 59 heaters, your memorandum states that due to fuel use variability dictated by the refinery and individual heater operating conditions, Koch wishes to bubble the emissions from the heaters. The permits will require continuous flow monitors on individual heaters, and historical records have shown usage variability in the distribution system. The individual fuel monitors will allow for the overall emissions calculation to be made. As indicated to us in your memorandum, historical records show that individual limits reflecting the individual operating need for each of the heaters would be difficult to develop. Thus, a bubble for the 59 heaters may be reasonable. However, the bubble need only be granted to the 2

extent that it facilitate enforceability of the limits applied. Also, the decision whether to grant a bubble should consider the bubble's impact on our ability to evaluate whether any future physical or operational changes at the heaters should be subject to NSR.

Taking an emission cap to limit potential to emit is restricted by the June 13, 1989 guidance. The guidance states that "the particular circumstances of some individual sources make it difficult to state operating parameters for control equipment limits in a manner that is easily enforceable as a practical matter. The guidance lays out two examples that would be exceptions to the prohibition on using emission limits to restrict potential to emit. As is expressed in your memorandum, the particular circumstances of Koch refinery make it difficult to state operating parameters in a manner that is easily enforceable as a practical matter. In fact, what is described as the "VOC exception" in the 1989 guidance applies in principle to sulfur dioxide (SO2) emissions for the process heaters

burning refinery gas. For these heaters, no add-on control equipment is used, but rather several parameters are used to determine a mass emission rate.

However, in accordance with the 1989 potential to emit policy, when an emission limit is taken to restrict potential to emit, some type of continuous monitoring of compliance with that emission limit is required. In the case Of SO2 emissions, the application of continuous emission monitors (CEMS) should be explored. The use of a CEM equivalent may also be acceptable given that it provides a continuous assessment of emissions that is at least as reliable as a CEM. The appropriate means for monitoring or calculating emissions must be determined on a case by case basis by the permitting authority. Use of an emission limit to restrict potential to emit SO2 at the refinery heaters, which are served by a common fuel line, is acceptable provided that emissions can be and are required to be readily and periodically determined or calculated. The continuous monitoring method described in your memorandum includes analyzing the sulfur content of the oil in the tank on a daily basis and measuring the oil used with continuous flow monitors as well as monitoring fuel usage at each heater as well as meeting a specified H2S content.

With respect to an acceptable averaging time for limiting potential to emit, the section in the June 1989 guidance entitled "Time Periods for Limiting Production and Operation" allows for averaging periods of 365 consecutive days which are rolled daily. This allows for short term enforceability of production or operation limits while allowing for long term data to be considered. When a long term average is used, we believe that it is reasonable to require permit conditions which provide for
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interim limits that ensure compliance and enforceability during the first year. The method used to provide interim limits and the need to do so should be determined on a case by case basis, considering how close the allowable emissions would be to the applicability threshold, and how closely the enforcing agency believes monitoring is warranted for the particular source. Determinations whether to allow an annual rolling average versus a shorter term limit must also be made on a case by case basis. Various factors may weigh in favor of allowing a long term rolling average.

From discussions with your staff, we understand that Koch Refinery has historic unpredictable variations in their emissions. Use of a 365 day rolling average in this case may therefore be warranted. However, other facts not presented to us may weigh in favor of a shorter limit. Yet, your indication that Koch Refinery may be willing to use emission data for the year prior to start-up of the heaters, to provide interim enforceable limits for the first year of their potential to emit limitation, weighs in favor of allowing a 365 day rolling average. This approach allows the limits to become enforceable on the first day of operations.

With regard to setting an overall limit for the storage tanks in the refinery tank farm, although throughput to individual tanks in the tank farm is closely monitored for business purposes, it is argued that throughput limitations for particular tanks are infeasible as they would defeat the purpose of the tank as a temporary holding vessel. The tank farm consists of over 150 tanks. These tanks would also hold a variety of products. The annual throughput for a particular product will depend on the market demand and refinery capacity. Given the need for variability in the operation of these tanks, an overall limit for the tank farm, as opposed to individual limits for tanks, appears warranted. Discussions with your staff and Minnesota Pollution Control Agency have indicated that even with a bubble over the tanks in the tank farm, modifications affecting emissions in the tank farm could be detected.

With respect to Koch's request to use an emission limit rather than production or operation limits for the tank farm, as stated for the heaters, some type of continuous monitoring is required. Since a CEM is not feasible for monitoring VOC emissions, the permit must require a continuous assessment of emissions that is at least as reliable as a CEM. The appropriate means for continually assessing emissions must be determined on a case by case basis by the permitting authority. Your memorandum states that CEMs would not be used to directly determine compliance with a VOC

emission limit because none are available for this application. Compliance would instead be determined daily based on product density and volatility, product throughput per tank, and control efficiency per tank. We believe that if the
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source is willing to monitor and determine compliance daily, then the source could be allowed to use an emission cap to limit potential to emit. Otherwise, the maximum usage of the tank (both in volume and volatility) must be assumed in determining potential to emit.

Our response is based on the facts presented in your memorandum of January 24, 1992. This response does not reflect EPA's position with regard to deficiencies from the 1985 expansion. This response does not constitute or imply a final decision with regard to enforcement or the legality of the 1985 expansion.

If you have any questions concerning our response, please contact Clara Poffenberger at FTS 678-8709.

cc:
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