

1

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
100 ALABAMA STREET, S.W.
ATLANTA, GEORGIA 30303-3104

MAR 14, 1997

4APT-ARB

Ms. Rhonda Banks Thompson
Manager
Clean Air Act Implementation Section
Bureau of Air Quality
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201-1708

SUBJ: Request for Guidance on Prevention of Significant
Deterioration (PSD) Applicability Determinations for
Boiler Emissions

Dear Ms. Banks Thompson:

We have received your request for assistance by letter dated February 24, 1997. Your letter alluded to the confusion created by EPA Region 4's letter dated April 10, 1992, concurring with DHEC's PSD applicability determination for the modification of the Hoechst Celanese Corporation facility in York, South Carolina. In addition, your letter requested guidance in the form of questions to be asked to applicants in similar situations in order to determine if PSD applies.

Hoechst Celanese

As you know, Hoechst Celanese submitted an analysis of PSD applicability to DHEC by letter dated November 21, 1991. In that letter, the company indicated that planned modifications to their extraction towers would result in less than significant increases in VOC emissions; however, emissions from the coal-fired power boilers at the plant would increase due to increased utilization. The company based their determination on previous EPA guidance concerning the "debottlenecking" of equipment at a kraft pulp mill. Based upon their analysis, the company submitted a PSD permit application for the project which included an air quality analysis for the boiler emissions. The extraction tower modification resulted in a net decrease in VOC emissions, therefore a BACT analysis was not required for the tower. Since no modifications were being made to the boilers, a BACT analysis was not required for the boilers.

By letter dated March 11, 1992, DHEC requested that EPA Region 4 concur with its finding that the company's analysis of PSD applicability was incorrect and that PSD in fact did not

apply to the particular modification. The reasoning stated by DHEC in the letter was as follows:

"The increase in actual emissions that result from the burning of more coal is the reason. that the company *thinks* that this project is PSD.

The BAQC disagrees with this reasoning, since the boilers are not limited by permit to a certain load level or coal usage conditions. The boiler have always been able to operate to a maximum capacity, since there are -no physical limits on their ability to burn coal even though they have not operated in this capacity recently. Since the only function of the boilers is to produce steam, the steam can be used for a variety of purposes (i.e., heating, process, electricity *production*) at the facility other than extraction towers. The coal boilers are permitted to be stand alone facilities whose operation is not dependent upon some other activity. The BAQC thinks that this activity should not be considered a *major modification as it* relates to a physical change or method of operation per 40 CFR 52.21 (b)(2)(iii)(f)."

By letter dated April 10, 1992, the Region's staff concurred with DHEC's determination. The basis for the concurrence was *that the* boilers were "permitted as stand alone facilities whose operation is not dependent upon some other activity." The assumption that the boilers operated as "stand alone" facilities was in error. This is supported by the November 21, 1991, analysis submitted by the company which stated on page 2:

"The increase in boiler load to support the additional production capacity does not require any changes to the boilers. That is, the boilers have sufficient unused capacity to increase load without undergoing any changes. Moreover, the emissions increases at the boilers will not cause exceedances of the emission limits in our operating permits. However, the additional steam associated with this unused boiler capacity cannot be used by the Plant until after the refurbished extraction towers are installed."

(emphasis added)

It should also be noted that the boiler emissions limits were not "source-specific" limits within the meaning of the PSD regulations but rather general State Implementation Plan (SIP) regulation limits. Consequently, the "actual" emissions of the units could not be presumed to be equal to the source specific allowable limits as allowed under the PSD regulations.

In summary, the company correctly analyzed their applicability based on existing EPA guidance and submitted a PSD

application. As discussed earlier, the application included an air quality analysis and additional impacts analysis - a control technology analysis was not required.

General Questions:

Your letter also asked for Region 4 to provide a list of questions to ask applicants in similar situations to assist in determining if PSD applies. The following list of questions are not intended to be all-inclusive but to give an indication of the type of questions that need to be answered prior to making a determination.

1. Has the unit previously been permitted under the PSD regulations?
 - A. Do the permit limits accurately reflect the true capacity of the unit?
 - B. What emissions level has been used in determining increment consumption in the area?
2. What is the operating history of the unit?
 - A. Can the facility, as currently configured, utilize the maximum capacity of the unit?
 - B. If not, is the unit physically constrained by other process equipment?
 - C. Has the facility ever utilized the maximum capacity of the unit? If so, how recently?

Specific Questions

Your letter also asked several specific questions on the issue of debottlenecking.

- Q. Should states inquire about past operating history of a boiler if no physical modifications are being proposed?
 - A. As discussed in the general questions above, the operating history of a boiler can be important in determining whether a particular physical or operational change elsewhere within the facility causes an increase in boiler emissions which would not occur but for the physical or operational change.
- Q. If yes, how should this information be evaluated in making the PSD determination?
 - A. The critical element in making the determination would be the "but for" test. That is, would the emissions increase from the boiler occur but for the change elsewhere in the facility. The operating history gives an indication as to whether the current configuration of the facility is a limiting factor.

Q. How is the term "change in the method of operation" defined for boilers and other processes for PSD purposes?

A. *As you know, the* PSD regulations do not define "change in the method of operation." Rather, the regulations define what is not to be considered a physical change or change in the method of operation. Many applicants point to the exemption for increases in production rate or hours of operation as allowing increased utilization from a boiler without triggering PSD review. EPA's interpretation of the regulation to date has been that when a particular physical change or change in the method of operation would cause an increase in emissions from other emissions units, then those "other" emissions must be included in determining PSD applicability for the particular change.

I hope this guidance is helpful as you establish your procedures for evaluating debottlenecking scenarios. If you have any questions on this response please contact Mr. Gregg Worley of my staff at (404) 562-9141.

Sincerely yours,

R. Douglas Neeley
Chief
Air & Radiation Technology
Section
Air, Pesticides and Toxics
Management Division