

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 5  
230 SOUTH DEARBORN ST.  
CHICAGO, ILLINOIS 60604

30 SEP 1987

Mr. Dell Collins  
Impell Power Projects  
320 Lennon Lane  
Walnut Creek, California 94598

Dear Mr. Collins:

This letter is in response to the information and questions in your letters of June 25, 1987, July 7, 1987, and September 2, 1987, and in response to your telephone inquiries. You have requested that Region V reconsider its position on what fuel combustion equipment should be counted toward the 250 million Btu/hr cut off given in the Prevention of Significant Deterioration (PSD) source category of "fossil fuel-fired steam electric plants of more than 250 million Btu/hr heat input." You suggest that for the project of concern the heat input of the gas turbine, which produces electricity directly, should not be counted towards the 250 million Btu/hr because the electricity is not generated from steam. You further suggest that your interpretation is allowed by the PSD Workshop Manual dated October 1980.

In addition, you inquired about whether the higher or lower heating value should be used for gas turbines which may be significant depending on the outcome of the first determination.

After consultation with United States Environmental Protection Agency (USEPA) Headquarters, we have made the following determinations with respect to your requests.

1. The definition of the PSD source category "steam electric plants" should include the heat input of the gas turbine because the source category is for a plant. The term "plant" is inclusive of all heat generating equipment. A more restrictive term than "plant" could have been used as is the case in another PSD source category, "fossil fuel boilers totaling more than 250 million Btu/hr heat input." However, a restrictive definition was not used in this case but the broad word "plant" was used, and, therefore, it is appropriate to include all heat generating equipment in determining the applicability for the fossil fuel-fired steam electric plants.
2. The PSD Workshop Manual in Section A.4 states that where a source may not clearly fall into any one category, the applicant may consult the definition of the affected facility in an applicable new

source performance standard (NSPS). As you know, there is no NSPS for "fossil fuel-fired steam electric plants of more than 250 million Btu/hr heat input." Although there are NSPS's for certain emission units within such steam electric plants, it is inappropriate to conclude that the NSPS definition for affected facility should be considered the same as the PSD source category for "steam electric plants."

3. With respect to the precedent setting value of another Region's determination that the gas turbines should not be included in the 250 million Btu/hr heat input, we are not in a position to defend or refute that position. Our determination is based upon staff support from the Stationary Source Compliance Division and the Control Programs Development Division of USEPA Headquarters.
4. It is the general approach of the PSD regulations to be comprehensive in its inclusion of activities or equipment and pollutants in making regulation applicability determinations, whereas NSPS applicability is emission-unit and pollutant specific. For example, in determining applicability for most PSD categories, fugitive emissions are taken into account as well as emissions from ancillary equipment, neither of which is regulated by the comparable NSPS. It would be contrary to the general approach of the PSD program to separate out specific equipment or activities of a source while making an applicability determination.
5. With respect to the heating value used in applicability determinations involving gas turbines, the higher heating value should be used. (As you are aware, the higher heating value includes the energy needed to heat the moisture in the fuel. The data used in setting the gas turbine NSPS, which was developed by the aircraft industry, introduces the concept of a lower heating value). Although the lower heating value is used for NSPS applicability determination, it is more consistent to use the higher heating value of gas when calculating a turbine's contribution for a PSD applicability determination for steam electric plants. The higher heating values of gas and other fuels are used in evaluating all other types of combustion equipment.

It is, therefore, our determination that the heat input associated with the gas turbine must be included in the 250 million Btu/hr applicability limit and that the higher heating value should be used for the turbine.

If you have need for further clarification, please do not hesitate to contact me at (312) 353-2211 or Ron Van Mersbergen, at (312) 886-6056.

Sincerely yours,

David Kee, Director  
Air and Radiation Division (5AR-26)

cc: Gerald Avery  
Air Quality Division  
Michigan Department of Natural Resources