

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON D. C. 20460

MAR 5 1980

Office of
Enforcement

Mr. Robert L. Davies
Assistant Administrator
Office of Fuels Conversion
Economic Regulatory Administration
Department of Energy
Washington, D.C. 20461

Dear Mr. Davies:

Jeffrey Miller has asked that I respond to your letter of December 10, 1979, in which you requested an advisory opinion regarding the applicability of the Prevention of Significant Deterioration (PSD) regulations to the Baltimore Gas and Electric Company's (BG&E) Brandon Shores Station. In this letter I will discuss the general applicability of the existing PSD regulations, promulgated June 19, 1978 (40 CFR 52.21 (1978)), and the amendments proposed September 5, 1979 (44 Federal Register 51924). In addition, I will address the three specific questions raised in your December 10 letter.

Background - On May 16, 1973, the Maryland Public Service Commission (PSC) issued BG&E a Certificate of Public Convenience and Necessity to construct two 600 MW generating units at Brandon Shores in Ann Arundel County, Maryland. Construction on the units commenced prior to issuance of the original PSD regulations (December 5, 1974). Although BG&E had originally planned to fire oil in the two units, DOE is contemplating issuance of a Prohibition order which would require BG&E to burn coal. The two Brandon Shores Units were originally scheduled to begin operation in 1977 and 1978 but a change in load requirements has now caused BG&E to delay that schedule. Startup is currently projected for 1984 and 1988.

General Applicability of PSD

Because construction commenced prior to issuance of the December 5, 1974 PSD regulations, both units were "grandfathered" from PSD preconstruction review. In order to maintain this grandfather status, construction of both units must proceed in a continuous fashion, and construction must be completed within a reasonable time.

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"Continuous construction" has been determined by EPA to mean a construction operation in which no breaks of greater than 18 months occur. At this point, Mr. Bernard Turlinski, the Regional Energy Coordinator for EPA Region 3, has determined that construction at Brandon Shores has proceeded continuously. However, with BG&E's delayed startup date, I am concerned that construction may not proceed continuously for the next 4 to 8 years, and that construction may not be completed within a reasonable time. I would like to make it clear that failure of BG&E to complete a continuous program of construction within a reasonable time may subject the Brandon Shores Units to PSD review.

In your memo you raised three specific questions which I will address below. As requested, I have evaluated each question under the June 19, 1978 regulations which are in effect at this time, and under the September 5, 1979 proposal which will be finalized in the near future.

(1) Q. - Has the PSD baseline been "triggered" in the air shed in which the Brandon Shores Generating Station is situated?

A. Under the existing PSD regulations, August 7, 1977 is the uniform baseline date for all PSD areas. Therefore, the baseline has been triggered for the Baltimore area and the Brandon Shores Generating Station's increase in allowable emissions is counted in the area's increment consumption.

Under the proposed regulations, the baseline is established in a clean air area designated under CAA Section 107(a) (1)(d) or (e) as of the date, after August 7, 1977, that the first permit application by a proposed major source or modification (as defined in the proposed regulations) is filed. In the PSD area in which Brandon Shores is situated, a permit application for a major source has been filed. Therefore, the baseline has been triggered and the Brandon Shores Generating Station's emissions increase will be counted as increment consumption.

(2) Q. - To what extent do the SO₂ emissions resulting from burning coal at Brandon Shores Units 1 and 2 count towards consumption of the applicable PSD increments?

A. - My response to this question assumes that BG&E's grandfather status is not invalidated by a failure to complete a continuous construction program within a reasonable time-frame.

Under both the existing regulations (June 19, 1978) and the proposed regulations (September 5, 1979), the fuel switch will consume the amount of increment modelled as the difference between the maximum air quality impact allowed under the SIP on the

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baseline date and the maximum air quality impact allowed under the SIP at the time the units begin operation. The rule for determining the amount of increment consumed by a source is outlined on page 26400 of the June 19, 1978, Federal Register. This rule was not amended in the September 5, 1979 proposal.

We have determined that BG&E's State permit allowed Brandon Shores to burn coal on the baseline date under both the new and the proposed regulations. This determination is based on, 1) a literal reading of the State permit which does not expressly limit fuel use, even though BG&E's permit application indicated the intent to burn only oil, and 2) the absence of any claim by the Maryland Public Service Commission that the permit intended to limit Brandon Shores to oil usage by specifying an exit gas temperature. Brandon Shores' allowable emissions limit as of the baseline date should be calculated based on the burning of coal, in compliance with the applicable NSPS, with a 700 foot high stack and an exit gas temperature of 600 degrees Fahrenheit. The stack height and exit gas temperature are requirements under the State permit.

It is my understanding that BG&E plans to obtain an amended State permit which will allow them to emit gases at a temperature somewhat lower than 600 degrees Fahrenheit. Such a change will lower the effective stack height and will increase the air quality impact, as well as alter its point of maximum concentration. That change in air quality impact, the difference between burning coal with a 600 degrees Fahrenheit exit temperature, and burning coal with a lower exit temperature will consume the PSD increment.

(3) Q. - Since it does not appear that EPA has the responsibility, in this instance, to conduct a preconstruction review, what is the regulatory framework (Federal and/or State) for assessing the extent of PSD increment consumption?

A. - The answer to this question is the same, regardless of whether we are operating under the existing or the proposed PSD regulations.

The extent of Brandon Shores' increment impact will be assessed by the next PSD applicant in the area unless the permitting authority (currently EPA) conducts a periodic increment assessment first. As part of its permit application, each PSD source must demonstrate that it will not cause or contribute to any increment violations. In order to do so, it must determine 1) whether the baseline has been triggered, 2) how much increment was consumed by major source growth before the baseline date, and 3) how much increment has been consumed by major, minor, and area source growth since the baseline date.

4.

NSPS

Based on the assumption that construction will be completed within a reasonable time, the Brandon Shores Units are subject under Subpart D of 40 CFR, Part 60. However, if BG&E fails to complete construction within a reasonable time, the units may become subject to the new Subpart Da (Standards of Performance for Electric Utility Steam Generating Units). As in PSD, a NSPS source can maintain its "commenced construction date" only if construction is completed within a reasonable time.

In your letter you mentioned that BG&E plans to burn 1% sulfur coal at Brandon Shores. If BG&E burns 1% coal without using any emissions control equipment, it is certain that they will not meet the NSPS SO₂ standard of 1.2 lbs./mm Btu. (See 40 CFR Part 60, Subpart D (1978).) In fact, unless BG&E can obtain coal with a sulfur content of .7% or less, they will probably need emission controls to meet Subpart D.

If you would like to discuss this further, feel free to call me at 755-2977.

Sincerely yours,

Richard D. Wilson
Deputy Assistant Administrator
for General Enforcement

cc: Bernie Turlinski, Region III
Steve Ferguson, DOE
Randy Roig, Md. DEP

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DEC 10 1979

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Dear Mr. Miller,

Pursuant to Section 301 (b) of the Powerplant and Industrial Fuel Use Act of 1978 (FUA) , the Department of Energy's Economic Regulatory Administration (ERA) issued a proposed Prohibition Order on October 9, 1979, to prohibit Baltimore Gas and Electric Company's (BG&E) Brandon Shores Units 1 and 2 from burning petroleum or natural gas as their primary energy source. The issuance of the proposed Prohibition Order was based on the finding by ERA that these two units have or previously had the technical capability to use an alternate fuel (coal) as a primary energy source. ERA had previously determined that the two units are existing pursuant to ERA's Revised Interim Rule to Permit Classification of Certain Powerplants and Installations as Existing Facilities.

Before issuing a final Prohibition Order, ERA must make the findings (1) that these units have the technical capability to use coal or another alternate fuel as a primary energy source, or they could have such capability without (a) substantial physical modification of the units, (b) substantial reduction in the rated capacity of the units; and (2) that it is financially feasible for BG&E to use coal or another alternate fuel as a primary energy source in these units. In addition, to fulfill its requirements under the National Environmental Policy Act, ERA will be preparing an Environmental Impact Statement (EIS) to analyze the environmental consequences of finalizing the Prohibition Order as well as identify mitigative measures.

An important factor in ERA's analyses is the applicability of Prevention of Significant Deterioration (PSD) regulations to BG&E's Brandon Shores Units 1 and 2. The situation is clouded by the uncertainty as to whether the proposed rules to amend the PSD regulations (44 F.R. 51924) apply in this particular case.

By this letter, ERA is seeking an advisory opinion from EPA on the following questions:

- (1) Has the PSD baseline been "triggered" in the airshed in which the Brandon Shores Generating Station is situated?
- (2) To what extent do the SO₂ emissions resulting from burning 1.0 percent sulfur coal at Brandon Shores Units 1 and 2 count towards consumption of the applicable PSD increments?
- (3) Since it does not appear that EPA has the responsibility, in this instance, to conduct a preconstruction review, what is the regulatory framework (Federal and/or State) for assessing the extent of PSD increment consumption?

Your responses to each of these questions should be in two parts: (1) assuming the existing PSD regulations apply, and (2) assuming the September 5, 1979 proposed rules apply.

The following is a summary of pertinent background information for your review and analysis.

On May 16, 1973 the Maryland Public Service Commission (PSC) issued to BG&E a Certificate of Public Convenience and Necessity to construct a fossil- fueled steam-electric generating station, consisting of two 600 MW (nominal) units, at Brandon Shores near Hawkins Point in Anne Arundel County, Maryland. In its application to the PSC, BG&E stated that "...the plant will consist of two oil-fired boilers which will supply steam to two turbine driven electric generators."

The following passage also appears in BG&E's application: "The plant will burn residual oil having a sulfur content which will comply with the regulations of the State Department of Health and Mental Hygiene. The plant will be designed, and provisions will be made in the arrangement of the equipment, so that adequate facilities for burning coal in the boilers could be provided in the future. It is not planned to install any facilities for handling, storing, or burning coal at this time."

Clearing at the site began in June of 1973. Excavation for Units 1 and 2 commenced in October and November of 1973, respectively. Work on the foundations began in February and April of 1974 for the two units. Boilers for Units 1 and 2

were delivered on-site in December, 1974 and February, 1975 respectively. The units were originally scheduled to be in service in 1977 and 1978. The latest indications are that the two units will begin operation, on coal, in 1984 and 1988, respectively.

The pollutant at issue is sulfur dioxide (SO₂). When the powerplants were originally certified by the Maryland PSC, New Source Performance Standards (NSPS) for oil-fired units restricted SO₂ emissions to 0.8 pounds per million BTU heat input. At that time, the State of Maryland limited the sulfur content of fuel oil for powerplants in the Baltimore Metropolitan Area to 0.5 percent by weight. The current sulfur-in-fuel limit for both oil and coal-fired powerplants in the Baltimore area is 1.0 percent by weight. On and after July 1, 1980, the sulfur content of residual fuel oil will be limited to 0.5 percent by weight.

The Brandon Shores units have been classified as existing under FUA. Subsequently they were issued a proposed prohibition order which if finalized would prohibit the burning of oil and gas as a primary source of energy. For that reason, they are not subject to a preconstruction review under PSD/BACT provisions of the Clean Air Act, since use of an alternate fuel resulting from a Prohibition Order under FUA is not considered to be a "major modification" (40 C.F.R. 51.24 (b) (2) (iii) (a)). Mr. Bernard Turlinski, Regional Energy Coordinator for EPA Region III, has indicated that there has been a state of continuous construction at the Brandon Shores site. Thus the most recent NSPS, which mandates the installation of Best Available Control Technology (BACT) to limit sulfur dioxide emissions from fossil-fuel steam electric generating stations (40 C.F.R. 52.21 (b) (17)), does not apply.

What is not clear is whether the SO₂ emissions when the two units are burning coal are to be included in the baseline, as defined in the PSD regulations, or count against the consumption of PSD increments. BG&E contends that because a proposed Prohibition Order has been issued, the emissions when burning coal are automatically included in the baseline. Members of your staff have indicated to us that the "allowable" emissions at the time the baseline has been "triggered" are included in the baseline and any emissions above and beyond this count towards increment consumption. Your staff also indicated that EPA would not be directly involved in any other form of review of the facility, since the switch to coal can be accomplished under the existing State Implementation Plan.

Preliminary results from an air dispersion modeling analysis conducted by the Maryland Power Plant Siting Program indicate that the entire three-hour SO₂ PSD increment may be consumed if the emissions from Brandon Shores Units 1 and 2, when burning 1 percent sulfur coal, are not included in the baseline. The situation would be exacerbated if additional powerplants at other BG&E electric generating stations in the Baltimore area are required to convert to coal as a result of Prohibition Orders previously issued under the Energy Supply and Environmental Coordination Act (ESECA). Two such powerplants, Units 1 and 2 of the Wagner Generating Station, are located less than one mile from the Brandon Shores Generating Station. Thus the issue of whether the emissions when Brandon Shores operates on coal are part of the baseline or consume increment is relevant to the question of whether flue gas desulfurization (FGD) may be necessary to preserve the SO₂ increment if Brandon Shores Units 1 and 2 are required to convert to coal as a result of a perfected FUA Prohibition Order.

DOE/ERA requests that EPA issue an advisory opinion on the foregoing inquiries. Your prompt attention and response is requested in order that we may proceed on the correct course with our regulatory analysis and EIS preparation.

Sincerely,

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cc: M. Prothro - EPA, Enforcement
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