

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

JUL 28 1983

OFFICE OF
AIR, NOISE AND RADIATION

SUBJECT: Bridgeport Harbor Coal Conversion

FROM: Director
Stationary Source Compliance Division
Office of Air Quality Planning and Standards

TO: Harley Laing, Director
Air Management Division, Region I

This is in response to your June 8, 1983 request for an applicability determination concerning the conversion to coal of Bridgeport Harbor Unit #3. Your opinion is that the conversion should not be subject to either PSD or NSPS requirements because you feel the boiler was originally designed to burn coal, and as such is exempt under Section 60.14 (e)(4) from NSPS coverage and under Section 52.21(b)(2)(iii)(e)(1) from PSD coverage. You asked for our concurrence in this opinion.

United Illuminating Company (UI) wants to burn coal in its 400 MW capacity Bridgeport Harbor Unit #3 (it currently burns oil) and requests your determination that such a conversion is exempt from NSPS and PSD applicability. UI contends that the unit was originally designed to accommodate coal, and has supplied copies of the original proposal, contract and designs to support this position. Even though a decision was made in 1967, during the latter stages of construction, to use oil as the primary fuel, no coal-firing equipment was deleted from the contract and all equipment contracted for was installed. Additionally, coal handling facilities, pulverizers, ash and slag handling equipment and all other systems and equipment required for pulverized coal firing of the unit were installed.

Since coal was never burned in the unit, changes are now necessary to enable its use. Such changes include modifications to tubing within the boiler, the addition of flame scanners, burners, ignitors and relays, and piping and wiring to allow for bottom ash removal. In addition, the pulverizers must be made functional. These changes to the steam generating unit are estimated to cost approximately 5 million dollars.

The NSPS for electric utility steam generating units, 40 CFR 60, Subpart Da, provides an exemption from coverage for conversion from oil to coal. See Section 60.40a(d) :

Any changes to an existing steam generating unit originally designed to fire gaseous or liquid fossil fuels to accommodate the use of any other fuel (fossil or nonfossil) shall not bring that unit under the applicability of this subpart.

A less inclusive provision exempts coal conversions from Subpart D NSPS applicability if the existing facility was designed to accommodate coal before August 18, 1971. See Section 60.14(e) (4), which exempts from the modification provisions:

Use of an alternative fuel or raw material if, prior to the date any standard under this part becomes applicable to that source type, the existing facility was designed to accommodate that alternative use. A facility shall be considered to be designed to accommodate an alternative fuel or raw material if that use could be accomplished under the facility's construction specifications as amended prior to the change.

Bridgeport Harbor Unit #3 is exempt from Subpart Da coverage because of the provision at Section 60.40a(d). My staff has examined the conversion as related to Subpart D applicability, and discussed it with EPA's Emission Standards and Engineering Division (ESED). The construction specifications for Unit #3 outlined in your memorandum clearly indicate that the unit was designed to accommodate coal prior to the Subpart D applicability date even though coal was never burned. Also, the approximately 5 million dollars which UI must spend on the affected facility, the steam generating unit, to enable it to actually burn coal, is minimal compared to the costs of a coal conversion, and represents only minor adjustments to equipment already in place. For these reasons, both SSCD and ESED concur with your conclusion that Unit #3 is exempt from coverage under Subpart D as well as Subpart Da.

The question of PSD applicability is more difficult because it is necessary to determine if the entire plant, rather than simply the boiler, was capable of accommodating coal before the January 6, 1975 applicability date. In a telephone conversation on July 19, 1983 between Robert Myers of my staff and John Courcier

of your office, John related to Bob the extent to which UI has incorporated coal capability at their Bridgeport Harbor Station. Apparently UI has already put in place, prior to January 6, 1975, all of the coal handling and support facilities necessary for the combustion of coal. This equipment continues to be available and only requires some minor adjustment in order to accommodate coal at Unit #3. Therefore, it is the opinion of this office that UI's Bridgeport Harbor Station was capable of accommodating the alternative fuel prior to January 6, 1975, and is exempt from the PSD permitting requirements pursuant to Section 52.21 (b) (2) (iii)(e)(1).

This response has received the concurrence of both OAQPS and the Office of General Counsel. Please contact Robert Myers at FTS 382-2875 if you have additional concerns.

Edward E. Reich

cc: Jack Farmer
 Walt Stevenson
 Earl Salo
 Dave Rochlin
 Mike Trutna
 Peter Wyckoff

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

DATE June 8, 1983

SUBJECT PSD Applicability for Bridgeport Harbor Coal Conversion

FROM Harley F. Laing, Director
Air Management Division Region I

TO Edward E. Reich, Director
Division of Stationary Source Enforcement

Issue

Region I requests your concurrence in our determination that the Bridgeport Harbor Unit #3 is not subject to either PSD or NSPS requirements. It is our belief that the boiler was originally designed to burn coal and the changes that are being undertaken at UI's Bridgeport Harbor station do not constitute a major modification as defined under PSD and NSPS, and therefore, should be exempt from these reviews.

Background

The United Illuminating Company (UI) has filed an application with the Connecticut Department of Environmental Protection (CT DEP) to burn coal in Unit #3 (BHS 3) at UI's Bridgeport Harbor Station. The CT DEP issued UI an operating permit for BHS 3, and has since requested that Region I determine whether or not the coal conversion at BHS 3 (which was originally designed to burn coal) should be considered a modification and therefore subject to the PSD and/or the NSPS regulations (40 CFR Part 60, Subparts D and Da).

UI contends that BHS 3 was originally designed to accommodate coal. In fact, they have supplied the CT DEP with copies of the original proposal, contract, and designs which indicate that coal was indeed intended to be the primary fuel. During the latter stages of the construction in 1967-1968, a decision was made to use oil as the primary fuel and coal as a secondary fuel. However, no coal firing equipment was deleted from the contract and all coal firing equipment contracted for was installed. In addition, all of the other systems and equipment required for pulverized coal firing of the unit, including coal handling facilities, pulverizers and ash and slag handling equipment, were similarly specified by UI and installed by UI's contractor.

At a state investigative hearing on the coal conversion, certain additional facts were revealed. Although UI showed that the boiler was originally designed and built to burn either coal or oil, significant heat exchange surface alterations were made to allow for continuous, long-term oil burning. Coal has never been burned in the BHS 3. Some modifications to BHS 3 are now necessary in order to allow for continuous, reliable coal burning at partial

load or oil at full load, including modifications to tubing within the boiler, as well as to some of the auxiliary equipment. Other changes to the unit include the addition of flame scanners, burners and ignitors, and additional relays. Certain piping and wiring to allow the bottom ash removal system, certain coal handling equipment and the pulverizers to be functional is also necessary. Additional equipment modification would have been necessary in 1968 to burn coal, but because oil was to be used as fuel, such modifications were never fully completed. Although the state hearing officer concluded that extensive "physical changes and additions" to the BHS 3 totalling some \$35 million constitute a modification to a stationary source, the CT DEP did not require UI to obtain a modified source permit for BHS 3. The state did, however require UI to obtain an operating permit to convert to coal.

Rationale

NSPS (Subpart D): 40 CFR 60.14(e) (4) exempts a change to a facility (in this case, a boiler) from consideration as a modification if the emissions increase from such change results from use of an alternative fuel, provided the use of the alternative fuel could be accommodated under the facility's construction specifications as amended prior to the change. UI's designs for BHS 3, as well as their contract, specified all equipment necessary for burning coal as the primary fuel.

All major equipment was installed. It is Region I's opinion that the alterations to the boiler necessary to burn coal presently result from the 1968 alterations to the boiler that were made to enable the boiler to burn oil, and as such do not constitute a modification.

NSPS (Subpart Da): 40 CFR 60.40a(d) exempts an oil burning unit from the provisions of Subpart Da if such unit is modified to burn coal.

PSD: 40 CFR 52.21(b)(2)(iii)(e)(1) exempts a change to a source (in this case, the generating station) from consideration as a major modification if such change results from the use of an alternative fuel, provided the source could accommodate the alternative fuel prior to January 6, 1975. BHS 3 was built before this date and was designed to burn coal, and is therefore exempt from PSD. If your office concurs with Region I's determination, please advise us by June 24, 1983. If your office does not concur, please forward your determination by July 8, 1983.

Since several parties are anxiously awaiting this determination we would appreciate your response by the dates indicated above.

If you should have any questions, or should need additional information, please contact John Courcier (FTS 223-5137) of my staff.

cc: Rich Biondi, DSSE
Marcus McCraven, UI
Leonard Bruckman, CT DEP
Mike Trutna, OAQPS