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FLORIDA POWER CORPORATION
ST. PETERSBURG FLORIDA 33733

February 21, 1973

Mr. J. P. Ketteringham
Florida Department of Pollution Control
Regional Engineer
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Jacksonville, Florida 33307

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Florida Department of Pollution Control
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Regional Engineer
3201 Golf Course Blvd.
Punta Gorda, Florida 33950

Mr. A. Senkevich
Florida Department of Pollution Control
1017 N. Highland Avenue
Orlando, Florida 32803

Gentlemen:

SUBJECT: Progress Report

The following is a report of Florida Power Corporation's activities during the period May 1972 to January 1973 to attain compliance with provisions of the State of Florida Air Implementation Plan.

1. Engineering studies have been initiated for each power plant to study the application of various particulate control techniques to individual units. These studies will ultimately result in specific plans to affect compliance with the Air Implementation Plan.

2. Engineering studies have been initiated to modernize the combustion controls on boilers with "older" control systems. More modern controls will allow the boilers to operate with very low excess air, improve boiler efficiency, thereby reducing SO_3 emissions and perhaps particulate matter.

3. A proposal by Buell Manufacturing Company to modify the existing electrostatic precipitator on Crystal River Unit #2, to be effective while burning Bunker "C" fuel oil, is being evaluated. (The unit was originally designed to burn coal). The knowledge gained by this modification will be helpful in determining the feasibility of using electrostatic precipitators to control particulate emissions on other oil fired units.

4. Black & Veatch, Consulting Engineers, is studying the feasibility of using a high pressure mechanical atomization system on Crystal River Unit #1 to control particulate emissions. This study will be completed in March 1973.

5. Representatives of Florida Power Corporation are traveling to northeastern United States to observe the performance of a new fuel oil burner. The manufacturer claims this burner will significantly reduce smoke and particulate emissions. The possibility exists that one boiler would be converted to test these burners. If the burners are installed, a stack sampling program will be initiated to evaluate smoke density and particulate emissions.

6. A proposal by Petrolite Company to process Bunker "C" fuel oil is being evaluated. The proposal states that the ash and sediment content of the oil can be reduced which will result in less particulate stack emissions.

7. It is the intent of Florida Power Corporation to comply with any sulfur oxide emission limitation by burning fuel oil with a lower sulfur content. As stated in our letter of May 1, 1972, our fuel oil suppliers require substantial advance notice for any requested change in the oil quality being delivered. We will, also continue to burn as much natural gas as is practicably available at each of our plants modified to burn natural gas.

8. The control of oxides of nitrogen (NO_x) from boilers burning Bunker "C" fuel oil is, at best, in the experimental and investigative stage. A majority of the work has been in the area of combustion modification. The applicability of this technique to existing installations burning Bunker "C", and its effectiveness, differs from unit to unit, thus making it most difficult to guarantee a specific emission limit. Florida Power Corporation will remain alert to the "state of the art" in NO_x control and its use on our units.

Should there be any questions concerning Florida Power Corporation's compliance with the Air Implementation Plan please telephone me.

Sincerely,

FLORIDA POWER CORPORATION

George W. Marshall
Production Superintendent

GWM:mdt

CR II

Florida Power
CORPORATION

April 3, 1973

Mr. E. L. Davenport
Interim Regional Engineer
Florida Department of Pollution Control
3319 Maguire Avenue, Suite 232
Orlando, Florida 32801

Dear Mr. Davenport:

In response to your letter of March 9, 1973, Florida Power Corporation is pleased to submit the following information concerning compliance with sulfur oxide and particular emission standards at our Crystal River and Turner Power Plants.

CRYSTAL RIVER PLANT

Sulfur Oxide - Units No. 1 and 2

Delivery of fuel oil with sulfur content low enough to meet the sulfur oxide emission standard is scheduled to commence February 1, 1975.

Particulate - Unit No. 1

An engineering program is under way to install and test a new type fuel oil burner on one of the units in our system. It is anticipated (guaranteed in writing by the manufacturer) that the particulate emission from these burners will be less than the State standard. Contractual arrangements have been completed and installation is scheduled for the first week of June, 1973. Tests will be performed immediately after installation is completed and test results should be available in August, 1973. Assuming results indicate the particulate emission standard can be met by the use of these new type burners, the following is a schedule of compliance for particulate emission.

Crystal River Particulate Compliance Schedule - Unit No. 1

Date of submittal of final construction plan	09-01-73
Date contract will be awarded	02-01-74
Date for initiation of construction	05-12-74
Date for completion of construction	06-22-75
Date of final compliance	07-01-75

Particulate - Unit No. 2

The electrostatic precipitator presently installed on this unit was designed for use with coal-firing. With conversion to oil, the precipitator must now be modified to obtain satisfactory performance. A proposal from the manufacturer is presently being evaluated. While a completion date for the modification is not known, it should be much before July, 1975.

TURNER PLANT

Sulfur Oxide - Units No. 1, 2, 3, and 4

Delivery of fuel oil with sulfur content low enough to meet SO_2 emission standard is scheduled to commence January 15, 1975.

Particulate - Unit No. 1

This unit is scheduled for retirement in April, 1975. Therefore, no particulate control device will be installed.

Particulate - Unit No. 2

This unit is scheduled for retirement in March, 1976. Because of the short time of operation after the mandatory date for particulate emission control, the installation of expensive control devices is not economically feasible. Florida Power Corporation intends to request a variance from the particulate standard for this unit for the period July 1, 1975 to April 1, 1976.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IV
345 COURTLAND STREET
ATLANTA, GEORGIA 30365

JUN 7 1983

4AM-AM

Mr. Steve Smallwood, Chief
Bureau of Air Quality Management
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32301

Dear Mr. Smallwood:

This is to inform you of Region IV policy concerning applicability of coal conversions to EPA PSD regulations.

Fuel conversions, in general, are considered major modifications for purpose of PSD review providing emission increases are significant. However, Section 52.21(b)(2)(iii)(e) provides an exemption for certain fuel conversic from the major modification definition. Specifically, this section exempts a fuel conversion from PSD review if the source was capable of accommodating the alternate fuel before January 6, 1975 and such a change is not prohibite by any enforceable permit conditions.

The question then, is whether the source, i.e., the entire plant, was capabl of accommodating coal before January 6, 1975. For purposes of converting or or more, but not all of the boilers, we interpret this provision as requirir that the plant be capable of receiving, transferring, and preparing coal, ar then transferring coal and combusting coal in the units being converted, anc disposing of the ash. It is not necessary for the plant to be capable of carrying out all those operations for <u>every</u> unit at the source, but only for for those being converted. On the other hand, if the plant is capable of receiving coal and transferring and combusting it only in some other unit at the plant, but not the one being converted, the plant would not be deemed capable of accommodating coal for purposes of that project.

In order for a plant to be capable of accommodating coal, the company must show not only that the design (i.e., construction specifications) for the source contemplated the equipment, but also that the equipment actually was installed and still remains in existence. Otherwise, it cannot reasonably be concluded that the use of coal was "designed into the source." Thus, a source that had used coal at a particular unit at an earlier time, but later switched to another fuel, would be capable of accommodating coal as long as the coal handling equipment still existed. If coal handling equipment had been removed or was never installed, the source would not be coal accommodative. If a proposed conversion is not eligible for the exemption under 52.21(b)(2)(iii)(e), it is considered a major modification for the purposes of PSD review if the resulting net emission increases are significant. PSD applicability would be based on all emission increases from the conversion, including emission increases from the coal and ash handling and storage facilities as well as from the boilers, since all the increases are caused by the conversion to coal.

Once PSD applicability has been established, it is then necessary to undertake a BACT analysis as required under 52.21(j). That section, under paragraph 3, requires that a major modification apply "best available control technology for each pollutant subject to regulation under the Act for which it would result in a significant net emissions increase at the source. This requirement applies to each proposed emissions unit at which a net emissions increase in the pollutant would occur as a result of a physical change or change in the method of operation in the unit." This section clearly intends that technology review be assessed on an emissions unit rather than on a plant-wide basis.

In the situation where the individual boiler being converted is capable of firing coal with minimal physical changes (for example, change of burners only), BACT analysis would apply to the coal handling and storage equipment as well as any other necessary new equipment. BACT analysis would not apply to the boilers since individually they were designed to accommodate coal and therefore will not be undergoing a physical change or change in the method of operation.

In addition to the BACT analysis, requirements for a source impact analysis (52.21(k)), air quality analysis (52.21(m)), additional impact analyses (52.21(o)), and Class I analysis (52.21(p)) must be satisfied.

Once the source has satisfied these requirements and the notice and public comment provisions, permit approval may proceed.

Region IV is aware that guidance on this question has been somewhat vague, and possibly conflicting, in the past. Therefore, we do not intend for this policy to be applied retroactively where it was not adhered to. However, we do expect each Region IV state to immediately implement this policy for all future applicability determinations.

Sincerely yours,

James T. Wilburn, Chief
Air Management Branch
Air & Waste Management Division

cc: Ed Reich
Darryl Tyler

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 §60.14(e)(4) from NSPS coverage and under §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.

7/28/83

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 §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 §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 §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 §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