

State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

INTEROFFICE MEMORANDUM

For Routing To District Offices And/Or To Other Than The Addressee		
To: <i>Steve Smallwood</i>	Loctn.:	
To: _____	Loctn.:	
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From: _____	Date:	<i>4-6</i>
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TO: Victoria Tschinkel
FROM: *Steve Smallwood* *[Signature]*
DATE: April 6, 1982
SUBJ: Amended BACT Determination for Orlando Utilities
Commission

RECEIVED
APR 6 1982

Office of the Secretary

Attached please find an amended BACT determination for a coal-fired electric generating plant to be constructed in Orlando, Orange County, Florida.

The applicant has requested the particulate emission limit be changed to 0.02 grains/ACF or 5% opacity from the coal, limestone and fly ash handling facilities that have an air pollutant control device. Twenty percent opacity will be allowed during movement of coal to and from the stock-pile.

Since the impact of the requested changes are minimal, the Department is in agreement with the applicants' request to amend the BACT determination.

We recommend that you approve and sign the determination, the results of which will be made specific conditions of the construction permit.

SS/EP/bjm

Best Available Control Technology (BACT) Determination

Amendment

Orlando Utilities Commission

Orange County

The proposed facility is the construction of one 415 net megawatt coal-fired electric utility steam generating unit, one 83 million Btu per hour heat input oil-fired auxiliary boiler, and coal, limestone, and fly ash handling systems. The site is to be known as the Curtis H. Stanton Energy Center and is to be designed to accommodate four generating units. This determination is for Unit No. 1, the only installation proposed at this time.

Unit No. 1 will burn approximately 1.1 million tons per year of coal having an average sulfur content of 2.6 percent. The boiler will use No. 6 oil during start-ups, which will require an estimated annual oil usage of 80,000 gallons. The auxiliary boiler will be utilized to provide start-up and shutdown capability for Unit No. 1. The auxiliary boiler will operate an estimated 150 hours annually and consume 57,000 gallons per year of No. 2 oil having a sulfur content less than 0.5 percent.

The Energy Center is to be located approximately ten miles south-east of Orlando in Orange County. The area is classified nonattainment for the pollutant ozone (17-2.16(1)(g)F.A.C.), and attainment for all other pollutants. The facility must comply with the provisions of 17-2.04 F.A.C. (Prevention of Significant Deterioration).

BACT Determination Requested by the Applicant:

Pollutant	Emission Limit
Particulates	0.03 lb/million Btu input
SO ₂	NSPS
NO _x	0.60 lb/million Btu input

Particulate emissions are to be controlled with a cold side Electrostatic Precipitator (ESP). Sulfur dioxide emissions are to be controlled with a wet limestone flue gas scrubber. There is no specific technology to control NO_x emissions, therefore, BACT is to be the manufacturer's guarantee for state-of-the-art burner design parameters to minimize NO_x emissions.

Fugitive dust from the coal handling system will be controlled with bag filters, water sprays, and a telescopic chute. Fugitive dust from the limestone handling system will be controlled with bag filters, telescopic chute, pile compaction, and covered conveyors. Emissions from the fly ash vacuum type pneumatic transfer system will be controlled with a fabric filter baghouse. Dust generated by vehicle traffic over unpaved roads will be reduced by wetting with water or a dust palliative.

Date of Receipt of a BACT Application:

July 9, 1981

Date of Publication in the Florida Administrative Weekly:

July 24, 1981

Review Group Members:

Hamilton S. Oven, Jr. - Power Plant Siting Section
Charles Collins - St. Johns River District
Bob King - DER New Source Review Section
Larry George - DER Air Modeling Section

The BACT determination reflects the recommendations from the review group.

A. Steam generating Unit No. 1.

<u>Pollutant</u>	<u>Emission Limit-lb/10⁶ heat input</u>
Particulates	0.03
SO ₂	1.20 lb/million Btu heat input and 10 percent of the potential combustion concentration (90 percent reduction), or 30 percent of the potential combustion concentration (70% reduction), when emissions are less than 0.60 lb/million Btu heat input, based on a 30 day rolling average. A maximum 3 hour average of 1.14 and a maximum 2 hour average of 1.2.
NO _x	0.60 on a 30 day rolling average
Visible Emissions	Maximum 20% Opacity, except for one six minute period per hour of not more than 27% opacity.

Compliance with the allowable emission limits for Unit No. 1 will be demonstrated with performance tests conducted in accordance with the provisions of the NSPS subsections 60.46a, 60.48a and 60.49a.

B. Auxiliary boiler.

<u>Pollutant</u>	<u>Emission Limit - lb/10⁶ Btu input</u>
Particulates	0.015
SO ₂	0.51
NO _x	0.16
Visible Emissions	Maximum 20% Opacity

Compliance testing will be in accordance with 17-2.23, F.A.C., method 9.

C. Coal, Limestone, Fly ash handling facilities.

<u>Pollutant</u>	<u>Emission Limit</u>
Particulates	0.02 grains/ACF or 5% opacity from air emission control equipment. 20% opacity when adding, moving, or removing coal or limestone from the stockpile.

Compliance testing will be in accordance with 17-2.23 F.A.C., DER method 9.

The fuel oil to be fired in Unit No. 1 and the auxiliary boiler will be "new oil", which means an oil which has been refined from crude oil and has not been used, and which may or may not contain additives.

Justification of DER Determination:

40 CFR 60, Subpart Da, Standards of performance for electric utility steam generating units for which construction is commenced after September 18, 1978, is determined as BACT for the proposed No. 1 unit. The proposed emission control equipment is state-of-the-art and determined as BACT.

BACT for particulate and SO₂ emissions from the auxiliary boiler is determined to be the firing of No. 2 fuel oil with a sulfur content less than 0.5 percent. The boiler has limited

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operation and the emissions are minor when compared to Unit No. 1. Therefore, no air pollution control equipment is warranted.

The coal, limestone and fly ash handling systems are exempted from mass emission rate compliance tests unless opacity limits are exceeded.

The term "new oil" is included to prevent the use of waste oil as fuel, emissions from which were not considered in this BACT analysis.

Details of the Analysis May be Obtained by Contacting:

Edward Palagyi, BACT Coordinator
Department of Environmental Regulation
Bureau of Air Quality Management
2600 Blair Stone Road
Tallahassee, Florida 32301

Recommended by:

for C. J. Janey
Steve Smallwood, Chief, BAQM
Date: 4/6/82

SS/bjm

Approved by:

 Victoria J. Tschinkel
Victoria J. Tschinkel,
Secretary
Date: 4/6/82