

ENV 981203

December 03, 1998

Mr. Syed Arif
Florida Department of Environmental Protection
Division of Air Resources Management - MS 5500
2600 Blair Stone Rd.
Tallahassee, FL 32399-2400



RECEIVED

DEC 09 1998

**BUREAU OF
AIR REGULATION**

RE: St. Johns River Power Park (SJRPP)
Jacksonville Electric Authority (JEA)
Petroleum Coke - 100,000 lbs/hr
PSD - FL - 010(B)

0310001-001-AC

Dear Mr. Arif:

The Permit Amendment to the Prevention of Significant Deterioration approval [PSD-FL-010(B)] for St. Johns River Power Park (SJRPP) provided for up to 20 percent by weight of petroleum coke to be co-fired with coal. An integral part of this approval was meeting the New Source Performance Standards (NSPS) Subpart Da for sulfur dioxide. The emissions limits expressed in Specific Condition 2.A. were based on a long-term baseline SO₂ emission rate of 0.4 lb/mmBtu and established the petroleum coke portion of the emission limit for co-firing up to 20 percent by weight of petroleum coke with coal. For coal (i.e., 80 percent of the co-fired mixture), the emissions rate continued to follow the requirements of the NSPS. Compliance with the SO₂ emission limit was based on the NSPS averaging time which is a 30-day rolling average pursuant to Sections 60.43a and 60.46a of Subpart Da. The emission limits for SO₂, as well as those for particulate matter, nitrogen oxides, carbon monoxide and sulfuric acid mist, were established to insure that annual emissions would not increase as a result of co-firing petroleum coke with coal. The use of the annual averaging time in establishing significant increase in emissions is fundamental to the PSD approval. A shorter averaging time for SO₂, such as the 30-day rolling average, would assure the Department that the annual emissions would not increase. Indeed, the limits established would effectively lower the potential SO₂ emissions when co-firing petroleum coke with coal.

Specific Condition 2.B. limits the petroleum coke and coal blends to 20 percent pet coke by weight and includes a 100,000 lb/hr limit for petroleum coke. While no averaging time is expressed for the lb/hr limit, it is the opinion of SJRPP that this should be based on a 30-day rolling average similar to Specific Condition 2.A. of the permit amendment. This would limit the percentage of petroleum coke that can be co-fired with coal to a shorter averaging time (i.e., 30-day rolling average) than the basis of the baseline emissions established for SO₂ (i.e., annual). It would also provide the Department the reasonable assurance that annual emissions would not be exceeded pursuant to the PSD regulations. SJRPP requests that the 100,000 lbs/hr be defined as a 30 day rolling average value in order to maintain the co-firing of a 20% petroleum coke and 80% coal blend.

Please contact me at (904)665-8729 if you have any questions regarding this request.

Sincerely,

A handwritten signature in black ink that reads "Jay Worley". The signature is written over a large, hand-drawn oval shape.

Jay Worley
Group Leader Process/Regulatory

xc: H. Oven, FDEP
E. Frey, FDEP
W. Tutt, RESD

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AIR REGULATION



EV 981603

March 16, 1998

Mr. Hamilton Oven, P.E.
Administrator, Power Plant Siting
Florida Dept. of Environmental Protection
2600 Blair Stone Rd.
Mail Station 48
Tallahassee, FL 32399-2400

RE: St. Johns River Power Park (SJRP)
Jacksonville Electric Authority (JEA)
Coal Unloading Facility - Limestone / Equivalent Unloading

Dear Mr. Oven:

A notification concerning the above referenced limestone unloading operation and the evaluation of the potential emissions were submitted to your agency on 02-18-98. Pursuant to our 03/11/98 telephone conversation, your agency concurred with the notification and emissions evaluation, therefore, limestone or equivalent shall be made available through the SJRP coal unloading facility.

Please contact me at (904)665-8729 if you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read 'Jay Worley', written over a large, loopy flourish.

Jay Worley
Director Environmental & Safety

xc: M. Costello, FDEP
E. Frey, FDEP
A. Linero, FDEP ✓
W. Tutt, RESD

EV 981802

CERTIFIED MAIL



February 18, 1998

Mr. Hamilton Oven, P.E.
Administrator, Power Plant Siting
Florida Dept. of Environmental Protection
2600 Blair Stone Rd.
Mail Station 48
Tallahassee, FL 32399-2400

RE: St. Johns River Power Park (SJRPP)
Jacksonville Electric Authority (JEA)
Conditions of Certification PA 81-13
PSD FL-010

Dear Mr. Oven:

The St. Johns River Coal Terminal (SJRCT), addressed in the above referenced Conditions of Certification and PSD, is a solid fuel unloading facility located on Blount Island on the St. Johns River. The facility unloads water-borne solid fuel shipments where it is conveyed to SJRPP for the generation of electricity.

SJRCT is located adjacent to the Jacksonville Port Authority (JPA), a major importer of materials. Pursuant to telephone conversations with you and Mr. Costello (Florida Dept. of Environmental Protection's Bureau of Air Regulation), SJRPP is formally notifying you that approximately 270,000 ton/year/unit annually of limestone or equivalent will be unloaded at the SJRCT using existing coal handling facilities. The limestone unloading operation will benefit SJRPP by taking advantage of the limestone market via water-borne suppliers in addition to our direct truck and rail deliveries.

The limestone or equivalent shall be conveyed via the existing enclosed conveyor system to SJRPP. The limestone or equivalent shall be temporarily stored in a designated area of the coal pile prior to movement by truck to the existing limestone storage area. Please find attached a document prepared by Kennard F. Kosky, P.E. (Golder Associates) which presents the results of an evaluation of the potential emissions of unloading limestone at the SJRCT. The TSP and PM₁₀ emissions are well within the 2.85 tons/year (0.65 lb/hr) authorized by Specific Condition I.A.4.b. for the limestone rail/truck unloading and transfer system. The maximum potential emissions are also within those authorized in the PSD approval.

Please contact me at (904)665-8729 if you have any questions or require any additional information regarding this request.

Sincerely,

A handwritten signature in black ink, appearing to read "Jay Worley".

Jay Worley
Director, Environmental & Safety

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BUREAU OF
AIR REGULATION

xc: M. Costello, (FDEP)
E. Frey, (FDEP)
A. Linero, (FDEP) ✓
W. Tutt, (RESD)

cc: C. Holladay, BAR

Golder Associates Inc.

6241 NW 23rd Street, Suite 500
Gainesville, FL 32653-1500
Telephone (352) 336-5600
Fax (352) 336-6603



**St. Johns River Power Park (SJRPP)
PSD-FL-010(B); PA 81-13
Ship Limestone Unloading and Conveyor Transfer
Emissions of Particulate Matter**

This document presents the results of an evaluation of the potential emissions of unloading limestone at the St. Johns River Coal Terminal and the transfer of limestone by the existing coal conveyors to the plant site. The evaluation was conducted using US EPA Emission Factors for Aggregate Handling and Storage Piles (Section 13.2.4 of AP-42). The maximum potential emissions from conveyors and transfer points are estimated not to exceed 0.6 tons/year (0.14 lb/hr) for TSP and 0.3 tons/year (0.07 lb/hr) for PM₁₀. This estimate was based on a maximum potential limestone usage of about 270,000 ton/year/unit, 4 percent sulfur fuel and 100 percent capacity factor. The TSP and PM₁₀ emissions are well within the 2.85 tons/year (0.65 lb/hr) authorized by Specific Condition I.A.4.b. for the limestone rail/truck unloading and transfer system. The maximum potential emissions are also within those authorized in the PSD approval.

Because the St. Johns River Coal Terminal commenced construction after August 31, 1983, the New Source Performance Standards relating to Nonmetallic Mineral Processing Plants (40 CFR 60.670-60.676) are applicable to the transfer of limestone. These NSPS cover both stack/vent emissions and fugitive emissions. Since the conveyors and transfer points are enclosed but do not have a stack or vent the opacity requirements of 60.672 apply. Initial performance tests using EPA Method 9 for opacity including provisions of 60.675(c) is required within 90 days of maximum production rate or 180 days from initial operation (i.e., limestone transfer).

A handwritten signature in cursive script that reads 'Kennard F. Kosky'.

Kennard F. Kosky, P.E.
Principal
Florida Professional Engineer License No. 14996
February 13, 1998

SEAL

Handwritten initials, possibly 'KS', written in a stylized cursive font.

EV 981802

CERTIFIED MAIL



February 18, 1998

Mr. Hamilton Oven, P.E.
Administrator, Power Plant Siting
Florida Dept. of Environmental Protection
2600 Blair Stone Rd.
Mail Station 48
Tallahassee, FL 32399-2400

RE: St. Johns River Power Park (SJRPP)
Jacksonville Electric Authority (JEA)
Conditions of Certification PA 81-13
Emissions of Particulate Matter (PM) and Nitrogen Oxides (NOx)
Compliance Certification

Dear Mr. Oven:

Pursuant to Specific Condition I.A.2.g. of the above referenced Conditions, the permittee shall maintain and submit to the Department on an annual basis for a period of five years from the date the unit is initially fired with petroleum coke, information demonstrating in accordance with 40 CFR 52.21 (b)(21)(v) and 40 CFR 52.21 (b)(33) that operational changes did not result in emissions increases of nitrogen oxides and particulate matter.

Please find attached the analysis results, as prepared by Kennard Kosky, P.E. (Golder Associates), comparing baseline emissions when firing coal for the two years prior to co-firing (i.e. 1994/1995) petroleum coke and coal with 1997 co-firing emissions. The 1997 emission rates for PM and NOx were less than the baseline emissions of coal only which would confirm that significant net increase in emissions did not result from co-firing petroleum coke and coal. Therefore, SJRPP Units 1 & 2 have complied with the above referenced Specific Condition.

Please contact me at (904)665-8729 if you have any questions or require any additional information regarding this request.

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BUREAU OF
AIR REGULATION

Sincerely,

A handwritten signature in black ink, appearing to read "Jay Worley".

Jay Worley
Director, Environmental & Safety

xc: E. Frey, (FDEP)
A. Linero, (FDEP) ✓
W. Tutt, (RESD)

cc: Syed Arief, BAR

11201 New Berlin Road

Jacksonville, FL 32226

Golder Associates Inc.

6241 NW 23rd Street, Suite 500
Gainesville, FL 32653-1500
Telephone (352) 336-5600
Fax (352) 336-6603



**St. Johns River Power Park (SJRPP)
PSD-FL-010(B); PA 81-13
Co-Firing of Petroleum Coke
Emissions of Particulate and Nitrogen Oxides
Compliance Certification**

This certification addressed the requirements of Specific Condition 3.A. of the Prevention of Significant Deterioration (PSD) regarding the increase of emissions when co-firing petroleum coke and coal. As required by Specific Condition 3.A., information must be submitted in accordance with 40 CFR 52.21 (b)(21)(v) and (b) (33) that operational changes did not result in emissions increases of nitrogen oxides (NOx) and particulate matter (PM). According to 40 CFR 52.21 (b) (33), for an electric steam generating unit the emissions resulting from increased utilization due to electric demand is not included in calculating any emissions increase. Since SJRPP Units 1 and 2 are base load units and their operation is not affected by co-firing petroleum coke and coal, the appropriate comparison is the emissions rates in pounds per million Btu heat input (lb/mmBtu) when co-firing petroleum coke and coal.

The baseline emissions when firing coal for the two years prior to co-firing (i.e., 1994/95) petroleum coke and coal were 0.0154 lb/mmBtu for PM and 0.52 lb/mmBtu for NOx (reference Annual Operating Reports for 1994 and 1995). Baseline tests performed in July and August, 1995 during the Co-firing Trial Test Burn were 0.00715 lb/mmBtu for PM and 0.498 lb/mmBtu. For 1997, the emissions of PM were 0.005 lb/mmBtu for both Units 1 and 2 and the emissions of NOx were 0.48 lb/mmBtu. These emissions rates are less than the baseline emissions for coal only which would confirm that a significant net increase in emissions did not result from co-firing petroleum coke and coal. Therefore, SJRPP Units 1 and 2 have complied with the Specific Condition 3.A. of the PSD approval.

A handwritten signature in cursive script, appearing to read "Kennard F. Kosky".

Kennard F. Kosky, P.E.
Principal
Florida Professional Engineer License No. 14996
February 13, 1998

SEAL

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