

CERTIFIED MAIL

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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

BUREAU OF AIR REGULATION

RE: JEA/St. Johns River Power Park (SJRPP)  
Conditions of Certification (COC) Permit No. PA 81-13  
PSD Permit No. PSD-FL-010(D)  
Title V Permit No. 0310045-002-AV  
Emissions of Particulate Matter (PM) and Nitrogen Oxides (NOx)  
Compliance Certification

Dear Mr. Oven:

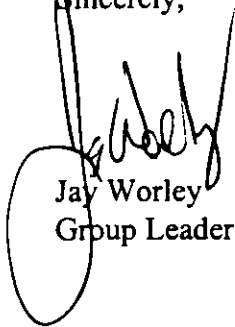
Pursuant to Specific Condition 1.A.2.g. of the COC permit, Specific Condition 3.A. of the PSD permit, and Specific Condition D.68 of the Title V permit, the permittee shall maintain and submit to the Department on an annual basis for a period of five years from the date the unit is initially fired with 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 2001 co-firing emissions. The 2001 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 Conditions.

Pursuant to the above referenced permit language, this submittal satisfies the required 5 year testing period, indicating that significant net increases in emissions did not result from co-firing petroleum coke and coal. Having satisfactorily completed the listed Permit conditions, additional annual testing shall not be performed unless at the request of the Department.

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

Sincerely,



Jay Worley  
Group Leader

Enclosure: PM/NO<sub>x</sub> 2001 Compliance Certification

xc: E. Fréy, (FDEP)  
A. Linero, (FDEP)  
W. Tutt, (RESO)  
S. Pace, (RESO)

**Golder Associates Inc.**

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**DRAFT**  
**St. Johns River Power Park (SJRPP); Jacksonville Electric Authority**  
**PSD-FL-010(B); PA 81-13; Title V Permit 0310045-002-AV**  
**Co-Firing of Petroleum Coke**  
**Emissions of Particulate Matter and Nitrogen Oxides**  
**2001 Compliance Certification**

This certification addresses the requirements of Specific Condition 3.A. of the Prevention of the Significant Deterioration (PSD) permit and Specific Condition D.68. of the Title V permit regarding the increase of emissions when co-firing petroleum coke and coal. As required by Specific Conditions 3.A. and D.68., data must be submitted on an annual basis for a period of five years from the date each unit begins firing petroleum coke with coal, demonstrating 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 (NO<sub>x</sub>) and particulate matter (PM). This demonstration must be submitted to the Florida Department of Environmental Protection and City of Jacksonville Regulatory and Environmental Services Department (Air and Water Quality Division).

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.

**Particulate Matter (PM)**

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 (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 PM/mmBtu for Unit 1.

In 1997, the emissions of PM when co-firing petroleum coke with coal were 0.005 lb/mmBtu for both Units 1 and 2. For 1998, the PM emission rates from the annual compliance tests were 0.008 and 0.005 lb/mmBtu, respectively. The 1999 PM tests found emission rates when co-firing petroleum coke with coal of 0.006 and 0.003 lb/mmBtu for Units 1 and 2, respectively. The 2000 PM tests determined PM emission rates when co-firing petroleum coke with coal of 0.016 and 0.004 lb/mmBtu for Units 1 and 2, respectively.

The 2001 PM tests determined PM emission rates when co-firing petroleum coke with coal of 0.010 and 0.005 lb/mmBtu for Units 1 and 2, respectively. The average PM emission rate when co-firing petroleum coke with coal was 0.0075 lb/mmBtu for the facility. These data indicate that the emissions when co-firing petroleum coke with coal do not exceed the emissions when firing coal only. Therefore, given the base load nature of these units, there has not been a significant increase in emission of PM resulting from co-firing petroleum coke with coal.

**Nitrogen Oxides (NO<sub>x</sub>)**

The baseline emissions for NO<sub>x</sub> when firing coal for the two years prior to co-firing (i.e., 1994/95) petroleum coke and coal was 0.52 lb/mmBtu (reference Annual Operating Reports for 1994 and 1995). Baseline tests performed in July and August, 1995 during the Co-firing Trial Test Burn were

0.498 lb/mmBtu. The average NO<sub>x</sub> emissions in 1996 using continuous emission monitoring systems (CEMs) while firing predominantly coal was 0.51 and 0.53 lb/mmBtu for Units 1 and 2, respectively.

The annual average NO<sub>x</sub> emissions from CEMs when co-firing petroleum coke with coal during 1997 were 0.48 lb/mmBtu for both Units 1 and 2; for 1998 the annual average emissions were 0.486 and 0.478 lb/mmBtu for Units 1 and 2, respectively. In 1999, the annual average NO<sub>x</sub> emissions from CEMs when co-firing petroleum coke with coal for Units 1 and 2 were 0.503 and 0.484 lb/mmBtu, respectively. For 2000, the annual average NO<sub>x</sub> emissions from CEMs when co-firing petroleum coke with coal for Units 1 and 2 were 0.478 and 0.475 lb/mmBtu, respectively.

For 2001, the annual average NO<sub>x</sub> emissions from CEMs when co-firing petroleum coke with coal for Units 1 and 2 were 0.473 and 0.469 lb/mmBtu, respectively. These emissions rates are less than the baseline emissions for coal alone, which would confirm that a significant net increase in emissions did not result from co-firing petroleum coke and coal.

**Specific Condition 3.A. (PSD)/Specific Condition D.68. (Title V Permit)**

For 2001, the SJRPP Units 1 and 2 continue to comply with Specific Condition 3.A. of the PSD approval and Specific Condition D.68. of the Title V permit when co-firing petroleum coke with coal.



Kennard F. Kosky, P.E.

Principal

Florida Professional Engineer License No. 14996

February 20, 2002



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