

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

SIERRA CLUB, NORTHEAST FLORIDA,

Petitioner,

vs.

OGC File No. 96-1588

JACKSONVILLE ELECTRIC AUTHORITY
and STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION,

Respondents.

RECEIVED

JUN 6 1996

BUREAU OF
AIR REGULATION

ORDER DISMISSING PETITION WITH LEAVE TO AMEND

On May 20, 1996, the Florida Department of Environmental Protection (Department) received a letter that could be considered as a request for administrative hearing from Petitioner SIERRA CLUB, NORTHEAST FLORIDA. See Exhibit 1. The letter challenged the Department's decision to amend Permit No. PSD-FL-010 to the Jacksonville Electric Authority, to allow firing of an 80% bituminous coal/20% petroleum coke blend at the existing St. Johns River Power Park Units 1 and 2 in Duval County. Florida Administrative Code rule 62-103.155(2) and the notice provided to Petitioner explain what must be included in a petition for a formal administrative proceeding. Petitioner's letter does not comply with rule 62-103.155(2) and therefore does not contain sufficient information to determine whether a formal administrative proceeding should be held. Specifically, the request does not include:

(a) A statement of how Petitioner's substantial environmental interests are affected by the Department's action or proposed action. In order to have such standing, Petitioner must allege that Petitioner's substantial environmental interests are affected by the Department's action or proposed action. To do this Petitioner must show (1) that Petitioner will suffer injury in fact which is of sufficient immediacy to entitle Petitioner to a hearing under rule 62-103.155 and section 120.57 of the Florida Statutes, and (2) that the injury is of a type or nature which the proceeding is designed to protect;

(b) A statement of the facts that Petitioner contends warrant reversal or modification of the Department's action or proposed action;

(c) A statement of which rules or statutes Petitioner contends require reversal or modification of the Department's action or proposed action; or

(d) A statement of the relief sought by Petitioner, stating precisely the action Petitioner wants the Department to take with respect to the Department's action or proposed action.

Without this information, Petitioner's letter must be dismissed as required by Florida Administrative Code rule 62-103.155. Therefore, IT IS ORDERED:

The petition for hearing filed by the SIERRA CLUB, NORTHEAST FLORIDA is DISMISSED. Such dismissal is without prejudice to the Sierra Club, Northeast Florida to amend

its petition to provide the information listed above. The amended petition must be filed (received) in the Office of General Counsel, Department of Environmental Protection, 3900 Commonwealth Boulevard, Tallahassee, Florida 32399-3000 within 15 days from the date set forth in the certificate of service on the last page of this order. This order constitutes final agency action of the Department unless a timely amended petition is filed in conformance with this order.

Any party to this Order has the right to seek judicial review of the Order pursuant to Section 120.68, Florida Statutes, by the filing of a Notice of Appeal pursuant to Rule 9.110, Florida Rules of Appellate Procedure, with the clerk of the Department in the Office of General Counsel, 3900 Commonwealth Boulevard, Tallahassee, Florida 32399-3000; and by filing a copy of the Notice of Appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The Notice of Appeal must be filed within 30 days from the date this Order is filed with the clerk of the Department.

DONE AND ORDERED this 30th day of May, 1996, in
Tallahassee, Florida.

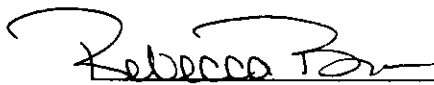
STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION



VIRGINIA B. WETHERELL
Secretary

Marjorie Stoneman Douglas
Building
3900 Commonwealth Boulevard
Tallahassee, FL 32399-3000
Telephone: (904) 488-1554

FILING AND ACKNOWLEDGMENT:
FILED, on this date, pursuant to
Section 120.52, Florida Statutes,
with the designated Department
Clerk, receipt of which is hereby
acknowledged.



Clerk

6/3/96
Date

CERTIFICATE OF SERVICE

I CERTIFY that a true copy of the foregoing Order
Dismissing Petition With Leave To Amend was mailed to:

Janet L. Stanko
Sierra Club
Northeast Florida Chapter
3417 Hermitage Road E.
Jacksonville, FL 32277

Jim Alves, Esquire
HOPPING, GREEN, SAMS &
SMITH
123 South Calhoun Street
Post Office Box 6526
Tallahassee, FL 32314-6526

on this 6th day of ~~May~~^{June}, 1996.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION



JEFFERSON M. BRASWELL
Assistant General Counsel
Florida Bar No. 800996

3900 Commonwealth Boulevard
Tallahassee, FL 32399-3000
Telephone: (904) 488-9730

ATTACHMENT 1

1.0 PROJECT DESCRIPTION

The St. Johns River Power Park (SJRPP) proposes to co-fire a mixture of up to 20 percent petroleum coke with coal in a manner that would ensure that there is not a significant net increase in actual emissions of any regulated pollutant and, therefore, the Prevention of Significant Deterioration (PSD) Rules in 62-212.400, Florida Administrative Code (F.A.C.) would not apply. This would be accomplished through a limitation on sulfur dioxide (SO₂) emissions when co-firing petroleum coke that includes both an emission limit and a percent SO₂ reduction requirement. In addition, SJRPP proposes to accept a condition for carbon monoxide (CO) that would demonstrate that a net significant emission increase would not occur.

① This permit application is associated with a modification request of the site certification for the units (PA 81-13). Approval from the FDEP is being sought to use up to 20 percent (heat input basis) of petroleum coke with coal. No new facilities or equipment are required to burn petroleum coke. Minor amendments to PSD permit are required. There will be no substantial changes made in the fuel handling facilities or the emission units to accommodate co-firing of petroleum coke. A temporary hopper and conveyor will be used to load petroleum coke with coal on the reclaim conveyor prior to transporting to the crusher house. From the crusher house, the blended fuel will be conveyed to the coal storage silos. Petroleum coke can be co-fired with coal as soon as approval is obtained from FDEP and it is received in the coal yard.

② **2.0 TRIAL BURN TEST RESULTS**

A trial test burn for co-firing petroleum coke and coal was authorized by the Florida Department of Environmental Protection (FDEP) and conducted August 8-19, 1995. A copy of the trial test burn results is attached. A summary of the trial test burn results and a statistical comparison of the baseline tests (coal only) and co-firing petroleum coke and coal are presented in Table 1. A statistical analysis was performed using Appendix C to Part 60 (of 40 CFR).

③ The results of the trial test burn and the statistical analysis indicate that there are no emission rate increases for particulate matter or nitrogen oxides. The emission rates of sulfur dioxide, sulfuric acid mist, and CO were lower in the baseline tests than in the tests performed while the unit was co-firing petroleum coke and coal. The remainder of this attachment discusses these pollutants.

2.1 SULFUR DIOXIDE

A federally enforceable permit condition is proposed that prevents PSD applicability by preventing actual SO₂ emissions associated with the petroleum coke fraction of the blended fuel from exceeding past actual SO₂ emissions associated with burning coal. In this manner, there will be no prospective increase in SO₂ emissions caused by the proposed change (i.e., utilization of petroleum coke). Pursuant to EPA's June 21, 1992, WEPCO regulations (57 Federal Register 32314), increases in air emissions not caused by proposed changes must be excluded from steam electric power plants' future actual emissions in assessing PSD applicability. EPA emphasized in the preamble statement that new source review "applies only where the emissions increase is cause by the change" [57 Federal Register 32325]. The approach comports with the WEPCO regulations and corresponding state rules by eliminating the possibility that the petroleum coke portion of prospective fuel blends will exceed "past actual" SO₂ emissions associated with coal burning. Consistent with the WEPCO regulations, future increases in SO₂ emissions caused solely by enhanced electricity demand or caused by permissible variations in coal sulfur content should not count toward PSD applicability.

The emission limitation has the following components:

- a. When blends of petroleum coke and coal with a sulfur content of up to or equal to 2 percent are fired in Units 1 or 2, the SO₂ emissions shall not exceed 0.56 pound per million British thermal units (lb/MMBtu) and a minimum of 75 percent reduction in the flue gas desulfurization system.
- b. When co-firing petroleum coke with coals having a sulfur content between 2 and 3.63 percent, the emission limitation shall be based on the following formula:

$$\text{SO}_2 \text{ emission limit (lb/MMBtu)} = (0.2 \times C/100) + 0.4$$

where: C = percent of coal co-fired on a heat input basis (e.g., 80 percent)

- c. When coals with a sulfur content greater than 3.63 percent are co-fired with petroleum coke, the SO₂ emissions shall not exceed the following formula:

$$\text{SO}_2 \text{ emission limit (lb/MMBtu)} = (0.1653 \times C \times S - 0.4 \times C + 40) \times 1/100$$

where: C = percent of coal co-fired on a heat input basis

where: C = percent of coal co-fired on a heat input basis

- d. The maximum SO₂ emission rate when firing petroleum coke shall not exceed 0.688 lb/MMBtu.
- e. Compliance with the SO₂ emissions limit shall be based on a 30-day rolling average for those days when petroleum coke is fired. Any use of petroleum coke during a 24-hour period shall be considered 1 day of the 30-day rolling average. The 30-day rolling average shall be calculated according to the New Source Performance Standards (NSPS) codified in 40 CFR Part 60 Subpart Da, except as noted above.

The proposed emission limits for SO₂ were developed from the two fundamental requirements of the PSD approval and the specific conditions of the site certification and to assure no net increase in annual emissions. The PSD approval and site certification require that the NSPS Subpart Da be met and that emissions do not exceed 0.76 lb/MMBtu (30-day rolling average). The emission limits proposed for co-firing are supported by the following rationale:

1. The NSPS codified in 40 CFR Part 60 Subpart Da requires, in the range of coals to be fired, either 0.6 lb/MMBtu or a 70 percent reduction in the potential SO₂ combustion concentration. For coals with a sulfur content greater than 1.2 percent, the 0.6 lb/MMBtu emission limit would govern. For coals with sulfur contents of 1.2 percent or less, the 70 percent reduction requirement would govern. This is illustrated in the attached Table 2 which presents in the sixth and seventh columns the NSPS emission limit and the percent SO₂ removals as a function of the coal sulfur content (first column). In terms of practical application, under Subpart Da: (1) when the inlet air to the scrubber has SO₂ concentrations under 2.0 lb/MMBtu, 70 percent SO₂ reduction is required; (2) when the inlet SO₂ concentration is higher than 2.0 but less than 6.0 lb/MMBtu, required SO₂ scrubbing must result in emissions of 0.6 lb/MMBtu or less; (3) at higher concentrations, 90 percent removal is required. It should be noted that the facility has a 0.76 lb SO₂/MMBtu emission limit established as BACT for coal firing. The proposed emission limit for co-firing petroleum coke and coal could not exceed this limit, since this is inherent in the proposed limit.
2. The representative actual annual SO₂ emission rate for Units 1 and 2 over the last 2 years has been 0.4 lb/MMBtu. By ensuring that the emission rate when firing

petroleum coke does not exceed 0.4 lb/MMBtu, the "representative actual annual emissions" as defined in 40 CFR 52.21(b)(33) would not exceed the past actual emissions. To achieve a 0.4 lb/MMBtu emission rate with the typical sulfur content for petroleum coke (e.g., 6 percent), a 95 percent reduction is required. This is shown on the last column of the Table 2.

3. Except for coals with a sulfur content of greater than 2 percent, the proposed percent reduction requirement and the emission limit are based on co-firing 20 percent petroleum coke with coal (on a heat input basis). This is the worst-case mixture proposed and ensures that when co-firing lower percentages of petroleum coke with coal, the resulting emission rate would be lower than could be allowed by meeting only the NSPS and the "actual" emission rate. For example, if a 10 percent mixture of petroleum coke is co-fired with a 1.2 percent sulfur coal, then the resulting emissions rate to meet NSPS and 0.4 lb/MMBtu would be 0.58 lb/MMBtu. In contrast, the proposed condition would limit the SO₂ emissions to 0.56 lb/MMBtu.
4. The effect of the proposed SO₂ emission limitation is shown on Table 2 (second and third columns). As shown, for coals with sulfur content less than 1.2 percent, the 75 percent reduction requirement would produce emission rates less than 0.56 lb/MMBtu while meeting the NSPS reduction requirement of 70 percent and the "actual" emission rate of 0.4 lb/MMBtu for petroleum coke. For coals with a sulfur content of 1.2 to 2 percent, the proposed emission limit of 0.56 lb/MMBtu would meet the NSPS limit of 0.6 lb/MMBtu for coal and 0.4 lb/MMBtu for petroleum coke.
5. The equation for an SO₂ emission limit for coals above 2 percent sulfur content would allow some flexibility for petroleum coke/coal mixtures. This formula would be applicable for sulfur contents from 2.0 to 3.63 percent, since coals in this range would be required to meet the 0.6 lb/MMBtu limit in Subpart Da. The proposed equations for SO₂ emission limitations for coal above 2 percent sulfur content would allow some flexibility for petroleum coke/coal mixtures (see Table 3 for derivation of equations). The equation in Paragraph b above will achieve compliance with the governing Subpart Da limit of 0.6 lb/MMBtu and 0.4 lb/MMBtu for petroleum coke. The equation in Paragraph c above accounts for the governing Subpart Da requirement of 90 percent SO₂ reduction and 0.4 lb/MMBtu for petroleum coke. The maximum SO₂ emission rate associated with firing only coal, regardless of coal sulfur

content, cannot exceed 0.76 lb/MMBtu as required by PSD and Power Plant Siting Act (PPSA) approval. Therefore, mixtures of petroleum coke and coal can never exceed 0.688 lb/MMBtu.

6. SJRPP Units 1 and 2 feature an inlet continuous emission monitoring system to monitor inlet SO₂ levels prior to the flue gas desulfurization system as required by Subpart Da and an outlet continuous emission monitoring system which records SO₂ emissions as required by Subpart Da and 40 CFR Part 75. These SO₂ data are quality assured pursuant to Subpart Da and Part 75 requirements. The percent reduction requirements and the SO₂ emissions limitations for coals blended with petroleum coke that have a sulfur content less than 3.63 percent shall be ensured by operating in accordance with the data from the inlet and outlet continuous emissions monitoring system. The sulfur content of the coal shall be ensured by utilizing the "as received" coal analytical data or onsite sampling and analysis.

The proposed emission limitation meets the letter and intent of the WEPCO regulations. Also, this condition comports with EPA's "federal enforceability" guidance because it is enforceable both as a matter of law and as a practical matter; simply put, this condition obviates the possibility of an increase in actual emissions attributable to petroleum coke. Moreover, this proposal comports with good environmental policy. As shown in Figures 1 and 2, under the proposed permit condition, co-firing petroleum coke will be subject to lower emissions limitations than the limitations applicable when utilizing only coal. These graphs compare the emission limits and reduction percentages currently applicable to coal firing and proposed for petroleum coke co-firing. With the proposed permit condition, co-firing petroleum coke will not require PSD analysis pursuant to Rules 62-212.400 and 62.212.200(2)(d), F.A.C.

2.2 SULFURIC ACID MIST

The trial test values for sulfuric acid mist were a direct result of an associated increase in SO₂ emissions. Table 4 presents a comparison of the SO₂ and SO₃ emissions between the baseline tests and the co-firing test. The ratios of the blend to baseline test results are 1.78 and 1.70 for SO₂ and SO₃ emissions, respectively. This indicates that the SO₃ increase was in the relatively same proportion for both SO₃ and SO₂ (actually slightly greater for SO₂). In addition, the amount

5 of SO₂ removal for both the baseline test and blend test was almost identical at about 73 percent. The proposed SO₂ emission limit, if implemented during the test burn, would have ensured lower SO₂ emissions and concomitantly lower SO₃ emissions that would ensure no significant increase in the emission rates for both pollutants. Overall reduction in SO₂ emissions would have likely been 20 to 30 percent higher. For these reasons, no condition for sulfuric acid mist should be required.

2.3 CARBON MONOXIDE

The CO emissions during the baseline tests were lower than those observed during the blend tests. Since there was no attempt to control CO emissions during the co-firing tests, the combustion conditions were not "fine tuned" to optimize combustion of the petroleum coke and coal blend. Many factors, such as the grindability of the petroleum coke/coal blend and combustion controls (e.g., oxygen concentrations, NO_x control systems, load, etc.) can significantly influence CO concentrations. Data from other petroleum coke/coal co-firing test burns indicate no changes in CO emission rates. In addition, a review of the last several months of CO data from the SJRPP indicates CO values in the range reported for the co-firing test burn. For these reasons, SJRPP proposes to optimize combustion of co-firing petroleum coke and coal to ensure no net increase in emissions. A condition is proposed that has been issued in other Department permits approving co-firing of petroleum coke and coal:

- 6
- (a) The applicant shall maintain and submit to the Department on an annual basis for a period of 5 years from the date the unit is co-fired with petroleum coke, information demonstrating that the co-firing did not result in significant emission increases of CO. The CO emissions shall be based on test results using EPA Method 10.

SJRPP UNIT 1
TEST BURN
PETROLEUM COKE/BITUMINOUS COAL
ANALYTICAL RESULTS

BULLET #5

A) BLEND A - COMPOSITE - 8/9, 8/10, 8/11, 8/12, 8/13 (Analyses in ug/g)

DATE	S	N	Cr	Pb	Hg	Ni	Be	V	Zn
COMPOSITE BLEND A	1.05	1.42	8	3	0.05	33	0.5	220	12

B) BLEND B - COMPOSITE - 8/14, 8/15, 8/16, 8/17, 8/18, 8/19 (Analyses in ug/g)

DATE	S	N	Cr	Pb	Hg	Ni	Be	V	Zn
COMPOSITE BLEND B	1.62	1.50	12	7	0.05	62	1.3	400	18

PETITION FOR ADMINISTRATIVE HEARING

May 28, 1996

The following petition for administrative hearing is submitted pursuant to specifications published in the Notice of Intent to Issue a Permit published in the May 6, 1996 Florida Times Union.

Petitioner:

Sierra Club, Northeast Florida
Janet L. Stanko
3417 Hermitage Road E.
Jacksonville, Florida 32277
Phone: 904-743-0565

Applicant:

Jacksonville Electric Authority
21 West Church Street
Jacksonville, Florida 32202-3139
Duval County
Amendment of PSD-010

How notification was received: Legal notice published in the May 6, 1996 Florida Times Union.

Statement of how the petitioner's substantial interests are affected by the Department's proposed approval of permit amendment:

- As residents of the surrounding area in close proximity to St. Johns River Power Park, we are concerned about any potentially detrimental effects from additional air emissions from burning of petroleum coke.
- We wish to ensure that transportation, handling and storage of petroleum coke is done in a manner that does not pose significant risk to the public.

Statement of material facts disputed by the petitioner:

ATTACHMENT 1:

1. (Project Description, Paragraph 2) States that approval "is being sought to use up to 20 percent (heat input basis) of petroleum coke with coal". The Legal notice states 20 % coke by weight. Clarification is needed on the difference between the two bases for coke blending.
2. Same paragraph states that "There will be no substantive changes made in the fuel handling facilities...to accommodate co-firing of petroleum coke". Would it be reasonable to consider special handling procedures to ensure safety of employees and the public? How will petroleum coke be transported and stored?
3. (Trial Burn Test Results, Paragraph 2) This narrative summary describing test results states "The emission rates of sulfur dioxide, sulfuric acid mist, and CO were lower in the baseline tests (using coal only) than in the tests performed while the unit was co-firing petroleum coke and coal". The permit amendment requires no increase in emissions of sulfur dioxide, sulfuric acid, and CO as a result of the operational changes.
4. (Sulfuric Acid Mist, Page 5) The statement "the amount of SO₂ removal for ...the blend test was... about 73%". The minimum sulfur dioxide removal efficiency required in the permit is 76% for the blend. Thus it appears that the minimum efficiency requirement is not being met.
5. (Petroleum/Bituminous Coal Analytical Results table) The maximum sulfur content of the blend has been referenced as 4%. However the test burn was conducted using a blends that were only 1.05% and 1.62%, respectively, well under half the maximum allowable sulfur content of the blend. The previous two bullets indicate that the prospective standards were not met with these relatively low sulfur blends, so it implies that a 4% blend would likely greatly exceed the standards.
6. (Carbon Monoxide Section (a)): The applicant is required to "submit to the Department on an annual basis for a period of 5 years ... information demonstrating that the co-firing did not result in significant emission increases of CO". Annual reporting seems inadequate considering that the test burn results exceeded the baseline results, as described in the third bullet. Weekly reporting is recommended.

Statement of precisely the action the petitioner wants the Department to take :

We believe, if permit application information has been correctly interpreted by us, that Jacksonville Electric Authority has not met the requirements outlined by the Department regarding no increase in sulfur dioxide, carbon monoxide, and sulfuric acid. In addition, the required 76% sulfur dioxide removal efficiency has not been met.

The petitioner requests an administrative hearing to address the above issues and questions with Jacksonville Electric Authority and the Department of Environmental Protection. A preliminary meeting involving these same parties may provide the opportunity to clarify any misinterpretations we may have made regarding information in the application.