



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET  
ATLANTA, GEORGIA 30365

MAR 12 1982

REF: 4AW-AF

RECEIVED

MAR 19 1982

CERTIFIED MAIL RETURN RECEIPT REQUESTED

Mr. Dale A. Moehle  
Division Chief  
Jacksonville Electric Authority  
P.O. Box 53015  
Jacksonville, Florida 32201

DIVISION CHIEF  
NEW FOSSIL GENERATION  
EXPANSION PROJECTS

Re: PSD-FL-010

Dear Mr. Moehle:

Review of your May 28, 1980 application to construct a 1200 MW electric generating station (plus two (2) 127 MMBtu auxiliary boilers) in Duval County, Florida has been completed. The construction is subject to rules for the Prevention of Significant Air Quality Deterioration (PSD) contained in 40 CFR §52.21. The U. S. Environmental Protection Agency performed the preliminary determination concerning the proposed construction and published a request for public comment on October 29, 1981. The only comments received were submitted by your company.

The Environmental Protection Agency has determined that the construction as described in the application meets all the applicable requirements of 40 CFR §52.21. Accordingly, enclosed with this letter is a Permit to Construct - Part I Specific Conditions and Part II General Conditions. This authority to construct is based solely on the requirements of 40 CFR §52.21, the federal regulations governing significant deterioration of air quality.


It does not authorize construction for the purposes of the NPDES program. Under that program, new source facilities may not commence construction prior to final agency action on the NPDES permit (40 CFR, §122.66). Your proposed facility has been determined to be a new source under Section 306 of the Clean Water Act, and environmental review under the National Environmental Policy Act is proceeding. Therefore, from an EPA permitting standpoint, you may not begin construction until after completion of the NEPA review process and final issuance of the Final Environmental Impact Statement (FEIS) and NPDES permit.

Please be advised that a violation of any condition issued as part of this approval, as well as any construction which proceeds in material variance with information submitted in your application, will be subject to enforcement action.

This final permitting decision is subject to appeal under 40 CFR §124.19 by petitioning the Administrator of the U. S. EPA within 30 days after receipt of this letter of approval to construct. The petitioner must submit a statement of reasons for the appeal and the Administrator must decide on the petition within a reasonable time period. If the petition is denied, the permit becomes immediately effective. The petitioner may then seek judicial review.

Authority to modify this facility will take effect on the date specified in the permit. The complete analysis which justifies this approval has been fully documented for future reference, if necessary. Any questions concerning this approval may be directed to Dr. Kent Williams, Chief, New Source Review Section, Air and Waste Management Division at (404) 881-4552.

Sincerely yours,

  
Charles R. Jeter  
Regional Administrator

Enclosures



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET  
ATLANTA, GEORGIA 30365

PSD-FL-010

PERMIT TO CONSTRUCT UNDER THE RULES FOR THE  
PREVENTION OF SIGNIFICANT DETERIORATION OF AIR QUALITY

Pursuant to and in accordance with the provisions of Part C, Subpart 1 of the Clean Air Act, as amended, 42 U.S.C. §7470 et seq., and the regulations promulgated thereunder at 40 C.F.R. §52.21, as amended at 45 Fed. Reg. 52676, 52735-41 (August 7, 1980),

Jacksonville Electric Authority  
P.O. Box 53015  
233 W. Duval  
Jacksonville, Florida 32201

is hereby authorized to construct/modify a stationary source at the following location:

St. Johns River Power Park  
Duval County, Florida

UIM Coordinates: 446.9 Km East - 3366.3 Km North

Upon completion of this authorized construction and commencement of operation/production, this stationary source shall be operated in accordance with the emission limitations, sampling requirements, monitoring requirements and other conditions set forth in the attached Specific Conditions (Part I) and General Conditions (Part II).

MAR 12 1982

This permit shall become effective on \_\_\_\_\_

If construction does not commence within 18 months after the effective date of this permit, or if construction is discontinued for a period of 18 months or more, or if construction is not completed within a reasonable time this permit shall expire and authorization to construct shall become invalid.

This authorization to construct/modify shall not relieve the owner or operator of the responsibility to comply fully with all applicable provisions of Federal, State, and Local law.

MAR 12 1982

Date Signed

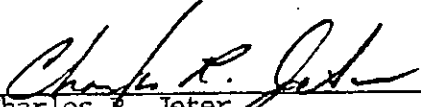
  
Charles R. Jeter  
Regional Administrator

Table 1. EMISSIONS SUMMARY OF THE PROPOSED JEA  
POWER GENERATING PLANT

Pollutant	Potential Emissions <sup>a</sup> (Tons per Year)	PSD Significance Levels (Tons per Year)
SO <sub>2</sub>	41,800	40
PM	1670	25
NO <sub>x</sub>	32,700	40
CO	2,870	100
VOC	28 <sup>b</sup>	40

<sup>a</sup> Potential emissions calculations are based on a continuous maximum operating capacity.

<sup>b</sup> Applicant estimated 0.0005 lb VOC/MMBtu (27 tons/yr) average emissions rate from the boilers.

Table 2. Fugitive Emissions and Control Summary

Process	Type	Amount	Factor	Control	Technique	Emissions (Grams/Sec)
Ship Unloading	Crab Bucket	10,000 Tons/Day	0.4 lb/Ton <sup>a</sup>	(99.9%) <sup>b</sup>	Dry Collection on Hoppers	0.06
Ship Unloading Transfer Points	6 Points	10,000 Tons/Day	0.2 lb/Ton <sup>c</sup>	(99.9%) <sup>b</sup>	Dry Collection	0.06
Ship Unloading Transfer Points	3 Points	10,000 Tons/Day	0.2 lb/Ton <sup>c</sup>	(97%) <sup>b</sup>	Wet Suppression	0.95
Ship Unloading Facility Train	Loading Shed	10,000 Tons/Day	0.4 lb/Ton <sup>a</sup>	(99.9%) <sup>b</sup>	Dry Collection	0.02
Ship Unloading Facility Coal Surge Pile	Active	30 Acres	13 lb/Acre/Day <sup>a</sup>	(90%) <sup>a</sup>	Wetting Agent	0.20
Rail Car Unloading	Rotary Dumper	10,000 Tons/Day	0.4 lb/Ton <sup>a</sup>	(97%) <sup>b</sup>	Wet Suppression	0.63
Coal Handling Transfer Points	2 Points	10,000 Tons/Day	0.2 lb/Ton <sup>c</sup>	(99.9%) <sup>b</sup>	Dry Collection	0.02
Coal Handling Transfer Points	2 Points	3,300 Tons/Day	0.2 lb/Ton <sup>c</sup>	(99.9%) <sup>b</sup>	Dry Collection	0.01
Coal Handling Transfer Points	6 Points	3,300 Tons/Day	0.2 lb/Ton <sup>c</sup>	(97%) <sup>b</sup>	Wet Suppression	0.62
Coal Handling Transfer Points	7 Points	5,000 Tons/Day	0.2 lb/Ton <sup>c</sup>	(99.9%) <sup>b</sup>	Dry Collection	0.04
Coal Storage at Plant	Active	8 Acres	13 lb/Acre/Day <sup>a</sup>	(90%) <sup>a</sup>	Wetting Agent	0.05
Coal Storage at Plant	2 Inactive Piles	15 Acres	3.5 lb/Acre/Day <sup>a</sup>	(99%) <sup>a</sup>	Wetting Agent	0.01
Limestone Unloading	Rail Dumper	750 Tons/Day	0.4 lb/Ton <sup>a</sup>	(97%) <sup>b</sup>	Wet Suppression	0.05
Limestone Transfer	1 Point	750 Tons/Day	0.2 lb/Ton <sup>a</sup>	(99.9%) <sup>b</sup>	Dry Collection	0.001
Cooling Towers	Drift	2 x 243,500 gal/min	51,450 ppm solids (maximum) (40% < 50 microns diameter)	99.999%	Drift Eliminators	12.66
Solid Waste Disposal Area	Active	10 Acres	13 lb/Acre/Day <sup>a</sup>	(90%) <sup>a</sup>	Wetting Agent	0.07

<sup>a</sup> Fedco, 1977

<sup>b</sup> Stoughton, 1980

<sup>c</sup> USEPA, 1979

Table 3. NAAQS ANALYSIS

Pollutant/ averaging time	Monitored <sup>a</sup> background concentration (ug/m <sup>3</sup> )	Maximum <sup>b</sup> projected concentration (ug/m <sup>3</sup> )	Total concentration (ug/m <sup>3</sup> )	NAAQS (ug/m <sup>3</sup> )
<b>SO<sub>2</sub></b>				
3-hour	90	987	1077	1,300
24-hour	21	195	216	355
annual	4	13	17	30
<b>PM</b>				
24-hour	50	30	80	150
annual	27	3	30	75
<b>NO<sub>2</sub></b>				
annual	10	10	20	100 <sup>e</sup>
<b>CO</b>				
1-hour	-- <sup>c</sup> 5200	108 <sup>d</sup>	5308	10,000
3-hour	-- <sup>c</sup> 4500	<100 <sup>d</sup>	4600	20,000

<sup>a</sup>These values do not include contributions from the JEA Northside Plant and the St. Regis Paper Co.

<sup>b</sup>These concentrations include contributions from the proposed JEA steam electric generating station, the existing JEA Northside Plant and the existing St. Regis Paper Co.

<sup>c</sup>These values were estimated from the projected SO<sub>2</sub> ambient air concentrations based on worst-case operating load and meteorological conditions.

Table 4. CLASS II INCREMENT ANALYSIS

Pollutant/ averaging time	Maximum <sup>a</sup> Class II increment consumption ( $\mu\text{g}/\text{m}^3$ )	PSC Class II increment ( $\mu\text{g}/\text{m}^3$ )
SO <sub>2</sub>		
3-hour	346	512
24-hour	44	31
annual	2	20
PM		
24-hour	10	37
annual	2	19

<sup>a</sup>These values include contributions from all increment consuming sources impacting the ambient air quality within 50 kilometers of the proposed new source, including the proposed JEA steam electric generating station. Five years of meteorological data was used in the analysis; therefore, these values represent the highest, second highest concentrations.

Table 5. CLASS I INCREMENT ANALYSIS

Pollutant/ averaging time	Maximum <sup>a</sup> Class I increment consumption (ug/m <sup>3</sup> )	PSD Class I increment (ug/m <sup>3</sup> )
SO <sub>2</sub>		
3-hour	19	25
24-hour	4	5
annual	<1	2
PM		
24-hour	<1	5
annual	<1	10

<sup>a</sup>These values include contributions from all increment consuming sources within 100 kilometers of the Class I area including the proposed JEA electric steam generating station. Five years of meteorological data was used in the analysis; therefore, these values represent the highest, second highest concentrations.



Table 6. ALLOWABLE EMISSION LIMITS  
(lb/hour; lb/MMBtu)

Emission Unit	SO <sub>2</sub>	NO <sub>x</sub>	PM	Opacity (Percent)
1. Steam generating boiler no. 1 (6,144 MMBtu/hr maximum heat input) (30 day rolling average)	4,669; 0.76	3,686; 0.6	184; 0.03	20
2. Steam generating boiler no. 2 (6,144 MMBtu/hr maximum heat input) (30 day rolling average)	4,669; 0.76	3,686; 0.6	184; 0.03	20
3. Auxiliary boilers (254 MMBtu/hr maximum heat input total)	203; 0.8		25.0; 0.1	20
4. Ship unloading (Grab Bucket)			0.32	10
5. Ship unloading transfer points (6 dry collection points)			0.1 (ea.)	10
6. Ship unloading (3 wet suppression points)			7.5	10
7. Ship unloading facility train (loading shed)			0.2	10
8. Ship unloading facility coal storage pile (30 acres)			1.6	10

**Table 6. ALLOWABLE EMISSION LIMITS**  
**(lb/hour; lb/MMBtu)**  
**(continued)**

Emission Unit	SO <sub>2</sub>	NO <sub>x</sub>	PM	Opacity (Percent)
9. Rail car unloading (Rotary Dumper)			5	10
10. Coal handling transfer points (6 wet suppression points)			5 (each)	10
11. Coal handling transfer points (11 dry collection)			0.1 (each)	10
12. Coal storage at plant (8 acres active)			0.4	10
13. Coal storage at plant (2-15 acre inactive piles)			0.1	10
14. Limestone unloading (rail dumper)			0.1	10
15. Limestone transfer points			0.4 (each)	10
16. Cooling towers			.67 (each tower)	N/A

Final Determination  
Jacksonville Electric Authority  
PSD-FL-010

I. Applicant

Jacksonville Electric Authority  
P.O. Box 53015  
233 W. Duval Street  
Jacksonville, Florida 32201

II. Location

The Jacksonville Electric Authority (JEA), in cooperation with Florida Power and Light Company (FPL), proposes to construct a new power generating facility consisting of two 600 megawatt (MW) coal-fired steam generating units in Duval County, Florida. The construction site, known as the St. Johns River Power Park, is located adjacent to the existing JEA Northside Generating Station, approximately 15 kilometers northeast of downtown Jacksonville, Florida. The UTM coordinates of the proposed source are 446.9 kilometers east and 3366.3 kilometers north.

III. Project Description

The applicant proposes to construct a new power generating station consisting of two 600 MW turbine-generator units powered by two pulverized coal-fired steam generators (boilers), two auxiliary boilers, and coal, limestone, and fly ash handling facilities. The two proposed steam generators will fire a maximum of 6144 million Btu's per hour (MMBtu/hr) each or approximately 292.6 tons per hour each of a medium bituminous coal having a minimum higher heating value of 10,500 Btu/lb. Of the coals under consideration, the maximum sulfur content coal has 4.0 percent sulfur by weight.

Two 127 MMBtu/hr auxiliary boilers will be utilized to provide start-up and shutdown capability for the two turbine-generating units. The auxiliary boilers will be fired with No. 2 fuel oil having a maximum sulfur content of .76 percent by weight (wt. %) and an approximate heating value of 19,500 Btu/lb.

The cooling system will consist of two counterflow natural draft cooling towers located at the north end of the plant.

The coal handling facility provides for water delivery of coal by ocean-going barge or ship to a marine terminal located on Blount Island, Florida where a 30-acre coal surge pile will be operated. The coal will be transferred from the marine terminal to the proposed plant site. The facility also will be capable of receiving direct rail car coal shipments. The coal handling equipment at the proposed plant site includes a rotary car dumper, yard area coal storage, transfer system, coal silos, and tripper floor distribution system. On the average, less than 10,000 tons per day of coal will be unloaded at the proposed source.

Limestone will be delivered to the proposed source by rail and stored in an open pile or day storage silos.

#### IV. Source Impact Analysis

PSD regulations amended in the August 7, 1980, Federal Register require that a new fossil fuel-fired steam electric plant with potential emissions of 100 or more tons per year of any pollutant regulated under the Act undergo a PSD review for each pollutant which results in a significant net increase in emissions. Table 1 presents an emissions summary for the proposed new source. The proposed new source has potential emission increases of sulfur dioxide (SO<sub>2</sub>) and other pollutants of greater than 100 tons per year and significant increases in particulate matter (PM), nitrogen oxides (NO<sub>x</sub>), carbon monoxide (CO) and SO<sub>2</sub>. Therefore, a PSD review is required for SO<sub>2</sub>, NO<sub>x</sub>, PM, and CO. A full PSD review consists of the following:

- A. A demonstration that Best Available Control Technology (BACT) is being applied to all facilities emitting SO<sub>2</sub>, PM, NO<sub>x</sub>, and CO;
- B. An analysis of existing air quality;
- C. A demonstration that the source will not cause or contribute to any NAAQS violations;

Jacksonville Electric

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- D. A PSD increment analysis;
- E. A growth analysis;
- F. An analysis of impacts on soils, vegetation, and visibility; and
- G. A Class I area analysis

The proposed new source will be located in an area considered attainment for all pollutants under review. A non-attainment area for PM is located in the vicinity of Jacksonville, Florida, approximately 9 kilometers from the proposed new source at its closest point. Also Duval County is nonattainment for ozone. The source however, has insignificant emissions of VOC and therefore is not subject to review for this pollutant.

The JEA's application was considered complete prior to August 7, 1980. It should be noted that Table 1 in the Preliminary Determination and the Public Notice misrepresented emissions estimates for SO<sub>2</sub>, NO<sub>x</sub>, CO, and PM (pounds per hour in place of tons per year). Table 1 of this determination correctly summarizes these emissions rates. A notice of correction was published for public information.

A preliminary determination and public notice were made previously regarding the proposed construction. Subsequent design modifications to the plant necessitated the issuance of revised preliminary determination. Where necessary, additional analysis of emissions, controls, etc., were provided by the applicant. This final determination correctly reflects the design of the proposed power generating station.

A. Best Available Control Technology (BACT)

Paragraph (i)(9) of the August 7, 1980 PSD regulations exempts this source from paragraph (j) of the regulations. Instead, paragraph (j) of the June 19, 1978 PSD regulations applies. Therefore, BACT must be applied to all emission units emitting SO<sub>2</sub>, PM, NO<sub>x</sub>, and CO because allowable emissions of these pollutants are greater than 50 tons per year.

Jacksonville Electric

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Sulfur Dioxide

BACT must be applied to the two proposed steam generators (boilers) and the auxiliary boiler to control SO<sub>2</sub> emissions.

The applicant proposes to install a lime/limestone flue gas desulfurization (FGD) system on each of the proposed steam generators as BACT for SO<sub>2</sub>. The SO<sub>2</sub> removal efficiency of single FGD system is 90 percent (.76 lb/MM Btu SO<sub>2</sub> emissions determined in a 30-day rolling average). The applicant will maintain a minimum 70 percent control efficiency consistent with the NSPS requirements for steam generating electric plants (40 CFR 60 Subpart Da) when emission rates are below 0.6 lbs/MMBtu.

Two other emissions control systems, a lime/limestone FGD with a 95 percent SO<sub>2</sub> removal efficiency and a lime spray drying FGD with a 90 percent SO<sub>2</sub> removal efficiency, were examined. The incremental cost of the higher efficiency lime/limestone FGD system was determined not to be cost effective with respect to the resulting improvement in air quality. The lime spray drying FGD system also was rejected on the basis of economics and the existence of unfavorable operating experience. The New Source Performance Standard (NSPS) for electric utility steam generation was promulgated June 11, 1979. The NSPS limits SO<sub>2</sub> emissions to 10 percent of potential SO<sub>2</sub> emissions and a maximum emission rate of 1.2 lb/MMBtu heat input except when the emissions are less than 0.6 lb/MMBtu. At the latter emission rate, a minimum of 70 percent reduction (30 percent of potential emitted) in potential SO<sub>2</sub> emissions is required. The percentage reduction in potential SO<sub>2</sub> emissions is dependent upon the sulfur content of the coal. The proposed SO<sub>2</sub> control system meets all requirements of the NSPS for electric utility steam generation stations for the control of SO<sub>2</sub> emissions. A continuous monitor for sulfur dioxide emissions will be installed in the flue of both steam generators in accordance with 40 CFR 60.47a. The above emissions control system represents BACT for SO<sub>2</sub> emissions from the two proposed steam generators.

Jacksonville Electric

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Auxiliary boilers will be fired with a maximum .76 wt. % sulfur fuel oil. The SO<sub>2</sub> emissions from the auxiliary boilers are small when compared to those of the main units. BACT for SO<sub>2</sub> emissions from the auxiliary boilers has been determined to be the firing of a maximum .76 wt.

#### Particulate Matter

Application of BACT is required for the emissions of PM from the two steam generators (boilers), auxiliary boilers and coal, fly ash, and limestone handling facilities.

BACT for PM emissions from the two steam generators has been determined to be the installation of an electrostatic precipitator with a PM removal efficiency of 99.78 percent (.03 lb/MMBtu). Two alternative systems, an electrostatic precipitator with a PM removal efficiency of 99.85 percent (.02 lb/MMBtu) and a fabric filter with a PM removal efficiency of 99.85 percent (.02 lb/MMBtu), were examined in the BACT analysis. The higher efficiency electrostatic precipitator was determined not to be cost effective with respect to the resulting improvement in ambient quality. The fabric filter system also was rejected on the basis of economics and the existence of unfavorable operating experience. The NSPS for electric utility steam generation limits PM emissions to .03 lb/MMBtu heat input. The proposed PM emissions control system meets the NSPS requirements for control of PM emissions. A continuous opacity monitor will be installed in the flue of both steam generators in accordance with 40 CFR 60.47a. The above system has been determined to be BACT for PM emissions from the two steam generators.

Control and collection of particulate matter emissions from the coal handling system will be accomplished by several different methods including totally enclosed conveying systems, water spray dust collection systems, and dust collection systems utilizing fabric filters.

Control of fugitive dust from limestone handling will be accomplished by the use of totally enclosed conveyors, fabric filter dust collectors, and wet suppression systems.

Jacksonville Electric

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Fugitive fly ash emissions will be controlled at all transfer and discharge locations by fabric filters. The handling system utilized to transfer fly ash to and from ash storage silos is enclosed and exhausted to fabric filters. Transfer from silo storage will be through gravity feed chutes to covered trucks for disposal in landfills or for sale.

Fugitive dissolved and suspended particulate emissions from the cooling tower will be controlled by high efficiency drift eliminators. Table 2 presents a fugitive emissions and control summary.

The above emission control systems represents BACT for fugitive emissions.

BACT for PM emissions from the auxiliary boilers has been determined to be the firing of No. 2 fuel oil with a maximum ash content of 0.01 wt. %. Therefore, no air pollution control equipment for the purpose of PM reduction is warranted.

#### Nitrogen Oxides and Carbon Monoxide

BACT must be applied to the two steam generators and the auxiliary boilers to control NO<sub>x</sub> and CO emissions. Emissions of NO<sub>x</sub> and CO resulting from the combustion of coal is dependent on boiler design, the amount of excess air in the combustion chamber, flame temperature, burner spacing and burner design.

The applicant proposes to use combustion controls and modern boiler design for a maximum NO<sub>x</sub> emission rate of 0.6 lb/MMBtu and to minimize CO emissions.

#### B. Analysis of Existing Air Quality

Paragraph (i)(9) of the August 7, 1980 PSD regulations exempts this source from paragraph (m)(1) of the regulations. Instead, paragraph (n) of the June 19, 1978 PSD regulations applies. Therefore, an analysis of existing air quality for SO<sub>2</sub>, PM, NO<sub>x</sub>, and CO is required as deemed necessary by the Administrator because the allowable emissions increases of these pollutants are greater than 50 tons per year.



An air quality analysis, using meteorological data from the on site monitoring program, determined the maximum pollutant concentrations at the monitoring site when the contributions from large existing sources of pollution were negligible. The sources were the JEA Northside plant and the St. Regis Paper Company. These maximum background pollutant concentrations were determined to be representative of the existing air quality in the region of the proposed source. All monitoring, data collection procedures, and modeling analyses were conducted using EPA-approved techniques. The monitoring data was utilized in the NAAQS analysis in projecting the maximum ambient air concentrations of each pollutant under review. The results are shown in Table 3.

C. NAAQS Analysis

The EPA-approved dispersion models CRSTER (modified for use with multiple point sources of emissions) and ISCST were utilized to assess the total ambient air concentrations of SO<sub>2</sub>, PM, NO<sub>x</sub> and CO within 50 km of the proposed plant site. Meteorological data for the years 1970 - 1974 were obtained from weather stations located at Jacksonville International Airport (surface data) and Waycross, Georgia (upper air observations). The meteorological data was determined to be representative of the weather conditions at the proposed construction site.

An emissions inventory of all increment consuming and other sources within 50 km of the proposed plant, and new sources within 100 km of the nearest Class I area was compiled. For the purpose of the modeling analysis, the main steam generating units were considered to operate continuously. This is a conservative assumption because the plant capability factor is expected to be no greater than 74 percent.

An initial modeling analysis determined that the 1973 meteorological data represented the "worst-case" year assuming a 100 percent plant load. Additional modeling at 75 percent and 50 percent load showed that a 100 percent continuous operating load resulted in the highest ground level concentrations. Therefore, the more detailed analyses were conducted using the emission parameters for the 100 percent load level. All modeling was conducted using EPA-approved modeling techniques. All stacks were modeled at Good Engineering Practice (GEP) stack height. No downwash is expected to occur as a result of turbulent building wake effects because all stacks meet GEP stack height.

The maximum ambient air concentrations for the pollutants under review were determined by modeling emissions from the proposed new source along with emissions from the JEA Northside plant and ST. Regis Paper Company. The maximum concentrations obtained from the modeling analysis were added to the maximum background concentrations (which did not include contributions from the St. Regis Paper Company or the JEA Northside plant) to obtain the maximum ambient air concentrations of each pollutant under review. This analysis is considered conservative because both the maximum monitored background and modeled concentration were not located at the same geographical point. The results of the NAAQS analysis are presented in Table 3.

A modeling analysis was conducted to determine the impact of PM emissions (including fugitive PM emissions) from the proposed new source on the PM non-attainment area located in downtown Jacksonville, Florida. The maximum impacts were projected to be below  $1 \text{ ug/m}^3$  on an annual average and  $5 \text{ ug/m}^3$  on a 24-hr average. These values are below the PSD ambient significance levels as defined in the June 19, 1978 PSD regulations, 43 FR 26358. Therefore, the proposed new source will not significantly impact the PM non-attainment area, in compliance with the August 7, 1980 PSD regulations paragraph (f)(4)(a).

The VOC emissions from the proposed new source are not expected to impact the ozone non-attainment area located near Jacksonville, Florida. Presently, no EPA-approved dispersion models exist with which to model ozone emissions (of which VOC is a precursor). The VOC emission levels from the proposed new source are small and not expected to significantly impact the ozone non-attainment area under any meteorological conditions.

D. Increment Analysis

The models and meteorology for determination of PM and  $\text{SO}_2$  increment consumption were the same as those discussed in the NAAQS analysis (above). All increment consuming sources potentially affecting the ambient air quality in the area of the proposed new source were included in the modeling analysis. No violations of the Class II increment standards were predicted. The results are presented in Table 4.

E. Growth Analysis

The proposed new source is expected to directly employ about 400 people. Most of these workers will come from the local work force. No air quality impacts resulting from industrial, commercial, or residential growth associated with the proposed new source are expected.

F. Soils, Vegetation and Visibility Analysis

No soils vegetation or visibility impacts are expected to occur due to emissions from the proposed new source because of the relatively small increase in ambient pollutant concentrations.

G. Class I Area Analysis

The nearest Class I area to the proposed new source is the Okefenokee Swamp whose borders are located between 61 and 73 kilometers in a northwesterly direction. The models and meteorology used in the increment and NAAQS analyses were utilized to predict the maximum SO<sub>2</sub> and PM increment consumption at the borders of the Class I area. All increment consuming sources potentially impacting the Class I area were included in the modeling analysis. Five years of meteorological data were modeled. No violations of the Class I increments were predicted. The results are presented in Table 5.

No impacts on Class I area soils, vegetation or visibility are expected due to the low level of ambient air concentrations projected in the Class I area for any pollutant under review. The results of this analysis have been forwarded to the Federal Land Managers responsible for this Class I area for comment.

V. Conclusion

EPA proposes a final determination of approval with conditions for construction of the steam - electric generating station proposed by the Jacksonville Electric Authority. This final determination is based on the application received May 28, 1980 and additional information submittals dated July 8, 1980, November 26, 1980, March 6, 1981, July 30, 1981, July 31, 1981, September 8, 1981, September 21, 1981 and October 21, 1981. The application was determined to be complete as of July 9, 1980.

Approval to construct is contingent upon the following conditions;

1. The proposed steam generating station will be constructed and operated in accordance with the capacities and specifications contained in the application.
2. Emissions will not exceed the allowable emissions listed in Table 6 for SO<sub>2</sub>, PM, and NO<sub>x</sub>.
3. Compliance with the allowable emission limits for emission point 1 and 2, in Table 6 will be demonstrated with performance tests conducted in accordance with the provisions of 40 CFR 60.46a, 48a and 49a, including applicable test methods, sampling procedures, sample volumes, sampling periods, etc. Compliance with the emission limitations of all emission points in Table 6 will be in accordance with 40 CFR 60, Appendix A; Method 5, Determination of Particulate Emissions from Stationary Sources; Method 7, Determination of Nitrogen Oxide Emissions from Stationary Sources; Method 9, Determination of the Opacity of Emissions from Stationary Sources.

Emission points 3 thru 13 of Table 6 are exempted from mass emission rate compliance tests unless opacity limits are exceeded or the Administrator (or his representative) otherwise determines that such performance testing is required. All facilities will operate within 10 percent of maximum operating capacity during performance testing.

4. The applicant will install and maintain a continuous monitoring and recording opacity meter, sulfur dioxide, nitrogen oxide and carbon monoxide analyzers for each steam generator (emissions units 1 and 2 Table 6) in accordance with the provisions of 40 CFR 60.47a.
5. Emission points 1 and 2 of Table 6 shall fire coal with an ash content not to exceed 18% and a sulfur content not to exceed 4% by weight. Coal sulfur content shall be determined and recorded in accordance with 40 CFR 60.47a.

Emission point 3 of Table 6 shall fire No. 2 fuel oil with a maximum sulfur content of .76 percent by weight and a maximum ash content of .01 percent by weight. Samples of all fuel oil fired in the boilers shall be taken and analyzed for sulfur and ash content. Accordingly, samples shall be taken of each fuel oil shipment received. Records of the analyses shall be recorded and kept for public inspection for a minimum of two years after the data is recorded.

6. The following requirements will be met to minimize fugitive emissions of particulate matter from the coal storage and handling facilities, the limestone storage and handling facilities, haul roads and general plant operations:
  - a. All conveyors and conveyor transfer points will be enclosed to preclude PM emissions (except those directly associated with the coal stacker/reclaimer for which enclosure is operationally infeasible).
  - b. Inactive coal storage piles will be shaped, compacted and oriented to minimize wind erosion.
  - c. Water sprays or chemical wetting agents and stabilizers will be applied to storage piles, handling equipment, etc., during dry periods and as necessary to all facilities to maintain an opacity of less than or equal to 10 percent.
  - d. Limestone handling will be from bottom dump rail car delivery with wet dust suppression, and open storage or day storage silos.
  - e. The fly ash handling system (including transfer and silo storage) will be totally enclosed and vented (including pneumatic system exhaust) through fabric filters.
7. The applicant will comply with all requirements and provisions of the New Source Performance Standard for electric utility steam generating units (40 CFR 60 Part Da). In addition, the applicant must comply with the provisions and the requirements of the attached General Conditions.

Jacksonville Electric

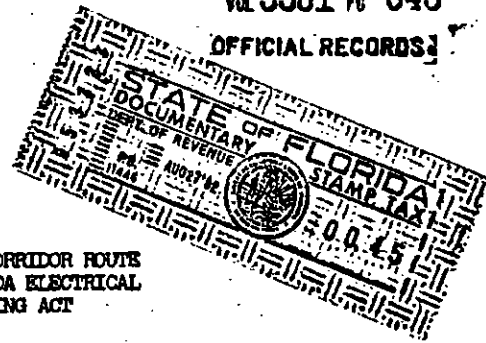
PSD-FL-010

8. As a requirement of this specific condition, the applicant will comply with all emissions limits and enforceable restrictions required by the State of Florida Department of Environmental Regulation which are more strict operating requirements and equipment specifications than the requirements of specific conditions 1-9 of this permit.
  
9. This PSD approval to construct shall be valid only in the event that the stacks at the Southside (Unit 1-5) and Kennedy (Units 8, 9, 10) plants are raised to 84 meters as presented in the ambient air quality analysis for this determination; or additional modeling of air quality impacts (considering federally enforceable system operating restrictions) is submitted which demonstrate that the NAAQS will not be violated at the lower stack height under valid worst case conditions. If such modeling is to be used to show compliance with NAAQS it should be submitted prior to construction of the new units at the St. Johns River Power Park.

Please record and return to  
Richard Brietmoser, P.E.  
Jacksonville Electric Authority  
233 West Duval Street  
Jacksonville, Florida 32202

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OFFICIAL RECORDS



NOTICE OF CERTIFIED CORRIDOR ROUTE  
PURSUANT TO THE FLORIDA ELECTRICAL  
POWER PLANT SITING ACT

This Notice of Certified Corridor Route Pursuant to the Florida Electrical Power Plant Siting Act is made and given this \_\_\_\_\_ day of August, 1982 by the Jacksonville Electric Authority, a body politic and corporate existing under the laws of the State of Florida, 233 West Duval Street, Jacksonville, Florida 32202 (the "Electric Utility").

RECITALS

1. The Florida Governor and Cabinet, sitting as the Siting Board pursuant to Part II, Chapter 403, Florida Statutes (the "Florida Electrical Power Plant Siting Act"), issued a Certification Order on June 29, 1982 authorizing the Electric Utility to construct and operate the proposed St. Johns River Power Park electrical power plant, including its associated facilities and its directly associated transmission lines, at a site in Duval County, Florida. The Certification Order has become final without appeal.

2. The Florida Electrical Power Plant Siting Act requires a notice of the route certified by the Siting Board to be recorded in the official records of each county through which the transmission line will pass.

NOW, THEREFORE, the Electric Utility hereby gives notice that the Siting Board has authorized the Electric Utility to construct and operate an electric transmission line directly associated with the proposed St. Johns River Power Park over a certified corridor route located as shown on the maps and aerial photographs attached hereto and made a part hereof. The certification of the above described corridor route will result in the acquisition of rights-of-way within the corridor route. This notice is given pursuant to and as required by state law and shall not constitute a lien, cloud or encumbrance on the real property described herein.

IN WITNESS WHEREOF, the Electric Utility has caused this Notice of Certified Corridor Route Pursuant to the Florida Electrical Plant Siting Act to be executed in its name the day and year first above written.

(Corporate Seal)

JACKSONVILLE ELECTRIC AUTHORITY,  
a body politic and corporate

By: Walter Williams, Jr.  
Walter Williams, Jr., Chairman

By: Royce Lyles  
Royce Lyles, Managing Director

STATE OF FLORIDA  
COUNTY OF DUVAL

The foregoing instrument was acknowledged before me this 29<sup>th</sup> day of August, 1982 by Walter Williams, Jr. and Royce Lyles, the Chairman and Managing Director, respectively, of the Jacksonville Electric Authority, a body politic and corporate, on behalf of the Jacksonville Electric Authority.

Lawrence P. [Signature]  
Notary Public State of Florida at Large.  
My commission expires:

NOTARY PUBLIC STATE OF FLORIDA AT LARGE  
MY COMMISSION EXPIRES JAN. 30 1983  
GROSS BORN GENERAL BLD. JACKSONVILLE

*File*  
*Chy J. S. H.*