

Jeb Bush
Governor

Department of Environmental Protection

Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Colleen M. Castille
Secretary

March 4, 2005

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. James M. Chansler
V. P. Operations and Maintenance
JEA
St. Johns River Power Park
21 West Church Street
Jacksonville, Florida 32202

Re: DEP File No. 0310045-014-AC, PSD-FL-010
St. Johns River Power Park

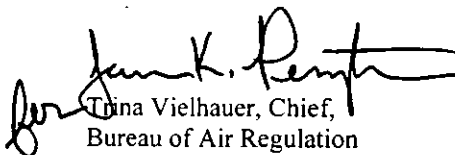
Dear Mr. Chansler:

Enclosed is one copy of the Draft air construction permit for the St. Johns River Power Park located at 11201 New Berlin Road, Jacksonville, Duval County. The Technical Evaluation and Preliminary Determination, the Department's Intent to Issue Air Construction Permit and the Public Notice of Intent to Issue Air Construction Permit are also included.

The Public Notice of Intent to Issue Air Construction Permit must be published one time only, as soon as possible, in the legal advertisement section of a newspaper of general circulation in the area affected, pursuant to the requirements Chapter 50, Florida Statutes. Proof of publication, i.e., newspaper affidavit, must be provided to the Department's Bureau of Air Regulation office within seven days of publication. Failure to publish the notice and provide proof of publication may result in the denial of the permit.

Please submit any written comments you wish to have considered concerning the Department's proposed action to J. K. Pennington, P.E., North Permitting Section at the above letterhead address. If you have any other questions, please contact M. P. Halpin, P.E. at 850/921-9519.

Sincerely,


Trina Vielhauer, Chief,
Bureau of Air Regulation

TV/mph

Enclosures

"More Protection, Less Process"

Printed on recycled paper.

In the Matter of an
Application for Permit by:

Mr. James M. Chansler, VP Operations and Maintenance
JEA
21 West Church Street
Jacksonville, FL 32202

DEP File No. 0310045-014-AC
St. Johns River Power Park
Duval County

INTENT TO ISSUE AIR CONSTRUCTION PERMIT

The Department of Environmental Protection (Department) gives notice of its intent to issue a permit under the requirements for the Prevention of Significant Deterioration of Air Quality (copy of Draft Air Construction Permit attached) for the proposed project, detailed in the application specified above, for the reasons stated below.

The applicant, JEA, applied on February 2, 2005 to the Department for an Air Construction permit to increase the amount of petroleum coke (petcoke) being fired from 20% to 30% on a weight basis at the existing St. Johns River Power Park, located at 11201 New Berlin Road, Jacksonville in Duval County.

The Department has permitting jurisdiction under the provisions of Chapter 403, Florida Statutes (F.S.), and Florida Administrative Code (F.A.C.) Chapters 62-4, 62-210, and 62-212. The above actions are not exempt from permitting procedures. The Department has determined that an air construction permit is required to conduct the work.

The Department intends to issue this Air Construction permit based on the belief that reasonable assurances have been provided to indicate that operation of these emission units will not adversely impact air quality, and the emission units will comply with all appropriate provisions of Chapters 62-4, 62-204, 62-210, 62-212, 62-296, and 62-297, F.A.C. and 40 CFR 52.21.

Pursuant to Section 403.815, F.S., and Rule 62-110.106(7)(a)1., F.A.C., you (the applicant) are required to publish at your own expense the enclosed "Public Notice of Intent to Issue Air Construction Permit." The notice shall be published one time only in the legal advertisement section of a newspaper of general circulation in the area affected. For the purpose of these rules, "publication in a newspaper of general circulation in the area affected" means publication in a newspaper meeting the requirements of Sections 50.011 and 50.031, F.S., in the county where the activity is to take place. Where there is more than one newspaper of general circulation in the county, the newspaper used must be one with significant circulation in the area that may be affected by the permit. If you are uncertain that a newspaper meets these requirements, please contact the Department at the address or telephone number listed below. The applicant shall provide proof of publication to the Department's Bureau of Air Regulation, at 2600 Blair Stone Road, Mail Station #5505, Tallahassee, Florida 32399-2400 (Telephone: 850/488-0114; Fax 850/ 922-6979). The Department suggests that you publish the notice within thirty days of receipt of this letter. You must provide proof of publication within seven days of publication, pursuant to Rule 62-110.106(5), F.A.C. No permitting action for which published notice is required shall be granted until proof of publication of notice is made by furnishing a uniform affidavit in substantially the form prescribed in section 50.051, F.S. to the office of the Department issuing the permit or other authorization. Failure to publish the notice and provide proof of publication may result in the denial of the permit pursuant to Rules 62-110.106(9) & (11), F.A.C.

The Department will issue the final permit with the attached conditions unless a response received in accordance with the following procedures results in a different decision or significant change of terms or conditions.

The Department will accept written comments concerning the proposed permit issuance action for a period of fourteen (14) days from the date of publication of "Public Notice of Intent to Issue Air Construction permit." Written comments and requests for a public meeting should be provided to the Department's Bureau of Air Regulation at 2600 Blair Stone Road, Mail Station #5505, Tallahassee, FL 32399-2400. Any written comments filed shall be made available for public inspection. If written comments received result in a significant change in the proposed agency action, the Department shall revise the proposed permit and require, if applicable, another Public Notice.

The Department will issue the permit with the attached conditions unless a timely petition for an administrative hearing is filed pursuant to sections 120.569 and 120.57 F.S., before the deadline for filing a petition. The procedures for petitioning for a hearing are set forth below. Mediation is not available in this proceeding.

A person whose substantial interests are affected by the proposed permitting decision may petition for an administrative proceeding (hearing) under sections 120.569 and 120.57 of the Florida Statutes. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 3900

Commonwealth Boulevard, Mail Station # 35, Tallahassee, Florida, 32399-3000. Petitions filed by the permit applicant or any of the parties listed below must be filed within fourteen days of receipt of this notice of intent. Petitions filed by any persons other than those entitled to written notice under section 120.60(3) of the Florida Statutes must be filed within fourteen days of publication of the public notice or within fourteen days of receipt of this notice of intent, whichever occurs first. Under section 120.60(3), however, any person who asked the Department for notice of agency action may file a petition within fourteen days of receipt of that notice, regardless of the date of publication. A petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. The failure of any person to file a petition within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under sections 120.569 and 120.57 F.S., or to intervene in this proceeding and participate as a party to it. Any subsequent intervention will be only at the approval of the presiding officer upon the filing of a motion in compliance with Rule 28-106.205 of the Florida Administrative Code.

A petition that disputes the material facts on which the Department's action is based must contain the following information: (a) The name and address of each agency affected and each agency's file or identification number, if known; (b) The name, address, and telephone number of the petitioner, the name, address, and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial interests will be affected by the agency determination; (c) A statement of how and when petitioner received notice of the agency action or proposed action; (d) A statement of all disputed issues of material fact. If there are none, the petition must so indicate; (e) A concise statement of the ultimate facts alleged, including the specific facts the petitioner contends warrant reversal or modification of the agency's proposed action; (f) A statement of the specific rules or statutes the petitioner contends require reversal or modification of the agency's proposed action; and (g) A statement of the relief sought by the petitioner, stating precisely the action petitioner wishes the agency to take with respect to the agency's proposed action.

A petition that does not dispute the material facts upon which the Department's action is based shall state that no such facts are in dispute and otherwise shall contain the same information as set forth above, as required by Rule 28-106.301

Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means that the Department's final action may be different from the position taken by it in this notice. Persons whose substantial interests will be affected by any such final decision of the Department on the application have the right to petition to become a party to the proceeding, in accordance with the requirements set forth above.

In addition to the above, a person subject to regulation has a right to apply for a variance from or waiver of the requirements of particular rules, on certain conditions, under Section 120.542, F.S. The relief provided by this state statute applies only to state rules, not statutes, and not to any federal regulatory requirements. Applying for a variance or waiver does not substitute or extend the time for filing a petition for an administrative hearing or exercising any other right that a person may have in relation to the action proposed in this notice of intent.

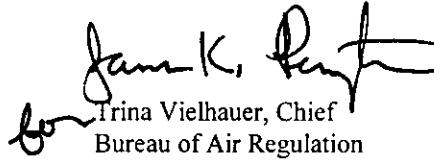
The application for a variance or waiver is made by filing a petition with the Office of General Counsel of the Department, 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida 32399-3000. The petition must specify the following information: (a) The name, address, and telephone number of the petitioner; (b) The name, address, and telephone number of the attorney or qualified representative of the petitioner, if any; (c) Each rule or portion of a rule from which a variance or waiver is requested; (d) The citation to the statute underlying (implemented by) the rule identified in (c) above; (e) The type of action requested; (f) The specific facts that would justify a variance or waiver for the petitioner; (g) The reason why the variance or waiver would serve the purposes of the underlying statute (implemented by the rule); and (h) A statement whether the variance or waiver is permanent or temporary and, if temporary, a statement of the dates showing the duration of the variance or waiver requested.

The Department will grant a variance or waiver when the petition demonstrates both that the application of the rule would create a substantial hardship or violate principles of fairness, as each of those terms is defined in Section 120.542(2) F.S., and that the purpose of the underlying statute will be or has been achieved by other means by the petitioner.

Persons subject to regulation pursuant to any federally delegated or approved air program should be aware that Florida is specifically not authorized to issue variances or waivers from any requirements of any such federally delegated or approved program. The requirements of the program remain fully enforceable by the Administrator of the EPA and by

any person under the Clean Air Act unless and until the Administrator separately approves any variance or waiver in accordance with the procedures of the federal program.

Executed in Tallahassee, Florida.


Trina Vielhauer, Chief
Bureau of Air Regulation

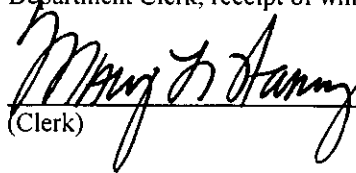
CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this INTENT TO ISSUE AIR CONSTRUCTION PERMIT (including the PUBLIC NOTICE and the DRAFT AIR CONSTRUCTION PERMIT) was sent by certified mail (*) and copies were mailed by U.S. Mail before the close of business on 3/4/05 to the person(s) listed:

James M. Chansler, JEA *
Jay A. Worley, JEA
Gregg Worley, EPA
John Bunyak, NPS
Chris Kirts, NED
Richard Robinson, P.E. ERMD
Mr. Hamilton S. Oven, DEP-Siting

Clerk Stamp

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


(Clerk) 3/4/05
(Date)

PUBLIC NOTICE OF INTENT TO ISSUE AIR CONSTRUCTION PERMIT

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

DEP File No. 0310045-014-AC
JEA – St. Johns River Power Park
Increase in amount of petroleum coke firing
Duval County

The Department of Environmental Protection (Department) gives notice of its intent to issue an Air Construction permit to JEA. The permit is to allow for an increase in the firing of petroleum coke (petcoke) from 20% to 30% by weight at the existing St. Johns River Power Park, located in Jacksonville, Duval County. The application and permit are structured in such a way to ensure that no significant increase in the emission of regulated air pollutants will occur.

A Best Available Control Technology (BACT) determination was not required pursuant to Rule 62-212.400, F.A.C. and 40 CFR52.21 as no significant increase in emissions will occur. An air quality impact analysis was not required nor conducted. The applicant's name and address are JEA, 21 West Church Street, Jacksonville, FL 32202.

The Department will issue the FINAL permit unless a response received in accordance with the following procedures results in a different decision or significant change of terms or conditions.

The Department will accept written comments and requests for a public meeting concerning the proposed permit issuance action for a period of fourteen (14) days from the date of publication of "Public Notice of Intent to Issue Air Construction Permit." Written comments should be provided to the Department's Bureau of Air Regulation at 2600 Blair Stone Road, Mail Station #5505, Tallahassee, FL 32399-2400. Any written comments filed shall be made available for public inspection. If written comments received result in a significant change in the proposed agency action, the Department shall revise the proposed permit and require, if applicable, another Public Notice.

The Department will issue the permit with the attached conditions unless a timely petition for an administrative hearing is filed pursuant to Sections 120.569 and 120.57 F.S., before the deadline for filing a petition. The procedures for petitioning for a hearing are set forth below. Mediation is not available in this proceeding.

A person whose substantial interests are affected by the proposed permitting decision may petition for an administrative proceeding (hearing) under sections 120.569 and 120.57 of the Florida Statutes. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station # 35, Tallahassee, Florida, 32399-3000. Petitions filed by the permit applicant or any of the parties listed below must be filed within fourteen days of receipt of this notice of intent. Petitions filed by any persons other than those entitled to written notice under section 120.60(3) of the Florida Statutes must be filed within fourteen days of publication of the public notice or within fourteen days of receipt of this notice of intent, whichever occurs first. Under section 120.60(3), however, any person who asked the Department for notice of agency action may file a petition within fourteen days of receipt of that notice, regardless of the date of publication. A petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. The failure of any person to file a petition within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under sections 120.569 and 120.57 F.S., or to intervene in this proceeding and participate as a party to it. Any subsequent intervention will be only at the approval of the presiding officer upon the filing of a motion in compliance with Rule 28-106.205 of the Florida Administrative Code.

A petition that disputes the material facts on which the Department's action is based must contain the following information: (a) The name and address of each agency affected and each agency's file or identification number, if known; (b) The name, address, and telephone number of the petitioner, the name, address, and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial interests will be affected by the agency determination; (c) A statement of how and when petitioner received notice of the agency action or proposed action; (d) A statement of all disputed issues of material fact. If there are none, the petition must so indicate; (e) A concise statement of the ultimate facts alleged, as well as the rules and statutes which entitle the petitioner to relief; (f) A statement of the specific rules or statutes the petitioner contends require reversal or modification of the agency's proposed action; and (g) A statement of the relief sought by the petitioner, stating precisely the action petitioner wishes the agency to take with respect to the agency's proposed action.

A petition that does not dispute the material facts upon which the Department's action is based shall state that no such facts are in dispute and otherwise shall contain the same information as set forth above, as required by Rule 28-106.301

Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means that the Department's final action may be different from the position taken by it in this notice. Persons whose substantial interests will be affected by any such final decision of the Department on the application have the right to petition to become a party to the proceeding, in accordance with the requirements set forth above.

A complete project file is available for public inspection during normal business hours, 8:00 a.m. to 5:00 p.m., Monday through Friday, except legal holidays, at:

Dept of Environmental Protection
Bureau of Air Regulation
111 S. Magnolia Drive, Suite 4
Tallahassee, Florida 32301
Telephone: 850/488-0114
Fax: 850/922-6979

Dept. of Environmental Protection
Northeast District Office
7825 Baymeadows Way, Suite 200B
Jacksonville, Florida 32256-7590
Telephone: 904/448-4300
Fax: 904/448-4366

The complete project file includes the application, Draft Permit, and the information submitted by the responsible official, exclusive of confidential records under Section 403.111, F.S. Interested persons may contact the Administrator, North Permitting Section at 111 South Magnolia Drive, Suite 4, Tallahassee, Florida 32301, or call 850/488-0114, for additional information.

DRAFT

March xx, 2005

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. James M. Chansler
V. P. Operations and Maintenance
JEA
St. Johns River Power Park
21 West Church Street
Jacksonville, Florida 32202

Dear Mr. Chansler:

Re: Request for Permit Amendment
Jacksonville Electric Authority, St. Johns River Power Park
PSD-FL-010; Duval County

The Department hereby amends the specific conditions related to sulfur dioxide (SO₂) emissions and fuel use in the subject Final Determination (dated March 12, 1982) pursuant to 40 CFR 52.21 - Prevention of Significant Deterioration (PSD Permit). The PSD Permit is amended as follows:

Condition 2.A. (revised)

i. When blends of petroleum coke and coal with a sulfur content of up to or equal to 2 percent by weight are fired in Units 1 or 2, the SO₂ emissions shall not exceed ~~0.55~~ 0.53 pound per million British thermal units (lb/MMBtu) and a minimum of ~~76~~ 79 percent reduction in the flue gas desulfurization system.

ii. When co-firing petroleum coke with coals having a sulfur content between 2 and 3.63 percent by weight 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.

Please note that C is on a heat input basis and not weight input basis, so appropriate conversions should be used.

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

DRAFT

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

where: C = percent of coal co-fired on a heat input basis
S = weight percent sulfur in the coal

iv. The maximum SO₂ emission rate when firing petroleum coke and coal shall not exceed 0.676 lb/MMBtu heat input.

v. 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 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 60 Subpart Da, except as noted above.

Condition 2.B. (revised)

The petroleum coke-coal blends shall be limited to a maximum of ~~20~~ 30 percent petroleum coke, by weight. The maximum weight of the petroleum coke burned shall not exceed ~~100,000~~ 150,000 lb/hr based on a 30-day rolling average using production information for the amount of coal and petcoke bunkered in the coal storage bins. The maximum sulfur content of the petroleum coke-coal blend shall not exceed 4 percent, by weight.

Condition 3. (revised)

The applicant shall maintain and submit to the Department on an annual basis for a period of five years from the date the unit is ~~initially~~ co-fired with petroleum coke above 20% by weight, information demonstrating in accordance with 40 CFR 52.21 (b) (21) (v) and 40 CFR 52.21 (b) (33) that the operational changes did not result in emissions increases of nitrogen oxides, carbon monoxide, sulfur dioxide, sulfuric acid mist, volatile organic compounds, lead and particulate matter.

A copy of this amendment letter shall be attached to and shall become a part of Permit PSD-FL-010.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION

Michael G. Cooke, Director
Division Air Resource Management

P.E. Certification Statement

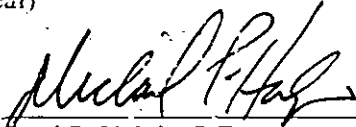
JEA
SJRPP
Duval County

DEP File No.: PSD-FL-010
Facility ID No.: 0310045

Project: Petroleum Coke Increase -AC Permit Modification

I HEREBY CERTIFY that the engineering features described in the above referenced application and related additional information submittals, if any, and subject to the proposed permit conditions, provide reasonable assurance of compliance with applicable provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Chapters 62-4 and 62-204 through 62-297. However, I have not evaluated and I do not certify aspects of the proposal outside of my area of expertise (including but not limited to the electrical, mechanical, structural, hydrological, and geological features).

(Seal)



Michael P. Halpin, P.E.
Registration Number: 31970

3-3-05

Date

Permitting Authority:
Florida Department of Environmental Protection
Division of Air Resources Management
Bureau of Air Regulation
North Permitting Section
Mail Station #5505
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Telephone: 850/488-0114
Fax: 850/922-6979

**TECHNICAL EVALUATION
AND
PRELIMINARY DETERMINATION**

St. Johns River Power Park

Increased Co-Firing of Petroleum Coke

JEA / DUVAL COUNTY

0310045-014-AC



Department of Environmental Protection
Division of Air Resources Management
Bureau of Air Regulation
North Permitting Section

March 4, 2005

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

1. GENERAL INFORMATION

1.1 APPLICANT NAME AND ADDRESS

St. Johns River Power Park
JEA
11201 New Berlin Road
Jacksonville, Florida 32226

Authorized Representative: James M. Chansler, V.P. Operations and Maintenance

1.2 REVIEWING AND PROCESS SCHEDULE

February 2, 2005 Received permit application
March 4, 2005 Issued Draft Intent

2. FACILITY INFORMATION

2.1 FACILITY LOCATION

The facility is located in Jacksonville, Duval County. The UTM coordinates are Zone 17; 446.90 km E; 3359.15 km N. This site is approximately 54 kilometers from the Okefenokee National Wildlife Refuge and 98 kilometers from the Wolf Island National Wildlife Refuge, both Class I PSD Areas.

2.2 STANDARD INDUSTRIAL CLASSIFICATION CODES (SIC)

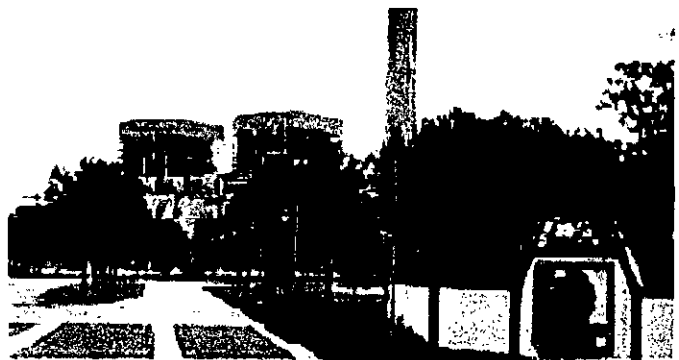
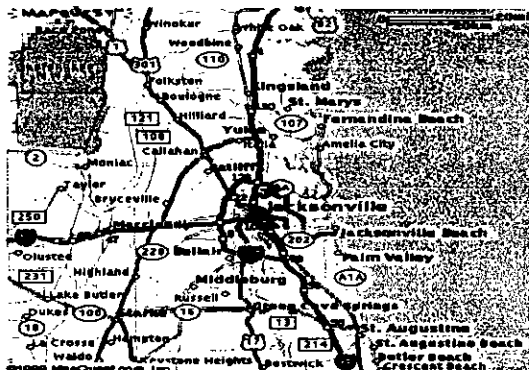
Industry Group No.	49	Electric, Gas and Sanitary Services
Industry No.	4911	Electric Services

2.3 FACILITY CATEGORY

This facility consists of five boilers, Northside Generating Station (NGS) Boilers Nos. 1, 2 and 3 (No. 2 was placed on long-term reserve shutdown on March 1, 1984) and St. Johns River Power Park (SJRPP) Boilers Nos. 1 and 2; four combustion turbines, NGS Nos. 3, 4, 5 and 6 (Nos. 1 and 2 are inactive); and, an auxiliary boiler, NGS No. 1.

SJRPP Boilers Nos. 1 and 2 are fossil fuel-fired steam generators, each having a nominal nameplate rating of 679.6 megawatts (electric). The emissions units are allowed to fire pulverized coal, a blend of petroleum coke and coal, new No. 2 distillate fuel oil (startup and low-load operation), and "on-specification" used oil. The maximum heat input to each emissions unit is 6,144 million Btu per hour. SJRPP Boilers Nos. 1 and 2 are dry bottom wall-fired boilers and will use an electrostatic precipitator (ESP) to control particulate matter, a wet limestone flue gas desulfurization (FGD) unit to control sulfur dioxide, low NO_x burners and low excess-air firing to control nitrogen oxides, and good combustion to control carbon monoxide.

Based on the initial Title V permit application received June 14, 1996, this facility is a major source of hazardous air pollutants (HAPs). This facility is within an industry included in the list of the 28 Major Facility Categories per Table 62-212.400-1, F.A.C. Because emissions are greater than 100 TPY for at least one criteria pollutant, the facility is also a Major Facility with respect to Rule 62-212.400, Prevention of Significant Deterioration (PSD).



TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

3. PROJECT DESCRIPTION

This project primarily addresses the following emissions unit(s):

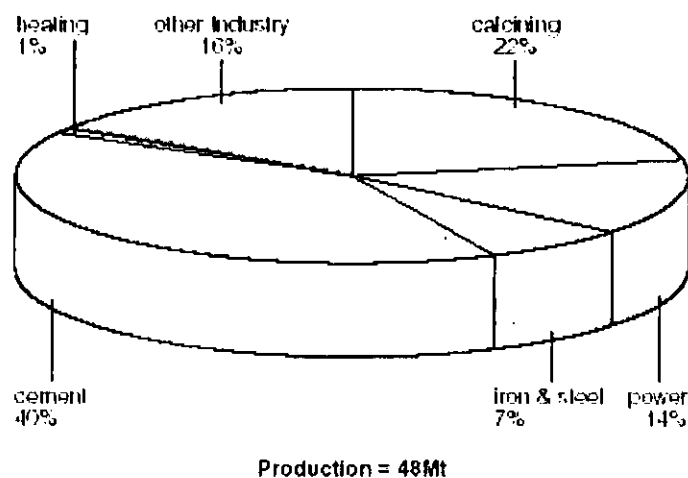
Emissions Unit No.	Emissions Unit Description
016	SJRPP Boiler Number 1 – dry bottom wall-fired boiler w/FGD, ESP and LNB
017	SJRPP Boiler Number 2 – dry bottom wall-fired boiler w/FGD, ESP and LNB

The applicant proposes to increase the combustion of petroleum coke (petcoke) from a maximum of 20% (on a weight basis) to 30%. The facility currently combusts coal as its primary fuel. The applicant indicates that this permit modification can be made in such a way that air emissions will not increase beyond historical levels, thus a PSD Review will not be triggered. The applicant further proposes that data can be provided in accordance with 40 CFR 52.21(b)(21)(v) and 40 CFR 52.21(b)(33) showing that the operational change associated with the use of increased petroleum coke did not result in significant emission increases for PSD pollutants (i.e., the WEPCO provision); emission analyses follow.

3.1 PETCOKE DISCUSSION

Much of this review was obtained from The Clean Coal Centre of the United Kingdom, in an article entitled "*The use of petroleum coke in a coal-fired plant*". Petroleum coke is a by-product from oil refineries and is composed mainly of carbon though it also contains high levels of sulfur and some heavy metals such as vanadium and nickel. There has been considerable interest in petcoke for several years, where it is available, as it is generally significantly cheaper than coal. The price does vary depending on the volumes produced and worldwide demand. The world production of petcoke grew by 50% from 1987 to 1998. It reached nearly 50 Million Tons (Mt) in 1999 and is expected to reach 100 Mt by 2010. The USA is the world's largest producer, producing three-quarters of world supplies. There are three types of petroleum coke, which can be produced depending on the process of production. The three processes are delayed, fluid and flexicoking with delayed coking producing over 90%. All three types of petcoke have higher calorific values than coal and contain less volatile matter and ash. The main uses of petcoke are as an energy source for power generation, in cement production and iron and steel production (which account for about two thirds of production) and the remainder is used mainly as a carbon source.

FIGURE 3 - 1999 WORLD PETROLEUM COKE MARKET PROFILE



The following additional information was compiled for the Year 2001. The source of this data is FERC Form 423, although the Energy Information Administration (EIA) summarized it in a report entitled "*Cost and Quality of Fuels for Electric Utility Plants 2001*", dated March 2004. This data was accumulated for electric generating plants with nameplate capacity of 50 megawatts or more. Tables 25 and 28 from that report are shown below:

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

Table 25. The Top 20 Electric Utilities, Ranked by Receipts of Coal, 2001

Electric Utility	Receipts (thousand short tons)	Average Delivered Cost		Total Delivered Cost (million dollars)
		(cent: per million Btu)	(dollar: per short ton)	
1. Tennessee Valley Authority.....	36,556	121.92	27.99	1,023.15
2. Georgia Power Co.....	32,639	166.38	39.06	1,313.94
3. INU Electric Co.....	27,297	131.74	18.61	491.74
4. Alabama Power Co.....	24,211	141.68	30.67	728.00
5. PacifiCorp.....	22,216	87.26	17.25	383.23
6. Detroit Edison Co.....	22,155	122.38	25.65	505.59
7. Ameren UE.....	18,797	98.10	17.28	324.87
8. Duke Power Co.....	17,395	157.21	38.53	670.23
9. Public Service Co of Indiana.....	16,542	110.70	24.35	402.81
10. Reliant HL&P.....	16,423	157.06	24.47	401.93
11. Basin Electric Power Coop.....	16,275	59.00	8.85	143.95
12. Ohio Power Co.....	15,598	143.01	34.61	536.79
13. Kansas Power and Light Co.....	13,942	115.59	20.69	286.03
14. MidAmerican Energy.....	13,607	74.96	12.90	175.50
15. Northern States Power Co.....	13,255	94.62	16.70	221.36
16. Arkansas Power and Light Co.....	12,681	78.54	13.74	174.20
17. Indiana Michigan Power.....	11,904	117.41	22.71	270.30
18. Southwestern Electric Power.....	11,833	150.44	24.11	256.51
19. Wisconsin Electric Power Co.....	11,868	102.91	19.29	228.91
20. Appalachian Power Co.....	11,858	129.66	31.69	363.64

Note: Data are for electric generating plants with a total steam-electric and combined-cycle nameplate capacity of 50 or more megawatts.
Source: Federal Energy Regulatory Commission, FERC Form 423, "Monthly Report of Cost and Quality of Fuels for Electric Plants."

Table 28. Receipts of Petroleum Coke by Electric Utility, 2001

Electric Utility	Receipts (thousand short tons)	Average Quality			Average Delivered Cost	
		Btu (per pound)	Sulfur (percent by weight)	Ash (percent by weight)	(cent: per million Btu)	(dollar: per short ton)
Ameren UE.....	197	14,303	3.72	0.46	66.85	19.12
Central Elec Power Coop-Missouri ¹	*	14,235	3.20	.56	52.82	15.64
Jacksonville Electric Auth.....	568	14,255	6.28	.20	62.63	17.85
Lakeland City of.....	18	13,955	4.19	.44	127.02	35.45
Mantowoc Public Utilities.....	36	14,234	5.51	.65	54.73	15.58
Michigan South Central Power.....	*	14,002	4.65	.43	150.01	42.61
Northern States Power Co.....	201	13,613	5.64	.70	39.12	10.65
Northern Indiana Pub Serv Co.....	149	13,927	4.34	.26	69.22	19.31
Reliant HL&P.....	132	13,609	1.66	.44	156.57	42.61
Salt River Proj, Ag I & P Dist.....	17	14,500	3.67	.60	100.48	29.14
Seminole Electric Coop.....	182	14,394	5.58	.41	110.74	31.85
Tampa Electric Power Co.....	303	13,945	4.90	.46	82.67	23.06
Wisconsin Power & Light.....	71	13,920	5.70	.66	96.25	26.80
Wisconsin Electric Power Co.....	145	14,201	5.24	.20	87.79	24.92
Total.....	2,019	14,079	5.13	.40	73.38	22.07

¹ Includes a small amount of coal.
* = Number less than 0.5.

Note: * Total: may not equal sum of components because of independent rounding. * Data are for electric generating plants with a total steam-electric and combined-cycle nameplate capacity of 50 or more megawatts.
Source: Federal Energy Regulatory Commission, FERC Form 423, "Monthly Report of Cost and Quality of Fuels for Electric Plants."

Of interest, no Florida utilities show up in the top 20 listing of coal users, even though Florida is one of the most populous states. It is observed that the cost of petroleum coke in year 2000 was approximately 1/2 that of coal. According to Table 28, Florida had 4 users of petcoke out of 14 listed users. The tables also show that receipts of petcoke totaled 2019 thousand short tons, or about 0.5% of the sum of coal receipts of the top 20 coal users. Only 4 utilities are listed on both tables: Northern States Power, Ameren UE, Wisconsin Electric Power Co. and Reliant HL&P (Northern States Power is now known as XCEL Energy, headquartered in Minnesota). Jacksonville Electric Authority (JEA) is indicated as the largest utility user of petcoke during year 2001 for electrical generation.

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

4. PROJECT EMISSIONS

4.1 HISTORICAL EMISSIONS

The following table summarizes the historical emissions (EU-016 and 017) based upon Department records (ARMS):

Pollutant	2001 Actual Emissions (TPY)	2002 Actual Emissions (TPY)	2001-2002 Average (TPY)	PSD Significant Emission Rates (TPY)	Maximum average Emission Rate without a PSD review (TPY)
NO _x	26379.1	26738.5	26558.8	40	26598.7
CO	970.178	962.093	966.14	100	1066.0
VOC	118.873	118.179	118.53	40	158.5
SO ₂	22535.41	20902.199	21718.8	40	21758.7
SAM	1311.0	1322.9	1316.9	7	1323.8
PM	317.258	326.2401	321.75	25	346.7
PM ₁₀	72.964	75.596	74.28	15	89.2
Pb	1.21	0.81	1.01	0.6	1.59

Note: Years 2001 and 2002 were proposed by the applicant as a "representative" period for comparison to future emissions.

5. RULE APPLICABILITY

This facility is located in an area designated, in accordance with Rule 62-204.340, F.A.C., as attainment for all pollutants. Rule 62-4.030, F.A.C., prohibits modification of any existing emissions unit without first receiving a permit. It further specifies that a permitted installation may only be modified in a manner that is consistent with the terms of such a permit. Rule 62-210.200, F.A.C., defines "modification" to mean generally a physical change or change in the method of operation that results in an increase in actual emissions of regulated air pollutants. Rules 62-210.300(1) and 62-212.300(1)(a), F.A.C., also reiterate the requirement for construction permits. Additionally, Rule 62-210.300 requires an Air Construction permit for all new sources of air pollution unless specifically exempt.

FDEP deems that a change to the quantity or quality of fuel burned is a change in the method of operation. Given that the source is major with regard to PSD, an analysis must be performed to verify that the increased burning of petcoke will not result in a significant net emissions increase and that, consequently, use of additional petcoke is not a major modification subject to PSD review. The emission units affected by this permit shall comply with all applicable provisions of the Florida Administrative Code (including applicable portions of the Code of Federal Regulations incorporated therein).

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

6. PSD POLLUTANT ANALYSIS

6.1 COAL VERSUS PETCOKE

The following table was excerpted from a paper presented at the 2003 International Power-Gen Conference in Las Vegas, Nevada. The paper is entitled "Reducing NO_x and LOI at the St. Johns River Power Park":

	Pet. Coke	Colombian Coal
Prox. Analysis		
Fixed Carbon	83.92	47.60
VM	8.50	33.40
Ash	0.52	7.40
Moisture	7.06	11.60
Total	100.00	100.00
Ult. Analysis		
Carbon	82.22	66.54
Hydrogen	3.35	4.50
Oxygen	0.00	7.99
Nitrogen	1.71	1.32
Sulfur	5.14	0.65
Ash	0.52	7.40
Moisture	7.06	11.60
Total	100.00	100.00
HHV, Btu/lb as-rec'd	14,200	11,800

This table was excerpted from a cement plant application in the United Kingdom (Castle Cement dated May 17, 1999):

Chemical Names	Units	Coal	Petroleum coke	Increase or Decrease
Heat Content	CV-MJ/kg	25.5	31.41	Increase
Carbon	% Carbon	73.4	85	Increase
Chlorine	Cl %	0.03	NA	Decrease
Copper	Cu (ppm)	12	3	Decrease
Lead	Pb	16	5	Decrease
Zinc	Zn	NA	17	Increase
Cadmium	Cd	10	0.04	Decrease
Chromium	Cr	8	5	Decrease
Thallium	Th	10	0.05	Decrease
Arsenic	As	7	1	Decrease
Mercury	Hg	10	NA	Decrease
Antimony	Sb	3	1	Decrease
Cobalt	Co	2	3	Increase
Manganese	Mn	71	NA	Decrease
Nickel	N	6	252	Increase
Tin	Sn	10	1	Decrease
Vanadium	V	4	150	Increase
Sulfur	S%	1.4	5.0	Increase

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

The purpose of the above tables is to illustrate that the PSD pollutant of most concern is sulfur. Due to the decreases in the lead and ash content in petcoke, increased firing should lead to reductions in the emissions of PM, PM₁₀ and Pb. The Department notes that the emissions of nickel and vanadium are not subject to PSD, but may subject the facility to a future MACT requirement.

6.2 CARBON MONOXIDE (CO) AND VOLATIVE ORGANIC COMPOUNDS (VOC)

The applicant contends that there will be no increase in CO or VOC emissions from the increased co-firing of petcoke. The annual CO emissions for these emission units averaged 966 TPY, while annual VOC emissions averaged 118 TPY. The Significant Emission Rate for CO is 100 TPY, and for VOC is 40 TPY. Given that the available data shows reduced CO and VOC emissions from the firing of petcoke as compared to coal, the Department finds it unlikely that the increased co-firing of petcoke will cause annual emissions to exceed the PSD thresholds of each pollutant beyond representative past emission rates. Accordingly, a BACT review is not required for these pollutants.

6.3 NITROGEN OXIDE (NO_x)

Test results from other facilities indicate that NO_x emissions are typically less for petcoke firing as compared to coal firing. The annual NO_x emissions for these emission units averaged 26558.8 TPY and the Significant Emission Rate for NO_x is 40 TPY. The Department accepts the premise that increased petcoke firing (and decreased coal firing) will not cause annual NO_x emissions to increase, nor specifically to exceed an average of 26598.7 TPY per emission unit. Accordingly, a BACT review is not required.

6.4 SULFUR DIOXIDE (SO₂) AND SULFURIC ACID MIST (SAM)

The past actual average emissions of SO₂ and SAM were 21718.8 and 1316.9 TPY respectively. The Significant Emission Rate (SER) is 40 TPY for SO₂ and 7 TPY for SAM. The Department accepts the applicant's proposal that SO₂ and SAM emissions can be maintained below the respective SER by additional scrubbing with the existing wet FGD. The applicant additionally proposes to reduce the SO₂ limit (while co-firing) below the existing permit limit, as an additional means of providing assurance to the Department that SO₂ (as well as SAM) emissions will not increase. The combination of additional scrubbing and a reduced emission limit is acceptable to the Department and should ensure that the annual emission levels of SO₂ and SAM do not exceed the PSD thresholds for each pollutant beyond representative past emission rates (21758.7 TPY SO₂ and 1323.8 TPY SAM). In addition to this, the Department will place a limit on the throughput of petcoke at 30% on a heat input basis. Accordingly, the SO₂ and SAM emission increases are considered insignificant for PSD purposes and BACT reviews are not required.

6.5 PARTICULATE MATTER (PM/PM₁₀)

As indicated above, it is reasonable to assume that PM₁₀ and PM emissions will be lowered as a result of the ten-fold decrease in fuel ash. Accordingly, the annual PM/PM₁₀ emissions from the stack are likely to be maintained with no increase above the PSD significant emission rate of 25/15 tons/year.

With regard to ancillary (or fugitive) emissions, the applicant estimates that particulate matter emissions will be reduced. This is based upon the increased heat input value of petcoke as compared to coal, meaning that a reduction in the overall tons of fuel handled will occur. In summary, the average PM/PM₁₀ emissions from each emission unit are likely to remain less than the PSD thresholds for each pollutant and no PSD Review is required.

6.6 SUMMARY

A preliminary review supports the applicant's contention that PSD is not triggered, eliminating the requirement for a BACT review and related modeling. PSD regulations (under the provisions commonly known as the "WEPCO rule") allow a source undertaking a non-routine change that could affect emissions at an electric utility steam generating unit to lawfully avoid the major source permitting process by using the unit's representative actual annual emissions to calculate emissions following the change, if the source submits information for 5 years following the change to confirm its pre-change projection. Under the WEPCO rule, SJRPP must compute baseline actual emissions and must project the future actual emissions from the modified units for a period after the physical change. In addition, SJRPP must maintain and submit to the Department on an annual basis for a period of at least 5 years

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

from the date the units resume regular operation, information demonstrating that the change did not result in a significant emissions increase. If SJRPP fails to comply with the reporting requirements of the WEPCO rule or if the submitted information indicates that emissions have increased above PSD thresholds as a consequence of the change, it will be required to obtain a PSD permit for petcoke co-firing (meaning that a BACT Review would then be applicable). Finally, even though a PSD review is not triggered due to the co-firing project, SJRPP must meet all other applicable federal, state, and local air pollution requirements.

7. ADDITIONAL COMPLIANCE PROCEDURES (AVERAGE PER EMISSION UNIT)

Pollutant	Compliance Procedures
NO _x	Five years of annual reporting by CEMS proving annual emissions do not exceed 26598.7 TPY
CO	Five years of annual reporting by stack test proving annual emissions do not exceed 1066 TPY
VOC	Five years of annual reporting by stack test proving annual emissions do not exceed 158.5 TPY
SO ₂	Five years of annual reporting by CEMS proving annual emissions do not exceed 21758.7 TPY
SAM	Five years of annual reporting by stack test proving annual emissions do not exceed 1323.8 TPY
PM ₁₀	Five years of annual reporting by stack test proving annual facility emissions do not exceed 89.2 TPY

Specific permit conditions shall further describe these limitations. The reporting procedures are to begin during the first calendar year in which petcoke is fired.

8. CONCLUSION

Based on the foregoing technical evaluation of the application, additional information submitted by the applicant and other available information, the Department has made a preliminary determination that the proposed project will comply with all applicable state and federal air pollution regulations.

Michael P. Halpin, P.E. Review Engineer
Department of Environmental Protection, Bureau of Air Regulation
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

P.E. Certification Statement

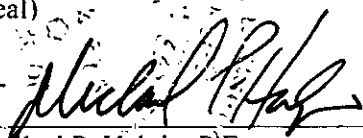
JEA
SJRPP
Duval County

DEP File No.: PSD-FL-010
Facility ID No.: 0310045

Project: Petroleum Coke Increase -AC Permit Modification

I HEREBY CERTIFY that the engineering features described in the above referenced application and related additional information submittals, if any, and subject to the proposed permit conditions, provide reasonable assurance of compliance with applicable provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Chapters 62-4 and 62-204 through 62-297. However, I have not evaluated and I do not certify aspects of the proposal outside of my area of expertise (including but not limited to the electrical, mechanical, structural, hydrological, and geological features).

(Seal)



Michael P. Halpin, P.E.
Registration Number: 31970

3-3-05
Date

Permitting Authority:
Florida Department of Environmental Protection
Division of Air Resources Management
Bureau of Air Regulation
North Permitting Section
Mail Station #5505
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Telephone: 850/488-0114
Fax: 850/922-6979

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Mr. James M. Chansler
 V.P. Operations and Maintenance
 JEA
 St. Johns River Power Park
 21 West Church Street
 Jacksonville, Florida 32202

2. Article Number

(Transfer from service label)

7000 1670 0013 3109 9380

PS Form 3811, August 2001

Domestic Return Receipt

102595-02-M-1540

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X *J. Chansler*

- Agent
 Addressee

B. Received by (Printed Name)

J. Chansler

C. Date of Delivery

3/7/05

D. Is delivery address different from item 1? Yes

If YES, enter delivery address below: No

3. Service Type.

- Certified Mail Express Mail
 Registered Return Receipt for Merchandise
 Insured Mail C.O.D.

4. Restricted Delivery? (Extra Fee)

Yes

**U.S. Postal Service
CERTIFIED MAIL RECEIPT**

(Domestic Mail Only; No Insurance Coverage Provided)

7000 1670 0013 3109 9380

Postage	\$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	

Postmark
Here

Mr. James M. Chansler
 V.P. Operations and Maintenance
 JEA
 St. Johns River Power Park
 21 West Church Street
 Jacksonville, Florida 32202

PS Form 3800, May 2000

See Reverse for Instructions