STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION NOTICE OF FINAL PERMIT

In the Matter of an Application for Permit by:

Mr. Walter P. Bussells Jacksonville Electric Authority 21 West Church Street Jacksonville, Florida 32202 DEP File No. 0310047-004-AC

Duval County

Enclosed is Final Permit Number 0310047-004-AC. This permit authorizes the installation of inlet foggers on the three simple cycle combustion turbines located at Kennedy Generating Station and designated as Emissions Units 003-005. This permit is issued pursuant to Chapter 403, Florida Statutes.

Any party to this order has the right to seek judicial review of it under section 120.68 of the Florida Statutes, by filing a notice of appeal under rule 9.110 of the Florida Rules of Appellate Procedure with the clerk of the Department of Environmental Protection in the Office of General Counsel, Mail Station #35, 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 must be filed within thirty days after this order is filed with the clerk of the Department.

Executed in Tallahassee, Florida.

C. H. Fancy, P.E., Chief Bureau of Air Regulation

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this <u>Notice of Final Permit</u> (including the Final permit) was sent by certified mail (*) and copies were mailed by U.S. Mail before the close of business on 4-20-00 to the person(s) listed:

Walter P. Bussells, JEA*
Bert Gianazza, JEA
Chris Kirts, DEP-NED
Jim Manning, RESD
Ken Kosky, P.E., Golder Associates

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)

Kin Jober 4-20-00 (Date)

FINAL DETERMINATION

JEA Kennedy Generating Station Units 003-005 Simple Cycle Combustion Turbines Inlet Fogger Permit No. 0310047-004-AC

An Intent to Issue an Air Construction Permit for JEA Kennedy Generating Station, located at 4215 Tallyrand Avenue, Jacksonville, Duval County, Florida, was distributed on March 29, 2000. The Public Notice of Intent to Issue Air Construction Permit was published in the Florida Times-Union on April 1, 2000. Copies of the draft construction permit were available for public inspection at the Department offices in Jacksonville and Tallahassee.

The National Park Service, the U.S. Environmental Protection Agency or the public submitted no comments.

The final action of the Department is to issue the construction permit as proposed.



Department of Environmental Protection

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

David B. Struhs Secretary

PERMITTEE:

Jacksonville Electric Authority 21 West Church Street Jacksonville, Florida 32202

Authorized Representative:

Mr. Walter P. Bussells

DEP File No. 0310047-004-AC

Project Emissions Units 003 –005

Inlet Foggers

SIC No. 4911

Expires: December 31, 2000

PROJECT AND LOCATION:

Permit for the installation of inlet foggers on the three 56 (gross capacity) megawatt simple cycle Westinghouse (Model W501) combustion turbine-electrical generators Emissions Units 003 thru 005.

The units are located at the JEA Kennedy Generating Station, 4215 Tallyrand Avenue, Jacksonville, Duval County. UTM coordinates are: Zone 17, 440.1 km E and 3359.15 km N.

STATEMENT OF BASIS:

This construction permit is issued under the provisions of Chapter 403 of the Florida Statutes (F.S.), and Chapters 62-4, 62-204, 62-210, 62-212, 62-296, and 62-297 of the Florida Administrative Code (F.A.C.). The above named permittee is authorized to modify the facility in accordance with the conditions of this permit and as described in the application, approved drawings, plans, and other documents on file with the Department of Environmental Protection (Department).

ATTACHED APPENDIX MADE A PART OF THIS PERMIT:

Appendix GC

Construction Permit General Conditions

Howard L. Rhodes, Director

Division of Air Resources

Management

FACILITY DESCRIPTION

This facility consists of three boilers, Nos. 8, 9 and 10; three combustion turbines, Nos. 3, 4, and 5; and, an auxiliary boiler, No. 1. The auxiliary boiler is allowed to operate when one of the boilers (No. 8, No. 9, or No. 10) is under standby status. There are no air pollution controls associated with the boilers. Boilers Nos. 8, 9 and 10 fire natural gas and/or No. 6 fuel oil; the combustion turbines fire only virgin No. 2 fuel oil; and, the auxiliary boiler fires No. 2 fuel oil and/or natural gas. There is a fuel oil storage tank farm associated with the boilers and turbines. This permitting action is for the installation of inlet foggers at the three (3) virgin No. 2 fuel oil-fired simple cycle combustion turbines that commenced commercial operation in 1973.

This Project is exempt from the requirements of Rule 62-212.400, F.A.C., Prevention of Significant Deterioration (PSD) as discussed in the Technical Evaluation and Preliminary Determination dated March 29, 2000.

REGULATORY CLASSIFICATION

This facility, JEA Kennedy Generating Station, is classified as a Major or Title V Source of air pollution because emissions of at least one regulated air pollutant, such as particulate matter (PM/PM₁₀), sulfur dioxide (SO₂), nitrogen oxides (NO_X), carbon monoxide (CO), or volatile organic compounds (VOC) exceeds 100 tons per year (TPY).

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).

This facility is a major source of hazardous air pollutants (HAPs) and is also subject to the provisions of Title IV, Acid Rain, Clean Air Act as amended in 1990.

PERMIT SCHEDULE

- 04/01/00 Notice of Intent published in the Florida Times Union
- 03/29/00 Distributed Intent to Issue Permit
- 02/24/00 Application deemed complete
- 01/03/00 Received Application

RELEVANT DOCUMENTS:

The documents listed below are the basis of the permit. They are specifically related to this permitting action, but not all are incorporated into this permit. These documents are on file with the Department.

- Application received on January 3, 2000
- Department's incompleteness letter dated January 31, 2000
- JEA's response to Department's incompleteness letter received on February 24, 2000
- Department's Intent to Issue and Public Notice Package dated March 29, 2000

PERMIT SPECIFIC CONDITIONS

This permit addresses the following emissions units.

E.U. ID No.	Brief Description
-003	Combustion Turbine No. 3
-004	Combustion Turbine No. 4
-005	Combustion Turbine No. 5

- 1. This permit, 0310047-004-AC, is limited to the installation of three inlet foggers on Emission Units 003-005 as described in Permit 0310047-001-AV.
- 2. The provisions of Permit 0310047-001-AV remain in effect. However, an application shall be submitted to revise that permit to reflect the installation of three inlet foggers on Emission Units 003-005.
- 3. Inlet foggers may be installed at the compressor inlet to each of the three Westinghouse Model W 501 combustion turbine-electric generators. The four foggers may operate up to 3,000 hours per year in aggregate (average 1000 hours per unit per year). Maximum heat input shall not exceed 634 mmBtu/hr/unit and NOx emissions shall not exceed 300 lb/hr /unit at 90° F and 63 percent RH. This maximum heat input rate will vary depending upon ambient conditions and the combustion turbine characteristics. Manufacturer's curves corrected for site conditions or equations for correction to other ambient conditions shall be provided to the Department of Environmental Protection (DEP) within 45 days of completing the initial compliance testing after the foggers are installed. Thereafter, compliance shall be demonstrated as required in Rule 62-297.310(7). Nitrogen oxides emissions shall be demonstrated by a stack test on one representative turbine. Testing shall be performed each federal fiscal year, no later than September 30th. [Rule 62-296.570(4)(a)3, and (4)(b)5., F.A.C.]
- 4. The permittee shall record on a monthly basis in a written log the number of hours of operation for each evaporative cooling system and the total combined hours of operation for the previous 12 months for all three evaporative cooling systems. [Rule 62-4.160(15), F.A.C.]
- 5. The test method for visible emissions shall be EPA Method 9 and the test method for nitrogen oxides shall be EPA Method 7, incorporated and adopted by reference in Rule 62-204.800, F.A.C., and referenced in Chapter 62-297, F.A.C.[Rules 62-204.800, 62-296.320(4)(b)4.a. and 62-297.401; F.A.C.; and, Part XI, Rule 2.1101, JEPB]

GENERAL PERMIT CONDITIONS [F.A.C. 62-4.160]

- G.1 The terms, conditions, requirements, limitations, and restrictions set forth in this permit are "Permit Conditions" and are binding and enforceable pursuant to Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.
- G.2 This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings or exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.
- G.3 As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey and vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations. This permit is not a waiver or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in the permit.
- G.4 This permit conveys no title to land or water, does not constitute State recognition or acknowledgment of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title.
- G.5 This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department.
- G.6 The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditions of this permit, as required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules.
- G.7 The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be required by law and at a reasonable time, access to the premises, where the permitted activity is located or conducted to:
 - a) Have access to and copy and records that must be kept under the conditions of the permit;
 - b) Inspect the facility, equipment, practices, or operations regulated or required under this permit, and,
 - c) Sample or monitor any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.

Reasonable time may depend on the nature of the concern being investigated.

- G.8 If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Department with the following information:
 - a) A description of and cause of non-compliance; and
 - b) The period of noncompliance, including dates and times; or, if not corrected, the anticipated time the non-compliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the non-compliance.

The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or for revocation of this permit.

- G.9 In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source which are submitted to the Department may be used by the Department as evidence in any enforcement case involving the permitted source arising under the Florida Statutes or Department rules, except where such use is prescribed by Sections 403.73 and 403.111, Florida Statutes. Such evidence shall only be used to the extend it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.
- G.10 The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance, provided, however, the permittee does not waive any other rights granted by Florida Statutes or Department rules.
- G.11 This permit is transferable only upon Department approval in accordance with Florida Administrative Code Rules 62-4.120 and 62-730.300, F.A.C., as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the Department.
- G.12 This permit or a copy thereof shall be kept at the work site of the permitted activity.
- G.13 This permit also constitutes:
 - a) Determination of Best Available Control Technology ()
 - b) Determination of Prevention of Significant Deterioration (); and
 - c) Compliance with New Source Performance Standards ().
- G.14 The permittee shall comply with the following:
 - a) Upon request, the permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the Department.
 - b) The permittee shall hold at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation) required by the permit, copies of all reports required by this permit, and records of all data used to complete the application or this permit. These materials shall be retained at least three years from the date of the sample, measurement, report, or application unless otherwise specified by Department rule.
 - c) Records of monitoring information shall include:
 - 1. The date, exact place, and time of sampling or measurements;
 - 2. The person responsible for performing the sampling or measurements;
 - 3. The dates analyses were performed;
 - 4. The person responsible for performing the analyses;
 - 5. The analytical techniques or methods used; and
 - 6. The results of such analyses.
- G.15 When requested by the Department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware that relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be corrected promptly.

Memorandum

TO:

Howard L. Rhodes

THRU:

Clair Fancy

Al Linero

FROM

Syed Arif Sped Act Ali8

DATE:

April 18, 2000

SUBJECT: JEA Kennedy Plant Fogger Project

DEP File No. 0310047-004-AC

Attached for approval and signature is the air construction permit for the above referenced project. The application was to install inlet foggers ahead of the compressor inlets of three simple cycle combustion turbines. The foggers will operate on hot days and days of relatively low humidity. The evaporative cooling effected by the foggers will allow the units to operate closer to their rated capacity.

Emissions will increase because the heat rate through the units will increase when the foggers are used and effectively cool the inlet air. JEA proposes to limit operation of the coolers to 1000 hours per unit per year to insure PSD is not triggered by their use.

The project modification provides reasonable assurance that all the requirements of the permit will be complied with. I recommend your approval and signature.

SA/a

Attachments

Best Available Copy

Attach this card to the back of the mallpiece, or on the front if space permits. *Icle Addressed to: Church St.	D. Is delivery address below: Agent Addressee D. Is delivery address below: If YES, entar delivery address below:
Jacksonville, FI	3. Service Type Certified Mail Registered Insured Mail C.O.D.
	4. Restricted Delivery? (Extra Fee) ☐ Yes
2. Article Number (Copy from service label) Z 3	391 955
PS Form 3811, July 1999 Domestic Retu	rn Receipt 102595-99-M-1789

Z 031 391 955

US Postal Service
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D31 & D47 - CD4 - AC

Ken. Men.

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RECEIVED

APR 19 2000

April 17, 2000

BUREAU OF AIR REGULATION

Mr. Syed Arif, P.E.
Permit Engineer
Department of Environmental Protection
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32399-2400

RE:

Northside Generating Station Combustion Turbines Kennedy Generating Station Combustion Turbines

Fogging System Construction Permits

Dear Mr. Arif:

Per our conversation of this date, the proof of publications for the above referenced projects were submitted after the required seven days due to a misinterpretation of this requirement.

If you have any questions with regard to this matter, please contact me at (904) 665-6247.

Sincerely,

N. Bert Gianazza, P.E. Environmental Permitting

& Compliance Group

JACKSONVILLE ELECTRIC AUTHORITY ATTN: FAYE SCOTT 21 W CHURCH ST JACKSONVILLE FL 32202

REFERENCE: 0334975

R18480

Public Notice Of Int

State of Florida County of Duval

Before the undersigned authority personally appeared Steven L. Smith who on oath says he is a Legal Advertising Representative of The Florida Times-Union, a daily newspaper published in Jacksonville in Duval County, Florida; that the attached copy of advertisement is a legal ad published in The Florida Times-Union. Affiant further says that The Florida Times-Union is a newspaper published in Jacksonville, in Duval County, Florida, and that the newspaper has heretofore been continuously published in Duval County, Florida each day, has been entered as second class mail matter at the post office in Jacksonville, in Duval County, Florida for a period of one year preceeding the first publication of the attached copy of advertisement; | and affiant further says that he/she has neither paid nor promised any person, firm or corporation | any discount, rebate, commission, or refund for the purpose of securing this advertisement for publication in said newspaper.

PUBLISHED ON: 04/01

FILED ON: 04/01/00

Title: Legal Advertising Representative In testimony whereof, I have hereunto set my hand and affixed my official

Vora Janie Likens Commission # CG 147806 Expires Jun. 1, 2000 bonded Thru Atlant by ring to Inc.

SSUE AIR CONSTRUCTION PUBLIC NOTICE OF INTENT BEST AVAILABLE COPY STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

DEP File No. 0310047-004-AC Jacksonville Electric Authority

Jacksonville Electric Authority
Kennedy Generating Station
Units 003 - 005 Inlet Fogger Project
Duval County

The Department of Environmental Protection (Department) gives notice of its intent to issue an air construction permit to Jacksonville Electric Authority (JEA). The permit is to install foggers at the compressor inlet of three 56-megawatt, No.2 fuel oil-fired Westinghouse Model W501 combustion turbine-electrical generators at the Kennedy Generating station in Duval County. A Best Available Control Technology (BACT) determination was not required pursuant to Rule 62-212.400, F.A.C. The applicant's name and address are Jacksonville Electric Authority, 21 West Church Street, Jacksonville, Florida 27202.

These units normally achieve their maximum rated output on cold days because the greater compressor inlet density allows greater throughput in the rotor or expansion section of the combustion turbine. The maximum power output is lower on hot days because of the lower compressor inlet density. The foggers increase hot-day power input by approximately 2.5 MW through evaporotive cooling of the compressor inlet air. The foggers provide no benefit on very humid or cold days and will not be used under those conditions. Maximum power production and emissions will continue to occur at low temperature conditions with the foggers turned off. The result is that maximum hourly emissions will not increase olthough actual annual emissions will increase because more fuel will be used on hot, relatively dry days.

The number of days which the foggers can economically operate probably limits emissions increases to levels below. The number of days which the foggers can economically operate probably limits emissions increases to levels below. The number of days which the foggers can economically operate probably limits emissions increases to levels below. The number of days which is already allowed to operate continuously (8760 per year) but typically operates less than 400 hours. The foggers may not be used more than 1000 hours at each unit, or 3,000 hours collectively, but will typically operate for fewer hours than allowed. The units are not presently subject of 40CFR60, Subpart GG, Standards of Performance for, Stationary Gas Turbines. The Department has preliminarily determined that the project will not trigger applicability of Subpart GG, but has requested that EPA make the final determination on the matter. Subpart GG, but has requested that EPA make the final determination on the matter.

The maximum increase in annual emissions caused by this project in tons per year is summarized below along with the

PSD-significant levels.

Pollutants PWPM ₁₀			Annu	al Em	nission Incr	<u>ease</u>	PSD Sig	nificani 25/15	Levels	
SO ₂	:				26			40		
NO _x .					0		٠.	40		
VOC				,	1			40		
CO					Λ .			100		

An air quality impact analysis was not required or conducted. No significant impacts are expected to occur as a result of this project. It will not cause or contribute to a violation of an ambient air quality standard or increment. 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 should be provided to the Department's Bureau of Air Regulation at 2600 Bloir Stone Road, Mail Station #5505, Tallohossee, 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 attoched 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 petitian 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 (14) days of receipt of this notice of intent. Petitions filed by ony persons other listed below must be filed within fourteen (14) days of receipt of this notice of intent. Petitions filed by ony 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 (14) 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'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 ar 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 petitianer, 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 the public inspection during normal business hours, 8:00 a.m. to 5:00 p.m., Monday through Friday, except legal holidays, at:

Department of Environmental Protection

Bureau of Air Regulation 111 S. Magnolia Drive, Suite 4 Tollahassee, Florido 32301 Telephone: 850/488-0114 Fax: 850/922-6979

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

Fax: 904/448-4366

Jacksonville Regulatory and Environmental Services Department Jacksonville, Florida 32202 Telephone: 904/630-3484 Fax: 904-630-6338

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The complete project file includes the application, technical evaluation, 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, New Resource Review Section at 111 South Magnolia Drive, Suite 4, Tallahassee, Florida 32301, or call 850-448-0114, for additional information.



Department of Environmental Protection

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

David B. Struhs Secretary

October 31, 2000

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Walter P. Bussells Jacksonville Electric Authority 21 West Church Street Jacksonville, Florida 32202

RE: Kennedy Generating Station CT Inlet Foggers Facility No. 0310047-004-AC

Dear Mr. Bussells:

The Department reviewed your request dated October 27, 2000 to extend the expiration date of the above mentioned construction permit. The extension date is hereby modified From December 31, 2000 to October 31, 2001. This extension is limited only to construction and testing directly associated with the foggers that will be installed on the combustion turbines. The facility will continue to operate under the previously-issued Title V permit.

Additionally, the Department will modify the permit to add another specific condition reflecting the completion date for the initial performance test as follows:

6. Initial performance testing for NO_x emissions shall be completed by August 31, 2001 at the latest.

A copy of this letter shall be filed with the referenced permit and shall become part of the permit. This permitting decision is issued pursuant to Chapter 403, Florida Statutes.

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.

"More Protection, Less Process"

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. Mediation is not available in this proceeding.

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

Mr. Walter P. Bussells Page 3 October 31, 2000

the Administrator separately approves any variance or waiver in accordance with the procedures of the federal program.

This permitting decision is final and effective on the date filed with the clerk of the Department unless a petition is filed in accordance with the above paragraphs or unless a request for extension of time in which to file a petition is filed within the time specified for filing a petition pursuant to Rule 62-110.106, F.A.C., and the petition conforms to the content requirements of Rules 28-106.201 and 28-106.301, F.A.C. Upon timely filing of a petition or a request for extension of time, this order will not be effective until further order of the Department.

Any party to this permitting decision (order) has the right to seek judicial review of it under section 120.68 of the Florida Statutes, by filing a notice of appeal under Rule 9.110 of the Florida Rules of Appellate Procedure with the clerk of the Department of Environmental Protection in the Office of General Counsel, Mail Station #35, 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 must be filed within thirty days after this order is filed with the clerk of the Department.

Executed in Tallahassee, Florida.

Howard L. Rhodes, Director Division of Air Resources

Management

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this PERMIT MODIFICATION was sent by certified mail (*) and copies were mailed by U.S. Mail before the close of business on _//2/00 to the person(s) listed:

Walter P. Bussells, JEA*
N. Bert Gianazza, P.E., JEA
Chris Kirts, DEP-NED
Jim Manning, RESD

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)

Date)

 First 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. 	C. Signature X Agent Addressee Addressee Viscolinary address diffuser from itemst? Yes
Article Addressed to:	D. Is delivery address different from item 1? Yes If YES, enter delivery address below:
Mr. Walter P. Bussells Jacksonville Electric Authority 21 West Church Street	
Jacksonville, Florida 32202	3. Service Type □ Certified Mail □ Registered □ Return Receipt for Merchandise □ Insured Mail □ C.O.D.
	4. Restricted Delivery? (Extra Fee) ☐ Yes
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Jeb Bush Governor

Department of Environmental Protection

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

David B. Struhs Secretary

March 27, 2000

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Walter P. Bussells, CEO and Managing Director Jacksonville Electric Authority 21 West Church Street Jacksonville, Florida 32202

Re: DEP File No. 0310047-004-AC Kennedy Generating Station Units 003-005 Inlet Foggers

Dear Mr. Bussells:

Enclosed is one copy of the Draft Permit and Technical Evaluation and Preliminary Determination, for the referenced project in Duval County. 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, the legal advertisement section of a newspaper of general circulation in the area affected, pursuant to the requirements of 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 within the allotted time 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 A. A. Linero, P.E., Administrator, New Source Review Section at the above letterhead address. If you have any questions, please call Syed Arif, P.E. at 850/921-9528.

Sincerely,

C. H. Fancy, P.E., Chief, Bureau of Air Regulation

CHF/sa

Enclosures

In the Matter of an Application for Permit by:

Mr. Walter P. Bussells, CEO and Managing Director Jacksonville Electric Authority 21 West Church Street Jacksonville, Florida 32202 DEP File No. 0310047-004-AC Inlet Foggers Installation Simple Cycle Units 003-005 Kennedy Generating Station

INTENT TO ISSUE AIR CONSTRUCTION PERMIT

The Department of Environmental Protection (Department) gives notice of its intent to issue an air construction permit (copy of DRAFT Permit attached) for the proposed project, detailed in the application specified above and the attached Technical Evaluation and Preliminary Determination, for the reasons stated below.

The applicant, Jacksonville Electric Authority (JEA), applied on January 3, 2000 to the Department to add inlet foggers to three simple cycle combustion turbines (Units 003 thru 005) at the Kennedy Generating Station 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.

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 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.

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. Mediation is not available in this proceeding.

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 requested.

DEP File No. 0310047-004-AC Page 3 of 3

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.

C. H. Fancy, P.E., 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, Technical Evaluation and Preliminary Determination, and the DRAFT Permit) was sent by certified mail (*) and copies were mailed by U.S. Mail before the close of business on 3-29-00 to the person(s) listed:

Walter P. Bussells, JEA*
Bert Gianazza, JEA
Chris Kirts, DEP-NED
Jim Manning, RESD
Ken Kosky, P.E., Golder Associates

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)

Date)

HOTICE TO BE PUBLISHED IN THE NEWSPAPER

PUBLIC NOTICE OF INTENT TO ISSUE AIR CONSTRUCTION PERMIT

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

DEP File No. 0310047-004-AC

Jacksonville Electric Authority
Kennedy Generating Station
Units 003 – 005 Inlet Fogger Project
Duval County

The Department of Environmental Protection (Department) gives notice of its intent to issue an air construction permit to Jacksonville Electric Authority (JEA). The permit is to install foggers at the compressor inlet of three 56-megawatt, No. 2 fuel oil-fired Westinghouse Model W501 combustion turbine-electrical generators at the Kennedy Generating Station in Duval County. A Best Available Control Technology (BACT) determination was not required pursuant to Rule 62-212.400, F.A.C. The applicant's name and address are Jacksonville Electric Authority, 21 West Church Street, Jacksonville, Florida 32202.

These units normally achieve their maximum rated output on cold days because the greater compressor inlet density allows greater throughput in the rotor or expansion section of the combustion turbine. The maximum power output is lower on hot days because of the lower compressor inlet density. The foggers increase hot-day power output by approximately 2.5 MW through evaporative cooling of the compressor inlet air. The foggers provide no benefit on very humid or cold days and will not be used under those conditions. Maximum power production and emissions will continue to occur at low temperature conditions with the foggers turned off. The result is that maximum hourly emissions will not increase although actual annual emissions will increase because more fuel will be used on hot, relatively dry days.

The number of days during which the foggers can economically operate probably limits emissions increases to levels below significance for the purposes of PSD applicability. JEA, however, proposes enforceable conditions to insure non-applicability. Each unit is already allowed to operate continuously (8760 per year) but typically operates less than 400 hours. The foggers may not be used more than 1000 hours at each unit, or 3,000 hours collectively, but will typically operate for fewer hours than allowed. The units are not presently subject to 40CFR60, Subpart GG, Standards of Performance for Stationary Gas Turbines. The Department has preliminarily determined that the project will not trigger applicability of Subpart GG, but has requested that EPA make the final determination on the matter.

The maximum increase in annual emissions caused by this project in tons per year is summarized below along with the PSD-significant levels.

<u>Pollutants</u>	Annual Emission Increase	PSD Significant Levels
PM/PM ₁₀	2	25/15
SO ₂	26	40
NO_X	0	40
VOC	1	40
CO	. 0	100

An air quality impact analysis was not required or conducted. No significant impacts are expected to occur as a result of this project. It will not cause or contribute to a violation of any ambient air quality standard or increment.

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 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.

Notice to be published

IN THE NEWSPARE

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 (14) 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 (14) 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'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.

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:

Department of Environmental Protection Bureau of Air Regulation 111 S. Magnolia Drive, Suite 4

Tallahassee, Florida 32301 Telephone: 850/488-0114

Fax: 850/922-6979

Department of Environmental Protection Northeast District Office 7825 Baymeadows Way, Suite 200B

Jacksonville, Florida 32256-7590 Telephone: 904/448-4300 Fax: 904/448-4366 Jacksonville Regulatory and Environmental Services Department Suite 225

Jacksonville, Florida 32202 Telephone: 904/630-3484 Fax: 904-630-6338

The complete project file includes the application, technical evaluation, 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, New Resource Review Section at 111 South Magnolia Drive, Suite 4, Tallahassee, Florida 32301, or call 850/488-0114, for additional information.

1. Applicant

Jacksonville Electric Authority (JEA) 21 West Church Street Jacksonville, Florida 32202-3139

Authorized Representative: Walter P. Bussells, CEO and Managing Director

2. Source Name and Location

Kennedy Generating Station 4215 Tallyrand Avenue Jacksonville, Duval County

UTM Coordinates: Zone 17, 440.1 km East and 3359.15 km North

3. Source Description

The Jacksonville Electric Authority (JEA) Kennedy Generating Station consists of three Fossil Fuel Fired-Steam Generators (FFFSG) and 3 simple cycle combustion turbines. The 3 combustion turbines (Emission Units 003 thru 005) are each 56 MW Westinghouse Model W501 combustion turbine-electrical generators. These units are fired with No. 2 distillate fuel with a maximum sulfur content of 0.5%, by weight. Each combustion turbine-electrical generator unit is allowed to operate continuously (8,760 hours per year). These units actually operate as peaking units and typically operate less than 400 hours per year each.

4. Current Permit and Major Regulatory Program Status

The three simple cycle combustion turbines commenced commercial operation 1973. These three peakers and the other three conventional units at the plant are operated under Title V Air Operation Permit No. 0310047-001-AV effective date January 1, 1998.

According to the Title V permit, these combustion turbines are not subject to 40 CFR 60, New Source Performance Standard (NSPS) Subpart GG - Standards of Performance for Stationary Gas Turbines, adopted by reference in Rule 62-204.800, F.A.C.

5. Permit Modification Request

On January 3, 2000 the Department received a request from JEA for a permit to install foggers at the compressor inlets of Emissions Units 003 through 005. These units normally achieve their maximum rated output on cold days because the greater compressor inlet air density allows greater throughput in the rotor or expansion section of the combustion turbine. The maximum power output is lower on hot days because of the lower compressor inlet density. The foggers increase hot-day power output by approximately 2-3 MW through evaporative cooling of the compressor inlet air. The foggers provide little or no benefit on humid or cold days and will not be used under those conditions.

Inlet foggers are routinely included in new combustion turbine projects whether or not subject to Prevention of Significant Deterioration or Best Available Control Technology.

6. Emissions Increases Due to Modification/Method of Operation

The foggers are physical pieces of equipment whose addition and use can increase emissions on hot or dry days. The use of the foggers can also be considered a change in method of operation of the inlet "air conditioning system" that is already used to filter incoming air.

The maximum short-term emissions increases were estimated by JEA using the heat input associated with a 16 degree F decrease in compressor inlet temperature. The maximum annual increases were estimated by JEA using the annual average inlet cooling of 11 degrees F. The increase in heat-input rate as a function of temperature was estimated by the applicant as 3.1 mmBtu for every degree F temperature decrease. This was then used with the hours of operation to calculate the increases of particulate matter (PM), sulfur dioxide (SO₂) and volatile organic compounds (VOC) in tons per year. Actual fogging tests were performed on emission unit 8 at Northside Generating Station to evaluate nitrogen oxides (NO_x) and carbon monoxide (CO) emission rates. The results indicated that the NO_x emission rate in lb/mmbtu for the fogging operation is statistically lower at the 95 percent confidence level than at base load operation without fogging. All the data for CO demonstrated no increase in emissions. The results were estimated by JEA and are summarized below together with annual emission increase estimates. These are based on 1000 hours of operation per fogger per year (3000 hr/yr for all 3 units) and use of No. 2 fuel oil.

TOTAL EMISSIONS INCREASES DUE TO USE OF INLET FOGGERS AT THREE UNITS

Pollutant	Emission Rate <u>lb/mmBtu</u>	Annual Increase tons/yr	PSD Threshold tons/yr
NO.	_	0	40
PM/PM_{10}	0.038	1.92	25/15
СО		0	100
VOC	0.017	0.85	40
SO_2	0.505	25.55	40

The emissions increases calculated are the direct result from the physical change in or change in method of operation, i.e. the installation and use of the inlet foggers. These assume that the ability to achieve greater power output when the foggers are used does not result in emissions increases outside the turbines original power curve. The rationale is discussed below.

The emissions characteristics (performance curves) do not change as a result of the use of the foggers from what would normally occur throughout the entire range of temperatures and relative humidity. Rather, the foggers move the operating points along the same curve toward the power and emissions that normally occur at lower temperatures. The worst case emissions scenario will still occur during the winter months and will occur with the foggers off. This is because of the higher air density and mass flow during cold weather allows higher heat input and power output. At low temperature, very little cooling can be attained because cold air cannot evaporate and hold much moisture. Under such conditions, icing can occur which is detrimental to the units.

7. Evaluation of PSD Applicability.

As a major source, a modification or change in method of operation of Emissions Units 003 thru 005 resulting in **significant net emissions increases** (major modification) is subject to PSD review. Significant net emissions increase is defined in Rule 62-212.400, F.A.C as follows:

<u>Significant Net Emissions Increase</u> – A significant net emissions increase of a pollutant regulated under the Act is a **net emissions increase** equal to or greater than the applicable significant emission rate listed in Table 212.400-2, Regulated Air Pollutants – Significant Emission Rates.

The significant emission rates are included (see PSD Threshold) in the Table above. The meaning of a net emissions increase is given in Rule 62-212.400, F.A.C. as:

<u>Net Emissions Increase</u> - A modification to a facility results in a net emissions increase when, for a pollutant regulated under the Act, the sum of all of the contemporaneous creditable increases and decreases in the actual emissions of the facility, including the increase in emissions of the modification itself and any increases and decreases in quantifiable fugitive emissions, is greater than zero.

The definition of actual emissions is given in Rule 62-210.200, F.A.C. (definitions) as follows:

<u>Actual Emissions</u> - The actual rate of emission of a pollutant from an emissions unit as determined in accordance with the following provisions:

- (a) In general, actual emissions as of a particular date shall equal the average rate, in tons per year, at which the emissions unit actually emitted the pollutant during a two year period which precedes the particular date and which is representative of the normal operation of the emissions unit. The Department may allow the use of a different time period upon a determination that it is more representative of the normal operation of the emissions unit. Actual emissions shall be calculated using the emissions unit's actual operating hours, production rates and types of materials processed, stored, or combusted during the selected time period.
- (b) The Department may presume that unit-specific allowable emissions for an emissions unit are equivalent to the actual emissions of the emissions unit provided that, for any regulated air pollutant, such unit-specific allowable emissions limits are federally enforceable.
- (c) For any emissions unit (other than an electric utility steam-generating unit specified in subparagraph (d) of this definition) which has not begun normal operations on a particular date, actual emissions shall equal the potential emissions of the emissions unit on that date.

The term normal operations appears to be undefined and subject to some interpretation. Potential emissions are defined as follows:

Potential Emissions or Potential to Emit - The maximum capacity of an emission unit or facility to emit a pollutant under its physical and operational design. Any enforceable physical or operational limitation on the capacity of the emission unit or facility to emit a pollutant, including any air pollution control equipment and any restrictions on hours of operation or on the type or amount of material combusted, stored, or processed shall be treated as part of its design provided that, for any regulated air pollutant, such physical or operational limitation is federally enforceable.

According to information in the Department's emission database and information provided by JEA, there has been increased annual usage of these units over the years as shown below. Annual actual hours of operation since 1994 are as follows:

		Annual Ope	erating Hour	s 1994	4 - 1998 ·	
Unit/Year	<u> 1994</u>	<u>1995</u>	<u>1996</u>	1	<u> 1997</u>	<u>1998</u>
				i		
All Units	16	126	134		85	1,213

There was an increase during 1995-97 compared with 1994 and a big increase in 1998 compared to previous years. Despite the relatively large increase in 1998, the usage represents little more than 3 percent of the allowable annual operation.

As it can be seen from the Table, recent hours of operation have increased. They are actually fairly high compared with the historically low levels of operation characteristic of these peaking units. Among the reasons for the relatively high levels since 1994 are the very hot summers, especially in 1998, and the recognized low electrical power reserve margin in the State. These units are allowed to operate continuously.

If these units were being entirely replaced by larger units, it would be clear that they have not begun normal operations. In such a case, a comparison of future to past actual emissions would be based on a comparison of potential emissions to past actual emissions. Such a comparison would undoubtedly result in a determination that PSD is applicable unless the company took an extreme limitation in hours of operation.

If a like-kind replacement was being made, the same comparison would also result in a determination that PSD is applicable. That particular case was addressed for the purposes of comparison to the specific case addressed in the Puerto Rican Cement Decision. This is the watershed Federal Circuit Court of Appeals decision that upheld the past actual-to-potential emission comparison applicable to (at least) modernization projects. The comments of interest for the purposes of the present review are as follows:

"One can imagine circumstances that might test the reasonableness of EPA's regulation. An electricity company, for example, might wish to replace a peak load generator -- one that operates only a few days per year -- with a new peak load generator that the firm could, but almost certainly will not, operate every day. And, uncertainties about the precise shape of future electricity peak demand might make the firm hesitate to promise EPA it will never increase actual emissions (particularly since EPA insists, as a condition of accepting the promise and issuing the NAD, that the firm also promise not to apply for permission for an actual increase under the PSD review process). Whatever the arguments about the "irrationality" of EPA's interpretation in such circumstances, however, those circumstances are not present here. The Company is not interested in peak load capacity; it operated its old kilns at low levels in the past; its new, more efficient kiln might give it the economic ability to increase production; consequently, EPA could plausibly fear an increase in actual emissions were it to provide the NAD. Thus, this seems the very type of case for which the regulations quoted above were written. We can find nothing arbitrary or irrational about EPA applying those regulations to the Company's proposal."

The JEA inlet fogger project is yet another step removed from a modernization project than the like-kind replacement example. The units will not be replaced at all. The modification and its effects can be isolated and directly estimated. The units began commercial operation in 1973. The addition of the inlet foggers will not change that fact or cause an increase in hours of operation. The modification itself (i.e. installation and operation of the foggers), however, has not yet begun normal operation. The future actual emissions based on potential to emit and estimated through the use of increases in heat input associated with the use of the fogging system are below the PSD significant levels.

The number of days during which the foggers can economically operate probably limits actual emissions increases to levels below significance for the purposes of PSD applicability. However, JEA proposes to limit operation of the foggers to 3000 hours per year (total of 1000 hours per unit). Emissions will increase under these limitations (as previously tabulated) by levels less than the significant emissions rates. The Department concludes, therefore that PSD does not apply to this project.

8. Evaluation of NSPS, Subpart GG Applicability

As a major source, a physical change in or change in the method of operation resulting in an increase in the amount of any air pollutant (which a standard applies) is subject to applicable requirements of 40 CFR 60, Standards of Performance for New Stationary Sources. Modification under 40 CFR 60.2 [Rule 62.204.800 F.A.C.] is defined as follows:

<u>Modification</u> means any physical change in, or change in the method of operation of, an existing facility which increase the amount of any air pollutant (to which a standard applies) emitted into the atmosphere by that facility or which results in the emissions of any air pollutant (to which a standard applies) into the atmosphere not previously emitted.

The installation of the foggers does not change maximum short-term emissions rates as these are already achieved under natural conditions of low ambient temperatures without the use of the foggers. The inlet fogger installation only changes the ambient conditions that do occur during the normal operation of the turbines. Therefore, the inlet foggers installation do not make the combustion turbines subject to 40 CFR 60 Subpart GG because, the physical change in or change in the method of operation of, caused by the foggers installation does not increase the (maximum short-term) amount of any air pollutant. The Department will request EPA concurrence on this matter.

9. Proposed Addition of New Conditions to Title V and Issuance of a Construction Permit

The JEA Kennedy combustion turbines units 003 through 005 do not have construction permits. Appendix H-1, Permit History of the Title V permit lists only one operation permit No. AO16-173880 issued on March 9, 1990. The Department will issue an air construction permit incorporating all applicable requirements stated in the Title V permit and adding a condition authorizing installation and operation of the inlet foggers.

The new condition applicable to the inlet foggers proposed for Units 003 through 005 are shown in the draft construction permit. It limits operation of the inlet foggers to 1000 hours per unit per year or a cumulative amount of 3,000 hours of operation for the three combustion turbines.

10. Conclusions

The changes authorized by this permit modification will not cause increases in hours of operation and will not result in significant net emissions increases. The project will not increase the maximum short-term emission rates as these are already achieved under natural conditions of low ambient temperatures without the use of the foggers. Therefore, the Department concludes that the 40 CFR60 NSPS Subpart GG is not applicable to these units as a result of the installation of the foggers.

The Department also concludes that PSD is not applicable to this project since the project as presented is not a major modification to a major facility. The changes will not cause a significant impact or cause or contribute to a violation of any ambient air quality standard or PSD increment.

The Department's conclusion does not set a precedent for other projects implemented at any facilities other than simple cycle peaking units. It does not set precedents related to any physical changes within the compressors, combustors, rotors, or other key components at such units. The application and determination of the Department's rules does not constitute an interpretation of the EPA rules under 40CFR52.21, Prevention of Significant Deterioration or 40CFR60, New Source Performance Standards. The Department has requested EPA's concurrence on applicability of 40 CFR, Subpart GG.

For further details regarding this review, contact:

Syed Arif, P.E., Review Engineer New Source Review Section Bureau of Air Regulation 850/921-9528

DRAFT

PERMITTEE:

Jacksonville Electric Authority 21 West Church Street Jacksonville, Florida 32202

Authorized Representative:

Mr. Walter P. Bussells

DEP File No. 0310047-004-AC

Project Emissions Units 003 –005

Inlet Foggers

SIC No. 4911

Expires: December 31, 2000

PROJECT AND LOCATION:

Permit for the installation of inlet foggers on the three 56 (gross capacity) megawatt simple cycle Westinghouse (Model W501) combustion turbine-electrical generators Emissions Units 003 thru 005.

The units are located at the JEA Kennedy Generating Station, 4215 Tallyrand Avenue, Jacksonville, Duval County. UTM coordinates are: Zone 17; 440.1 km E and 3359.15 km N.

STATEMENT OF BASIS:

This construction permit is issued under the provisions of Chapter 403 of the Florida Statutes (F.S.), and Chapters 62-4, 62-204, 62-210, 62-212, 62-296, and 62-297 of the Florida Administrative Code (F.A.C.). The above named permittee is authorized to modify the facility in accordance with the conditions of this permit and as described in the application, approved drawings, plans, and other documents on file with the Department of Environmental Protection (Department).

ATTACHED APPENDIX MADE A PART OF THIS PERMIT:

Appendix GC

Construction Permit General Conditions

Howard L. Rhodes, Director Division of Air Resources Management



FACILITY DESCRIPTION

This facility consists of three boilers, Nos. 8, 9 and 10; three combustion turbines, Nos. 3, 4, and 5; and, an auxiliary boiler, No. 1. The auxiliary boiler is allowed to operate when one of the boilers (No. 8, No. 9, or No. 10) is under standby status. There are no air pollution controls associated with the boilers. Boilers Nos. 8, 9 and 10 fire natural gas and/or No. 6 fuel oil; the combustion turbines fire only virgin No. 2 fuel oil; and, the auxiliary boiler fires No. 2 fuel oil and/or natural gas. There is a fuel oil storage tank farm associated with the boilers and turbines. This permitting action is for the installation of inlet foggers at the three (3) virgin No. 2 fuel oil-fired simple cycle combustion turbines that commenced commercial operation in 1973.

This Project is exempt from the requirements of Rule 62-212.400, F.A.C., Prevention of Significant Deterioration (PSD) as discussed stated in the Technical Evaluation and Preliminary Determination dated March xx, 2000.

REGULATORY CLASSIFICATION

This facility, JEA Kennedy Generating Station, is classified as a Major or Title V Source of air pollution because emissions of at least one regulated air pollutant, such as particulate matter (PM/PM₁₀), sulfur dioxide (SO₂), nitrogen oxides (NO_X), carbon monoxide (CO), or volatile organic compounds (VOC) exceeds 100 tons per year (TPY).

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).

This facility is a major source of hazardous air pollutants (HAPs) and is also subject to the provisions of Title IV, Acid Rain, Clean Air Act as amended in 1990.

PERMIT SCHEDULE

•	04/xx/00	Notice of Intent published in
•	03/xx/00	Distributed Intent to Issue Permit
•	01/03/00	Received Application

• 02/24/00 Application deemed complete

RELEVANT DOCUMENTS:

The documents listed below are the basis of the permit. They are specifically related to this permitting action, but not all are incorporated into this permit. These documents are on file with the Department.

- Application received on January 3, 2000.
- Department's incompleteness letter dated January 31, 2000
- JEA's response to Department's incompleteness letter received on February 24, 2000.
- Department's Intent to Issue and Public Notice Package dated March xx, 2000.



PERMIT SPECIFIC CONDITIONS

This permit addresses the following emissions units.

E.U. ID No.	Brief Description
-003	Combustion Turbine No. 3
-004	Combustion Turbine No. 4
-005	Combustion Turbine No. 5

- 1. This permit, 0310047-004-AC, is limited to the installation of three inlet foggers on Emission Units 003-005 as described in Permit 0310047-001-AV.
- 2. The provisions of Permit 0310047-001-AV remain in effect. However, an application shall be submitted to revise that permit to reflect the installation of three inlet foggers on Emission Units 003-005.
- 3. Inlet foggers may be installed at the compressor inlet to each of the three Westinghouse Model W 501 combustion turbine-electric generators. The four foggers may operate up to 3,000 hours per year in aggregate (average 1000 hours per unit per year). Maximum heat input shall not exceed 634 mmBtu/hr/unit and NOx emissions shall not exceed 300 lb/hr /unit at 90° F and 63 percent RH. This maximum heat input rate will vary depending upon ambient conditions and the combustion turbine characteristics. Manufacturer's curves corrected for site conditions or equations for correction to other ambient conditions shall be provided to the Department of Environmental Protection (DEP) within 45 days of completing the initial compliance testing after the foggers are installed. Thereafter, compliance shall be demonstrated as required in Rule 62-297.310(7). Nitrogen oxides emissions shall be demonstrated by a stack test on one representative turbine. Testing shall be performed each federal fiscal year, no later than September 30th. [Rule 62-296.570(4)(a)3, and (4)(b)5., F.A.C.]
- 4. The permittee shall record on a monthly basis in a written log the number of hours of operation for each evaporative cooling system and the total combined hours of operation for the previous 12 months for all three evaporative cooling systems. [Rule 62-4.160(15), F.A.C.]
- 5. The test method for visible emissions shall be EPA Method 9 and the test method for nitrogen oxides shall be EPA Method 7, incorporated and adopted by reference in Rule 62-204.800, F.A.C., and referenced in Chapter 62-297, F.A.C.[Rules 62-204.800, 62-296.320(4)(b)4.a. and 62-297.401, F.A.C.; and, Part XI, Rule 2.1101, JEPB]

GENERAL PERMIT CONDITIONS [F.A.C. 62-4.160]

- G.I The terms, conditions, requirements, limitations, and restrictions set forth in this permit are "Permit Conditions" and are binding and enforceable pursuant to Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.
- G.2 This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings or exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.
- G.3 As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey and vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations. This permit is not a waiver or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in the permit.
- G.4 This permit conveys no title to land or water, does not constitute State recognition or acknowledgment of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title.
- G.5 This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department.
- G.6 The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditions of this permit, as required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules.
- G.7 The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be required by law and at a reasonable time, access to the premises, where the permitted activity is located or conducted to:
 - a) Have access to and copy and records that must be kept under the conditions of the permit;
 - b) Inspect the facility, equipment, practices, or operations regulated or required under this permit, and,
 - c) Sample or monitor any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.

Reasonable time may depend on the nature of the concern being investigated.

- G.8 If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Department with the following information:
 - a) A description of and cause of non-compliance; and
 - b) The period of noncompliance, including dates and times; or, if not corrected, the anticipated time the non-compliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the non-compliance.

GENERAL PERMIT CONDITIONS [F.A.C. 62-4.160]

The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or for revocation of this permit.

- G.9 In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source which are submitted to the Department may be used by the Department as evidence in any enforcement case involving the permitted source arising under the Florida Statutes or Department rules, except where such use is prescribed by Sections 403.73 and 403.111, Florida Statutes. Such evidence shall only be used to the extend it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.
- The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable G.10 time for compliance, provided, however, the permittee does not waive any other rights granted by Florida Statutes or Department rules.
- G.11 This permit is transferable only upon Department approval in accordance with Florida Administrative Code Rules 62-4.120 and 62-730.300, F.A.C., as applicable. The permittee shall be liable for any noncompliance of the permitted activity until the transfer is approved by the Department.
- This permit or a copy thereof shall be kept at the work site of the permitted activity. G.12
- G.13 This permit also constitutes:
 - a) Determination of Best Available Control Technology ()
 - b) Determination of Prevention of Significant Deterioration (); and
 - c) Compliance with New Source Performance Standards ().
- G.14 The permittee shall comply with the following:
 - a) Upon request, the permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the Department.
 - b) The permittee shall hold at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation) required by the permit, copies of all reports required by this permit, and records of all data used to complete the application or this permit. These materials shall be retained at least three years from the date of the sample, measurement, report, or application unless otherwise specified by Department rule.
 - c) Records of monitoring information shall include:
 - 1. The date, exact place, and time of sampling or measurements;
 - 2. The person responsible for performing the sampling or measurements;
 - 3. The dates analyses were performed;
 - 4. The person responsible for performing the analyses;
 - 5. The analytical techniques or methods used; and
 - 6. The results of such analyses.
- G.15 When requested by the Department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware that relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be corrected promptly.

TO:

C. H. Fancy

THRU:

FROM:

Al Linero Raf 3/23
Syed Arif Syed Auf 3/22

DATE:

March 22, 2000

SUBJECT:

JEA's Kennedy Plant Fogger Project

DEP File No. 0310047-004-AC

Attached is the draft public notice package including the Intent to Issue and the Technical Evaluation and Preliminary Determination for the inlet fogger project. The application is to install inlet foggers ahead of the compressor inlets of three simple cycle combustion turbines. The foggers will operate on hot days and days of relatively low humidity. The evaporative cooling effected by the foggers will allow the units to operate closer to their rated capacity.

Emissions will increase because the heat rate through the units will increase when the foggers are used and effectively cool the inlet air. JEA proposes to limit operation of the coolers to 1000 hours per unit per year to insure PSD is not triggered by their use. The issue of making a future potential to past actual annual emission increase calculation is extensively addressed in the Technical Evaluation. We will request EPA concurrence on NSPS non-applicability.

I recommend your signature and approval of the cover letter and Intent to Issue.

SA/a

Attachments

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Receipt for Certified Mail
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Do not use for International Mail (See reverse)
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Department of Environmental Protection

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

David B. Struhs Secretary

January 31, 2000

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Walter P. Bussells, CEO and Managing Director
Jacksonville Electric Authority
21 West Church Street
Jacksonville, Florida 32202

Re: DEP File No. 0310045-004-AC

Kennedy Plant, Spray Fogging Systems

Dear Mr. Bussells:

The Department has received the application on January 3, 2000 for the installation of direct water spray fogging systems in the inlet ducts of the existing 3 simple cycle combustion turbines at the above referenced facility in Duval County. Based on our initial review of the proposed project, we have determined that additional information is needed in order to continue processing this application package. Please submit the information requested below to the Department's Bureau of Air Regulation:

- 1. Please provide the necessary calculations to support the maximum annual emissions numbers for PM, SO, and VOC as outlined on Page 5, Part II of the application.
- 2. Please indicate if the PSD analysis for increase in annual potential emissions were done assuming that the past actual emissions were zero. There are no calculations available in the application for the determination of past actual emissions. Normally, the PSD applicability review requires a comparison of past actual emissions with future potential emissions.
- 3. Please indicate if the 1000 hrs/yr fogging operation for each of the 3 combustion turbines is in excess of the past 2-year average base operation for the same units. Will there be an increase in the base operation of these units compared to their past 2-year average. If so, was that taken into account when determining the increase in annual potential emissions on Page 5, Part II of the application.

The Department will resume processing this application after receipt of the requested information. Rule 62-4.050(3), F.A.C. requires that all applications for a Department permit must

Mr. Walter P. Bussells January 31, 2000 Page 2 of 2

be certified by a professional engineer registered in the State of Florida. This requirement also applies to responses to Department requests for additional information of an engineering nature. A new certification statement by the authorized representative or responsible official must accompany any material changes to the application. Rule 62-4.055(1), F.A.C. now requires applicants to respond to requests for information within 90 days. If there are any questions, please call Syed Arif, P.E. at (850) 921-9528.

Sincerely,

A.A. Linero, P.E. Administrator

New Source Review Section

AAL/sa

cc: Ken Kosky, Golder Associates, Inc.

Bert Gianazza, JEA C. Kirts, DEP-NED

J. Manning, RESD

Fold at line over top of envelope to SENDER: reverse side? I also wish to receive the ■ Complete items 1 and/or 2 for additional services. ■ Complete items 3, 4a, and 4b. ■ Print your name and address on the reverse of this form so that we can return this card to you. ■ Attach this form to the front of the mailpiece, or on the back if space does not permit following services (for an .extra fee): Service 1. Addressee's Address permit. Write "Return Receipt Requested" on the mailpiece below the article number. The Return Receipt will show to whom the article was delivered and the date 2. Restricted Delivery Consult postmaster for fee. Return Receipt delivered. 5 3. Article Addressed to: 4a. Article Number 203 RETURN ADDRESS completed 4b. Service Type Certified ☐ Registered using ☐ Insured ☐ Express Mail Return Receipt for Merchandise ☐ COD Thank you for 7. Date of Belivery 5. Received By: (Print Name) 8. Addressee's Address (Only if requested and fee is paid) 6. Signature: (Addressee or Agent)

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PS Form **3811**, December 1994

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December 30, 1999

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BUREAU OF AIR REGULATION

Mr. Al Linero, P.E. New Source Review Administrator Department of Environmental Protection Twin Towers Office Building 2600 Blair Stone Road Tallahassee, FL 32399-2400

RE:

Northside Generating Station

Kennedy Generating Station

Combustion Turbine Fogging Systems

(D 6310045-004-AC

(2) 0310047-004-AC

Dear Mr.Linero:

Enclosed please find an original and four (4) copies each of the permit applications for installing spray fogging systems on the existing combustion turbines at the Northside and Kennedy Generating Stations.

If you have any questions with regard to this matter, please contact me at (904) 665-6247.

Sincerely,

N. Bert Gianazza, P.E.

Environmental Permitting

& Compliance Group

cc: Steve Pace, P.E., RESD

NED

APPLICATION FOR AIR PERMIT INSTALLATION OF DIRECT WATER SPRAY FOGGING SYSTEMS JACKSONVILLE ELECTRIC AUTHORITY NORTHSIDE PLANT

Prepared For:

Jacksonville Electric Authority 21 West Church Street Jacksonville, Florida 32202-3139

Prepared By:

Golder Associates Inc. 6241 NW 23rd Street, Suite 500 Gainesville, Florida 32653

> December 1999 9937578Y/F1

DISTRIBUTION:

3 Copies - Jacksonville Electric Authority 1 Copies - Golder Associates Inc.

PART I APPLICATION FOR AIR PERMIT LONG FORM



Department of Environmental Protection

Division of Air Resources Management

APPLICATION FOR AIR PERMIT - TITLE V SOURCE

See Instructions for Form No. 62-210.900(1)

I. APPLICATION INFORMATION

Identification of Facility

1.	Facility Owner/Company Name: JEA			
2.	Site Name:			
	Northside Generating Station			
3.	Facility Identification Number: 0310045 [] Unknown			
4.	Facility Location: Street Address or Other Locator: 4377 Hecksher Drive			
	City: Jacksonville County: Duval Zip Code: 32218			
5.	Relocatable Facility? 6. Existing Permitted Facility?			
	[] Yes [X] No [] Yes [] No			
<u>Ar</u>	oplication Contact			
1.	Name and Title of Application Contact:			
	Mr. N. Bert Gianazza, P.E.			
2.	Application Contact Mailing Address:			
	Organization/Firm: JEA Environmental Permitting and Compliance Group			
	Street Address: 21 West Church Street – 8th Floor			
	City: Jacksonville State: FL Zip Code: 32202			
3.	Application Contact Telephone Numbers:			
	Telephone: (904) 665 - 6247 Fax: (904) 665 - 7376			
Application Processing Information (DEP Use)				
1.	Date of Receipt of Application: Sanuary 3, 7500			
2.	Permit Number: 0310045-004-AC			
3.	PSD Number (if applicable):			
4.	Siting Number (if applicable):			

DEP Form No. 62-210.900(1) - Form Effective: 2/11/99

Purpose of Application

Air Operation Permit Application

Th	is	Application for Air Permit is submitted to obtain: (Check one)
[]	Initial Title V air operation permit for an existing facility which is classified as a Title V source.
[]	Initial Title V air operation permit for a facility which, upon start up of one or more newly constructed or modified emissions units addressed in this application, would become classified as a Title V source.
		Current construction permit number:
[]	Title V air operation permit revision to address one or more newly constructed or modified emissions units addressed in this application.
		Current construction permit number:
		Operation permit number to be revised:
[]	Title V air operation permit revision or administrative correction to address one or more proposed new or modified emissions units and to be processed concurrently with the air construction permit application. (Also check Air Construction Permit Application below.)
		Operation permit number to be revised/corrected:
[]	Title V air operation permit revision for reasons other than construction or modification of an emissions unit. Give reason for the revision; e.g., to comply with a new applicable requirement or to request approval of an "Early Reductions" proposal.
		Operation permit number to be revised:
		Reason for revision:
Ai	r (Construction Permit Application
Th	is	Application for Air Permit is submitted to obtain: (Check one)
[X]	Air construction permit to construct or modify one or more emissions units.
[]	Air construction permit to make federally enforceable an assumed restriction on the potential emissions of one or more existing, permitted emissions units.
[]	Air construction permit for one or more existing, but unpermitted, emissions units.

Owner/Authorized Representative or Responsible Official

1.	Name and Title of Owner/Authorized Representative or Responsible Official:
	Walter P. Bussells, CEO and Managing Director

2. Owner/Authorized Representative or Responsible Official Mailing Address:

Organization/Firm: Jacksonville Electric Authority

Street Address: 21 West Church Street

City: Jacksonville

State: FL

Zip Code: **32202**

3. Owner/Authorized Representative or Responsible Official Telephone Numbers:

Telephone: (904) 665 - 7220

Fax: (904) 665 - 7376

4. Owner/Authorized Representative or Responsible Official Statement:

I, the undersigned, am the owner or authorized representative*(check here [], if so) or the responsible official (check here [], if so) of the Title V source addressed in this application, whichever is applicable. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made in this application are true, accurate and complete and that, to the best of my knowledge, any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. The air pollutant emissions units and air pollution control equipment described in this application will be operated and maintained so as to comply with all applicable standards for control of air pollutant emissions found in the statutes of the State of Florida and rules of the Department of Environmental Protection and revisions thereof. I understand that a permit, if granted by the Department, cannot be transferred without authorization from the Department, and I will promptly notify the Department upon sale or leggle transferred any permitted emissions unit.

Signature

Date

Professional Engineer Certification

1. Professional Engineer Name: Kennard F. Kosky

Registration Number: 14996

2. Professional Engineer Mailing Address:

Organization/Firm: Golder Associates Inc.

Street Address: 6241 NW 23rd Street, Suite 500

City: Gainesville State: FL Zip Code: 32653-1500

3. Professional Engineer Telephone Numbers:

Telephone: (352) 336 - 5600 Fax: (352) 336 - 6603

^{*} Attach letter of authorization if not currently on file.

4. Professional Engineer Statement:

I, the undersigned, hereby certify, except as particularly noted herein*, that:

- (1) To the best of my knowledge, there is reasonable assurance that the air pollutant emissions unit(s) and the air pollution control equipment described in this Application for Air Permit, when properly operated and maintained, will comply with all applicable standards for control of air pollutant emissions found in the Florida Statutes and rules of the Department of Environmental Protection; and
- (2) To the best of my knowledge, any emission estimates reported or relied on in this application are true, accurate, and complete and are either based upon reasonable techniques available for calculating emissions or, for emission estimates of hazardous air pollutants not regulated for an emissions unit addressed in this application, based solely upon the materials, information and calculations submitted with this application.

If the purpose of this application is to obtain a Title V source air operation permit (check here [], if so), I further certify that each emissions unit described in this Application for Air Permit, when properly operated and maintained, will comply with the applicable requirements identified in this application to which the unit is subject, except those emissions units for which a compliance schedule is submitted with this application.

If the purpose of this application is to obtain an air construction permit for one or more proposed new or modified emissions units (check here [X], if so), I further certify that the engineering features of each such emissions unit described in this application have been designed or examined by me or individuals under my direct supervision and found to be in conformity with sound engineering principles applicable to the control of emissions of the air pollutants characterized in this application.

If the purpose of this application is to obtain an initial air operation permit or operation permit revision for one or more newly constructed or modified emissions units (check here [], if so), I further certify that, with the exception of any changes detailed as part of this application, each such emissions unit has been constructed or modified in substantial accordance with the information given in the corresponding application for air construction permit and with all provisions contained in such permit.

Mound F. Holy	12/20/99	
Signature	Date	

Attach any exception to certification statement.

Effective: 2/11/99

9937578Y/F1/TV

Scope of Application

Emissions		Permit	Processing
Unit ID	Description of Emissions Unit	Туре	Fee
006	Combustion Turbine No. 3	AC1B	
007	Combustion Turbine No. 4	AC1B	
008	Combustion Turbine No. 5	AC1B	
009	Combustion Turbine No. 6	AC1B	
		-	
	·		

Application Processing Fee	
Check one: [] Attached - Amount: \$:	[X] Not Applicable

Construction/Modification Information

Installation of direct water spray inlet fogging systems. Since the facility holds a Title V permit pursuant to Chapter 62-213 F.A.C., a permit fee is not required. Refer to Part II for discussion.
2. Projected or Actual Date of Commencement of Construction
3. Projected Date of Completion of Construction:
Application Comment
Existing gas turbines Nos. 3 through 6 will be installed with direct water spray fogging systems that will reduce the turbine inlet air temperature. The temperature reduction will improve the heat rate and increase power due to the cooler-denser inlet air. The net emissions change from this project will not result in an increase of any regulated pollutant greater than the PSD significant emission rates. Therefore, PSD review does not apply to proposed project. Refer to Part II for discussion.

II. FACILITY INFORMATION

A. GENERAL FACILITY INFORMATION

Facility Location and Type

1.	Facility UTM Coor	dinates:		
	Zone: 17	East (km):	446.9 Nor	th (km): 3359.15
2.	Facility Latitude/Lo	ongitude:		
	Latitude (DD/MM/	SS): 30 / 21 / 52	Longitude (DD/M)	M/SS): 81 / 37 / 25
3.	Governmental	4. Facility Status	5. Facility Major	6. Facility SIC(s):
	Facility Code:	Code:	Group SIC Code:	
	0	A	49	4911
_	P 111. G	71		

7. Facility Comment (limit to 500 characters):

The existing Northside plant currently consists of 3 Fossil Fuel Fired-Steam Generators and 4 simple cycle gas turbines. The 4 combustion turbines (CT Units 3-6) are fired with No. 2 Distillate Oil. Air construction permit (DEP File No. 0310045-003-AC) was recently issued to repower existing Units 1 and 2. Refer to Part II for discussion.

Facility Contact

1. Name and Title of Facility Contact:

Mr. N. Bert Gianazza, P.E.

2. Facility Contact Mailing Address:

Organization/Firm: JEA Environmental Permitting and Compliance Group

Street Address: 21 West Church Street - 8th Floor

City: Jacksonville State: FL Zip Code: 32202

3. Facility Contact Telephone Numbers:

Telephone: (904) 664 - 6247 Fax: (904) 665 - 7376

Facility Regulatory Classifications

Check all that apply:

1. [] Small Business Stationary Source? [] Unknown				
2. [X] Major Source of Pollutants Other than Hazardous Air Pollutants (HAPs)?				
3. [] Synthetic Minor Source of Pollutants Other than HAPs?				
4. [X] Major Source of Hazardous Air Pollutants (HAPs)?				
5. [] Synthetic Minor Source of HAPs?				
6. [X] One or More Emissions Units Subject to NSPS?				
7. [] One or More Emission Units Subject to NESHAP?				
8. [] Title V Source by EPA Designation?				
9. Facility Regulatory Classifications Comment (limit to 200 characters):				
List of Applicable Regulations				
Dist of Applicable Regulations				
Facility emissions covered under existing Title V permit, no additional facility or emission unit				
applicable requirements as a result of the proposed change.				
				

DEP Form No. 62-210.900(1) - Form Effective: 2/11/99

B. FACILITY POLLUTANTS

List of Pollutants Emitted

1. Pollutant Emitted	2. Pollutant Classif.	3. Requested En	missions Cap	4. Basis for Emissions	5. Pollutant Comment
	010121	lb/hour	tons/year	Cap	
				•	
		-			
· ·			,	<u> </u>	
-					
,					
					· ·
				,	

C. FACILITY SUPPLEMENTAL INFORMATION

Supplemental Requirements

1.	Area Map Showing Facility Location: [] Attached, Document ID: [X] Not Applicable [] Waiver Requested
2.	Facility Plot Plan: [] Attached, Document ID: [X] Not Applicable [] Waiver Requested
3.	Process Flow Diagram(s): [X] Attached, Document ID: Part II [] Not Applicable [] Waiver Requested
4.	Precautions to Prevent Emissions of Unconfined Particulate Matter: [] Attached, Document ID: [X] Not Applicable [] Waiver Requested
5.	Fugitive Emissions Identification: [] Attached, Document ID: [X] Not Applicable [] Waiver Requested
6.	Supplemental Information for Construction Permit Application: [] Attached, Document ID: [X] Not Applicable
7.	Supplemental Requirements Comment:
1	

DEP Form No. 62-210.900(1) - Form Effective: 2/11/99

Additional Supplemental Requirements for Title V Air Operation Permit Applications

8.		ist of Proposed Insignificant Activities:
	l	Attached, Document ID: [] Not Applicable
9.	Li	st of Equipment/Activities Regulated under Title VI:
	[] Attached, Document ID:
	[] Equipment/Activities On site but Not Required to be Individually Listed
	[] Not Applicable
10.		Iternative Methods of Operation:
	[] Attached, Document ID: [] Not Applicable
11.		Iternative Modes of Operation (Emissions Trading):
	[] Attached, Document ID: [] Not Applicable
12.		entification of Additional Applicable Requirements:
	[] Attached, Document ID: [] Not Applicable
13.	Ri	isk Management Plan Verification:
	[] Plan previously submitted to Chemical Emergency Preparedness and Prevention
		Office (CEPPO). Verification of submittal attached (Document ID:) or
		previously submitted to DEP (Date and DEP Office:)
	[] Plan to be submitted to CEPPO (Date required:)
	[] Not Applicable
14.		ompliance Report and Plan:
	[Attached, Document ID: [] Not Applicable
15.		ompliance Certification (Hard-copy Required):
	[] Attached, Document ID: [] Not Applicable

PART II SUPPORTING INFORMATION

Application for Air Permit Installation of Direct Water Spray Fogging Systems Northside Plant

Introduction

Jacksonville Electric Authority (JEA) is proposing to install direct water spray fogging systems in the inlet ducts of the existing 4 simple cycle combustion turbines at the Northside plant. The purpose of the inlet foggers to provide adiabatic inlet air cooling which increase turbine output and decreases heat rate. The project is part of increasing capacity in a cost effective manner.

Description

The direct inlet fogging systems achieve adiabatic cooling using water to form fine droplets (fog). The fog is produced by injection grids placed in the turbine inlet duct that use nozzles that produce a fine spray. The small fog particles (about 10 to 20 microns) extract the latent heat of vaporization from the gas stream when the water droplet is converted to gas. Heat is removed at a rate of 1,075 Btu/lb of water. The result of the fogging is a cooler more moisture laden air stream. Figure 1 presents a schematic of a typical fogging system.

The amount of heat removed is highly dependent upon the ambient air conditions. The two most important parameters are the dry bulb temperature and relative humidity. As moisture is added to the inlet air by the fogging, the vaporization of the fog droplets cools the air toward the wet-bulb temperature. For the proposed project, the design condition is based on the inlet cooling tests, which had an average temperature of 90°F and 62-percent relative humidity. The resultant wet bulb temperature, based on psychrometric charts is 79°F, which was demonstrated during the tests. At 100 percent saturation the inlet cooling system would result in a 16 °F decrease of the turbine inlet air.

While adiabatic cooling is most efficient for dry climates, adiabatic cooling in Florida can be an effective means of inlet air cooling during the late morning to evening hours. This period is typically 8 to 10 hours per day from about 10 a.m. to 8 p.m. In the early morning hours and evening hours, the typical relatively humidity in Florida is 70 to 90 percent depending

on the climatic conditions. Because of the highly variable nature of ambient air conditions, the annual average inlet cooling was assumed to be 11°F as demonstrated during the tests. This average was reviewed against a 30 year record of meteorological data for Jacksonville and found to be representative of the range in conditions that occur over an annual period. This includes cooling associated with the typical mid-afternoon summer days and early morning/evening periods that occur year-round. The typical mid-afternoon cooling for Jacksonville would be 14°F and would occur in August with a mid-afternoon temperature of 91°F and 58-percent relative humidity. During January, the mid-afternoon cooling would be about 7°F. The typical cooling that would occur in the early morning hours of evening hours with temperatures of about 80°F and a relative humidity of 80 percent would be 5°F. This cooling also assumes that the gas stream can be 100 percent saturated. The ambient air conditions that are modified by the fogging system occur naturally but are more frequent with the fogging system. For example, the average minimum temperatures for the months of November through April range from 41.7°F to 55.7°F with relative humidities ranging from 83 to 88 percent. The amount of adiabatic cooling would range from only 1 to 2°F. For the Northside CTs, an average temperature reduction of 11°F was used as the basis of emission estimates.

Fogging Tests and Statistical Evaluation

A preliminary statistical evaluation of the tests performed on Northside Generating Station Combustion Turbine CT5 was conducted. The evaluation is summarized in the attached Table 1. The techniques used to evaluate the data were identical to those specified in 40 CFR Part 60 Appendix C for determining differences in emission rates, but for non-paired data. Parameters initially evaluated included NO_x emission rate in lb/mmBtu, NO_x emission rate in lb/hr, capacity in megawatts (MW) and heat input in mmBtu/hr. Three test conditions were evaluated: base operation, fogging with all data and fogging at 20 gallons/minute (gpm) or greater.

The results indicated that the NO_x emission rate in lb/mmBtu for the fogging categories evaluated are statistically lower at the 95 percent confidence level than at base load operation without fogging. This conclusion is for all data and at the higher fogging rates (i.e., >20 gpm). The NO_x emission rate in lb/hr for the fogging is not statistically different at the 95 percent confidence level from the base load operation. This is primarily a result in the increase in mass flow and volume that is shown by the increases in capacity and heat input. With fogging, the capacity and heat input are statistically higher at the 95 percent confidence level than at base load operation without fogging. The average increase in capacity was about 5.5 percent or about 2.5 MW with the higher fogging rates. Similarly, the average heat input increase was about 5.8 percent and about 37 mmBtu/hr.

All the data for carbon monoxide demonstrated emissions near zero; therefore, fogging did not appear to have any influence on the combustion process and emissions of CO. Given this result, any change in emissions of volatile organic compounds (VOCs) are not expected.

From an emission perspective, the data suggests that the NO_x emission rate in lb/hr does not increase. However, fogging will result in an increase in the heat input and concomitant increase in particulate matter and sulfur dioxide as a result of more fuel input to the CT.

The data suggests that both the increases in capacity and heat input are consistent with the performance curves. The predicted increase as a differential is about 2.5 MW and 30 mmBtu/hr for the average ambient dry bulb temperature and relative humidity. The fogging system brought the turbine inlet temperature very close to the wet bulb inlet temperature.

Turbine Performance and Emission Estimates

The effect of decreasing the turbine inlet air through the use of fogging will be to increase the mass flow of air that can go through the turbine which allows higher heat input and power output. The combustion turbine is also more efficient since the heat rate decreases with decreasing temperature. For the combustion turbines at the Northside plant, an 11°F average decrease in temperature would result in a 4.9 percent increase in power and an

Golder Associates

associated 0.6 percent decrease in heat rate. Thus, while power increases, the production of power is more efficient with concomitant lower emissions per MW-hr generated. The increase in heat rate as a function of temperature decrease is a linear function and for the Northside turbines would be 2.8 mmBtu/hr/°F. The data were determined using manufacture supplied data (see Attachment A).

The increase in emissions of PM, SO₂, and VOC associated with fogging were determined using emission limits contained in the Title V Permit for the facility and AP-42 emission factors where no limits are provided. Table 2 presents a summary of the operating conditions and emission increases resulting from fogging. The annual emissions were determined by multiplying the heat input increase times the emissions rate in lb/mmBtu for the number of hours of proposed for the turbines. For the Northside turbines, a maximum of 1,000 hours of fogger operation for each turbine was used as the basis for annual emission estimates.

Regulatory Applicability

A modification is defined in Rule 62-210.200 Florida Administrative Code (F.A.C.) as any physical change in, or a change in the method of operation of, or addition to a facility which would result in an increase in the actual emissions of any air pollutant subject to regulation under the Clean Air Act. A modification to a major source of air pollution, such as the Northside plant, may be subject to review under the Department's Prevention of Significant Deterioration (PSD) rules codified in Rule 62-212.400 F.A.C.

The proposed installation of direct water spray fogging systems is a modification according to Rule 62-212.200 (188) F.A.C., since annual emissions will potentially increase as a result of the increased power and heat input.

Based on the available data, it is concluded that the emission rate does not change as a result of inlet fogging. Therefore, increase in annual potential emissions can be conservatively determined through the use of increases in heat input associated with the use of the fogging

systems. For the 4 combustion turbines the maximum potential annual increase in emissions is estimated as follows:

Summary of Maximum Annual Emissions - All Units - 4 CTs at 1,000 hours/year

<u>Pollutant</u>	Tons/Year
PM	2.33
NO _x	0.0^{a}
SO_2	30.92
CO	0.0^{a}
VOC	1.04

^aDetermined from tests.

These maximum potential emission rates are less than the significant emission rates in Table 62-212.400-2 in Rule 62-212.400 F.A.C. and therefore PSD would not apply.

JEA proposes that the amount of fogging allowed by the Department be based on a cumulative amount of operating hours for the 4 combustion turbines. This would amount to 4,000 hours of operation. As described previously, the emission rates would not be affected.

Figure 1. Illustrative (typical) Fogging System Schematic

Source: Caldwell Energy and Environmental, Inc.



Table 1. Average and Upper and Lower 95 Percent Confidence Intervals for Combustion Turbine Inlet Fogging Tests – Northside Generating Station CT5

Parameter	Test Condition	Upper C.I.	Average	Lower C:I.
NO _x (lb/mmBtu)	Base	0.48	0.47	0.45
NO _x (lb/mmBtu)	Fogging All Data	0.45	0.44	0.42
NO _x (lb/mmBtu)	Fogging > 20	0.44	0.43	0.41
	gpm			
NO _x (lb/hr)	Base	307.4	300.0	292.6
NO _x (lb/hr)	Fogging All Data	299.9	290.0	280.0
NO _x (lb/hr)	Fogging > 20	297.0	285.3	273.6
	gpm			
Capacity (MW)	Base	48.7	47.4	46.2
Capacity (MW)	Fogging All Data	50.3	49.5	48.7
Capacity (MW)	Fogging > 20	51.1	50.0	48.6
	gpm			
Heat Input	Base	641.6	634.0	626.4
(mmBtu/hr)				
Heat Input	Fogging All Data	671.7	666.2	660.8
(mmBtu/hr)				
Heat Input	Fogging > 20	674.7	671.0	667.3
(mmBtu/hr)	gpm			

Table B. Statistical Analysis of Northside Unit CT5 Fogging Tests.

Test Day	2 Date	SECURION S	Wet Bulb	Dry Bu b	RIE	Capacity Q	A NOX A	NOX A	Heat Input
					in a second		1,2,2,2,3,4,2		
Tuesday	8/10	Base Load - no spray	79	86	76	48	0.48		641.02
Tuesday	8/10	Back to Base Load	78	86	70	52	0.47	303.18	649.35
Thursday	8/12	Base Load	79	94	50	44	0.49	300.89	616.05
Thursday	8/12	Back to Base Load	79	92	55	44	0.49	302.81	616.88
Friday	8/13	Base Load @ high humidity	ND	82	94	49	0.41	271.19	656.75
Wednesday	8/18	Base Load	79	95	49	46	0.51	319.84	631.31
Wednesday	8/18	Return to Base Load	80	92	59	49	0.48	298.52	626.75
Thursday	8/19	Base Load	78	93	51	46	0.49	307.73	627.78
Thursday	8/19	Back to Base Load	80	91	63	50	0.42		
Friday	8/20	Base Load	79	88	65	47	0.48	302.98	635.20
Friday	8/20	Back to Base Load	78	90	59	47	0.45	288.38	638.94
		Average:	79	90	63				
Tuesday	8/10	Base Load + 5 GPM	ND	ND	ND	48.68	0.47	304.71	649.35
Tuesday	8/10	Base Load + 10 GPM	82	89	74	49	0.48	315.35	658.71
Tuesday	8/10	Base Load + 15 GPM	ND	ND	ND		0.46		
Tuesday	8/10	Base Load + 20 GPM	78	84	76	50	0.44	297.22	668.08
Tuesday	8/10	Base Load + 25 GPM	78	86	73	51	0.47	320.20	674.32
Tuesday	8/10	Base Load + 30 GPM	78	86	70	52	0.42	288.90	682.65
								292.02	0.47.00
Thursday	8/12	Base Load + 15 GPM	78	95	47	47	0.45	292.02 289.67	647.96
Thursday	8/12	Base Load + 30 GPM	80	95	50	49	0.44	289.67	661.32
	8/18	Base Load + 30 GPM	80	92	59	49	0.42	278.18	666.00
Wednesday	8/18	Base Load + 30 GPM	80	92	29	49	0.42	2/0.10	888.00
Thursday	8/19	Base + Z1-Z4 @ 3000	78	93	51	46	0.45	300.44	672.66
Thursday	8/19	Base + Z1-Z4 @ 3200	80	92	61	50	0.40	264.13	666.52
Thursday	8/19	Base + Z1-Z4 @ 3400	80	91	63	50	0.39	264.13	671.55
		2.2.3			"			,	
Friday	8/20	Base + Z1-Z4 @ 3400	79	89	63	51	0.39	264.86	675.71
		Average (All Data):	79	90	62				
		Average (> 20 gpm):	79	90	63				

ATTACHMENT A PERFORMANCE CURVE DATA

Table A. Combustion Turbine Performance Data

A SECURITY OF SECU	THE CONTRACTOR OF THE PROPERTY OF	increase (mmBtu/hr)	CONTRACTOR SECURITION OF SECUR	A PARTY COLOR VINCENSING VINCENSING	CONTRACTOR DESCRIPTION OF THE PROPERTY OF THE	STATE CONTRACTOR AND ASSESSMENT OF A	THE RESERVE OF THE PROPERTY OF THE PARTY OF	电影性 化自己的 医多种性 经收收 医电影性 化	TOTAL STATE OF THE PARTY OF THE
					STORY OF				
100	639			49.57	·		12,891		
90	665	26	4.07%	51.87	2.3	4.64%	12,821	-70.35	-0.55%
80	691	26	3.91%	54.17	2.3	4.43%	12,756	-64.37	-0.50%
70	719	28	4.05%	56.47	2.3	4.25%	12,732	-23.71	-0.19%
60	747	28	3.89%	58.77	2.3	4.07%	12,711	-21.86	-0.17%
50	776	29	3.88%	61.07	2.3	3.91%	12,707	-3.84	-0.03%
40	806	30	3.87%	63.37	2.3	3.77%	12,719	12.22	0.10%
Average:		27.83	3.95%		2.3	4.18%		-28.65	-0.22%
Average per °F:		2.78	0.39%		0.23	0.42%		-2.87	-0.02%

ATTACHMENT B STATISTICAL ANALYSIS

Table B. Statistical Analysis of Northside Unit CT5 Fogging Tests.

*Test Day	Date.	4 79 TestiName	-Wet Bulb	The state of the s	TO THE PERSON OF	THE PARTY OF THE P	THE HOUSE STREET, MICH. TO SELECT STREET, SANS STREET, SA	THE PROPERTY OF THE PARTY OF TH	Heat Input
			美球(司部)地區	(°F) * .	26.55 (36) Sings	MW 8	(Ib/mmBtu)	(ID/hr)	(mmBtu/hr)
Tuesday	8/10	Base Load - no spray	79	86	76	48	0.48	304.61	641.02
Tuesday	8/10	Back to Base Load	78	86	70	52	0.47		
Thursday	8/12	Base Load	79	94	50	44	0.49		
Thursday	8/12	Back to Base Load	79	92	55	44	0.49		
Friday	8/13	Base Load @ high humidity	ND	82	94	49	0.41		
Wednesday	8/18	Base Load	79	95	49	46	0.51	319.84	
Wednesday	8/18	Return to Base Load	80	92	59	49	0.48	I	
Thursday	8/19	Base Load	78	93	51	46	0.49	307.73	627.78
Thursday	8/19	Back to Base Load	80	91	63	50	0.42		
Friday	8/20	Base Load	79	88	65	47	0.48		635.20
Friday	8/20	Back to Base Load	78	90	59	47	0.45		
		Average:	79	90	63				
Tuesday	8/10	Base Load + 5 GPM	ND	ND	ND	48.68	0.47	304.71	649.35
Tuesday	8/10	Base Load + 10 GPM	82	89	74	49	0.48		4
Tuesday	8/10	Base Load + 15 GPM	ND	ND	ND		0.46		
Tuesday	8/10	Base Load + 20 GPM	78	84	76	50	0.44		668.08
Tuesday	8/10	Base Load + 25 GPM	78	86	73	51	0.47		
Tuesday	8/10	Base Load + 30 GPM	78	86	70	52	0.42		
Thursday	8/12	Base Load + 15 GPM	78	95	47	47	0.45	292.02	647.96
Thursday	8/12	Base Load + 30 GPM	80	95	50	49	0.44		661.32
Wednesday	8/18	Base Load + 30 GPM	80	92	59	49	0.42	278.18	666.00
Thursday	8/19	Base + Z1-Z4 @ 3000	78	93	51	46	0.45	300.44	672.66
Thursday	8/19	Base + Z1-Z4 @ 3200	80	92	61	50	0.40		666.52
Thursday	8/19	Base + Z1-Z4 @ 3400	80	91 ·	63	50	0.39	264.13	671.55
Friday	8/20	Base + Z1-Z4 @ 3400	79	89	63	51	0.39	264.86	675.71
·		Average (All Data):	79	90	62		3.30	_550	0,0.,1
		Average (> 20 gpm):	79	90	63				

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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.	A. Received by (Please Print Clearly) B. Date of Delivery 4 2 4 6 0 C. Signature C. Signature D. Is delivery address different from item 1? Yes If YES, enter delivery address below:
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BUREAU OF AIR REGULATION

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JACKSONVILLE FL 32202

REFERENCE: 0334975

R18480

Public Notice Of Int

State of Florida County of Duval

Before the undersigned authority personally appeared Steven L. Smith who on oath says he is a Legal Advertising Representative of The Florida Times-Union, a daily newspaper published in Jacksonville in Duval County, Florida; that the attached copy of advertisement is a legal ad published in The Florida Times-Union. Affiant further says that The Florida Times-Union is a newspaper published in Jacksonville, in Duval County, Florida, and that the newspaper has heretofore been continuously published in Duval County, Florida each day, has been entered as second class mail matter at the post office in Jacksonville, in Duval County, Florida for a period of one year preceeding the first publication of the attached copy of advertisement; and affiant further says that he/she has neither | paid nor promised any person, firm or corporation | any discount, rebate, commission, or refund for the purpose of securing this advertisement for publication in said newspaper.

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FILED ON:

04/01/00

Name: Steven L. Smith

Title: Legal Advertising Representative

In testimony whereof, I have hereunto set my hand and affixed my official

Vera Janie Likens Commission # CC 547806 Expires Jun. 1, 2000 Bonded Thru Atlantic Bonding Co., Inc.

- Carlotte Contract C

PUBLIC NOTICE OF INTENT

SSUE AIR CONSTRUCTION

PERMIT

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DEP File No. 0310047-004-AC
Jacksonville Electric Authority Kennedy Generating Station Units 003 - 005 Inlet Fogger Project

Duval County

The Department of Environmental Protection (Department) gives notice of its intent to issue an air construction permit to Jacksonville Electric Authority (JEA). The permit is to install foggers at the compressor inlet of three 56-megawatt, No. 2 fuel oil-fired Westinghouse Model W501 combustion turbine-electrical generators at the Kennedy Generating station in Duval County. A Best Available Control Technology (BACT) determination was not required pursuant to Rule 62-212-400, A.C. The applicant's name and address are Jacksonville Electric Authority, 21 West Church Street, Jacksonville, Florida 32202

These units normally achieve their maximum rated output an cold days because the greater compressor inlet density allows greater throughput in the rotor or expansion section of the combustion turbine. The maximum power output is lower on hot days because of the lower compressor inlet density. The foggers increase hot-day power input by approximately 2.5 MW through evaporative cooling of the compressor inlet air. The foggers provide no benefit on very humid or cold days and will not be used under those conditions. Maximum power production and emissions will continue to occur at low temperature conditions with the foggers turned off. The result is that maximum hourly emissions will not increase although actual annual emissions will increase because more fuel will be used on hot, relatively dry days.

The number of days which the foggers can economically operate probably limits emissions increases to levels below significance for the purpose of PSD applicability. JEA, however, proposes enforceable conditions to insure non-applicability. Each unit is already allowed to operate continuously (8760 per year) but typically operates less than 400 hours. The foggers may not be used more than 1000 hours at each unit, or 3,000 hours collectively, but will typically operate for fewer hours than allowed. The units are not presently subject of 40CFR60, Subpart GG, Standards of Performance for, Stationary Gas Turbines. The Department has preliminarily determined that the praject will not trigger applicability of Subpart GG, but has requested that EPA make the final determination and the matter.

The maximum increase in annual emissions caused by this project in tons per year is summarized below along with the PSD-significant levels.

PSD-significant levels.

Pollutants PMPM:	Annual Emission Increase	PSD Significant Levels 25/15
SO ₂	26	40
NO _x	0	40
VOC	, 1	40
co	0	100

An air quality impact analysis was not required or conducted. No significant impacts are expected to occur as a result of this project. It will not cause or contribute to a violation of an ambient air quality standard or increment. 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 should be provided to the Department's Bureau of Air Regulation at 2600 Blair Stone Road, Mail Station #505, 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 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 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 (14) days of receipt of this notice of intent. Petitions filed by any persons ather 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 (14) days of receipt of that notice, regardless of the date of publication. A petitioner shall mail a copy of the etition to the applicant at the address indicated player at the time of filing. The foilure of any person to file a petition petition to the applicant at the address indicated above at the time of filling. 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 at the Florida Administrative Code.

A petition that disputes the material facts an 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; 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'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.

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 the public inspection during normal business hours, 8:00 a.m. to 5:00 p.m., Monday through Friday, except legal holidays, at:

Department of Environmental Protection

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

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

Jacksonville Regulatory and Environmental Services Department Suite 225 Jacksonville, Florida 32202 Telephone: 904/630-3484 Fax: 904-630-6338

The complete project file includes the application, technical evaluation, 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, New Resource Review Section at 111 South Magnolia Drive, Suite 4, Tallahassee, Florida 32301, ar call 850-448-0114, for additional information.

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