



# Florida Department of Environmental Protection

Bob Martinez Center  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400

Charlie Crist  
Governor

Jeff Kottkamp  
Lt. Governor

Michael W. Sole  
Secretary

November 25, 2008

*Sent by Electronic Mail – Received Receipt Requested*

Mr. James M. Chansler, P.E., D.P.A.  
Chief Operating Officer, JEA  
21 West Church Street  
Jacksonville, Florida 32202

Re: DEP File No. 0310045-022-AC; PSD-FL-265E  
Northside Generating Station  
Spray Dryer Absorber

Dear Mr. Chansler:

On August 15, 2008, JEA submitted an application to revise several specific conditions of air construction permit PSD-FL-265 issued on July 14, 1999. The revision will allow the maintenance and repair of Spray Dryer Absorbers while the circulating fluidized bed (CFB) boilers are operating. Permit PSD-FL-265 authorized the construction of two new coal and petroleum coke fired CFB boilers with a nominal output of 297.5 megawatts each at the existing Northside Generating Station, which is located in Duval County at 4377 Heckshire Drive, Jacksonville, Florida. Enclosed are the following documents:

- Written Notice of Intent to Issue Air Permit Revision;
- Public Notice of Intent to Issue Air Permit Revision;
- Technical Evaluation and Preliminary Determination; and
- Draft Permit Revision.

The Public Notice of Intent to Issue Air Permit Revision is the actual notice that you must have published in the legal advertisement section of a newspaper of general circulation in the area affected by this project. If you have any questions, please contact the Project Engineer, Syed Arif, at 850/921-9528.

Sincerely,

Trina Vielhauer, Chief  
Bureau of Air Regulation

Enclosures

TLV/sa

## WRITTEN NOTICE OF INTENT TO ISSUE AIR PERMIT REVISION

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*In the Matter of an  
Application for Air Permit Revision by:*

JEA  
21 West Church Street  
Jacksonville, Florida 32202

Project No. 0310045-022-AC  
Air Permit No. PSD-FL-265E  
Northside Generating Station  
Spray Dryer Absorber  
Duval County, Florida

*Authorized Representative:*  
Mr. James M. Chansler, P.E., D.P.A.  
Chief Operating Officer

**Facility Location:** JEA operates Northside Generating Station, which is located at 4377 Heckshire Drive in Duval County, Florida.

**Project:** The applicant proposes that the spray dryer absorber polishing scrubber may be taken off-line for maintenance or repair for up to 144 hours per year per unit while the circulating fluidized bed boilers remain operational. Details of the project are provided in the application and the enclosed Technical Evaluation and Preliminary Determination.

**Permitting Authority:** Applications for air construction permits are subject to review in accordance with the provisions of Chapter 403, Florida Statutes (F.S.) and Chapters 62-4, 62-210 and 62-212 of the Florida Administrative Code (F.A.C.). The proposed project is not exempt from air permitting requirements and an air permit revision is required to perform the proposed work. The Bureau of Air Regulation is the Permitting Authority responsible for making a permit determination for this project. The Permitting Authority's physical address is: 111 South Magnolia Drive, Suite #4, Tallahassee, Florida. The Permitting Authority's mailing address is: 2600 Blair Stone Road, MS #5505, Tallahassee, Florida 32399-2400. The Permitting Authority's telephone number is 850/488-0114.

**Project File:** A complete project file is available for public inspection during the normal business hours of 8:00 a.m. to 5:00 p.m., Monday through Friday (except legal holidays), at address indicated above for the Permitting Authority. The complete project file includes the Draft Permit, the Technical Evaluation and Preliminary Determination, the application, and the information submitted by the applicant, exclusive of confidential records under Section 403.111, F.S. Interested persons may contact the Permitting Authority's project review engineer for additional information at the address or phone number listed above.

**Notice of Intent to Issue Permit:** The Permitting Authority gives notice of its intent to issue an air permit revision to the applicant for the project described above. The applicant has provided reasonable assurance that operation of the proposed equipment will not adversely impact air quality and that the project will comply with all appropriate provisions of Chapters 62-4, 62-204, 62-210, 62-212, 62-296 and 62-297, F.A.C. The Permitting Authority will issue a Final Permit in accordance with the conditions of the proposed Draft Permit unless a timely petition for an administrative hearing is filed under Sections 120.569 and 120.57, F.S. or unless public comment received in accordance with this notice results in a different decision or a significant change of terms or conditions.

**Public Notice:** Pursuant to Section 403.815, F.S. and Rules 62-110.106 and 62-210.350, F.A.C., you (the applicant) are required to publish at your own expense the enclosed Public Notice of Intent to Issue Air Permit Revision (Public Notice). The Public Notice shall be published one time only as soon as possible in the legal advertisement section of a newspaper of general circulation in the area affected by this project. The newspaper used must meet the requirements of Sections 50.011 and 50.031, F.S. in the county where the activity is to take place. If you are uncertain that a newspaper meets these requirements, please contact the Permitting Authority at above address or phone number. Pursuant to Rule 62-110.106(5) and (9), F.A.C., the applicant shall provide proof of publication to the Permitting Authority at the above address within 7 days of publication. Failure to

## WRITTEN NOTICE OF INTENT TO ISSUE AIR PERMIT REVISION

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publish the notice and provide proof of publication may result in the denial of the permit pursuant to Rule 62-110.106(11), F.A.C.

**Comments:** The Permitting Authority will accept written comments concerning the proposed Draft Permit for a period of 14 days from the date of publication of the Public Notice. Written comments must be received by the Permitting Authority by close of business (5:00 p.m.) on or before the end of this 14-day period. If written comments received result in a significant change to the Draft Permit, the Permitting Authority shall revise the Draft Permit and require, if applicable, another Public Notice. All comments filed will be made available for public inspection.

**Petitions:** A person whose substantial interests are affected by the proposed permitting decision may petition for an administrative hearing in accordance with Sections 120.569 and 120.57, F.S. The petition must contain the information set forth below and must be filed with (received by) the Department's Agency Clerk in the Office of General Counsel of the Department of Environmental Protection, 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida 32399-3000. Petitions filed by the applicant or any of the parties listed below must be filed within 14 days of receipt of this Written Notice of Intent to Issue Air Permit Revision. Petitions filed by any persons other than those entitled to written notice under Section 120.60(3), F.S., must be filed within 14 days of publication of the attached Public Notice or within 14 days of receipt of this Written Notice of Intent to Issue Air Permit Revision, whichever occurs first. Under Section 120.60(3), F.S., however, any person who asked the Permitting Authority for notice of agency action may file a petition within 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 (in a proceeding initiated by another party) will be only at the approval of the presiding officer upon the filing of a motion in compliance with Rule 28-106.205, F.A.C.

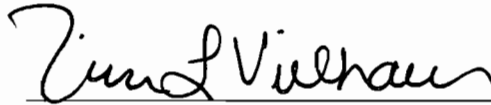
A petition that disputes the material facts on which the Permitting Authority's action is based must contain the following information: (a) The name and address of each agency affected and each agency's file or identification number, if known; (b) The name, address, and telephone number of the petitioner; 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 when and how each petitioner received notice of the agency action or proposed decision; (d) A statement of all disputed issues of material fact. If there are none, the petition must so state; (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 including an explanation of how the alleged facts relate to the specific rules or statutes; and, (g) A statement of the relief sought by the petitioner, stating precisely the action the 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 Permitting Authority'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, F.A.C.

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

**Mediation:** Mediation is not available in this proceeding.

WRITTEN NOTICE OF INTENT TO ISSUE AIR PERMIT REVISION

Executed in Tallahassee, Florida.



Trina Vielhauer, Chief  
Bureau of Air Regulation

**CERTIFICATE OF SERVICE**

The undersigned duly designated deputy agency clerk hereby certifies that this Written Notice of Intent to Issue Air Permit Revision package (including the Public Notice, the Technical Evaluation and Preliminary Determination, and the Draft Permit Revision) was sent by electronic mail (or a link to these documents made available electronically on a publicly accessible server) with received receipt requested before the close of business on 11/25/08 to the persons listed below.

- Mr. James M. Chansler, P.E., D.P.A., JEA ([chanjm@jea.com](mailto:chanjm@jea.com))
- Mr. Bert Gianazza, P.E., JEA ([giannb@jea.com](mailto:giannb@jea.com))
- Mr. Chris Kirts, DEP-NED ([christopher.kirts@dep.state.fl.us](mailto:christopher.kirts@dep.state.fl.us))
- Mr. Richard Robinson, P.E., EQD ([robinson@coj.net](mailto:robinson@coj.net))
- Mr. Mike Halpin, DEP-SCO ([mike.halpin@dep.state.fl.us](mailto:mike.halpin@dep.state.fl.us))
- Ms. Kathleen Forney, EPA Region 4 ([forney.kathleen@epa.gov](mailto:forney.kathleen@epa.gov))
- Ms. Heather Abrams, U.S. EPA Region 4 ([abrams.heather@epamail.epa.gov](mailto:abrams.heather@epamail.epa.gov))
- Ms. Catherine Collins, Fish and Wildlife Service ([catherine\\_collins@fws.gov](mailto:catherine_collins@fws.gov))
- Ms. Vickie Gibson, DEP-BAR ([victoria.gibson@dep.state.fl.us](mailto:victoria.gibson@dep.state.fl.us)) (for read file)

Clerk Stamp

**FILING AND ACKNOWLEDGMENT FILED**, on this date, pursuant to Section 120.52(7), Florida Statutes, with the designated agency clerk, receipt of which is hereby acknowledged.

  
(Clerk)

11/25/08  
(Date)

## Memorandum

# Florida Department of Environmental Protection

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TO: Trina Vielhauer, Bureau of Air Regulation  
FROM: Syed Arif, New Source Review Section SA  
DATE: November 25, 2008  
SUBJECT: Draft Air Permit No. 0310045-022-AC; PSD-FL-265E  
JEA – Northside Generating Station  
Spray Dryer Absorber

This project is subject to minor source preconstruction review. Attached for your review are the following items:

- Written Notice of Intent to Issue Air Permit Revision;
- Public Notice of Intent to Issue Air Permit Revision;
- Technical Evaluation and Preliminary Determination; and
- Draft Permit Revision

The Draft Permit Revision authorizes spray dryer absorber polishing scrubber may be taken off-line for maintenance or repair while the circulating fluidized bed boilers remain operational. The facility is located in Duval County, Florida. The Technical Evaluation and Preliminary Determination provide a detailed description of the project and the rationale for issuance. I recommend your approval of the attached Draft Permit Revision.

Attachments

**P.E. CERTIFICATION STATEMENT**

**APPLICANT**

JEA  
21 West Church Street  
Jacksonville, Florida 32202

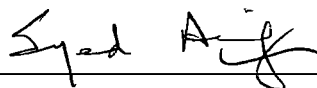
Air Permit No. PSD-FL-265E  
Project No. 0310045-022-AC  
Northside Generating Station  
Spray Dryer Absorber  
Duval County, Florida

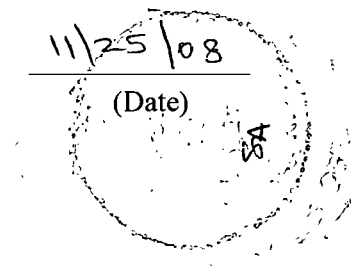
**PROJECT DESCRIPTION**

The applicant is requesting that the spray dryer absorber (SDA) polishing scrubbers should be repaired and maintained to the extent possible while the circulating fluidized bed (CFB) boilers remain operational. The current permit requires the operation of SDA if the CFB boilers are operating. The applicant submitted information showing that emissions would increase if the CFB boilers were shutdown each time the SDA undergoes maintenance or repair, as compared to continuing to operate the CFB boilers when the SDA is off-line. The Department is authorizing that the SDA may be taken off-line for up to 144 hours per year per unit for maintenance while the CFB boilers remain operational. Additional limestone injection into CFB boilers while the SDA is taken off-line will reduce sulfur dioxide and acid gas emissions. Lead and mercury emissions may increase. These increases are below the Prevention of Significant Deterioration (PSD) significant emission rates of 0.6 tons per year (TPY) for lead and 0.1 TPY for mercury, therefore PSD review does not apply to this project. The Department has required testing of lead emissions when the SDA is taken off-line to verify that the increase in lead emissions due to SDA being down is less than the significant rate. The applicant is also installing a mercury CEMS to measure mercury emissions on a continuous basis.

An air quality impact analysis was not required. No increase in ambient impacts due to the proposed modification is expected. Emissions from the facility will not significantly contribute to or cause a violation of any state or federal ambient air quality standards.

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

  
\_\_\_\_\_  
Syed Arif, P.E.  
Registration No. 51861

11/25/08  
(Date)  


## PUBLIC NOTICE OF INTENT TO ISSUE AIR PERMIT REVISION

Florida Department of Environmental Protection  
Division of Air Resource Management, Bureau of Air Regulation  
Draft Air Permit No. 0310045-022-AC; PSD-FL-265E  
JEA – Northside Generating Station  
Duval County, Florida

**Applicant:** The applicant for this project is JEA. The applicant's authorized representative and mailing address is: Mr. James M. Chansler, Chief Operating Officer, JEA, 21 West Church Street, Jacksonville, Florida 32202.

**Facility Location:** JEA operates the existing Northside Generating Station, which is located in Duval County at 4377 Heckshire Drive, Jacksonville, Florida.

**Project:** The applicant is requesting that the spray dryer absorber (SDA) polishing scrubbers should be repaired and maintained to the extent possible while the circulating fluidized bed (CFB) boilers remain operational. The current permit requires the operation of SDA if the CFB boilers are operating. The applicant submitted information showing that emissions would increase if the CFB boilers were shutdown each time the SDA undergoes maintenance or repair, as compared to continuing to operate the CFB boilers when the SDA is off-line. The Department is authorizing that the SDA may be taken off-line for up to 144 hours per year per unit for maintenance while the CFB boilers remain operational. Additional limestone injection into CFB boilers while the SDA is taken off-line will reduce sulfur dioxide and acid gas emissions. Lead and mercury emissions may increase. These increases are below the Prevention of Significant Deterioration (PSD) significant emission rates of 0.6 tons per year (TPY) for lead and 0.1 TPY for mercury, therefore PSD review does not apply to this project. The Department has required testing of lead emissions when the SDA is taken off-line to verify that the increase in lead emissions due to SDA being down is less than the significant rate. The applicant is also installing a mercury CEMS to measure mercury emissions on a continuous basis.

An air quality impact analysis was not required. No increase in ambient impacts due to the proposed modification is expected. Emissions from the facility will not significantly contribute to or cause a violation of any state or federal ambient air quality standards.

**Permitting Authority:** Applications for air construction permits are subject to review in accordance with the provisions of Chapter 403, Florida Statutes (F.S.) and Chapters 62-4, 62-210 and 62-212 of the Florida Administrative Code (F.A.C.). The proposed project is not exempt from air permitting requirements and an air permit revision is required to perform the proposed work. The Bureau of Air Regulation is the Permitting Authority responsible for making a permit determination for this project. The Permitting Authority's physical address is: 111 South Magnolia Drive, Suite #4, Tallahassee, Florida. The Permitting Authority's mailing address is: 2600 Blair Stone Road, MS #5505, Tallahassee, Florida 32399-2400. The Permitting Authority's telephone number is 850/488-0114.

**Project File:** A complete project file is available for public inspection during the normal business hours of 8:00 a.m. to 5:00 p.m., Monday through Friday (except legal holidays), at address indicated above for the Permitting Authority. The complete project file includes the Draft Permit, the Technical Evaluation and Preliminary Determination, the application, and the information submitted by the applicant, exclusive of confidential records under Section 403.111, F.S. Interested persons may contact the Permitting Authority's project review engineer for additional information at the address and phone number listed above. In addition, electronic copies of these documents are available on the following web site:  
<http://www.dep.state.fl.us/air/eproducts/apds/default.asp>.

**Notice of Intent to Issue Air Permit Revision:** The Permitting Authority gives notice of its intent to issue an air permit revision to the applicant for the project described above. The applicant has provided reasonable assurance that operation of proposed equipment will not adversely impact air quality and that the project will comply with all appropriate provisions of Chapters 62-4, 62-204, 62-210, 62-212, 62-296 and 62-297, F.A.C. The Permitting Authority will issue a Final Permit in accordance with the conditions of the proposed Draft

(Public Notice to be Published in the Newspaper)

## PUBLIC NOTICE OF INTENT TO ISSUE AIR PERMIT REVISION

Permit unless a timely petition for an administrative hearing is filed under Sections 120.569 and 120.57, F.S. or unless public comment received in accordance with this notice results in a different decision or a significant change of terms or conditions.

**Comments:** The Permitting Authority will accept written comments concerning the proposed Draft Permit for a period of 14 days from the date of publication of the Public Notice. Written comments must be received by the Permitting Authority by close of business (5:00 p.m.) on or before the end of this 14-day period. If written comments received result in a significant change to the Draft Permit, the Permitting Authority shall revise the Draft Permit and require, if applicable, another Public Notice. All comments filed will be made available for public inspection.

**Petitions:** A person whose substantial interests are affected by the proposed permitting decision may petition for an administrative hearing in accordance with Sections 120.569 and 120.57, F.S. The petition must contain the information set forth below and must be filed with (received by) the Department's Agency Clerk in the Office of General Counsel of the Department of Environmental Protection at 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida 32399-3000. Petitions filed by any persons other than those entitled to written notice under Section 120.60(3), F.S. must be filed within 14 days of publication of this Public Notice or receipt of a written notice, whichever occurs first. Under Section 120.60(3), F.S., however, any person who asked the Permitting Authority for notice of agency action may file a petition within 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 (in a proceeding initiated by another party) will be only at the approval of the presiding officer upon the filing of a motion in compliance with Rule 28-106.205, F.A.C.

A petition that disputes the material facts on which the Permitting Authority'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 rights will be affected by the agency determination; (c) A statement of when and how the petitioner received notice of the agency action or proposed decision; (d) A statement of all disputed issues of material fact. If there are none, the petition must so state; (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 including an explanation of how the alleged facts relate to the specific rules or statutes; and, (g) A statement of the relief sought by the petitioner, stating precisely the action the 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 Permitting Authority'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, F.A.C.

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

**Mediation:** Mediation is not available for this proceeding.

(Public Notice to be Published in the Newspaper)



**TECHNICAL EVALUATION  
&  
PRELIMINARY DETERMINATION**

**PROJECT**

Project No. 0310045-022-AC  
Air Permit No. PSD-FL-265E

JEA – Northside Generating Station  
Circulating Fluidized Bed Boiler Nos. 1 and 2  
Spray Dryer Absorber

**COUNTY**

Duval County, Florida

**APPLICANT**

JEA  
21 West Church Street  
Jacksonville, FL 32202

**PERMITTING AUTHORITY**

Florida Department of Environmental Protection  
Division of Air Resource Management  
Bureau of Air Regulation – New Source Review Section  
2600 Blair Stone Road, MS #5505  
Tallahassee, Florida 32399-2400



November 25, 2008

## TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

### I. GENERAL PROJECT INFORMATION

#### A. Facility Description and Location

The facility is an electric services facility, which is categorized under Standard Industrial Classification (SIC) Code No. 4911. The UTM coordinates are Zone 17, 446.90 km East, and 3359.150 km North. This site is in an area that is in attainment (or designated as unclassifiable) for all air pollutants subject to a National Ambient Air Quality Standard (NAAQS).

#### B. Facility Regulatory Categories

Title III: The facility is a major source of hazardous air pollutants (HAP).

Title IV: The facility operates units subject to the acid rain provisions of the Clean Air Act.

Title V: The facility is a Title V major source of air pollution in accordance with Chapter 213, Florida Administrative Code (F.A.C.).

PSD: The facility is a Prevention of Significant Deterioration (PSD)-major source of air pollution in accordance with Rule 62-212.400, F.A.C.

#### C. Project Description

Air Permit No. PSD-FL-265 (Project No. 0310045-003-AC) authorized the construction of repowered Units 1 and 2, two new coal and petroleum coke-fired circulating fluidized bed (CFB) boilers and associated ancillary equipment (Emission Units 026 and 027), each with a nominal output of 297.5 megawatts (MW), at the existing Northside Generating Station. The permit was issued on July 14, 1999. The following modifications were done to Air Permit No. PSD-FL-265:

PROJECT NUMBER	PROJECT DESCRIPTION	DATE ISSUED
0310045-007-AC/PSD-FL-265A	Changes to the design of the fly and bed ash handling systems	May 25, 2001
0310045-012-AC/PSD-FL-265B	Use of treated solid fuels in Northside Units 1 & 2	November 4, 2003
0310045-015-AC/PSD-FL-265C	Removal of baghouse control system with rail car unloading at Northside/St. Johns River Power Park	April 7, 2006
0310045-021-AC/PSD-FL-265D	Compliance testing with coal and/or petcoke for Northside Units 1 & 2	Draft permit issued on October 13, 2008

The applicant has submitted this request for some minor permit clarifications and revisions to the original PSD-FL-265 permit. The Department will issue a new permit that incorporates all the above modifications and all references to RESD will be changed to Environmental Quality Division (EQD).

The purpose of this modification is to recognize and clarify that the spray dryer absorber (SDA) polishing scrubbers should be repaired and maintained to the extent possible while the CFB boilers remain operational. The applicant submitted information showing that emissions from the units would increase if the CFB units were shutdown each time the SDA undergoes maintenance or repair, as compared to continuing to operate the CFB units when the SDA is off-line. A typical unit shutdown and then re-start requires 52 hours total. Based on detailed analysis of CEMS data from the units during startup/shutdown periods, the applicant estimated that total emissions for shutdown and subsequent startup for one maintenance event per unit is 84.1 tons, versus 16.4 tons if the units continue to operate during such an event, for an increase of 67.7 tons. For an estimated 20 maintenance

## TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

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events per year per unit, the total difference in emissions is 2,710 tons per year. Therefore, continuing to operate the units when the SDA is off-line for repair or maintenance meets the requirement of minimizing emissions to the atmosphere.

As a result, the Department is clarifying that the spray dryer absorber polishing scrubber may be taken off-line for maintenance or repair for up to 144 hours per year per unit while the CFB boilers remain operational, and limestone injection to the boilers is increased as necessary to meet the sulfur dioxide and acid gases emission limits.

The details of the permit clarifications and revisions and the Department's responses are as follows. Please note that double underlined indicates additions and strikethrough indicates deletions.

### PSD Permit PSD-FL-265

**Permit Revision Request #1:** Currently Specific Condition III.9. reads as follows:

#### CONTROL TECHNOLOGY – CFB BOILERS

9. Sulfur Dioxide Control: Sulfur dioxide (SO<sub>2</sub>) and acid gases shall be controlled by the injection of limestone into the CFB boiler beds. Residual sulfur dioxide and acid gases shall be further controlled by the use of add-on air quality control systems for Units 1 and 2 to meet limits of 0.2 lb/mmBtu, 24-hr block average, and 0.15 lb/mmBtu, 30-day rolling average. The permittee shall provide design specifications to the Department at least 90 days prior to installation of the devices. **[Applicant Request]**

In the original Best Available Control Technology (BACT) determination for PSD-FL-265, three alternative air quality control systems (AQCS) were approved: (1) circulating fluidized bed scrubber/electrostatic precipitator (CFBS/ESP); (2) spray dryer absorber/fabric filter (SDA/FF); and (3) CFBS with fabric filter (CFBS/FF). The applicant chose the spray dryer absorber with fabric filter option. The spray dryer absorber acts like a polishing scrubber for additional SO<sub>2</sub>, acid gases and metals control. The acid gases and SO<sub>2</sub> can be controlled if the spray dryer absorber is down due to maintenance and/or malfunction by injecting additional limestone to the boiler. The Department had concerns that control of metals will be compromised when the SDA is off-line.

SO<sub>2</sub> is an acid gas. SO<sub>2</sub> control in a CFB boiler is achieved through absorption of the gas into the alkaline limestone material injected into the boiler. Limestone is primarily calcium carbonate (CaCO<sub>3</sub>). When limestone is added to the bed, it undergoes a transformation (calcination) in the furnace, and becomes calcium oxide (CaO). The CaO in the flue gas then reacts with the SO<sub>2</sub> to form calcium sulfate (CaSO<sub>4</sub>). The CaSO<sub>4</sub> is removed in the downstream particulate matter control device (i.e., FF). The level of acid gas removal achieved in the CFB boiler is dependent upon the molar ratio of limestone to acid gas concentration, mixing of gases and lime particles, furnace temperature, etc.

Hydrogen chloride (HCl) and hydrogen fluorides (HF) are also acid gases. They behave and are controlled in the same manner described above for SO<sub>2</sub>. As a result, the rationale for control of SO<sub>2</sub> above also applies to HCl and HF. HCl reacts with CaO in the flue gas to form calcium chloride salts; HF reacts to form calcium fluoride salts.

Sulfuric acid mist (SAM) is often formed in flue gas in a stack during combustion of coal or other sulfur-containing fuels. Both water and sulfur trioxide (SO<sub>3</sub>) are combustion products that have great affinity for each other. They react quickly in the flue gas to form sulfuric acid. When the flue gas is cooled to temperatures at or below the dew point, a sulfuric acid mist will form from any sulfuric acid gas present. Because of the enormous attraction between sulfur trioxide and water "only a very small amount of sulfur trioxide in combustion gas is required to draw water from the gas and form a fairly concentrated acid". As a result, the most effective control for SAM is to control SO<sub>2</sub> (and therefore SO<sub>3</sub>) emissions.

The applicant submitted data which demonstrates that whenever a SDA is taken off-line, and the CFB unit remains on-line, the limestone injection into the boiler is increased appropriately to maintain SO<sub>2</sub> emissions below the allowable limits. Continuous emission monitoring systems (CEMS) are employed on each unit for monitoring

## TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

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SO<sub>2</sub> emissions. The limestone injection rate is adjusted accordingly based on the CEMS data. However, it is normally more cost effective to operate the SDAs than to increase limestone injection into the boilers, therefore JEA normally operates the SDA. Based on the analyses over the last 2 years, the average SDA off-line event time is approximately 11 hours. Based on this information, JEA is requesting up to 12 hours per month per unit (12-month rolling average) of SDA off-line for maintenance/repair.

Based on the preceding discussion, the deliberate control of SO<sub>2</sub> emissions from the CFB boilers, either through limestone injection or limestone injection/SDA operation, ensures that emissions of HCl, HF and SAM are maintained at levels below the permit limits. The applicant also submitted stack test data for HF emissions obtained at the inlet to the SDA. These data showed emissions below the HF emission limit.

The Department had concerns with certain metals emissions at the stack when the SDA is off-line. The slurry feed into the SDA consists of lime slurry with boiler fly ash and recycled reaction products collected by the fabric filter. The slurry is atomized into the flue gas from the CFBs. The heat of the flue gas evaporates the slurry water and cools the flue gas. Flue gas exits the SDA and is ducted to the fabric filter. Cooling the flue gas condenses some of the mercury and additional trace metals. The CFBs are normally operated with a greater than 80 percent mix of petcoke/coal. At this higher mix of petcoke/coal, mercury and lead emissions will be minimized compared to operation of CFBs at 100 percent coal. Therefore, the Department shall require that if the typical fuel mix for the CFBs should become greater than 25 percent coal, an additional test will be required with the SDA down for maintenance to verify that the lead emission limit will be met with the SDA down for maintenance when operating on higher percentage of coal. Any malfunction of SDA when the CFBs are operating at a higher mix of coal than petcoke will be covered by the excess emissions clause in the permit.

**Department's Response for Request #1:** Specific Condition III.9. will be changed to read as follows:

### CONTROL TECHNOLOGY – CIRCULATING FLUIDIZED BED (CFB) BOILERS

9. Sulfur Dioxide, Acid Gases and Metals Control: Sulfur dioxide (SO<sub>2</sub>) and acid gases shall be controlled by the injection of limestone into the CFB boiler beds. Residual sulfur dioxide, ~~and~~ acid gases and metals shall be further controlled by the use of add-on air quality control systems for Units 1 and 2 ~~to meet limits of 0.2 lb/mmBtu, 24-hr block average, and 0.15 lb/mmBtu, 30-day rolling average.~~ The permittee shall provide design specifications to the Department at least 90 days prior to installation of the devices. The add-on air quality control systems installed by JEA and approved by the Department are spray dryer absorber (SDA) systems (one for Unit 1 and one for Unit 2) and fabric filters (one for Unit 1 and one for Unit 2). During periods when an SDA is non-operational due to malfunction, maintenance or repair, limestone injection to the associated CFB boiler shall be increased to the extent needed to ensure that the SO<sub>2</sub> emission limits in Condition 12 for Units 1 and 2 of 0.2 lb/mmBtu, 24-hr block average, and 0.15 lb/mmBtu, 30-day rolling average are achievable. Non-operation of the SDA is limited to a maximum of 12 hours per month per unit (12-month rolling average).

**[Applicant Request; and 0310045-022-AC/PSD-FL-265E]**

**Permit Revision Request #2:** Currently Specific Condition III.49. reads as follows:

### MONITORING REQUIREMENTS

49. Continuous Emissions Monitoring Systems: The permittee shall install, calibrate, operate, and maintain Continuous Emission Monitoring Systems (CEMS) in the stack to measure and record the sulfur dioxide, oxides of nitrogen, carbon monoxide, and visible emissions from CFB Boilers No. 1 and 2. An emission level above a BACT limit, considering the 6-minute, 24-hour and 30-day rolling average periods, as applicable, shall be reported to RESD pursuant to Rule 62-4.160(8), F.A.C. The continuous emission monitoring systems shall comply with the certification, performance specifications, and quality assurance, and other applicable requirements of 40 CFR Part 75 and 40 CFR Part 60 (Appendix B), as indicated above. Periods of startup, shutdown, and malfunction shall be monitored, recorded, and

## TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

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reported as excess emissions when emission levels exceed the limits in Table 1 following the format of 40 CFR 60.7 [As revised, 64 Fed Reg. 7458 (February 12, 1999)].

The applicant will install mercury continuous emission monitoring systems on each boiler stack. This will insure that the mercury emission limit will be met at all times, even when the spray dryer absorber is off-line for maintenance or repair. The Department is requiring that the mercury CEMS comply with the requirements of Performance Specification 12A of 40 CFR Part 60, Appendix B, and adhere to the quality assurance and quality control procedures of 40 CFR Part 60, Appendix F. The Department will also require submittal of mercury CEMS data initially for the first year on a quarterly basis and for an additional two years on a semi-annual basis to show compliance with the mercury emission limits. Thereafter, mercury CEMS data shall be maintained on site and available for inspection or submittal on request.

**Department's Response for Request #2:** Specific Condition III.49. will be changed to read as follows:

### **CONTINUOUS EMISSIONS MONITORING SYSTEMS REQUIREMENTS AND REPORTING**

49-50.(a) Continuous Emissions Monitoring Systems Requirement: The permittee shall install, calibrate, operate, and maintain Continuous Emission Monitoring Systems (CEMS's) in the stack to measure and record the sulfur dioxide, oxides of nitrogen, carbon monoxide, mercury (Hg) and visible emissions from CFB Boilers No. 1 and 2. An emission level above a BACT limit, considering the 6-minute, 24-hour and 30-day rolling average periods, as applicable, shall be reported to RESO EQD pursuant to Rule 62-4.160(8), F.A.C. The continuous emission monitoring systems shall comply with the certification, performance specifications, and quality assurance, and other applicable requirements of 40 CFR Part 75 and 40 CFR Part 60 (Appendix B), as indicated above. Periods of startup, shutdown, and malfunction shall be monitored, recorded, and reported as excess emissions when emission levels exceed the limits in Table 1 following the format of 40 CFR 60.7 [As revised, 64 Fed Reg. 7458 (February 12, 1999)].

(b) Hg Continuous Emissions Monitoring Systems Operation: The permittee has voluntarily agreed to install and operate a Hg CEMS. The Hg CEMS shall be installed and operational no later than March 31, 2009, and shall be operated in accordance with the manufacturer's specifications. The Hg CEMS shall comply with the requirements in Performance Specification 12A (PS-12A) of 40 CFR Part 60, Appendix B. The permittee shall adhere to the calibration drift and quarterly accuracy assessment procedures in 40 CFR Part 60, Appendix F or 40 CFR Part 75, Appendix B. Every reasonable effort should be made by the permittee for the Hg CEMS to be operating during the time periods when the SDA is off-line. If the Hg CEMS is not operating during a time period when the SDA is taken off-line, the best estimate of Hg emissions shall be provided to the Department and EQD based on the requirements of Rule 62-210.370, F.A.C. [Rules 62-4.070(3) and 62-210.370, F.A.C.; and 0310045-022-AC/PSD-FL-265E]

(c) Continuous Emissions Monitoring Systems Reporting: JEA shall submit to the Department and EQD Hg CEMS emissions data for both Units 1 and 2. It shall be submitted in a graphical representation of Hg emissions against time. The graph shall also indicate the periods when the SDA was taken off-line. The Hg CEMS data shall be submitted for the four quarters of 2009 and thereafter Hg CEMS data shall be submitted semi-annually until December 2011. The submittal of Hg CEMS data after 2011 will be only upon request from the Department or EQD. [Rule 62-4.070(3), F.A.C.; and 0310045-022-AC/PSD-FL-265E]

### **Permit Revision #3:**

The Department will require JEA to submit an engineering study of feasible improvements to the SDA system which will increase its reliability and availability. The study will address opportunities for improvements in preventive and predictive maintenance of the system which could be performed while the SDA is on-line. In

## TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

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addition, the study will address opportunities for minimizing the amount of time the SDA is taken off-line for maintenance and repair. This will include repair process improvements and the feasibility of providing equipment modifications (including opportunities for redundancy) to the SDA system such as spare pumps, additional storage tanks, additional piping and valves, etc. The engineering study shall provide the cost associated with any equipment changes or additions. This study shall be completed in 24 months and the information shall be provided to the Department. Based on the engineering study, the Department will make a determination if it is cost-effective to have further equipment modifications to the SDA system. The Department will add a new permit condition in the Notification, Reporting and Recordkeeping section of the permit and will number it Specific Condition 49. The new condition will read as follows:

49. The permittee shall provide an engineering study By December 31, 2010 to the Department and EQD detailing opportunities to increase the reliability and availability of the SDA system. The study will address potential improvements in preventive and predictive maintenance, and potential equipment and system modifications (including opportunities for redundancy) which will result in minimizing the amount of time the SDA is off-line during CFB operation. The engineering study shall also include the cost estimates associated with potential equipment/system modifications (including opportunities for redundancy) and the cost effectiveness of the associated emissions reductions. [Rule 62-4.070(3), F.A.C.; and 0310045-022-AC/PSD-FL-265E]

### **Permit Revision #4:**

The Department will require JEA to conduct compliance test for lead emissions on one of the units once every five years prior to Title V permit renewal. The test shall be conducted under normal operation of the CFB boiler but with SDA down for maintenance. The CFB boiler fuel can be either petcoke, coal or any mix of the two fuels for the compliance test. An initial lead test will also be required on the current normal fuel mix (greater than 80 percent petroleum coke), and an additional test will be required at such time as the normal fuel mix becomes greater than 25 percent coal. These tests must be performed with the SDA down for maintenance. Specific Condition III.37. will be changed to read as follows:

37. Lead: Initial compliance tests only shall be performed on Unit 2 using EPA Method 12 or 29 to determine compliance with the lead emission limit in Condition 19 while firing coal and while firing petroleum coke. An additional compliance test shall be conducted once every five years at permit renewal on one of the units while firing petroleum coke or coal or any mix of the two fuels and with the SDA down for maintenance. Within 6 months after the effective date of this permit revision, a compliance test for lead shall be conducted on approximately 80 percent pet coke and 20 percent coal with the SDA down for maintenance. Subsequently, if the normal fuel mix to the CFB boilers is changed to 25 percent (or greater) for a period of more than 15 days, and the SDA requires scheduled maintenance, then an additional compliance test shall be conducted at a typical fuel mix within 60 days after the change is made and while the SDA is down for maintenance. [Rule 62-4.070(3), F.A.C.; and 0310045-022-AC/PSD-FL-265E]

### **D. Processing Schedule**

- 08-15-08: Received the application for a minor source air pollution construction permit and Title V revision application.
- 09-11-08: Received request from the applicant for processing the construction permit and not Title V permit revisions with this application. Application deemed complete.

## **II. APPLICABLE REGULATIONS**

### **State Regulations**

This project is subject to the applicable environmental laws specified in Section 403 of the Florida Statutes (F.S.). The Florida Statutes authorize the Department of Environmental Protection to establish rules and regulations

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JEA – Northside Generating Station  
Spray Dryer Absorber Maintenance/Repair

Project No. 0310045-022-AC  
Air Permit No. PSD-FL-265E

## TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

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regarding air quality as part of the Florida Administrative Code (F.A.C.). This project is subject to the applicable rules and regulations defined in the following Chapters of the Florida Administrative Code.

### Chapter   Description

62-4	Permitting Requirements
62-204	Ambient Air Quality Requirements, PSD Increments, and Federal Regulations Adopted by Reference
62-210	Permits Required, Public Notice, Reports, Stack Height Policy, Circumvention, Excess Emissions, and Forms
62-212	Preconstruction Review, PSD Review and BACT, and Non-attainment Area Review and LAER
62-213	Title V Air Operation Permits for Major Sources of Air Pollution
62-296	Emission Limiting Standards
62-297	Test Methods and Procedures, Continuous Monitoring Specifications, and Alternate Sampling Procedures

### **Federal Regulations**

The Environmental Protection Agency establishes air quality regulations in Title 40 of the Code of Federal Regulations (CFR). Part 60 identifies New Source Performance Standards (NSPS) for a variety of industrial activities. The existing Units 1 and 2 are subject to 40 CFR 60, Subpart A: General Provisions for NSPS Sources and 40 CFR 60, Subpart Da: Standards of Performance for Electric Utility Steam Generating Units for which Construction is Commenced after September 18, 1978.

### **General PSD Applicability**

The Department regulates major air pollution sources in accordance with Florida's PSD program, as approved by the EPA in Florida's State Implementation Plan and defined in Rule 62-212.400, F.A.C. A PSD review is required in areas currently in attainment with the state and federal Ambient Air Quality Standards (AAQS) or areas designated as "unclassifiable" for a given pollutant. A new facility is considered "major" with respect to PSD if it emits or has the potential to emit:

- 250 tons per year or more of any regulated air pollutant, or
- 100 tons per year or more of any regulated air pollutant and the facility belongs to one of the 28 PSD Major Facility Categories [Rule 62-210.200(Major Stationary Source), F.A.C.], or
- 5 tons per year of lead.

For modification projects at PSD-major sources, each regulated pollutant is reviewed for PSD applicability based on emissions thresholds known as the "Significant Emission Rates" listed in Rule 62-210.200, F.A.C. Pollutant emissions from the project exceeding these rates are considered "significant" and the applicant must employ the Best Available Control Technology (BACT) to minimize emissions of each such pollutant and evaluate the air quality impacts. Although a facility may be "major" with respect to PSD for only one regulated pollutant, it may be required to install BACT controls for several "significant" regulated pollutants.

### **PSD Applicability for Project**

A PSD permit was issued in 1999 for the initial construction of Units 1 and 2. No changes in permitted emissions, production or fuel use limitations are requested.

The key definition of "major source modification" is given at Rule 62-210.200 (192), F.A.C. as follows:

- (a) Any physical change in or change in the method of operation of a major stationary source that would result in a significant emissions increase of a PSD pollutant and a significant net emissions increase of that pollutant from the major stationary source.

## TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

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JEA has in the past operated the SDAs as polishing scrubbers and have taken them off-line to perform maintenance and repairs due to the SDA vessel getting plugged. The Department believes that the spray dryer absorber polishing scrubbers can be taken off-line for maintenance and repair with the CFB operating with additional limestone to meet the sulfur dioxide and acid gases emission limits. Therefore, the Department does view the proposed changes as a physical change. A change in the method of operation constitutes a modification if the change results in an increase in emissions. If the increase in emissions are greater than the significant emission rates for that pollutant then PSD review applies to that pollutant. The following section describes the emissions increases expected with the SDA off-line and CFB still operating.

With the SDA off-line, only lead and mercury emissions are expected to increase. Lead emissions are estimated to increase by a maximum of 0.058 lb/hr, while mercury emissions are estimated to increase by a maximum of 0.028 lb/hr. These increases assume that the units will emit at the permit limit with the SDAs off-line, which is a very conservative estimate. Based on a maximum of 144 hr/yr per unit of SDA downtime, the maximum increase is 0.008 TPY for lead and 0.004 TPY for mercury. These increases are below the PSD significant emission rates of 0.6 TPY for lead and 0.1 TPY for mercury, therefore PSD review do not apply to this project. The Department has required testing of lead emissions when the SDA is taken off-line to show that the increase in lead emissions due to SDA being down is less than the significant rate. The applicant is also installing a mercury CEMS to measure mercury emissions on a continuous basis. The Department has required that quarterly mercury emissions data will be submitted to the Department and EQD for the first year and semi-annual data thereafter for an additional two years. This information will provide the Department with reasonable assurance that mercury emissions do not increase beyond the significant emissions rate of 0.1 TPY (200 pounds per year).

In addition, shutting down the units in order to perform SDA repair and maintenance would increase emissions significantly compared to continuing to operate the units (a difference of up to 2,700 TPY, as described earlier). The permit conditions are being revised to clarify the use of the SDAs.

### III. PRELIMINARY DETERMINATION

The Department makes a preliminary determination that the proposed project will comply with all applicable state and federal air pollution regulations as conditioned by the draft permit. This determination is based on a technical review of the complete application, reasonable assurances provided by the applicant, and the conditions specified in the draft permit. No air quality modeling analysis is required because the project does not result in a significant increase in emissions. Syed Arif is the project engineer responsible for reviewing the application and drafting the permit. Additional details of this analysis may be obtained by contacting the project engineer at the Department's Bureau of Air Regulation at Mail Station #5505, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400.



**STATE OF FLORIDA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION**

**NOTICE OF PERMIT REVISION**

In the Matter of an  
Application for Permit Revision by:

JEA  
21 West Church Street  
Jacksonville, Florida 32202

Air Permit No. PSD-FL-265E  
Project No. 0310045-022-AC  
Northside Generating Station  
Spray Dryer Absorber Maintenance/Repair

*Authorized Representative:*

Mr. James M. Chansler, P.E., D.P.A – Chief Operating Officer

**PROJECT AND LOCATION**

JEA operates the existing Northside Generating Station located at 4377 Heckscher Drive, Jacksonville, Duval County, Florida. The facility is an electric utility. This permit revises certain specific conditions of air construction permit 0310045-003-AC/PSD-FL-265, authorizing that the spray dryer absorber can be taken off-line for maintenance and/or repair while keeping the circulating fluidized bed boiler operational with additional injection of limestone to the boiler. This permit revision also incorporates all the previous modifications associated with Air Permit No. PSD-FL-265. The permit revision will update Section III – Emissions Units Specific Conditions as it relates to the previous modifications. Additionally, this permit revision will attach as an appendix all the previous modifications to Air Permit No. PSD-FL-265.

**STATEMENT OF BASIS**

This permit revision is issued under the provisions of Chapter 403 of the Florida Statutes (F.S.), and the Florida Administrative Code (F.A.C.) Chapters 62-4, 62-204, 62-210, 62-212, 62-296 and 62-297. 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).

**CONTENTS**

Section III	Emissions Units Specific Conditions
Appendix Modification	Previous Modifications to Air Permit No. PSD-FL-265

Note: Double underlined indicates additions and strikethrough indicates deletions in the permit revision.

(DRAFT)

\_\_\_\_\_  
Joseph Kahn, Director  
Division of Air Resource Management

\_\_\_\_\_  
(Date)

AIR CONSTRUCTION PERMIT REVISION  
SECTION III. EMISSION UNIT(S) SPECIFIC CONDITIONS

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**APPLICABLE STANDARDS AND REGULATIONS**

1. Applicable Regulations: Unless otherwise indicated in this permit, the construction and operation of the subject emission units shall be in accordance with the capacities and specifications stated in the application. The facility is subject to all applicable provisions of Chapter 403, F.S. and Florida Administrative Code Chapters 62-4, 62-103, 62-204, 62-210, 62-212, 62-213, 62-214, 62-296 and 62-297. The subject emission units at Northside are also subject to following requirements of the Code of Federal Regulations Section 40, Part 60 (1998 version), adopted by reference in the Florida Administrative Code Rule 62-204.800 (as applicable):
  - (a) Subpart A, General Provisions, Sections 60.7, 60.8, 60.11, 60.12, 60.13, and 60.19;
  - (b) Subpart Da, Standards of Performance for Electric Utility Steam Generating Units for Which Construction is Commenced After September 18, 1978 (Northside Units 1 and 2);
  - (c) Subpart Y, Standards of Performance for Coal Preparation Plants (coal handling at Northside, excluding open storage piles); and
  - (d) Subpart OOO, Standards of Performance for Nonmetallic Mineral Processing Plants (limestone handling at Northside, except for open storage piles and truck unloading).

Issuance of this permit does not relieve the facility owner or operator from compliance with any applicable federal, state, or local permitting requirements or regulations. [Rule 62-210.300, F.A.C.]

**GENERAL OPERATION REQUIREMENTS**

2. Capacity: The maximum heat input rates to Northside Units 1 and 2 shall not exceed 2764 mmBtu/hr, per unit. The maximum heat input rates to the three limestone dryers shall not exceed 57.9 mmBtu/hr, for all three units combined. These rates are included only for purposes of determining capacity during compliance stack tests. Continuous compliance with these rates is not required; capacity during compliance testing shall be determined based on fuel flow data and the as-fired heat content of the fuel. [Rule 62-210.200(228), F.A.C.]

[Permitting note: The permittee and the Department agree that the CEMS used for the federal Acid Rain Program (40 CFR Part 75) conservatively overestimates heat input ratings. The monitoring data for heat input is therefore not appropriate for purposes of compliance, including annual compliance certifications.]
3. Maximum Allowable Hours: Northside Units 1 and 2 and the materials handling operations may operate continuously (i.e., 8760 hours per year). [Rule 62-210.200(228), F.A.C.]
4. Fuels: Only coal, coal coated with latex, petroleum coke, No. 2 fuel oil (maximum sulfur content of 0.05 percent by weight), and natural gas, shall be fired in Units 1 and 2. Only No. 2 fuel oil (maximum sulfur content of 0.05 percent by weight) and natural gas shall be fired in the three limestone dryers. [Rule 62-210.200(228), F.A.C.]
5. Unconfined Particulate Emissions: During the construction period, unconfined particulate matter emissions shall be minimized by dust suppressing techniques such as covering, seeding, and application of water or chemicals to the affected areas, as necessary. After construction and during operation, the following measures shall be taken, in addition to requirements for materials handling operations specifically addressed herein, to minimize unconfined particulate matter emissions: maintenance of paved areas as needed, regular mowing of grass and care of vegetation, limiting access to plant property by unnecessary vehicles, storage of bagged chemical products in weather-tight buildings (except for fertilizer), and prompt cleanup of spilled powdered chemical products. [Rule 62-296.320(4)(c), F.A.C.]

AIR CONSTRUCTION PERMIT REVISION  
SECTION III. EMISSION UNIT(S) SPECIFIC CONDITIONS

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6. **Plant Operation - Problems:** If temporarily unable to comply with any of the conditions of the permit due to breakdown of equipment or destruction by fire, wind or other cause, JEA shall notify ~~RES~~ Environmental Quality Division (EQD) as soon as possible, but at least within one (1) working day, excluding weekends and holidays. The notification shall include: pertinent information as to the cause of the problem; the steps being taken to correct the problem and prevent future recurrence; and where applicable, the owner's intent toward reconstruction of destroyed facilities. Such notification does not release the permittee from any liability for failure to comply with the conditions of this permit and the regulations. [Rule 62-4.130, F.A.C.]
7. **Operating Procedures:** Operating procedures shall include good operating practices and proper training of all operators and supervisors. The good operating practices shall meet the guidelines and procedures as established by the equipment manufacturers. All operators (including supervisors) of air pollution control devices shall be properly trained in plant specific equipment. [Rule 62-4.070(3), F.A.C.]
8. **Circumvention:** The owner or operator shall not circumvent the air pollution control equipment or allow the emission of air pollutants without this equipment operating properly. [Rule 62-210.650, F.A.C.]

**CONTROL TECHNOLOGY - CIRCULATING FLUIDIZED BED (CFB) BOILERS**

9. **Sulfur Dioxide, Acid Gases and Metals Control:** Sulfur dioxide (SO<sub>2</sub>) and acid gases shall be controlled by the injection of limestone into the CFB boiler beds. Residual sulfur dioxide, and acid gases and metals shall be further controlled by the use of add-on air quality control systems for Units 1 and 2 to meet limits of 0.2 lb/mmBtu, 24-hr block average, and 0.15 lb/mmBtu, 30-day rolling average. ~~The permittee shall provide design specifications to the Department at least 90 days prior to installation of the devices. The add-on air quality control systems installed by JEA and approved by the Department are spray dryer absorber (SDA) systems (one for Unit 1 and one for Unit 2) and fabric filters (one for Unit 1 and one for Unit 2). During periods when an SDA is non-operational due to malfunction, maintenance or repair, limestone injection to the associated CFB boiler shall be increased to the extent needed to ensure that the SO<sub>2</sub> emission limits in Condition 12 for Units 1 and 2 of 0.2 lb/mmBtu, 24-hr block average, and 0.15 lb/mmBtu, 30-day rolling average are achievable. Non-operation of the SDA is limited to a maximum of 12 hours per month per unit (12-month rolling average).~~ [Applicant Request; and 0310045-022-AC/PSD-FL-265E]
10. **Oxides of Nitrogen Control:** A selective non-catalytic reduction (SNCR) system designed to meet a limit of 0.09 lb/mmBtu, 30-day rolling average, shall be used on Units 1 and 2 for control of oxides of nitrogen (NOx) emissions. [Rule 62-212.400, F.A.C.]
11. **Particulate Matter Control:** Particulate matter (PM and PM<sub>10</sub>) shall be controlled by the use of high efficiency, add-on air quality control devices (either fabric filters or electrostatic precipitators) on Units 1 and 2 that are designed to meet a limit of 0.011 lb/mmBtu. The permittee shall identify the devices selected and shall provide design specifications to the Department at least 90 days prior to installation of the devices. [Rule 62-212.400, F.A.C.]

**EMISSION LIMITS AND STANDARDS**

**The following shall apply upon completion of the initial compliance tests, certification tests, and performance specification tests, as applicable and per pollutant, for each of the repowered Units 1 and 2, except as noted:**

12. **Best Available Control Technology:** The following is a summary of the BACT determinations by DEP of the Repowered Units 1 and 2, and other limits requested by the applicant, as noted.

AIR CONSTRUCTION PERMIT REVISION  
SECTION III. EMISSION UNIT(S) SPECIFIC CONDITIONS

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**Table 1. Emission Limits for Units 1 and 2**

Pollutant	Emission Limits– Per Unit
Visible emissions	10 percent opacity, 6-minute block average
SO <sub>2</sub> <sup>2</sup>	0.2 lb/mmBtu, 24-hour block average <sup>2,3</sup> 0.15 lb/mmBtu, 30-day rolling average <sup>2</sup>
NO <sub>x</sub> <sup>1</sup>	0.09 lb/mmBtu, 30-day rolling average <sup>4</sup>
PM/PM <sub>10</sub> <sup>1</sup>	0.011 lb/mmBtu, 3-hour average <sup>1</sup>
CO <sup>1</sup>	350 lbs/hour, 24-hour block average <sup>1,3</sup>
VOCs <sup>1</sup>	14 lbs/hour, 3-hour average <sup>1</sup>
Pb <sup>2</sup>	0.07 lb/hour, 3-hour average <sup>2</sup>
H <sub>2</sub> SO <sub>4</sub> <sup>2</sup>	1.1 lbs/hour, 3-hour average <sup>2</sup>
HF <sup>1</sup>	0.43 lb/hour, 3-hour average <sup>1</sup>
Hg <sup>1</sup>	0.03 lb/hour, 6-hour average <sup>1</sup>

<sup>1</sup>BACT determination.

<sup>2</sup>Requested by applicant.

<sup>3</sup>24-hour block averages are calculated from midnight to midnight.

<sup>4</sup>Equivalent to approximately 0.8-0.9 lb/MWhr (gross energy output).

13. Visible Emissions: Visible emissions from Units 1 and 2 shall not exceed 10 percent opacity, 6-minute block average, excluding periods of startup, shutdown, and malfunction. [**Rule 62-212.400, F.A.C.**]
14. Sulfur Dioxide:
- (a) Sulfur dioxide (SO<sub>2</sub>) emissions from Units 1 and 2 shall not exceed 0.20 lb/mmBtu (24-hour block average) nor 0.15 lb/mmBtu (30-day rolling average). [**Applicant request.**] **The equivalent emissions, being provided for informational purposes only, are 553 lbs/hour (24-hour block average), 415 lbs/hour (30-day rolling average), and 1,816 tons per year, per unit.**
  - (b) Sulfur dioxide from Units 1, 2, and 3 combined shall not exceed 12,284 tons during any consecutive 12-month period on a rolling basis. This condition shall become effective on the first day of the month following successful completion of the initial performance testing of Repowered Unit 2, and compliance shall be based upon at least 12 months of operation after the effective date. [**Applicant request.**]
15. Oxides of Nitrogen:
- (a) Oxides of nitrogen (NO<sub>x</sub>) emissions from Units 1 and 2 shall not exceed 0.09 lb/mmBtu on a 30-day rolling average basis. [**Rule 62-212.400, F.A.C.**] **The equivalent emissions, being provided for informational purposes only, are 249 lbs/hour (30-day rolling average) and 1,090 tons per year, per unit.**

AIR CONSTRUCTION PERMIT REVISION  
SECTION III. EMISSION UNIT(S) SPECIFIC CONDITIONS

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- (b) Oxides of nitrogen emissions from Units 1, 2, and 3 combined shall not exceed 3,600 tons during any consecutive 12-month period on a rolling basis. This condition shall become effective on the first day of the month following successful completion of the initial performance testing of Repowered Unit 2, and compliance shall be based upon at least 12 months of operation after the effective date. **[Applicant request.]**
16. Particulate Matter (PM and PM<sub>10</sub>):
- (a) Particulate matter (PM) emissions from Units 1 and 2 shall not exceed 0.011 lb/mmBtu (3-hour average). **[Rule 62-212.400, F.A.C.] The equivalent emissions, being provided for informational purposes only, are 30 lbs/hour (3-hour average) and 133 tons per year, per unit.**
- (b) Particulate matter-10 microns or smaller (PM 10) emissions from Units 1 and 2 shall not exceed 0.011 lb/mmBtu (3-hour average). **[Rule 62-212.400, F.A.C.] The equivalent emissions, being provided for informational purposes only, are 30 lbs/hour (3-hour average) and 133 tons per year, per unit.**
- (c) Stack emissions of particulate matter (PM) from Units 1, 2, and 3 combined shall not exceed 881 tons during any consecutive 12-month period on a rolling basis. This condition shall become effective on the first day of the month following successful completion of the initial performance testing of Repowered Unit 2, and compliance shall be based upon at least 12 months of operation after the effective date. **[Applicant request.]**
17. Carbon Monoxide: Carbon monoxide (CO) emissions shall not exceed 350 lbs/hour, 24-hour block average, nor 1533 tons per year from either Unit 1 or 2. **[Annual limit—applicant request.]**
18. Volatile Organic Compounds: Volatile organic compound (VOC) emissions shall not exceed 14 lbs/hour (3-hour average), nor 61.5 tons per year from either Unit 1 or 2. **[Annual limit—applicant request.]**
19. Lead: Lead (Pb) emissions shall not exceed 0.07 lb/hour (3-hour average), from either Unit 1 or 2. **[Applicant request.]**
20. Sulfuric Acid Mist: Sulfuric acid mist (H<sub>2</sub>SO<sub>4</sub>) emissions shall not exceed 1.1 lbs/hour (3-hour average), from either Unit 1 or 2. **[Applicant request]**
21. Hydrogen Fluoride: Hydrogen fluoride (HF) emissions shall not exceed 0.43 lb/hour (3-hour average), from either Unit 1 or 2. **[Rule 62-212.400, F.A.C.]**
22. Mercury: Mercury (Hg) emissions shall not exceed 0.03 lb/hour (6-hour average), from either Unit 1 or 2. **[Rule 62-212.400, F.A.C.]**

**MATERIALS HANDLING OPERATIONS**

23. Throughput rates: The materials handling and usage rates for coal, coal coated with latex, petroleum coke, and limestone at Northside shall not exceed the following (for Northside Units 1 and 2 combined), assuming a moisture content of 5.5% or less:

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<u>Material</u>	<u>Handling/Usage Rate</u> <u>Tons Per Year</u>
Coal/Coal coated with latex/ Petroleum Coke	2.42 million
Limestone	1.45 million

24. **Standards:** The materials handling sources at Northside shall be regulated as follows, and the emission limits and standards shall apply upon completion of the initial compliance tests for each of the units or activities.
- (a) The following materials handling sources shall be equipped with fabric filter controls and visible emissions shall not exceed 5 percent opacity:
- Crusher house building baghouse exhaust (EU29)
  - Fuel silos dust collectors (EU31)
  - Limestone prep building dust collectors (EU34)
  - Limestone silos bin vent filters (EU35)
  - Fly ash transport blower discharge (EU36)
  - Fly ash silos bin vents (EU37)
  - Bed ash silos bin vents (EU38)
  - AQCS pebble lime silo (EU42)
  - Fly ash slurry mix system vents (EU51)
  - Bed ash slurry mix system vents (EU52)
  - Bed ash surge hopper bin vents (EU53)
- (b) The following materials handling sources shall use wet suppression, water spray, coverings, and/or conditioned materials to control particulate emissions as needed, and visible emissions shall not exceed 5 percent opacity:
- Transfer towers (EU28c, EU28g, EU28i, EU28o, EU28q and EU28v)
  - Coal/Coal coated with latex and petroleum coke storage building (EU28h)
  - Transfer Building 5 and limestone loadout chute (EU28d)
  - Belt Conveyor No. 1 (EU28)
- (c) The following materials handling sources shall use wet suppression, water spray, partial enclosures, and/or conditioned materials to control particulate emissions as needed, and visible emissions shall not exceed 10 percent opacity:
- Northside dock vessel unloading operations – vessel hold (EU28a)
  - Northside dock vessel unloading operations – vessel unloader & spillage conveyors (EU28a)
  - Limestone storage pile (EU28p)
  - Limestone reclaim hopper (EU28p)
- (d) The limestone dryer/mill building (EU33) shall have no visible emissions (other than from a baghouse vent).
- (e) The maximum particulate matter emissions from the following operations shall not exceed 0.01 grains per dry standard cubic foot:

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Limestone prep building dust collectors (EU34)  
Limestone silo bin vent filters (EU35)

**LIMESTONE DRYERS**

25. Limestone dryers: The maximum emissions from each of the three limestone dryers shall not exceed the following limits, which are established as BACT by the Department. These limits shall become effective upon completion of the initial compliance tests:

<u>Pollutants</u>	<u>Limits</u>
Visible Emissions	5% Opacity
Sulfur Dioxide	Maximum 0.05% sulfur No. 2 distillate oil
Particulate Matter	0.01 grains per dry standard cubic foot

**EXCESS EMISSIONS**

26. Authorized Emissions: Notwithstanding other emission limits and standards established by this permit, excess emissions resulting from startup, shutdown, or malfunction shall be permitted provided (1) that best operational practices are adhered to and (2) the duration of excess emissions shall be minimized but not exceed sixty (60) hours in any calendar month per emissions unit (CFBs Units Nos. 1 and 2). The permittee shall keep operational records necessary to demonstrate compliance with this restriction. Emissions data collected during periods of startup, shutdown and malfunction shall be included when demonstrating compliance with annual emission limits. The CFB Units shall not be started up at the same time. The permittee shall update the written procedure summarizing the current best operational practices to be followed every 5 years (at operating permit renewal).

Pursuant to Rule 62-210.200, F.A.C., Definitions, the following are defined:

- a. Startup: The commencement of operation of any emissions unit which has been shut down or ceased operation for a period of time sufficient to cause temperature, pressure, chemical or pollution control device imbalances, which result in excess emissions.
- b. Shutdown: The cessation of the operation of an emissions unit for any purpose.
- c. Malfunction: Any unavoidable mechanical and/or electrical failure of air pollution control equipment or process equipment or of a process resulting in operation in an abnormal or unusual manner.

In case of excess emissions resulting from malfunction, each owner or operator shall notify the Department or appropriate Local Program in accordance with Rule 62-4.130, F.A.C. A full written report on the malfunctions shall be submitted in a quarterly report, if requested by the Department or appropriate Local Program.

**[Rules 62-210.200 and 62-210.700(1), (5) & (6), F.A.C.; and 0310045-015-AC/PSD-FL-265C ]**

27. Non-authorized Emissions: Excess emissions which are caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure which may reasonably be prevented during startup, shutdown or malfunction shall be prohibited pursuant to **Rule 62-210.700, F.A.C**
28. Excess Emissions Report: If excess emissions occur due to malfunctions for a period of more than two hours, the owner or operator shall notify **RESD EQD** within (1) working day of: the nature,

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extent, and duration of the excess emissions; the cause of the excess emissions; and the actions taken to correct the problem. In addition, the Department may require a written summary report of the incident. Pursuant to the New Source Performance Standards, excess emissions shall also be reported in accordance with 40 CFR 60.7, Subpart A. [Rules 62-4.130 and 62-210.700(6), F.A.C.]

**COMPLIANCE DETERMINATION**

29. Initial Performance Tests and CEMS Certifications: Compliance with the allowable emission limiting standards shall be determined within 60 days after achieving the maximum production rate at which each unit will be operated, but not later than 180 days of initial operation, and periodically thereafter as indicated in this permit. Initial compliance tests shall be performed on Units 1 and 2 while firing either coal or petroleum coke as indicated below, and on the limestone dryers while firing fuel oil. Annual compliance tests shall be performed during every federal fiscal year (October 1 - September 30) pursuant to Rule 62-297.340, F.A.C., on Units 1 and 2 while firing either coal or petroleum coke as indicated below. No stack tests are required if continuous emissions monitoring systems are used to demonstrate compliance pending EPA approval, otherwise initial performance tests shall be conducted as described above. Certification tests (or performance evaluations, as applicable) for all Continuous Emissions Monitoring System (CEMS) required by this permit must be completed within 60 days after achieving the maximum production rate at which each unit will be operated but not later than 90 days of initial operation, and prior to the initial stack tests for that unit.

Note: No methods other than the ones identified below may be used for compliance testing unless prior DEP or ~~RESD EQD~~ approval is received in writing. DEP or ~~RESD EQD~~ may request a special compliance test pursuant to Rule 62-297.340(2), F.A.C., when, after investigation (such as complaints, increased visible emissions, or questionable maintenance of control equipment), there is reason to believe that any applicable emission standard is being violated.

30. Visible Emissions (Opacity):
- (a) Compliance with the visible emissions limit in Condition 13 shall be demonstrated with continuous opacity monitors installed, certified, operated, and maintained in accordance with 40 CFR Part 75, based on 6-minute block averages and excluding periods of startup, shutdown, and malfunction.
  - (b) Compliance with the visible emissions limit in Condition 25 for the limestone dryers shall be demonstrated using EPA Method 9 initially and once within every five years thereafter. The limestone dryers shall fire fuel oil during the initial compliance tests. In subsequent years, the testing shall be conducted annually if fuel oil has been fired for more than 400 hours during the previous federal fiscal year; otherwise, the testing shall be conducted once within every five years, even if the testing is conducted while firing natural gas.
31. Sulfur Dioxide:
- (a) Compliance with sulfur dioxide (SO<sub>2</sub>) emissions limits in Conditions 14(a) and 14 (c) shall be demonstrated with Continuous Emissions Monitoring Systems (CEMS's) installed, certified, operated and maintained in accordance with 40 CFR Part 75, based on 24-hour block and 30-day rolling averages, as applicable, and excluding periods of startup, shutdown, and malfunction. Emissions recorded in parts per million shall be converted to lb/mmBtu using an



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appropriate F-factor for purposes of determining compliance with the emission limits in Conditions 14(a) and 14(c).

- (b) Compliance with the annual SO<sub>2</sub> emission limit in Condition 14(b) shall be determined based on SO<sub>2</sub> data from the CEMS's. Emissions during periods of startup, shutdown, and malfunction shall be considered in determining the total annual emissions. [Applicant request.]

[Permitting Note: At least three (3) hours of data are required to establish a 24-hour average for CEMS data.]

32. Oxides of Nitrogen:

- (a) Compliance with the oxides of nitrogen (NO<sub>x</sub>) emissions limit in Condition 15(a) shall be demonstrated with a CEMS's installed, certified, operated and maintained in accordance with 40 CFR Part 75, based on a 30-day rolling average and excluding periods of startup, shutdown and malfunction. The 30-day rolling averages will be determined based on hourly values calculated in accordance with Appendix F of 40 CFR Part 75.
- (b) Compliance with the annual NO<sub>x</sub> emissions limit in Condition 15(b) shall be determined by summing the products of hourly NO<sub>x</sub> emission rate and heat input rate data from the CEMS's. Emissions during periods of startup, shutdown, and malfunction shall be considered in determining the total emissions. [Applicant request.]

33. Particulate Matter:

- (a) Initial compliance tests only shall be performed on Units 1 and 2 using EPA Methods 5, 5B, 8, 17, or 29 to determine compliance with the particulate matter (PM) limits in Condition 16(a) while firing petroleum coke, and an additional initial compliance test shall be performed on Unit 2 while firing coal. Quarterly tests shall be conducted for the first two years (eight quarters), then annually thereafter while firing petroleum coke. If petroleum coke has been fired for less than 100 hours during the previous quarter or less than 400 hours during the previous federal fiscal year, the testing may be performed while firing coal.
- (b) Initial and annual compliance tests shall be performed on Units 1 and 2 using EPA Methods 201 or 201A, to determine compliance with the particulate matter-10 microns or smaller (PM<sub>10</sub>) limits in Condition 16(b) while firing petroleum coke, and an additional initial test shall be performed on Unit 2 while firing coal. If petroleum coke has been fired for less than 400 hours during the previous federal fiscal year, the annual testing may be performed while firing coal.
- (c) Compliance with the annual particulate matter (PM) emissions limit in Condition 16(c) shall be determined using the following formula. This formula shall be used for each fuel consumed by each of CFB Boilers Nos. 1 and 2 and existing Boiler No. 3, and the resulting PM emissions summed to obtain a 12-month total for CFB Boilers 1 and 2 and existing Boiler No. 3. [Applicant request.]

$$\text{PM Emissions} = (\text{Fuel Usage}^a) \times (\text{Emission Factor}^b) \times \text{unit conversion factors}$$

<sup>a</sup>The "Fuel Usage" shall be measured by calibrated fuel flow meters (±5 percent accuracy) and recorded daily when a unit is operated.

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<sup>b</sup>An "Emissions Factor" of  $[(9.19 \times \text{weight percent sulfur content}) + 3.22]$  pounds per thousand gallons (lbs/10<sup>3</sup> gal) shall be used for fuel oil burned in existing Boiler No. 3. The weight percent sulfur content shall be determined based on an analysis of a representative sample of the fuel oil being consumed. The analysis shall be performed using either ASTM D2622-92, ASTM D4294-90, both ASTM D4057-88 and ASTM D129-91, or the latest edition. An "Emissions Factor" of 5 pounds per million cubic feet (lb/MCF) shall be used for natural gas burned in existing Boiler No. 3. For Repowered Units 1 and 2, the "Emissions Factor" shall be based on particulate matter stack test results using EPA Methods 5, 5B, 8, 17, or 29 for the individual units, and shall apply to the quantities of fuel consumed in the individual units during the period immediately following the stack tests for the respective units until subsequent stack tests are completed.

- (d) Initial compliance tests only shall be performed on the limestone dryers to determine compliance with the particulate matter limit in Condition 25 using EPA Method 5.

34. Carbon Monoxide:

- (a) Compliance with the short-term carbon monoxide (CO) limit in Condition 17 shall be demonstrated with CEMS's installed, calibrated, operated, and maintained in accordance with 40 CFR Part 60, Appendix B based on a 24-hour block average and excluding periods of startup, shutdown, and malfunction.
- (b) Compliance with the annual CO limit in Condition 17 shall be demonstrated by summing the products of hourly CO emission rate and heat input rate data from the CEMS's. Emissions during periods of startup, shutdown, and malfunction shall be considered in determining the total emissions. [Applicant request.]

35. Valid Data: For the continuous monitoring systems required under Conditions 31(a), 32(a), and 34(a), the permittee shall determine compliance based on CEMS data at the end of each operating day (midnight to midnight), new 24-hour block and 30-day average emission rates shall be calculated from the arithmetic average of all valid hourly emission rates during the previous 24-hours or 30 operating days, as appropriate. Valid hourly emission rates shall not include periods of startup, shutdown, or malfunction as defined in Rule 62-210.200 where emissions exceed the standards in Table 1. These excess emission periods shall be reported as required in Section II, Condition 13. A valid hourly emission rate shall be calculated for each hour in which at least two concentrations are obtained at least fifteen (15) minutes apart.

36. Volatile Organic Compounds: Initial compliance tests shall be performed on Units 1 and 2 using EPA Method 18, 25, or 25A to determine compliance with the volatile organic compound (VOC) emission limit in Condition 18 while firing petroleum coke, and an additional initial test shall be performed on Unit 2 while firing coal. Compliance testing shall also be conducted once within every five years thereafter while firing petroleum coke and/or coal. Compliance with the CO limits based on CEMS data shall be used as surrogates to indicate compliance with the VOC limits.

37. Lead: Initial compliance tests only shall be performed on Unit 2 using EPA Method 12 or 29 to determine compliance with the lead emission limit in Condition 19 while firing coal and while firing petroleum coke. An additional compliance test shall be conducted once every five years at permit

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renewal on one of the units while firing petroleum coke or coal or any mix of the two fuels and with the SDA down for maintenance. Within 6 months after the effective date of this permit revision, a compliance test for lead shall be conducted on approximately 80 percent pet coke and 20 percent coal with the SDA down for maintenance. Subsequently, if the normal fuel mix to the CFB boilers is changed to 25 percent (or greater) coal for a period of more than 15 days, and the SDA requires scheduled maintenance, then an additional compliance test shall be conducted at a typical fuel mix within 60 days after the change is made and while the SDA is down for maintenance.  
[Rule 62-4.070(3), F.A.C.; and 0310045-022-AC/PSD-FL-265E]

38. Sulfuric Acid Mist: Initial compliance tests only shall be performed on Unit 2 using EPA Method 8 to determine compliance with the sulfuric acid mist emission limit in Condition 20 while firing petroleum coke and while firing coal. In addition, compliance with the SO<sub>2</sub> limits based on CEMS data shall be used as a surrogate to indicate compliance with the sulfuric acid mist limit.
39. Hydrogen Fluoride: Initial compliance tests only shall be performed on Unit 2 using EPA Method 13A or 13B to determine compliance with the hydrogen fluoride emission limit in Condition 21 while firing coal and while firing petroleum coke.
40. Mercury: Initial compliance tests only shall be performed on Unit 2 using EPA Methods 29, 101, or 101A to determine compliance with the mercury emission limit in Condition 22 while firing coal and while firing petroleum coke.
41. Materials Handling Operations: Visible emissions tests shall be conducted on the material handling operations to determine compliance with applicable limits, as follows:

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Emissions Units at Northside	EPA Method(s)	Duration of VE Test	Frequency	Material
Vessel Hold (EU 28a)	9	30 min	I only	C or PC
Vessel Unloader & Spillage Conveyors (EU 28a)	9	3 hr	I only	C & LS
Belt Conveyor No. 1 (EU 28)	9	3 hr	I only	C & LS
Transfer Towers (EU 28c, 28g, 28i, 28o, 28q & 28v)	9	3 hr	I only	C & LS
Fuel Storage Building (EU28h)	9	30 min	I only	C or PC
Limestone Storage Pile (EU28p)	9	30 min	I only	LS
<b>NSPS - OOO</b>				
Limestone Dryer/Mill Building (EU33)	22	IVE - 75 min	I only	LS
Limestone Prep Building Dust Collectors - Baghouse Exhaust (EU34)	9-VE 5-PM	IVE - 60 min RVE - 30 min	Meth 9: I & R Meth 5: I only	LS
Limestone Silos Bin Vent Filters - Baghouse Exhaust (EU35)	9-VE 5-PM	IVE - 60 min RVE - 30 min	Meth 9: I & R Meth 5: I only	LS
<b>NSPS - Y</b>				
Crusher House Building Baghouse Exhaust (EU29)	9	IVE - 3 hr RVE - 30 min	I & R	C &/or PC
Fuel Silos Dust Collectors - Baghouse Exhaust (EU31)	9	IVE - 3 hr RVE - 30 min	I & R	C &/or PC
<b>Other</b>				
Fly Ash Transport Blower Discharge - Baghouse Exhaust (EU36)	9	IVE - 30 min RVE - 30 min	I & R	Ash
Fly Ash Silos Bin Vents - Baghouse Exhaust (EU37)	9	IVE - 30 min RVE - 30 min	I & R	Ash
Bed Ash Silos Bin Vents - Baghouse Exhaust (EU38)	9	IVE - 30 min RVE - 30 min	I & R	Ash
AQCS Pebble Lime Silo - Baghouse Exhaust (EU42)	9	IVE - 30 min RVE - 30 min	I & R	Ash
Fly Ash Slurry Mix System Vents – Baghouse Exhaust (EU51)	9	IVE – 60 min RVE – 60 min	I & R	Ash
Bed Ash Slurry Mix System Vents – Baghouse Exhaust (EU52)	9	IVE – 30 min RVE – 30 min	I & R	Ash
Bed Ash Surge Hopper Bin Vents – Baghouse exhaust (EU53)	9	IVE -60 min RVE – 60 min	I & R	Ash

C – Coal and/or Coal coated with latex

I – Initial R - Renewal (once every 5 years)

IVE – Initial Visible Emissions Test, RVE - Renewal Visible Emissions Test

LS – Limestone; PC-Petroleum Coke

Note: No methods other than the ones identified above may be used for compliance testing unless prior DEP or ~~RES~~ EQD approval is received in writing.

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42. Testing Notifications and Capacity: ~~RES~~ EQD shall be notified, in writing, at least 30 days prior to the initial compliance tests and at least 15 days before annual compliance test(s). Testing of emissions shall be conducted with the emissions unit operation at permitted capacity. Permitted capacity is defined as 90-100 percent of the maximum heat input rate allowed by the permit, as determined using fuel flow data and the as-fired heat content of the fuel. If it is impracticable to test at permitted capacity, the unit may be tested at less than permitted capacity. In this case, subsequent operation is limited to 110 percent of the value reached during the test until a new test is conducted. Once the unit is so limited, operation at higher capacities is allowed for no more than 15 consecutive days for the purposes of additional compliance testing to regain the permitted capacity. Compliance test results shall be submitted to ~~RES~~ EQD no later than 45 days after completion of the last test run. [Rule 62-297.310, F.A.C.]
43. Sulfur Content: Vendor or other fuel sampling and analysis data (using applicable ASTM methods) shall be used to determine that the sulfur content of No. 2 fuel oil used in Units 1 and 2 and in the limestone dryers does not exceed 0.05 percent by weight. [Rule 62-210.200(228), F.A.C.]

**NOTIFICATION, REPORTING AND RECORDKEEPING**

44. Records: All measurements, records, and other data required to be maintained by JEA shall be retained for at least five (5) years following the date on which such measurements, records, or data are recorded. These records shall be made available to DEP and ~~RES~~ EQD representatives upon request. [Rule 62-4.070(3), F.A.C.]
45. Compliance Stack Test Reports: A test report indicating the results of the required compliance tests shall be filed with ~~RES~~ EQD as soon as practical, but no later than 45 days after the last sampling run is completed. [Rule 62-297.310(8), F.A.C.]. The test report shall provide sufficient detail on the tested emission unit and the procedures used to allow ~~RES~~ EQD to determine if the test was properly conducted and if the test results were properly computed. At a minimum, the test report shall provide the applicable information listed in Rule 62-297.310(8), F.A.C.
46. Certification Testing of Monitors: As required under the federal Acid Rain Program, the Acid Rain Monitoring Plan for Northside shall be revised to address the new Continuous Emissions Monitoring Systems (CEMS's) for sulfur dioxide, oxides of nitrogen, and visible emissions (opacity) for Repowered Northside Units 1 and 2. The permittee shall provide a copy of this revised plan, as well as model and serial numbers for each of the monitors, to ~~RES~~ EQD within 45 days after completion of all certification tests. In addition, the permittee shall provide notification that the carbon monoxide CEMS's meet the performance specifications in 40 CFR Part 60, Appendix B (as applicable), and also provide model and serial numbers to ~~RES~~ EQD within 45 days after completion of the performance specification tests.
47. NSPS Notifications: The permittee shall provide all notices required under 40 CFR Sections 60.7 and 60.8 (as revised 64 Fed. Reg. 7458, Feb. 12, 1999) to ~~RES~~ EQD, for each unit subject to an NSPS, including:
- (a) Notification of the date of construction, postmarked no later than 30 days after such date;
  - (b) Notification of the anticipated date of initial startup, postmarked not more than 60 days nor less than 30 days prior to such date; and
  - (c) Notification of the actual date of initial startup, postmarked within 15 days after such date.
  - (d) Notification of any performance test at least 30 days prior to the test and at least 7 days prior notice if a test postponed due to a delay or otherwise by mutual agreement between the permittee and ~~RES~~ EQD.

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48. Quarterly Compliance Reports for Annual Limits: The permittee shall provide reports quarterly to RES D EQD certifying compliance with the 12-month rolling limits on SO<sub>2</sub>, NO<sub>x</sub> and PM (TSP) for Northside Units 1, 2, and 3 set forth in Conditions 14(b), 15(b), and 16(b). The reports shall be submitted within 45 days after the last day of each calendar quarter. [**Applicant request.**]
49. The permittee shall provide an engineering study By December 31, 2010 to the Department and EQD detailing opportunities to increase the reliability and availability of the SDA system. The study will address potential improvements in preventive and predictive maintenance, and potential equipment and system modifications (including opportunities for redundancy) which will result in minimizing the amount of time the SDA is off-line during CFB operation. The engineering study shall also include the cost estimates associated with potential equipment/system modifications (including opportunities for redundancy) and the cost effectiveness of the associated emissions reductions. [Rule 62-4.070(3), F.A.C.; and 0310045-022-AC/PSD-FL-265E]

**CONTINUOUS EMISSIONS MONITORING SYSTEMS REQUIREMENTS AND REPORTING**

- 49.50.(a) Continuous Emissions Monitoring Systems Requirement: The permittee shall install, calibrate, operate, and maintain Continuous Emission Monitoring Systems (CEMS<sup>2</sup>s) in the stack to measure and record the sulfur dioxide, oxides of nitrogen, carbon monoxide, mercury (Hg) and visible emissions from Units 1 and 2. An emission level above a BACT limit, considering the 6-minute, 24-hour and 30-day rolling average periods, as applicable, shall be reported to RES D EQD pursuant to Rule 62-4.160(8), F.A.C. The continuous emission monitoring systems shall comply with the certification, performance specifications, and quality assurance, and other applicable requirements of 40 CFR Part 75 and 40 CFR Part 60 (Appendix B), as indicated above. Periods of startup, shutdown, and malfunction shall be monitored, recorded, and reported as excess emissions when emission levels exceed the limits in Table 1 following the format of 40 CFR 60.7 (As revised, 64 Fed Reg. 7458 (Feb. 12, 1999)).
- (b) Hg Continuous Emissions Monitoring Systems Operation: The permittee has voluntarily agreed to install and operate a Hg CEMS. The Hg CEMS shall be installed and operational no later than March 31, 2009, and shall be operated in accordance with the manufacturer's specifications. The Hg CEMS shall comply with the requirements in Performance Specification 12A (PS-12A) of 40 CFR Part 60, Appendix B. The permittee shall adhere to the calibration drift and quarterly accuracy assessment procedures in 40 CFR Part 60, Appendix F or 40 CFR Part 75, Appendix B. Every reasonable effort should be made by the permittee for the Hg CEMS to be operating during the time periods when the SDA is off-line. If the Hg CEMS is not operating during a time period when the SDA is taken off-line, the best estimate of Hg emissions shall be provided to the Department and EQD based on the requirements of Rule 62-210.370, F.A.C. [Rules 62-4.070(3) and 62-210.370, F.A.C.; and 0310045-022-AC/PSD-FL-265E]
- (c) Continuous Emissions Monitoring Systems Reporting: JEA shall submit to the Department and EQD Hg CEMS emissions data for both Units 1 and 2. It shall be submitted in a graphical representation of Hg emissions against time. The graph shall also indicate the periods when the SDA was taken off-line. The Hg CEMS data shall be submitted for the four quarters of 2009 and thereafter Hg CEMS data shall be submitted semi-annually until December 2011. The submittal of Hg CEMS data after 2011 will be only upon request from the Department or EQD. [Rule 62-4.070(3), F.A.C.; and 0310045-022-AC/PSD-FL-265E]

50.51 Determination of Process Variables:

- (a) The permittee shall operate and maintain equipment or instruments necessary to determine process variables, such as process weight input or heat input, when such data are needed in conjunction with

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emissions data to determine the compliance of the emissions unit with applicable emission limiting standards.

(b) Equipment or instruments used to directly or indirectly determine such process variables, including devices such as belt scales, weight hoppers, flow meters, and tank scales, shall be calibrated and adjusted to indicate the true value of the parameter being measured with sufficient accuracy to allow the applicable process variable to be determined within 10% of its true value. [Rule 62-297.310(5), F.A.C]

**Livingston, Sylvia**

**From:** Gianazza, N. Bert [GianNB@jea.com] **Sent:** Mon 12/1/2008 8:12 AM  
**To:** Livingston, Sylvia  
**Cc:**  
**Subject:** RE: JEA - NORTHSIDE/SJRPP; 0310045-022-AC (PSD-FL-265E)  
**Attachments:**

My R.O. and I have received this email.

Tx, Bert

**From:** Livingston, Sylvia [mailto:Sylvia.Livingston@dep.state.fl.us]  
**Sent:** Tuesday, November 25, 2008 3:37 PM  
**To:** Chansler, James M. - Chief Operating Officer; Gianazza, N. Bert  
**Cc:** Kirts, Christopher; robinson@coj.net; Halpin, Mike; forney.kathleen@epa.gov; abrams.heather@epamail.epa.gov; catherine\_collins@fws.gov; Gibson, Victoria; Arif, Syed; Walker, Elizabeth (AIR)  
**Subject:** JEA - NORTHSIDE/SJRPP; 0310045-022-AC (PSD-FL-265E)

Dear Sir/ Madam:

Attached is the official **Notice of Draft Permit** for the project referenced below. Click on the link displayed below to access the permit project documents and send a "reply" message verifying receipt of the document(s) provided in the link; this may be done by selecting "Reply" on the menu bar of your e-mail software, noting that you can view the documents, and then selecting "Send". We must receive verification that you are able to access the documents. Your immediate reply will preclude subsequent e-mail transmissions to verify accessibility of the document(s).

**Click on the following link to access the permit project documents:**

[http://ARM-PERMIT2K.dep.state.fl.us/adh/prod/pdf\\_permit\\_zip\\_files/0310045.022.AC.D\\_pdf.zip](http://ARM-PERMIT2K.dep.state.fl.us/adh/prod/pdf_permit_zip_files/0310045.022.AC.D_pdf.zip)

**Owner/Company Name:** JEA  
**Facility Name:** NORTHSIDE/SJRPP  
**Project Number:** 0310045-022-AC/ PSD-FL-265E  
**Permit Status:** DRAFT  
**Permit Activity:** CONSTRUCTION/ SPRAY DRYER ABSORBER MAINT.  
**Facility County:** DUVAL  
**Processor:** Syed Arif

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Permit project documents are addressed in this email may require immediate action within a specified time frame. Please open and review the document(s) as soon as possible, and verify that they are accessible. Please advise this office of any changes to your e-mail address or that of the Engineer-of-Record. If you have any problems opening the documents or would like further information, please contact the Florida Department of Environmental Protection, Bureau of Air Regulation



**Livingston, Sylvia**

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**From:** Robinson, Richard [ROBINSON@coj.net]  
**Sent:** Tuesday, November 25, 2008 3:59 PM  
**To:** Livingston, Sylvia  
**Subject:** RE: JEA - NORTHSIDE/SJRPP; 0310045-022-AC (PSD-FL-265E)

Sylvia,

I was able to view the documents in the e-mail link below.

Thanks,

Richard

Richard L. Robinson, P.E.  
Environmental Engineering Manager  
Air Quality Branch  
Environmental Quality Division  
Environmental and Compliance Department  
City of Jacksonville, Florida  
117 West Duval Street, Suite 225  
Jacksonville, FL 32202

Phone: (904) 630-4900  
Fax: (904) 630-3638  
E-Mail: robinson@coj.net

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Please consider the environment before printing this email.

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**From:** Livingston, Sylvia [mailto:Sylvia.Livingston@dep.state.fl.us]  
**Sent:** Tuesday, November 25, 2008 3:37 PM  
**To:** chanjm@jea.com; giannb@jea.com  
**Cc:** Kirts, Christopher; Robinson, Richard; Halpin, Mike; forney.kathleen@epa.gov; abrams.heather@epamail.epa.gov; catherine\_collins@fws.gov; Gibson, Victoria; Arif, Syed; Walker, Elizabeth (AIR)  
**Subject:** JEA - NORTHSIDE/SJRPP; 0310045-022-AC (PSD-FL-265E)

Dear Sir/ Madam:

Attached is the official **Notice of Draft Permit** for the project referenced below. Click on the link displayed below to access the permit project documents and send a "reply" message verifying receipt of the document(s) provided in the link; this may be done by selecting "Reply" on the menu bar of your e-mail software, noting that you can view the documents, and then selecting "Send". We must receive verification that you are able to access the documents. Your immediate reply will preclude subsequent e-mail transmissions to verify accessibility of the document(s).

**Click on the following link to access the permit project documents:**

[http://ARM-PERMIT2K.dep.state.fl.us/adh/prod/pdf\\_permit\\_zip\\_files/0310045.022.AC.D\\_pdf.zip](http://ARM-PERMIT2K.dep.state.fl.us/adh/prod/pdf_permit_zip_files/0310045.022.AC.D_pdf.zip)

**Owner/Company Name:** JEA  
**Facility Name:** NORTHSIDE/SJRPP  
**Project Number:** 0310045-022-AC/ PSD-FL-265E

11/25/2008