21 West Church Street
Jacksonville, Florida 32202-3139

November 19, 2009

Jeffery F. Koerner, P.E.
Administrator, Bureau of Air Regulation
New Source Review Section
Division of Air Resource Management
Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, FL 32399-2400

ELECTRIC

WATER

SEWER

Subject: Northside Generating Station Unit 3
Air Permit Application Comments on Draft Air Construction Permit
Project No. 0310045-026-AC

Dear Mr. Koerner:

JEA has reviewed the Florida Department of Environmental Protection's (FDEP's) proposed air construction permit and associated documents for JEA's Northside Generating Station (NGS) Unit 3 repair and maintenance project and offer the following comments. For simplicity, comments have been made specific to each of the FDEP documents. Additionally, following the comments section, JEA has included a Professional Engineer Seal for an amendment to the application to include the rotor replacement. We appreciate the opportunity to review this information and would be happy to follow-up with a conference call to clarify any comments.

We understand that the Department will be withdrawing the proposed permit and reissuing a new proposed permit based on the comments being submitted. JEA has, therefore, not published the public notice but will do so upon receipt of the new package.

If you have any questions, please contact Bert Gianazza of my staff at (904) 665-6247.

Sincerely,

James M. Chansler
Vice President, Operations and Maintenance

cc: Trina L. Vielhauer – FDEP
Tammy McWade – FDEP

Draft Permit Document Comments

Comment #1 – Section 1; Under the Facility Description, Page 2
JEA operates the Northside Generating Station and St. Johns River Power Park but does not own or operate Separation Technologies, Inc. Furthermore, Separation Technologies, Inc has changed its name to Separation Technologies (no longer Inc.). Therefore, JEA suggests the following language changes to this section:

> JEA operates the existing Northside Generating Station, and the St. Johns River Power Park, ~~and Separation Technologies, Inc. fly ash processing system~~. The fly ash processing system is operated by Separation Technologies (previously Separation Technologies, Inc.). The fossil fuel fired steam electric plant consists of the following equipment:
>
> - Northside Generating Station: Unit 1 (EU-027) and Unit 2 (EU 026), which are coal, ~~and~~ petroleum coke, distillate fuel oil, and used oil fired circulating fluidized bed boilers; Unit 3 (EU-003), which is a nominal 56~~0~~4 MW electric utility steam generating unit fired with natural gas, residual fuel oil, landfill gas and used oil; four 62.1 MW combustion turbine Units 3, 4, 5 and 6 (EU-006 – EU-009); and an auxiliary boiler (EU-014).
>
> - St. Johns River Power Park: Unit 1 (EU-016) and Unit 2 (EU-017), which are nominal 680 MW units fired with pulverized coal, a blend of petroleum coke and coal, distillate oil (startup and low-load operation) and "on-specification" used oil.
>
> - A fly ash processing system operated by Separation Technologies, ~~Inc.~~

Comment #2 – Section 1; Under the Project Description, Page 2
Due to market conditions, JEA was able to locate an electric generator rotor supplier which will supply the required electric generator rotor and assembly and deliver it to NGS during the noted construction period. This equipment will be installed during the same period and a separate application for an air construction permit will not be required. This equipment can be added to the current repair and maintenance project and JEA requests that the application be amended to include the electric generator rotor and assembly.

JEA suggests the following language changes to this section:

> Unit 3 (Emissions Unit EU-003) is an existing nominal 56~~0~~4 megawatt electric utility steam generating unit permitted to fire residual fuel oil, natural gas, ~~and~~ landfill gas, and used oil. JEA proposes extensive maintenance on existing Unit 3 to consist of the repair and replacement of various ~~numerous~~ equipment including fuel oil piping, structural components, induced and forced draft fan components, steam tubing, soot-blowing components, duct work, ~~and~~ feed water system components, and an electric generator rotor and assembly. JEA predicts an increase in demand for power between January 2011 and December 2016. Because it may be necessary to depend on Unit 3 for a part of this projected demand, the applicant proposes additional component repairs and

replacements to ensure the reliability of Unit 3 during the scheduled maintenance outage to begin in the fall of 2010 and expected to be completed by January 2011.

No suggested changes to the second paragraph.

Delete third paragraph.

Comment #3 – Section 3; Under the Proposed Work #1 Unit 3, Page 5
The heading of "PROPOSED WORK" is misspelled as "PORPOSED WORK".

Comment #4 – Section 3; Under the Proposed Work #1 Unit 3, Page 5
Please correct the language of bullet ten to read:

- Replacement of ~~Digital~~ Distributed Control System (DCS) and field devices;

Comment #5 – Section 3; Under the Proposed Work #1 Unit 3, Page 5
Please add a new bullet to include the electric generator rotor and assembly:

- Electric generator rotor and assembly;

Comment #6 – Section 3; Under Testing Requirements #3e Actual Emissions Reporting, Page 7
While this condition in the proposed permit reflects the requirement to report emissions annually for a five-year period following completion of the project, the four paragraphs on page 7 of 7 of the permit outline very specific requirements regarding the calculation of annual emissions for future years, including the use of CEMS and annual stack test data. As the Department may appreciate, emission calculations for future years using this approach could inappropriately indicate an emissions increase (or decrease) unrelated to the repair and maintenance project. As noted on page 7 of 7 of the Technical Evaluation and Preliminary Determination, the project "will not change the performance or increase the capacity (heat input rate, fuel consumption rate or steam generation rate) of Unit 3, [and] the hourly mass emissions rates will not increase." The calculation of annual emissions based on CEMS and new stack test data may not be the best approach for an emissions comparison being done to determine whether the project has caused an emissions increase. For example, the short-term particulate matter emission rate used to calculate annual emissions representing the baseline was based on an average of five years of stack tests conducted in the past. Future stack tests (i.e., individual stack tests or the average of future stack tests) could be higher or lower, due to fuel quality or characteristics and unrelated to the repair and maintenance project. It seems that a more accurate way to determine whether the repair and maintenance project causes an emissions increase is to consider fuel usage and demand growth information rather than stack test data and CEM data (at least without further explanation and analysis). Because the Department recognizes that the hourly mass emission rates will not increase as a result of the project, JEA trusts that the Department appreciates that JEA will calculate annual emissions in future years according to the requirements of the Department's rules and the permit condition, JEA will also consider other information and data in its annual analysis of whether the refurbishment project results in an emissions increase including but not limited to a statistical analysis of the emission testing data, fuel quality data, fuel usage data, and demand growth information. If our understanding of the type of information that can be included in the emissions analysis is not accurate, please contact us for further discussions.

Public Notice of Intent to Issue Air Permit Document Comments

Comment #1 – Under Project

Because the electric generator rotor is being added during the same outage, JEA suggests the following language changes to the first paragraph of this section:

> Unit 3 is an existing nominal 560~~0~~4 megawatt electric utility steam generating unit permitted to fire residual fuel oil, natural gas, ~~and~~ landfill gas, and used oil. JEA proposes extensive maintenance on existing Unit 3 to consist of the repair and replacement of various ~~numerous~~ equipment including fuel oil piping, structural components, induced and forced draft fan components, steam tubing, soot-blowing components, duct work, ~~and~~ feed water system components, and an electric generator rotor and assembly. JEA predicts an increase in demand for power between January 2011 and December 2016. Because it may be necessary to depend on Unit 3 for a part of this projected demand, the applicant proposes additional component repairs and replacements to ensure the reliability of Unit 3. The work will be conducted during the scheduled maintenance outage to begin in the fall of 2010 and is expected to be completed by January 2011.

Technical Evaluation & Preliminary Determination Document Comments

Comment #1 – 1. General Project Information under Facility Description and Location, Page 2
JEA operates the Northside Generating Station and St. Johns River Power Park but does not own or operate Separation Technologies, Inc. Furthermore, Separation Technologies, Inc. has changed its name to Separation Technologies. Therefore, JEA suggests the following language changes to the first paragraph of this section:

> JEA operates the existing Northside Generating Station, and the St. Johns River Power Park ~~and Separation Technologies, Inc. fly ash processing system~~. The fly ash processing system is operated by Separation Technologies (previously Separation Technologies, Inc.).

Comment #2 – 1. General Project Information under Project Description, Page 3
Please correct the language of bullet ten to read:

- Replacement of ~~Digital~~ Distributed Control System (DCS) and field devices;

Comment #3 – 1. General Project Information under Project Description, Page 3
Please add a new bullet to include the electric generator rotor and assembly:

- Electric generator rotor and assembly;

Comment #4 – 1. General Project Information under Project Description following the equipment list, Page 3
Suggest adding "repair and" to the first sentence of the first paragraph following the equipment list.

The repair and replacement of these various boiler components will improve the reliability of the boiler and associated system.

Comment #5 – 1. General Project Information under Project Description, Page 4
Please refer to the aforementioned discussion regarding the electric generator rotor and assembly. Based on the electric generator rotor and assembly being delivered and installed during the noted construction period, JEA requests that the paragraph directly above the "Processing Schedule" discussing the electric generator rotor and assembly be deleted from the document.

~~Eventually, the plant plans to replace the electric generator rotor and assembly for Unit 3 to ensure uninterrupted electricity production. The proposed replacement will be similar to the existing equipment and designed to produce the same amount of power as before. The replacement will not increase performance or capacity of Unit 3. It will not debottleneck Unit 3. The replacement is considered separate from, and unrelated to, the boiler and associated system maintenance project. Purchase and delivery of the generator replacement components may occur outside of the proposed construction period for the maintenance project, perhaps not until the fall of 2013. This project would be addressed by a separate application for an air construction permit.~~

Comment #6 – 3. Department Review under Brief Discussion of Emissions and PSD Applicability, Page 6
The last sentence of the first paragraph indicates "additional component" repairs and replacement. JEA requests the last sentence of the first paragraph be edited to read:

Because it is necessary to depend on Unit 3 for a part of this projected demand, the applicant proposes ~~additional component~~ various equipment repairs and replacements to ensure the reliability of Unit 3 during this period.

Comment #7 – 3. Department Review under NSPS Applicability, Page 7
The project costs have been updated based on more recent information. Therefore, please update the estimated costs under Item #2 from $22,660,000 to $30,000,000. The total project costs will stay below 50% of the cost of a comparable replacement unit and this change does not subject the unit to reconstruction considerations under NSPS.

Comment #8 – 3. Department Review under NSPS Applicability, Page 7
Please refer to the aforementioned discussion regarding the electric generator rotor and assembly. Based on the electric generator rotor and assembly being delivered and installed during the noted construction period, JEA requests that the last sentence in the last paragraph of this section be deleted.

~~The applicant is reminded that an application for an air construction permit is required for authorization to replace the electric generator rotor and assembly for Unit 3, which is tentatively planned for 2013.~~

Section 4. Appendices (Draft) Document Comments

Comment #1 – Appendix B, #13, General Conditions, Page B-2
Condition 13 should be revised to clarify that this permit does "not" constitute a determination of Best Available Control Technology, Prevention of Significant Deterioration, or New Source Performance Standards.

Comment #2 – Appendix C, Emission and Controls #8, General Visible Emissions, Page C-1
The opacity limitation of 20% is inconsistent with the opacity limits contained in the facility Title V operating permit (No. 0310045-020-AV):

Emission Limitations and Standards A.5:

> A.5. Visible Emissions. For Boiler No. 3, visible emissions shall not exceed 40 percent opacity. Emissions units governed by this visible emissions limit shall compliance test for visible emissions annually and as otherwise required by Chapter 62-297, F.A.C. [Rules 62-296.405(1)(a) and 62-296.702(2)(b), F.A.C.; and, Part X, Rule 2.1001, JEPB]

Emission Limitations and Standards A.6:

> A.6. Visible Emissions – Soot Blowing and Load Change. Visible emissions shall not exceed 60 percent opacity during the 3-hours in any 24 hour period of excess emissions allowed for boiler cleaning (soot blowing) and load change. A load change occurs when the operational capacity of a unit is in the 10 percent to 100 percent capacity range, other than startup or shutdown, which exceeds 10 percent of the unit's rated capacity and which occurs at a rate of 0.5 percent per minute or more. [Rule 62-210.700(3), F.A.C.; and, Part III, Rule 2.301, JEPB]

Condition 8 should therefore be deleted or revised to provide that the 20% opacity standard applies unless otherwise provided in the facility's Title V or air construction permit.

APPLICATION INFORMATION

Professional Engineer Certification

1. Professional Engineer Name: N. Bert Gianazza
   Registration Number: 38640
2. Professional Engineer Mailing Address...
   Organization/Firm: JEA
   Street Address: 21 West Church Street
   City: Jacksonville State: FL Zip Code: 32202
3. Professional Engineer Telephone Numbers...
   Telephone: (904) 665-6247 ext. Fax: (904) 665 - 7376
4. Professional Engineer E-mail Address: giannb@jea.com
5. Professional Engineer Statement:

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

(1) To the best of my knowledge, there is reasonable assurance that the air pollutant emissions unit(s) and the air pollution control equipment described in this application for air permit, when properly operated and maintained, will comply with all applicable standards for control of air pollutant emissions found in the Florida Statutes and rules of the Department of Environmental Protection; and

(2) To the best of my knowledge, any emission estimates reported or relied on in this application are true, accurate, and complete and are either based upon reasonable techniques available for calculating emissions or, for emission estimates of hazardous air pollutants not regulated for an emissions unit addressed in this application, based solely upon the materials, information and calculations submitted with this application.

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

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

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

Signature 11/19/09 Date

(seal)

* Attach any exception to certification statement.