JEA
Northside Generating Station and St. Johns River Power Park (NGS/SJRPP)
Separations Technology, LLC (ST) Facility

Title V Air Operation Permit Revision
Permit No. 0310045-038-AV

APPLICANT

The applicant for this project is JEA. The applicant's responsible official and mailing address are: Mr. Michael J. Brost, Vice President, Electric System, JEA, NGS/SJRPP/ST, 21 West Church Street, Jacksonville, Florida 32202.

FACILITY DESCRIPTION

The applicant operates the NGS/SJRPP/ST facility, which is located in Duval County at 4377 Heckscher Drive, Jacksonville.

The existing facility consists of the Northside Generating Station (NGS) and St. Johns River Power Park (SJRPP) facilities and the Separations Technology, LLC (ST) fly ash processing system.

Also included in this permit are miscellaneous unregulated/insignificant emissions units and/or activities.

PROJECT DESCRIPTION

The purpose of this permitting project is for the revision of the existing Title V air operation permit for the above referenced facility to incorporate the provisions of air construction permit No. 0310045-037-AC/PSD-FL-265F, in particular allowing the use of up to 240 tons per day per unit as fuel and removal of mercury Continuous Emissions Monitors for NGS Emissions Unit I.D. Nos. -026 and -027 and a clarification of how many scrubber towers can be operated during low load conditions in the emissions unit description for SJRPP Emissions Unit I.D. Nos. -016 and -017.

PROCESSING SCHEDULE AND RELATED DOCUMENTS

Application for a Title V Air Operation Permit Revision and Application for Concurrent Air Construction/PSD Permit Revision was received on September 5, 2012.
Draft Air Construction Permit Revision clerked (issued) on November 9, 2012.
Draft/Proposed Title V Air Operation Permit Renewal posted onto web site on October 8, 2012.
Public Notice published on October 12, 2012.
Notification to U.S. EPA Region 4 of Publication of Public Notice on October 12, 2012.

PRIMARY REGULATORY REQUIREMENTS

Title I, Section 112: This facility is a major source of hazardous air pollutants (HAP), based on the Title V air operation permit renewal application received July 3, 2008.

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

Title V: This facility is a Title V major source of air pollution in accordance with Chapter 62-213, Florida Administrative Code (F.A.C.).

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

NSPS: This facility operates units subject to the Standards of Performance for New Stationary Sources (NSPS) of 40 Code of Federal Regulations (CFR) 60.

CAIR: This facility operates units subject to the Clean Air Interstate Rule (CAIR) set forth in Rule 62-296.470, F.A.C.

Siting: Several of the emissions units were originally certified pursuant to the power plant siting provisions of Chapter 62-17, F.A.C.

CAM: Compliance Assurance Monitoring (CAM) applies to units at this facility. CAM applies to particulate matter emissions from the NGS Circulating Fluidized Bed Boiler Nos. 1 and 2 (Emission Unit ID Nos. -026 and -027) and SJRPP Boiler Nos. 1 and 2 (Emission Unit ID Nos. -016 and -017).

PROJECT REVIEW

The purpose of this permit is for the revision of the Title V air operation permit for the above referenced facility is to incorporate Permit No. 0310045-037-AC (PSD-FL-265F) to remove the conditions regarding the mercury Continuous Emission Monitoring System requirements and allow the firing of up to 240 tons per day of biomass for each of the Northside Generating Station Boiler Nos. 1 and 2; and, revise the description of St. Johns River Power Park Units 1 and 2 to allow the operation of one scrubber tower during low load operations.

The following permit conditions are revised as indicated. ~~Strikethrough~~ is used to denote the deletion of text. Double-underlines are used to denote the addition of text. All changes are emphasized with yellow highlight. Changes to the permit made as part of this revision are shown below:

1. The first paragraph of the emissions unit description for SJRPP Emissions Unit I.D. Nos. -016 and -017 in Section III, Subsection C is changed, as follows:

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

2. Section III, Subsection G, Specific Condition **G.1.1.** is changed, as follows:

   G.1.1. Permitted Capacity. The maximum operation heat input rates are as follows:

E.U. ID No.	MMBtu/hr Heat Input	Fuel Type
-026	2,764	Natural Gas, No. 2 Fuel Oil, Coal, Biomass and Petroleum Coke
-027	2,764	Natural Gas, No. 2 Fuel Oil, Coal, Biomass and Petroleum Coke

   These rates are included only for purposes of determining capacity during compliance stack tests. Continuous compliance with these rates is not required; and, capacity during compliance testing shall be determined based on fuel flow data and the as-fired heat content of the fuel. [Rules 62-4.160(2) and 62-210.200 (Definitions - Potential to Emit (PTE)), F.A.C; 0310045-003-AC/PSD-FL-265; and, 0310045-037-AC/PSD-FL-265F.]

3. Section III, Subsection G, Specific Condition **G.3.** is changed, as follows:

   G.3. Methods of Operation. Only coal, coal treated with a latex binder, petroleum coke, No. 2 fuel oil (maximum sulfur content of 0.05 percent, by weight), up to 240 tons per day of biomass in each unit, and natural gas, shall be fired in Units 1 and 2. {Permitting note: Fuel additives, such as naturally occurring clays containing kaolinite or montmorillonite, along with olivine, bauxite or granite in the form of a raw material and/or as a component of coal bottom ash may be used to prevent agglomeration of the bed material in the boilers. The Department and the Compliance Authority shall be notified in writing if a new source or type of

fuel additive is desired to be evaluated for approval.} [Rule 62-213.410, F.A.C.; 0310045-003-AC/PSD-FL-265; 0310045-012-AC; and, 0310045-037-AC/PSD-FL-265F.]

4. Section III, Subsection G, Specific Condition **G.24.** is changed, as follows:

G.24. 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~~, mercury (Hg)~~ and visible emissions from CFB Boilers Nos. 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 the ERMD-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 of Specific Condition No. **G.8.** following the format of 40 CFR 60.7 (As revised, 64 Fed Reg. 7458 (Feb. 12, 1999)). {Permitting note: 40 CFR 75 does not address RATA requirements for CO CEMS. The required annual RATA testing for the CO CEMS shall be performed instead as required by 40 CFR 60 Appendix B.} [0310045-037-AC/PSD-FL-265F, specific condition 50.(a).]

~~Hg Continuous Emissions Monitoring Systems Operation. The permittee has voluntarily agreed to install and operate Hg CEMS on Units 1 and 2. The Hg CEMS were installed and operational in 2009, and shall be operated in accordance with the quality assurance/quality control (QA/QC) plan submitted by JEA and approved by the Department. The attached **Appendix Hg CEMS - Quality Assurance Plan** is a part of this permit. Any future revisions to the QA/QC plan that are approved by the Department will also be part of the permit. This requirement will stay in effect until such time that the state or EPA passes a regulatory requirement for mercury detailing the Hg CEMS operational protocol, at which time that rule will become the preferred protocol. The annual relative accuracy test required by the QA/QC plan can be performed by the permittee under the normal mode of operation. For JEA, the normal mode of operation is firing a fuel blend which is typically 15% coal and 85% petroleum coke. 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, specific condition 50.(b).]~~

~~Continuous Emissions Monitoring Systems Reporting. JEA shall submit to the Department and EQD the 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 four quarterly Hg CEMS data shall be submitted starting on June 30, 2009 and ending on June 30, 2010 and thereafter Hg CEMS data shall be submitted semi-annually until June 2012. The submittal of Hg CEMS data after June 2012 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, specific condition 50.(c).]~~

5. References to mercury CEMs have been removed from appendices and the table of contents.

6. Section III, Subsection G, Specific Condition **G.42.** is added with the conditions following renumbered accordingly, as follows:

G.42. 5-Year Emissions Monitoring - PSD Avoidance Requirements:

a. Monitoring. The permittee shall monitor the emissions of any PSD pollutant that the Department identifies could increase as a result of the construction or modification and that is emitted by any emissions unit that could be affected; and, using the most reliable information available, calculate and maintain a record of the annual emissions, in tons per year on a calendar year basis, for a period of 5 years following resumption of regular operations after the change. The change (proposed project) shall not increase the design capacity of any emissions unit or its potential to emit that PSD pollutant. Emissions shall be computed in accordance with Rule 62-210.370, F.A.C.

- The Department identified the following PSD pollutants that could increase from this project: **NOx, PM** and **VOC**.
- The permittee shall use the same calculation methodology for emissions before and after the completed project under Permit No. 0310045-037-AC.

[Rule 62-212.300(1)(e)1., F.A.C.]

b. Reporting. The permittee shall report to the Department by March 1st based on the records required to be generated under subparagraph 62-212.300(1)(e)1., F.A.C., setting out the unit's annual emissions during the calendar year that preceded submission of the report. The report shall contain the following:

(1) The name, address and telephone number of the owner or operator of the major stationary source;
(2) The specific dates for commencement of the project and completion of the project;
(3) The annual emissions as calculated pursuant to subparagraph 62-212.300(1)(e)1., F.A.C.;
(3) If the emissions differ from the preconstruction projection, an explanation as to why there is a difference;
(4) Any other information that the owner or operator wishes to include in the report;
(5) The baseline actual emissions to which the annual emissions were compared to; and,
(6) For the Department identified PSD pollutants: a statement indicating whether or not the applicable PSD significant emission rates (SERs) defined in Rule 62-210.200, F.A.C., were exceeded, specifically, 40 TPY for NOx, 25 TPY for PM, and 40 TPY for VOC. If and when a PSD SER is exceeded, the permittee shall submit a PSD permit application with a BACT analysis or if the permittee determines that a PSD permit application with a BACT analysis is not required, the permittee shall provide specific citations as to why the project is exempt from a PSD permit application with a BACT analysis.

[Rule 62-212.300(1)(e)2., F.A.C.; and, Rule 62-4.070(1)&(3), *Reasonable Assurance*, F.A.C.; Rule 62-4.030, *General Prohibition*, F.A.C.; and, Rule 62-4.210, *Construction Permits*, F.A.C.]

c. Recordkeeping. The information required to be documented and maintained pursuant to subparagraphs 62-212.300(1)(e)1. and 2., F.A.C., shall be submitted to the Department, which shall make it available for review to the general public.
[Rule 62-212.300(1)(e)3., F.A.C.]

d. Source Obligation. At such time that a particular source or modification becomes a major stationary source or major modification (as these terms were defined at the time the source obtained the enforceable limitation) solely by exceeding its projected actual emissions, then the requirements of subsections 62-212.400(4) through (12), F.A.C., shall apply to the source or modification as though construction had not yet commenced on the source or modification.
[Rule 62-212.400(12)(c), F.A.C.]

CONCLUSION

This project revises Title V air operation permit No. 0310045-020-AV, which was effective January 1, 2009. This Title V air operation permit revision is issued under the provisions of Chapter 403, Florida Statues (F.S.), and Chapters 62-4, 62-210, 62-212, 62-213 and 62-214, Florida Administrative Code, (F.A.C.).