

21 West Church Street
Jacksonville, Florida 32202-3139



June 14, 2001

RECEIVED

JUN 15 2001

BUREAU OF AIR REGULATION

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

ELECTRIC

WATER

SEWER

RE: Brandy Branch Combined Cycle Conversion Project
Draft Permit No. PSD-FL-310 (PA00-43)
Request for Administrative Permit Correction

6-15
Mike -
Who else needs
a copy of this?
Shirley
Patt

Dear Mr. Halpin:

Enclosed please find our comments on the draft PSD permit for the Brandy Branch Combined Cycle Conversion project.

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

Sincerely,

N. Bert Gianazza, P.E.
Environmental Permitting
& Compliance Group

cc: Doug Roberts, Esq., HGSS
Hamilton Oven, P.E., DEP
Steve Pace, P.E., RESD

JEA COMMENTS – DRAFT BRANDY BRANCH PSD AIR PERMIT – JUNE 11, 2001

PERMITTEE:

JEA
21 West Church Street
Jacksonville, FL 32234

File No.	PSD-FL-310 (PA00-43)
FID No.	0310485
SIC No.	4911
Expires:	December 31, 2003 5

Authorized Representative:

Mr. Walter P. Bussells, Managing Director and CEO

JEA requests that the permit expiration be set at December 31, 2005 for the reasons mentioned below.

- The facility is subject to the Florida Power Plant Siting Act and the Air Construction Permit, though finalized, will not be effective until after the Site Certification is issued.*
- Construction is expected to last for approximately 2 years.*
- After the completion of construction and initial startup, an additional 180 days are required to submit an application for a Title V Air Operating Permit.*

PROJECT AND LOCATION:

Permit pursuant to the requirements for the Prevention of Significant Deterioration of Air Quality (PSD Permit) for the construction of a nominal 540 megawatt (MW) Combined Cycle generating unit consisting of: two nominal 170 MW, stationary (existing) combustion turbine-electrical generators fired on natural gas and oil **equipped with evaporative coolers**; two (new) supplementally-fired heat recovery steam generators (HRSGs) **and associated 190-foot stacks**; one (new) nominal 200 MW steam electrical generator; one (new) freshwater cooling tower; two (new) selective catalytic reduction units including ancillary equipment and ammonia storage. The combined generating units will achieve approximately 570 megawatts in combined cycle operation during extreme winter peaking conditions. The facility is designated as Brandy Branch Generating Facility and is situated approximately 34 kilometers southeast and 127 kilometers southwest of the Okefenokee and Wolf Island Class I National Wilderness Areas, respectively. UTM coordinates for this facility are Zone 17; 408.81 km E; 3354.38 km N.

JEA requests that the heights of the two HRSG stacks (190 ft) that will be constructed as part of the combined cycle conversion of the existing Brandy Branch units EU-002 and EU-003, and the evaporative coolers on each CTG/HRSG be reflected in the project description.

STATEMENT OF BASIS:

This PSD permit is issued under the provisions of Chapter 403 of the Florida Statutes (F.S.), and Chapters 62-4, 62-204, 62-210, 62-212, 62-296, and 62-297 of the Florida Administrative Code (F.A.C.) and 40CFR52.21. The above named permittee is authorized to modify the facility in

PREVENTION OF SIGNIFICANT DETERIORATION PERMIT PSD-FL-310

SECTION I - FACILITY INFORMATION

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).

The attached Appendix is made a part of this permit:

Appendix GC Construction Permit General Conditions

Howard L. Rhodes, Director
Division of Air Resources
Management

PREVENTION OF SIGNIFICANT DETERIORATION PERMIT PSD-FL-310

SECTION I - FACILITY INFORMATION

FACILITY DESCRIPTION

The proposed conversion of two existing combustion turbines at the Brandy Branch Generating Facility will result in a (nominal) 540 MW combined cycle plant. The units were originally authorized as simple cycle units under PSD Permit No. PSD-FL-267. The current project includes: the two existing nominal 170 MW GE 7FA combustion turbine-electrical generators re-configured for combined cycle, operating on natural gas with 0.05% sulfur oil backup and equipped with evaporative coolers; two supplementally-fired heat recovery steam generators (HRSG); one 200 MW (nominal output) steam turbine; one fresh water cooling tower and ancillary equipment. Emissions from the Brandy Branch combined cycle unit will be controlled by Dry Low NO_x (DLN) combustors and selective catalytic reduction (SCR). Clean fuels and good combustion practices will be employed to control all pollutants. Upon conversion of Units 002 and 003 to combined cycle units, PSD Permit No. PSD-FL-267 shall no longer be in effect for Units 002 and 003 since it has been superseded by this PSD Permit (PSD-FL-310). PSD Permit No. PSD-FL-267 will continue to be in effect for Unit 001 and the fuel oil storage tanks. Units 002 and 003 may continue to operate under PSD-FL-267 and in simple cycle mode until the conversion to combined cycle mode is complete.

To help prevent the potential confusion and conflict caused by two separate PSD permits for Units 2 and 3, JEA suggests that this clarifying language be added.

EMISSIONS UNITS

This permit addresses the following emissions units:

EMISSIONS UNIT	SYSTEM	Emission Unit Description
002	Power Generation	One nominal 170 Megawatt Gas Combustion Turbine-Electrical Generator configured as a combined cycle unit, complete with supplementary fired HRSG
003	Power Generation	One nominal 170 Megawatt Gas Combustion Turbine- Electrical Generator configured as a combined cycle unit, complete with supplementary fired HRSG
007	Water Cooling	One 10-cell Mechanical Draft Cooling Tower

REGULATORY CLASSIFICATION

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

PREVENTION OF SIGNIFICANT DETERIORATION PERMIT PSD-FL-310

SECTION I - FACILITY INFORMATION

This facility is within an industry (fossil fuel-fired steam electric plant) included in the list of the 28 Major Facility Categories per Table 62-212.400-1, F.A.C. Because emissions are greater than 100 TPY for at least one criteria pollutant, the facility is also a Major Facility with respect to Rule 62-212.400, Prevention of Significant Deterioration (PSD). Pursuant to Table 62-212.400-2, this facility modification results in emissions increases greater than 40 TPY of NO_x, 25/15 TPY of PM/PM₁₀ and 100 TPY of CO. These pollutants require review per the PSD rules and a determination for Best Available Control Technology (BACT) per Rule 62-212.400, F.A.C.

This project has been submitted as if it is subject to the applicable requirements of Chapter 403, Part II, F.S., Electric Power Plant and Transmission Line Siting. [Chapter 403.503 (12), F.S., Definitions]

This facility is also subject to certain Acid Rain provisions of Title IV of the Clean Air Act.

PERMIT SCHEDULE

- xx/xx/01 PSD Permit Issued
- xx/xx/01 Site Certification Issued
- xx/xx/01 Notice of Intent to Issue PSD Permit published in xxxxxxxxxxxxxxxx
- 04/26/01 Distributed Intent to Issue Permit
- 12/08/00 Received PSD Application

RELEVANT DOCUMENTS:

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

- Department's Final Determination and Best Available Control Technology Determination issued for original project (PSD-FL-267) including PSD permit revisions.
- Application received on December 8, 2000.
- Responses to Sufficiency Items received on March 29, 2001.
- Department's Intent to Issue and Public Notice Package dated April 26, 2001.
- Department's Draft Permit and Draft BACT determination dated April 26, 2001.
- Letter from EPA Region IV dated xx/xx/01.
- Letter from Fish & Wildlife Service dated xx/xx/01.
- Site Certification for the Brandy Branch Generating Facility dated xx/xx/01.

PREVENTION OF SIGNIFICANT DETERIORATION PERMIT PSD-FL-310

SECTION I - FACILITY INFORMATION

- Department's Final Determination and Best Available Control Technology Determination issued concurrently with this Final Permit.

PREVENTION OF SIGNIFICANT DETERIORATION PERMIT PSD-FL-310

SECTION III - EMISSIONS UNIT(S) SPECIFIC CONDITIONS

GENERAL AND ADMINISTRATIVE REQUIREMENTS

1. Regulating Agencies: All documents related to applications for permits to construct, operate or modify an emissions unit should be submitted to the Bureau of Air Regulation (BAR), Florida Department of Environmental Protection (FDEP), at 2600 Blair Stone Road, Tallahassee, Florida 32399-2400 and phone number (850) 488-1344. All documents related to reports, tests, and notifications should be submitted to the DEP Northeast District office, 7825 Baymeadows Way, Suite 200B, Jacksonville, Florida 32256 and phone number 904/448-4300; additionally, such documents shall be submitted to RESD, Suite 225, 117 W. Duval St., Jacksonville, Florida 32202 and phone number 904/630-3484.
2. General Conditions: The owner and operator is subject to and shall operate under the attached General Permit Conditions G.1 through G.15 listed in Appendix GC of this permit. General Permit Conditions are binding and enforceable pursuant to Chapter 403 of the Florida Statutes. [Rule 62-4.160, F.A.C.]
3. Terminology: The terms used in this permit have specific meanings as defined in the corresponding chapters of the Florida Administrative Code.
4. Forms and Application Procedures: The permittee shall use the applicable forms listed in Rule 62-210.900, F.A.C. and follow the application procedures in Chapter 62-4, F.A.C. [Rule 62-210.900, F.A.C.]
5. Modifications: The permittee shall give written notification to the Department when there is any modification to this facility. This notice shall be submitted sufficiently in advance of any critical date involved to allow sufficient time for review, discussion, and revision of plans, if necessary. Such notice shall include, but not be limited to, information describing the precise nature of the change; modifications to any emission control system; production capacity of the facility before and after the change; and the anticipated completion date of the change. [Chapters 62-210 and 62-212, F.A.C.]
6. Expiration: Approval to construct shall become invalid if construction is not commenced within 18 months after receipt of such approval, or if construction is discontinued for a period of 18 months or more, or if construction is not completed within a reasonable time. The Department may extend the 18-month period upon a satisfactory showing that an extension is justified. [40 CFR 52.21(r)(2)]

~~7. BACT Determination: In accordance with paragraph (4) of 40 CFR 52.21 (j) and 40 CFR 51.166(j), the Best Available Control Technology (BACT) determination shall be reviewed and modified as appropriate in the event of a plant conversion. This paragraph states: "For phased construction projects, the determination of best available control technology shall be reviewed and modified as appropriate at the latest reasonable time which occurs no later than 18 months prior to commencement of construction of each independent phase of the project. At such time, the owner or operator of the applicable stationary source may be required to demonstrate the adequacy of any previous determination of best available control technology for the source." This reassessment will also be conducted for this project if there are any increases in heat input limits, hours of operation, oil firing, low or baseload operation, short-term or annual emission limits, annual fuel heat input limits, changes in methods of operation or similar changes. [40 CFR 52.21(j), 40 CFR 51.166(j) and Rule 62-4.070 F.A.C.]~~

This language is obsolete and should be deleted since the project is now being converted.

8. Permit Extension: The permittee, for good cause, may request that this PSD permit be extended. Such a request shall be submitted to the Bureau of Air Regulation prior to 60 days before the expiration of the

PREVENTION OF SIGNIFICANT DETERIORATION PERMIT PSD-FL-310

SECTION III - EMISSIONS UNIT(S) SPECIFIC CONDITIONS

permit. In conjunction with extension of the 18-month periods to commence or continue construction, ~~or extension of the December 31, 2003 permit expiration date~~, the permittee may be required to demonstrate the adequacy of any previous determination of best available control technology for the source, at the Department's discretion. [Rule 62-4.080, F.A.C.]

If construction is commenced within 18 months of issuance of the permit and such construction has been continuous, a reconsideration of BACT should not be required. Neither EPA's nor DEP's rules require a reconsideration of BACT due to an extension of the permit expiration date. JEA therefore requests that this clause be deleted.

~~9. Application for Title IV Permit: An application for a Title IV Acid Rain Permit must be submitted to the U.S. Environmental Protection Agency Region IV office in Atlanta, Georgia and a copy to the DEP's Bureau of Air Regulation in Tallahassee 24 months before the date on which the new unit begins serving an electrical generator (greater than 25 MW). [40 CFR 72]~~

JEA has already submitted an Acid Rain Permit application for the Brandy Branch facility. While a revision addressing the monitoring plan changes for Units 2 and 3 will be submitted in the future, there should be no requirement to make this submittal 24 months in advance of operation of the "new unit." Omission of this condition will not affect applicability of the appropriate Acid Rain Program requirements.

10. Application for Title V Permit: An application for a Title V operating permit revision pursuant to Chapter 62-213, F.A.C., must be submitted to the DEP's Bureau of Air Regulation, and a copy to the Department Northeast District office as well as RESD. [Chapter 62-213, F.A.C.]

Because the Title V permit for the three CTs should be issued by the time this PSD permit is final, it will be appropriate to file for a revision rather than an initial Title V application.

11. New or Additional Conditions: Pursuant to Rule 62-4.080, F.A.C., for good cause shown and after notice and an administrative hearing, if requested, the Department may require the permittee to conform to new or additional conditions. The Department shall allow the permittee a reasonable time to conform to the new or additional conditions, and on application of the permittee, the Department may grant additional time. [Rule 62-4.080, F.A.C.]
12. Annual Reports: Pursuant to Rule 62-210.370(2), F.A.C., Annual Operation Reports, the permittee is required to submit annual reports on the actual operating rates and emissions from this facility. Annual operating reports shall be sent to the DEP's Northeast District office as well as RESD by March 1st of each year. [Rule 62-210.370(2), F.A.C.]
13. Stack Testing Facilities: Stack sampling facilities shall be installed in accordance with Rule 62-297.310(6), F.A.C.
14. Quarterly Reports: Quarterly excess emission reports, in accordance with 40 CFR 60.7 (a)(7) (c) (1997 version), shall be submitted to RESD. Each excess emission report shall include the information required in 40 CFR 60.7(c) and 60.334.

PREVENTION OF SIGNIFICANT DETERIORATION PERMIT PSD-FL-310

SECTION III - EMISSIONS UNIT(S) SPECIFIC CONDITIONS

APPLICABLE STANDARDS AND REGULATIONS

1. Unless otherwise indicated in this permit, the construction and operation of the subject emission unit(s) 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, 62-17, 62-204, 62-210, 62-212, 62-213, 62-214, 62-296, and 62-297; and the applicable requirements of the Code of Federal Regulations Section 40, Parts 52, 60, 72, 73, and 75.
2. 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.]
3. These emission units shall comply with all applicable requirements of 40CFR60, Subpart A, General Provisions including:
 - 40CFR60.7, Notification and Recordkeeping
 - 40CFR60.8, Performance Tests
 - 40CFR60.11, Compliance with Standards and Maintenance Requirements
 - 40CFR60.12, Circumvention
 - 40CFR60.13, Monitoring Requirements
 - 40CFR60.19, General Notification and Reporting requirements
4. ARMS Emissions Units 002 and 003. Direct Power Generation, each consisting of a nominal 170-megawatt combustion turbine-electrical generator, shall comply with all applicable provisions of 40CFR60, Subpart GG, Standards of Performance for Stationary Gas Turbines, adopted by reference in Rule 62-204.800(7)(b), F.A.C. The Subpart GG requirement to correct test data to ISO conditions applies. However, such correction is not used for compliance determinations with the BACT standard(s). Additionally, each Emissions Unit consists of a supplementally-fired heat recovery steam generator equipped with a natural gas fired ~~170~~ ⁸⁵ MMBTU/hr duct burner (HHV) and combined with one 200 MW steam electrical generator. The duct burners shall comply with all applicable provisions of 40CFR60, Subpart ~~Db, Standards of Performance for Electric Utility Steam Generating Units Which Construction is Commenced After September 18, 1978~~ ^{Dc}, adopted by reference in Rule 62-204.800(7), F.A.C.

There are two duct burners proposed and permitted in the Brandy Branch combined cycle conversion project, one in each HRSG. The actual maximum heat input of each duct burner is 85 MMBtu/hr (HHV Natural Gas), for a total of 170 MMBtu/hr (HHV) for the project. Based on the size of each duct burner, the applicable NSPS regulation is Subpart Dc. JEA requests that this correction be made throughout the Technical Evaluation and Permit Conditions

5. ARMS Emission Unit 007. Cooling Tower, an unregulated emission unit. The Cooling Tower is not subject to a NESHAP because chromium-based chemical treatment is not used.
6. All notifications and reports required by the above specific conditions shall be submitted to RESD.

GENERAL OPERATION REQUIREMENTS

7. Fuels: Only pipeline natural gas or fuel oil containing sulfur content of 0.05% or less shall be fired in these units. [Applicant Request, Rule 62-210.200, F.A.C. (Definitions - Potential Emissions)]

PREVENTION OF SIGNIFICANT DETERIORATION PERMIT PSD-FL-310

SECTION III - EMISSIONS UNIT(S) SPECIFIC CONDITIONS

14.8. Combustion Turbine Capacity: The maximum heat input rates, based on the higher heating value (HHV) of the fuel to this Unit at 20 degrees F temperature, and 60 percent relative humidity (2), 100% load, and _____ psi pressure shall not exceed 1,911 million Btu per hour (MMBtu/hr) when firing natural gas nor 2060 MMBtu/hr when firing oil. This maximum heat input rate will vary depending upon ambient turbine inlet conditions and the combustion turbine characteristics, but shall not exceed these values under any condition. Manufacturer's curves corrected for site conditions or equations for correction to other ambient conditions shall be provided to the Department of Environmental Protection (DEP) within 45 days of completing the initial compliance testing. {Permitting note: The heat input limitations have been placed in the permit to identify the capacity of each emissions unit for purposes of confirming that emissions testing is conducted within 90-100 percent of the emission unit's rated capacity (or to limit future operation to 110 percent of the test load), to establish appropriate limits and to aid in determining future rule applicability. Regular record keeping is not required for heat input. Instead, the owner or operator is expected to determine heat input whenever emission testing is required, to demonstrate at what percentage of the rated capacity that the unit was tested.} [Design, Rule 62-210.200, F.A.C. (Definitions - Potential Emissions)]

The permitting note language was included in the original PSD permit for these units and appears to have been inadvertently omitted. JEA requests that this language be included to clarify the purpose of the heat input rates being listed in the permit.

9. **Heat Recovery Steam Generators equipped with Duct Burners.** The maximum heat input rate of each the natural gas fired duct burner shall not exceed 17085 MMBtu/hour (LHV). {Permitting note: The heat input limitations have been placed in the permit to identify the capacity of each emissions unit for purposes of confirming that emissions testing is conducted within 90-100 percent of the emission unit's rated capacity (or to limit future operation to 110 percent of the test load), to establish appropriate limits and to aid in determining future rule applicability. Regular record keeping is not required for heat input. Instead, the owner or operator is expected to determine heat input whenever emission testing is required, to demonstrate at what percentage of the rated capacity that the unit was tested.} [Applicant Request, Rule 62-210.200, F.A.C. (Definitions - Potential Emissions)]

There are two duct burners proposed and permitted in the Brandy Branch combined cycle conversion project, one in each HRSG. The maximum heat input of each duct burner is 85 MMBtu/hr (HHV Natural Gas), for a total of 170 MMBtu/hr (HHV) for the project. Additionally, to be consistent with Condition 8, JEA requests that this permitting note language also be included in Condition 9.

10. **Unconfined Particulate Emissions:** During the construction period, unconfined particulate matter emissions shall be minimized by dust suppressing techniques such as covering and/or application of water or chemicals to the affected areas, as necessary.
11. **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, the owner or operator shall notify DEP Northeast District Office and RESD as soon as possible, but at least within (1) working day, excluding weekends and holidays. The notification shall include: pertinent information as to the cause

PREVENTION OF SIGNIFICANT DETERIORATION PERMIT PSD-FL-310

SECTION III - EMISSIONS UNIT(S) SPECIFIC CONDITIONS

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.]

12. 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.]
13. 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. [Rules 62-210.650, F.A.C.]
14. Maximum allowable hours of operation for the 540 MW Combined Cycle Plant are 8760 hours per year while firing natural gas. Fuel oil firing of ~~each~~ the two combined cycle combustion turbines combined is limited to ~~288~~ 576 hours per consecutive 12-month period. Unless otherwise authorized by this permit, CT operation below 50% output shall be limited to 2 hours during each calendar day. [Applicant Request, Rule 62-210.200, F.A.C. (Definitions - Potential Emissions)]

The use of oil should not be unnecessarily restricted on a per-unit basis. The combined oil use for the two units will result in the same environmental impact but offer more operational flexibility for JEA. JEA therefore requests that the oil usage restriction be changed from 288 hours per unit to 576 hours for both units combined.

15. Simple Cycle Combined Cycle Operation: The two combined cycle combustion turbines ~~plant~~ may not be operated without the use of the SCR system except during periods of startup and shutdown in accordance with the manufacturers requirements.

CONTROL TECHNOLOGY

- ~~30.~~ 16. Dry Low NO_x (DLN) combustors shall be installed on each stationary combustion turbine and the permittee shall install a selective catalytic reduction system to comply with the NO_x and ammonia limits listed in Specific Condition 20. [Design, Rules 62-4.070 and 62-212.400, F.A.C.]
- ~~31.~~ 17. Wet injection shall additionally be installed on each stationary combustion turbine for use during fuel oil firing, in conjunction with the SCR referenced in Specific Condition 16. [Design, Rules 62-4.070 and 62-212.400, F.A.C.]
- ~~32.~~ 18. The permittee shall design these units to accommodate adequate testing and sampling locations for compliance with the applicable emission limits (per each unit) listed in Specific Conditions No. 20 through 24. [Rule 62-4.070, Rule 62-204.800, F.A.C., ~~and 40 CFR 60.40a(b)~~]

Because NSPS Subpart Da is inapplicable, this citation should be deleted.

- ~~33.~~ 19. Drift eliminators shall be installed on the cooling tower to reduce PM/PM₁₀ emissions. ~~—A certification following installation (and prior to startup) shall be submitted that the drift eliminators~~

PREVENTION OF SIGNIFICANT DETERIORATION PERMIT PSD-FL-310

SECTION III - EMISSIONS UNIT(S) SPECIFIC CONDITIONS

~~were installed and that the installation is capable of meeting 0.002-gallons/100-gallons recirculation water flowrate.~~

BACT does not require that numeric standards be established when a "design" standard is appropriate, as in the case of cooling towers. Because it is not possible to accurately determine the precise drift elimination efficiency of cooling towers, a design requirement without a numeric permit limit is appropriate. JEA therefore respectfully requests that the numeric limit in this condition be deleted. Otherwise, confusion as to periodic monitoring requirements could arise in the future.

EMISSION LIMITS AND STANDARDS

20. Nitrogen Oxides (NO_x) Emissions:

- The concentration of NO_x in the stack exhaust gas, with the combustion turbine operating on natural gas and the duct burner on, shall not exceed 3.5 ppmvd @15% O₂ on a ~~324~~-hr block average. The concentration of NO_x in the stack exhaust gas, with the combustion turbine operating on fuel oil (duct burner firing not permitted), shall not exceed 15.0 ppmvd @15% O₂ on a 3-hr block average. Compliance shall be determined by the continuous emission monitor (CEMS). [BACT Determination]

As in the original PSD permit for Units 2 and 3, a 24-hour block average is appropriate for NO_x emissions. NO_x emissions are regulated under the PSD program because of the annual nitrogen dioxide standard and because NO_x is a precursor to ozone, which is not a short-term but rather a longer-term issue. In fact, the NSPS standards typically establish a 30-day rolling average period for NO_x, as does Section 403.0872(13)(b), Florida Statutes, which provides that for emission units subject to continuous monitoring requirements of the Acid Rain Program (as these units are), compliance with NO_x limits shall be demonstrated based on a 30-day rolling average. In addition, Brandy Branch Units 2 and 3 will be intermediate load units (rather than base load units) and subject to load changing conditions on a routine basis. The NO_x emissions from Units 2 and 3 are not expected to be as consistent as they would if the units were simply run at full load operations at all times. The longer, 24-hour averaging period is therefore needed to ensure continuous compliance with the emission limits. In addition, no environmental rationale for a 3-hour averaging period was provided under the BACT preliminary determination and annual emissions are not affected. JEA therefore respectfully requests that the 3-hour averaging time be changed to a 24-hour averaging period (while firing natural gas), which is consistent with the prior permit yet much more stringent than provided under the Florida Statutes.

~~Emissions of NO_x from the duct burner shall not exceed 0.1 lb/MMBtu, which is more stringent than the NSPS (see Specific Condition 29 for compliance procedures). [Applicant Request, Rule 62-1.070 and 62-204.800(7), F.A.C.]~~

The duct burners are subject to NSPS Subpart Dc, which does not establish a NO_x limit. The BACT limits established for the combined cycle units should be sufficient as BACT without a separate limit. JEA therefore requests that this condition be deleted.

JEA
Brandy Branch Combined Cycle Conversion

Permit No. PSD-FL-310
0310485-003-AC

PREVENTION OF SIGNIFICANT DETERIORATION PERMIT PSD-FL-310

SECTION III - EMISSIONS UNIT(S) SPECIFIC CONDITIONS

- ~~The concentration of ammonia in the exhaust gas from each CT/HRSG shall not exceed 5.0 ppmvd @15% O₂ while firing natural gas, nor 9 ppmvd @ 15%O₂ while firing oil. The compliance procedures are described in Specific Conditions 29 and 45. [BACT, Rules 62-212.400 and 62-4.070, F.A.C.]~~

Ammonia is not a regulated air pollutant under the Department's air rules, and the Department therefore lacks the authority to establish a numeric emission limit in this permit for ammonia emissions. In addition, the performance of the SCR system can be accurately measured through the use of the continuous emissions monitoring system for NO_x. An ammonia slip limit is therefore unnecessary for determining compliance with the NO_x limit. Further, no environmental rationale was provided in the preliminary determination for this limit. These units are located in a rural, lightly populated area, and so there is less human health risk associated with the use of aqueous ammonia. JEA therefore respectfully requests that this part of the condition be deleted.

21. Carbon Monoxide (CO) Emissions: Emissions of CO in the stack exhaust gas (at ISO conditions) with the combustion turbine operating on any fuel (with duct burners on or off) shall not exceed 14 ppmvd @15% O₂, ~~as measured by the appropriate compliance method on a 24-hr block average to be demonstrated by CEMS.~~ [BACT, Rule 62-212.400, F.A.C.]

Carbon monoxide is regulated under the PSD program because of the ambient air quality standard that was established by EPA. The computer modeling performed by JEA indicated that the projected CO air quality impact concentration from these units will be more than 25 times below the significance level for the ambient air quality standard of CO, making the proposed limit of 14 ppmvd extremely protective of human health. An annual stack test should therefore be sufficient to determine compliance with the CO limit. This stack test could be conducted while the NO_x RATA is performed each year. The capital and operational costs of operating a CO monitor along with the additional record keeping and reporting burdens associated with a CEM are not justified. JEA therefore respectfully requests that the CO CEM requirement be deleted from this and related conditions.

- ~~24.22. Volatile Organic Compounds (VOC) Emissions: A one-time stack test shall be performed to confirm the emission factors used to calculate VOC emissions from these units: Emissions of VOC in the stack exhaust gas (baseload at ISO conditions) with the combustion turbine operating on gas shall not exceed 4.8 lb/hour while firing natural gas and with the combustion turbine operating on oil shall not exceed and 8.2 lb/hr while firing fuel oil, to be demonstrated by initial stack test using EPA Method 18, 25 or 25A. [PSD Avoidance, Rule 62-212.400, F.A.C.]~~

The maximum potential VOC emissions from these units is less than the PSD significance level of 40 tons per year. The only artificial restriction on units' potential to emit is the permitted hours of operation, and compliance with this limit will be determined through operator logs. Because BACT was not triggered for VOCs and the VOC emissions are not being artificially restricted (other than through hours of operation), the Department lacks the authority to establish numeric VOC emission limits. JEA will agree to conduct a one-time stack test to verify the emission factors used, but respectfully requests that this condition be revised to clarify that these rates are not being established as not-to-exceed, enforceable emission limits. Otherwise, there could be confusion as to periodic monitoring requirements as the Title V permit is issued.

PREVENTION OF SIGNIFICANT DETERIORATION PERMIT PSD-FL-310

SECTION III - EMISSIONS UNIT(S) SPECIFIC CONDITIONS

4.23. Sulfur Dioxide (SO₂) emissions: SO₂ emissions shall be limited by firing pipeline natural gas (sulfur content not greater than 2 grains per 100 standard cubic foot) and a limited amount of 0.05% sulfur oil. Compliance with this requirement in conjunction with implementation of the Custom Fuel Monitoring Schedule in Specific Conditions 40 and 42 will demonstrate compliance with the applicable NSPS SO₂ emissions limitations from the combustion turbines as well as the duct burners. Note: This will effectively limit the combined SO₂ emissions for EU-002 and EU-003 to approximately 39 tons per year. [40CFR60 Subpart GG and Rules 62-4.070, 62-212.400, and 62-204.800(7), F.A.C.]

5.24. PM/PM₁₀ and Visible emissions (VE): VE emissions shall not exceed 10 percent opacity from the stack in use. ~~PM/PM₁₀ emissions from each combustion turbine and HRSG train shall not exceed 20.6 lb/hr at 100% output firing natural gas with the duct burner on and 62.1 lb/hr at 100% output firing fuel oil to be demonstrated by initial stack test using EPA Method 5.~~ [BACT, Rules 62-4.070, 62-212.400, and 62-204.800(7), F.A.C.]

The opacity limit is a sufficient surrogate as BACT for the particulate matter/particulate matter-10 (PM/PM₁₀) emissions. On several other occasions, DEP has established opacity limits in lieu of numeric PM/PM₁₀ emission limits as BACT and EPA has not objected. The PM/PM₁₀ emissions while firing natural gas and low sulfur distillate fuel oil (0.05 percent, by weight) are extremely low and unrelated to pollution control. Numeric PM/PM₁₀ emission limits are unnecessary and could lead to confusion regarding periodic monitoring requirements in the future. JEA therefore respectfully requests that the PM/PM₁₀ emission limits be deleted.

EXCESS EMISSIONS

3.25. Excess emissions resulting from startup, shutdown, fuel switching or malfunction shall be permitted provided that best operational practices are adhered to and the duration of excess emissions shall be minimized. Excess emissions occurrences shall in no case exceed two hours in any 24-hour period except during "warm" or "cold" start-up to combined cycle plant operation. During cold start-up to combined cycle operation, up to four hours of additional excess emissions are allowed in any 24-hour period. During warm startup from combined cycle operation, up to three additional hours of excess emissions are allowed in any 24-hour period. Cold start-up is defined as a startup to combined cycle operation following a shutdown lasting at least 72 hours. Warm startup is defined as a startup to combined cycle operation following a shutdown lasting at least 24 hours. ~~Startups are defined as being complete when the CT achieves 25% output (40MW Gross). Operation below 50% output per turbine shall otherwise be limited to 2 hours in any 24-hour period.~~ [Rule 62-210.700, F.A.C.]

PREVENTION OF SIGNIFICANT DETERIORATION PERMIT PSD-FL-310

SECTION III - EMISSIONS UNIT(S) SPECIFIC CONDITIONS

“Startup” is already appropriately defined in DEP’s rules to mean “the commencement of operation of any emissions unit which has 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.” Under this definition, startup would be considered complete once the unit has operated for a period of time sufficient for the pollution control device to properly function. Startup on these CT units may not be complete until after achieving 25% of their output (or 40 MW gross, per unit). While JEA understands the Department’s desire to limit operation of the units at low loads, the units may need to operate between 25 and 50% of full load to stabilize the units and ensure proper combustion characteristics and operation of the pollution control device. The existing regulatory definition of startup should be sufficient, and JEA therefore requests that the sentence defining startup as being complete once the CT achieves 25% of its output be deleted. Also, Condition 14 already provides that CT operation below 50% output is limited to 2 hours during each calendar day, unless otherwise authorized by this permit. The last sentence of this condition is redundant and can be deleted.

26. Excess emissions entirely or in part by poor maintenance, poor operation, or any other equipment or process failure that may reasonably be prevented during startup, shutdown, fuel switching, or malfunction, shall be prohibited pursuant to Rule 62-210.700, F.A.C. These emissions shall be included in the 3-hr average for NO_x and the 24-hr average for CO.

~~23-27.~~ Excess Emissions Report: If excess emissions occur for more than two hours due to malfunction, the owner or operator shall notify RESD within (1) working day of: the nature, 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 request a written summary report of the incident. Pursuant to the New Source Performance Standards, all excess emissions shall also be reported in accordance with 40 CFR 60.7, Subpart A. Following this format, 40 CFR 60.7, and using the monitoring methods listed in Specific Conditions 41 through 45, periods of startup, shutdown, fuel switching, and malfunction, shall be monitored, recorded, and reported as excess emissions when emission levels exceed the permitted standards listed in Specific Condition No. 20 through 24. [Rules 62-4.130, 62-204.800, 62-210.700(6), F.A.C., and 40 CFR 60.7 (1998 version)].

COMPLIANCE DETERMINATION

~~2-28.~~ Compliance with the allowable emission limiting standards shall be determined within 60 days after achieving the maximum production rate for each fuel, but not later than 180 days of initial operation of the unit, and annually thereafter as indicated in this permit, by using the following reference methods as described in 40 CFR 60, Appendix A (1998 version), and adopted by reference in Chapter 62-204.800, F.A.C. (unless the U.S. Environmental Protection Agency authorizes an extension).

The time frames for conducting the initial performance tests should be fuel-specific, and DEP has previously interpreted the condition to provide for this. Because DEP has made this clarification in other permits and to be consistent with the Department’s interpretation, JEA requests that the Department add the phrase “for each fuel” to this condition. Also, because facilities must sometimes seek an extension for the initial performance testing deadlines from the U.S. Environmental Protection Agency, JEA requests that a notation be added to the permit to clarify that EPA may grant such an extension and no further permitting action is needed.

JEA

Brandy Branch Combined Cycle Conversion

Permit No. PSD-FL-310

0310485-003-AC

PREVENTION OF SIGNIFICANT DETERIORATION PERMIT PSD-FL-310

SECTION III - EMISSIONS UNIT(S) SPECIFIC CONDITIONS

29. Initial (I) performance tests shall be performed by the deadlines in Specific Condition 28. Initial tests shall also be conducted after any replacement of the major components of the air pollution control equipment (and shake down period not to exceed 100 days after re-starting the CT), such as replacement of SCR catalyst or change of combustors, if specifically requested by the DEP or RESD on a case-by-case basis. Annual (A) compliance tests shall be performed during every federal fiscal year (October 1 - September 30) pursuant to Rule 62-297.310(7), F.A.C., on these units as indicated. The following reference methods shall be used. No other test methods may be used for compliance testing unless prior DEP approval is received in writing. Where initial tests only are indicated, these tests shall be repeated prior to renewal of each operation permit.

- EPA Reference Method 9, "Visual Determination of the Opacity of Emissions from Stationary Sources" (I, A).

~~• EPA reference Method 5, "Determination of Particulate Emissions from Stationary Sources." Initial test only. —~~

Because JEA has requested that the numeric emission limits for PM/PM₁₀ be deleted, this condition should also be deleted.

- EPA Reference Method 10, "Determination of Carbon Monoxide Emissions from Stationary Sources" (I, A). ~~RATA test data may be used to demonstrate annual compliance. This testing may be conducted during the NO_x RATA tests (at loads less than permitted capacity).~~

RATA testing is conducted at various loads within a unit's typical operating range, which could be less than "permitted capacity" as defined in a later condition as 90 to 100 percent of the maximum heat input rate. Also, while JEA has requested that the requirement for CO CEMS be deleted, the annual CO compliance testing could be conducted during the NO_x CEM RATA tests, which would provide sufficient information to demonstrate compliance, yet not require additional stack testing at other operational loads. JEA therefore requests that this condition be revised to clarify that the annual performance test can be conducted during RATA tests.

~~• EPA Reference Method 20, "Determination of Oxides of Nitrogen Oxide, Sulfur Dioxide and Diluent Emissions from Stationary Gas Turbines" (EPA reference Method 7E, "Determination of Nitrogen Oxides Emissions from Stationary Sources" or RATA test data may be used to demonstrate compliance for annual test requirement); Initial test for compliance with 40CFR60 Subpart GG; Initial (only) NO_x compliance test for the duct burners (Subpart Db) shall be accomplished via testing with duct burners "on" as compared to "off" and computing the difference.~~

PREVENTION OF SIGNIFICANT DETERIORATION PERMIT PSD-FL-310

SECTION III - EMISSIONS UNIT(S) SPECIFIC CONDITIONS

NSPS Subpart Db is inapplicable and NSPS Subpart Dc does not establish a NO_x emissions limit. JEA previously requested that the NO_x limit for the duct burners be deleted, since the NO_x limit for the combined cycle unit is sufficient for BACT purposes. If the duct burner NO_x limit is deleted, the requirement to test duct burner emissions should be unnecessary as well. Also, JEA requests that DEP confirm that the initial Subpart GG performance testing can be conducted at full load (rather than four separate loads) and through the use of the NO_x CEMS, consistent with EPA Region 4's letter from Doug Neeley to the Region 4 Air Division Directors, dated May 26, 2000. This clarification should be made by deleting this condition and revising the NO_x CEM condition below.

EPA Reference Method 18, 25 and/or 25A, "Determination of Volatile Organic Concentrations." Initial test only.

~~• Method CTM-027 for ammonia slip during oil firing (I) and natural gas firing (I, A).~~

~~The applicant shall calculate and report the ppmvd ammonia slip (@ 15% O₂) at the measured lb/hr NO_x emission rate as a means of compliance with the BACT standard. The applicant shall also be capable of calculating ammonia slip at the Department's request, according to Specific Condition 45.~~

Because JEA has requested deletion of the ammonia limit, this testing requirement becomes obsolete.

~~11.30. Continuous compliance with the CO and NO_x emission limits: Initial and Continuous compliance with the CO and NO_x emission limits shall be demonstrated by the CEM system on the specified hour average basis. Based on CEMS data, a separate compliance determination is conducted at the end of each period and a new average emission rate is calculated from the arithmetic average of all valid hourly emission rates from the previous period. Specific Condition 41 further describes the CEM system requirements. Excess emissions periods shall be reported as required in Condition 27. Testing at four separate loads is not required for demonstrating initial compliance under 40 CFR 60.335(c)(3), consistent with recent EPA guidance. [Rules 62-4.070 F.A.C., 62-210.700, F.A.C., 40 CFR 75 and BACT, and guidance from EPA Region 4 to Division Air Directors dated May 26, 2000.]~~

~~12.31. Compliance with the SO₂ and PM/PM₁₀ emission limits: For the purposes of demonstrating compliance with the 40 CFR 60.333 SO₂ standard, ASTM methods D4084-82 or D3246-81 (or equivalent) for sulfur content of gaseous fuel shall be utilized in accordance with the EPA-approved custom fuel monitoring schedule or natural gas supplier data may be submitted or the natural gas sulfur content referenced in 40 CFR 75 Appendix D may be utilized. However, the applicant is responsible for ensuring that the procedures in 40 CFR 60.335 or 40 CFR 75 are used when determination of fuel sulfur content is made. Analysis may be performed by the owner or operator, a service contractor retained by the owner or operator, the fuel vendor, or any other qualified agency pursuant to 40 CFR 60.335(e) (1998 version).~~

~~13.32. Compliance with CO emission limit: Annual CO testing may be conducted when the annual RATA testing for the CO and NO_x CEMS shall be required pursuant to 40 CFR 75 (at the RATA load rather than at permitted capacity).~~

PREVENTION OF SIGNIFICANT DETERIORATION PERMIT PSD-FL-310

SECTION III - EMISSIONS UNIT(S) SPECIFIC CONDITIONS

RATA testing is conducted at various loads within a unit's typical operating range, which could be less than "permitted capacity" as defined in a later condition (90 to 100 percent of the maximum heat input rate). To prevent unnecessary stack testing at other operational loads, JEA requests that DEP allow the annual CO compliance testing to be conducted during the NOx CEM RATA tests, which would provide sufficient information to demonstrate compliance.

~~14. Compliance with the VOC emission limit: An initial test is required to demonstrate compliance with the VOC emission limit. Thereafter, the CO emission limit will be employed as a surrogate and no annual testing is required.~~

~~15.33. Testing procedures: Unless otherwise specified, testing of emissions shall be conducted with the combustion turbine operating at permitted capacity. Permitted capacity is defined as 90-100 percent of the maximum heat input rate allowed by the permit, corrected for the average ambient air temperature during the test (with 100 percent represented by a curve depicting heat input vs. ambient temperature). Procedures for these tests shall meet all applicable requirements (i.e., testing time frequency, minimum compliance duration, etc.) of Chapters 62-204 and 62-297, F.A.C.~~

~~16.34. Test Notification: The DEP's Northeast District office and RESD shall be notified, in writing, at least 30 days prior to the initial performance tests and at least 15 days before annual compliance tests (unless waived by DEP or RESD).~~

If EPA were to grant a waiver of the NSPS requirement to provide 30 days' prior notice of compliance testing, it would be helpful to allow DEP or RESD to make the same waiver without additional permitting activity. JEA therefore requests this clarification.

~~17.35. Special Compliance Tests: The DEP or RESD may request a special compliance test pursuant to Rule 62-297.310(7), 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.~~

~~18.36. Test Results: Compliance test results shall be submitted to RESD no later than 45 days after completion of the last test run. [Rule 62-297.310(8), F.A.C.].~~

NOTIFICATION, REPORTING, AND RECORDKEEPING

~~19.37. Records: All measurements, records, and other data required to be maintained by JEA shall be recorded in a permanent form and 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 RESD representatives upon request.~~

~~20.38. Compliance Test Reports: The test report shall provide sufficient detail on the tested emission unit and the procedures used to allow the Department 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.~~

~~21.39. Special Record Keeping Requirements: The owner or operator shall obtain, make, and keep the following records:~~

PREVENTION OF SIGNIFICANT DETERIORATION PERMIT PSD-FL-310

SECTION III - EMISSIONS UNIT(S) SPECIFIC CONDITIONS

- (1) Hours of operation for each combustion turbine by fuel type shall be submitted with the Annual Operation Report (AOR) for the prior year.
- (2) Hours of operation for each combustion turbine shall be kept for each consecutive 12-month period by fuel type.
- (3) Daily hours of fuel oil operation shall be kept for each combustion turbine during any day in which fuel oil is fired.
- (4) Daily hours of operation when the CT is being fired and the SCR is not in service, along with support documentation demonstrating that the unit was in a startup or shutdown condition.

MONITORING REQUIREMENTS

41. Continuous Monitoring System: The permittee shall install, calibrate, maintain, and operate a continuous emission monitor in the stack to measure and record the emissions of NO_x and CO from these emissions units, ~~and the Carbon Dioxide (CO₂) content of the flue gas at the location where NO_x and CO are monitored,~~ in a manner sufficient to demonstrate compliance with the emission limits of this permit. The CEM system shall be used to demonstrate compliance with the emission limits for NO_x and CO established in this permit. Compliance with the emission limits for NO_x shall be based on a ~~324~~-hour block average. The ~~24~~-hour block average shall be calculated from ~~324~~ consecutive hourly average emission rate values. Compliance with the emission limits for ~~CO~~NO_x shall be based on a 24-hour block average starting at midnight of each operating day. ~~The 24-hour block average shall be calculated from 24 consecutive hourly average emission rate values.~~ Each hourly value shall be computed using at least one data point in each fifteen-minute quadrant of an hour, where the unit combusted fuel during that quadrant of an hour. Notwithstanding this requirement, an hourly value shall be computed from at least two data points separated by a minimum of 15 minutes (where the unit operates for more than one quadrant of an hour). The owner or operator shall use all valid measurements or data points collected during an hour to calculate the hourly averages. All data points collected during an hour shall be, to the extent practicable, evenly spaced over the hour. If the CEM system measures concentration on a wet basis, the CEM system shall include provisions to determine the moisture content of the exhaust gas and an algorithm to enable correction of the monitoring results to a dry basis (0% moisture). Alternatively, the owner or operator may develop through manual stack test measurements a curve of moisture contents in the exhaust gas versus load for each allowable fuel, and use these typical values in an algorithm to enable correction of the monitoring results to a dry basis (0% moisture). Final results of the CEM system shall be expressed as ppmvd, corrected to 15% oxygen.

The NO_x monitor shall be certified and operated in accordance with the following requirements. The NO_x monitor shall be certified pursuant to 40 CFR Part 75 and shall be operated and maintained in accordance with the applicable requirements of 40 CFR Part 75, Subparts B and C. For purposes of determining compliance with the emission limits specified within this permit, missing data shall not be substituted. Instead the block average shall be determined using the remaining hourly data in the ~~3~~ or 24-hour block. Record keeping and reporting shall be conducted pursuant to 40 CFR Part 75, Subparts F and G. The RATA tests required for the NO_x monitor shall be performed using EPA Method 20 or 7E, of Appendix A of 40 CFR 60. The NO_x monitor shall be a dual range monitor. The span for the lower range shall not be greater than 10 ppm, and the span for the upper range shall not be greater than 30 ppm, as corrected to 15% O₂.

PREVENTION OF SIGNIFICANT DETERIORATION PERMIT PSD-FL-310

SECTION III - EMISSIONS UNIT(S) SPECIFIC CONDITIONS

~~The CO monitor and CO₂ monitor shall be certified and operated in accordance with the following requirements. The CO monitor shall be certified pursuant to 40 CFR 60, Appendix B, Performance Specification 4. The CO₂ monitor shall be certified pursuant to 40 CFR 60, Appendix B, Performance Specification 3. Quality assurance procedures shall conform to the requirements of 40 CFR 60, Appendix F, and the Data Assessment Report of section 7 shall be made each calendar quarter, and reported semi-annually to RESD and the Department's Northeast District Office. The RATA tests required for the CO monitor shall be performed using EPA Method 10, of Appendix A of 40 CFR 60. The Method 10 analysis shall be based on a continuous sampling train, and the ascarite trap may be omitted or the interference trap of section 10.1 may be used in lieu of the silica gel and ascarite traps. The CO monitor shall be a dual range monitor. The span for the lower range shall not be greater than 20 ppm, and the span for the upper range shall not be greater than 100 ppm, as corrected to 15% O₂. The RATA tests required for the CO₂ monitor shall be performed using EPA Method 3B, of Appendix A of 40 CFR 60.~~

The diluent (CO₂ or O₂) monitoring requirements are established under the Acid Rain Program and should be deleted from the PSD permit. As previously stated, JEA requests that the CO monitoring requirements be

NO_x, ~~CO and CO₂~~ emissions data shall be recorded by the CEM system during episodes of startup, shutdown, fuel switching, and malfunction. ~~NO_x and CO~~ emissions data recorded during these episodes may be excluded from the block average calculated to demonstrate compliance with the emission limits specified within this permit. Periods of data excluded for startup shall not exceed two hours in any block 24-hour period except for "warm" or "cold" startup. Periods of data excluded for cold startup shall not exceed four hours in any 24-hour block period. Periods of data excluded for warm startup shall not exceed three hours in any 24-hour block period. Periods of data excluded for hot startups, shutdowns, fuel switching, or malfunctions shall not exceed two hours in any 24-hour block period. ~~All periods of data excluded for any startup, shutdown or malfunction episode shall be consecutive for each episode. Periods of data excluded for all combined startup, shutdown and malfunction episodes shall not exceed four hours in any 24-hour block period.~~ The owner or operator shall minimize the duration of data excluded for startup, shutdown, fuel switching, and malfunctions, to the extent practicable. Data recorded during startup, shutdown, fuel switching, or malfunction events shall not be excluded if the startup, ~~shutdown~~ shutdown, fuel switching, or malfunction episode was caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure, which may reasonably be prevented.

Best operational practices shall be used to minimize hourly emissions that occur during episodes of startup, shutdown and malfunction. ~~Excess e~~missions of any quantity or duration that occur entirely or in part from poor maintenance, poor operation, or any other equipment or process failure, which may reasonably be prevented, shall be prohibited.

PREVENTION OF SIGNIFICANT DETERIORATION PERMIT PSD-FL-310

SECTION III - EMISSIONS UNIT(S) SPECIFIC CONDITIONS

The draft language seems to indicate that data during startup, shutdown, and malfunction episodes must be consecutive. The excess emissions experienced during a single "startup episode" may or may not be consecutive, and the Department's rule authorizes excess emissions for 2 hours during a 24-hour period. There is no regulatory requirement that all startup data be from a consecutive period. Because data is recorded in 15-minute increments, JEA would be able to distinguish in at least 15-minute increments whether the emissions were excess or not, and whether the data should be considered an authorized excess emissions. JEA therefore requests that this language be deleted and that the following clarifications also be made (in the next paragraph). In addition, the word "excess" appears to have been inadvertently omitted from the last sentence.

A summary report of duration of data excluded from the block average calculation, and all instances of missing data from monitor downtime, shall be reported to RESD and the Department's Northeast District office semi-annually, and shall be consolidated with the report required pursuant to 40 CFR 60.7. For purposes of reporting "excess emissions" pursuant to the requirements of 40 CFR 60.7, excess emissions shall be defined as the ~~hourly~~ emissions which are recorded by the CEM system during periods of data excluded for episodes of startup, shutdown, fuel switching, and malfunction, allowed above. The duration of excess emissions shall be the duration of the periods of data excluded for such episodes (in 15-minute increments). Reports required by this paragraph and by 40 CFR 60.7 shall be submitted no less than semi-annually, including semi-annual periods in which no data is excluded or no instances of missing data occur.

Upon request from the Department or RESD, the CEMS emission rates shall be corrected to ISO conditions to demonstrate compliance with the applicable standards of 40 CFR 60.332. [Rules 62-4.070(3) and 62-212.400., F.A.C., and BACT]

[Note: Compliance with these requirements will ensure compliance with the other CEM system requirements of this permit to comply with Subpart GG requirements, as well as the applicable requirements of ~~Rule 62-297.520, F.A.C., 40 CFR 60.7(a)(5) and 40 CFR 60.13, and with 40 CFR Part 51, Appendix P, 40 CFR 60, Appendix B, Performance Specifications and 40 CFR 60, Appendix F, Quality Assurance Procedures~~the Acid Rain Program].

Because the acid rain CEMS are being used to demonstrate compliance with the NOx limits, the references to NSPS and the state SIP requirements should be replaced with a reference to the Acid Rain Program.

42. Fuel Monitoring Schedule: An optional SO₂ Emissions Data Protocol for Gas-Fired and Oil-Fired Units custom fuel monitoring schedule pursuant to 40 CFR 75 Appendix D for natural gas may be used in lieu of the daily sampling requirements of 40 CFR 60.334 (b)(2) provided the following requirements are met:

- The permittee shall apply for an Acid Rain permit within the deadlines specified in 40 CFR 72.30.
- The permittee shall submit a monitoring plan, certified by signature of the Designated Representative, that commits to the sole use of pipeline supplied natural gas (sulfur content less than 20 gr/100 scf pursuant to 40 CFR 75.11(d)(2)) for the CT's.
- Each unit shall be monitored for SO₂ emissions using methods consistent with the requirements of 40 CFR 75 and certified by the USEPA.

The following monitoring schedule for No. 2 or superior grade fuel oil shall be followed: For all bulk shipments of No. 2 or superior grade fuel oil received at the Brandy Branch Power Plant, an analysis

PREVENTION OF SIGNIFICANT DETERIORATION PERMIT PSD-FL-310

SECTION III - EMISSIONS UNIT(S) SPECIFIC CONDITIONS

which reports the sulfur content of the fuel shall be provided by the fuel vendor. The analysis shall also specify the methods by which the analyses were conducted and shall comply with the requirements of 40 CFR 60.335(d).

JEA requests a permitting note stating that EPA has already approved a custom fuel monitoring plan schedule, and that an additional application or request is not necessary.

43. Determination of Process Variables:

- The permittee shall operate and maintain equipment and/or instruments necessary to determine process variables, such as process weight input or heat input, when such data is needed in conjunction with emissions data to determine the compliance of the emissions unit with applicable emission limiting standards. ~~No later than 90 days prior to operation, the permittee shall submit for the Department's approval a list of process variables that will be measured to comply with this permit condition.~~
- Equipment and/or instruments used to directly or indirectly determine such process variables, including devices such as belt scales, weigh 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]

44. Subpart D~~cb~~ Monitoring and Recordkeeping Requirements: The permittee shall comply with all applicable requirements of this Subpart [40CFR60, Subpart D~~cb~~].

45. Selective Catalytic Reduction System (SCR) Compliance Procedures:

- An annual stack emission test for nitrogen oxides ~~and ammonia~~ from the CT/HRSG pair shall be simultaneously conducted while firing natural gas and operating with the duct burner as defined in Specific Condition 20. The ammonia injection rate necessary to comply with the NO_x standard shall be established and reported during each annual performance test.
 - The SCR shall operate at all times that the turbine is operating, except during turbine start-up and shutdown periods, as dictated by manufacturer's guidelines and in accordance with this permit.
 - The permittee shall install and operate an ammonia flow meter to continuously measure and record the ammonia injection rate to the SCR system of the CT/HRSG set. It shall be maintained and calibrated according to the manufacturer's specifications.
 - During the stack test, the permittee (at each tested load condition) shall determine and report the ammonia flow rate required to meet the emissions limitations. During NO_x CEM downtimes or malfunctions, the permittee shall operate at the ammonia flow rate, which was established during the last stack test.
- ~~Ammonia emissions shall be calculated continuously using inlet and outlet NO_x concentrations from the SCR system and ammonia flow supplied to the SCR system. The calculation procedure shall be~~

PREVENTION OF SIGNIFICANT DETERIORATION PERMIT PSD-FL-310

SECTION III - EMISSIONS UNIT(S) SPECIFIC CONDITIONS

~~provided with the CEM monitoring plan required by 40CFR Part 75. The following calculation represents one means by which the permittee may demonstrate compliance with this condition:~~

~~Ammonia slip @ 15%O₂ = (A - (BxC/1,000,000)) x (1,000,000/B) x D, where:~~

~~A = ammonia injection rate (lb/hr) / 17 (lb/lb.mol)~~

~~B = dry gas exhaust flow rate (lb/hr) / 29 (lb/lb.mol)~~

~~C = change in measured NO_x (ppmv @ 15%O₂) across catalyst~~

~~D = correction factor, derived annually during compliance testing by comparing actual to tested ammonia slip~~

~~The calculation along with each newly determined correction factor shall be submitted with each annual compliance test. Calibration data ("as found" and "as left") shall be provided for each measurement device utilized to make the ammonia emission measurement and submitted with each annual compliance test.~~

Because JEA has requested deletion of the ammonia limit, this monitoring requirement becomes obsolete.

- Upon specific request by RESD or the Department, a special re-test shall occur as described in the previous conditions concerning annual test requirements, in order to demonstrate that all NO_x and ammonia slip related permit limits can be complied with.