



Jeb Bush
Governor

Department of Environmental Protection

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

David B. Struhs
Secretary

PROPOSED Permit Electronic Posting Courtesy Notification

Kissimmee Utility Authority (KUA)
Cane Island Plant
Facility ID No.: 0970043
Osceola County

Title V Air Operation Permit Revision
PROPOSED Permit No.: 0970043-002-AV

The electronic version of the PROPOSED permit was posted on the Division of Air Resources Management's world wide web site for the United States Environmental Protection Agency (USEPA) Region 4 office's review on August 18, 2000.

USEPA's review period ends on the 45th day after the permit posting date. Day 45 is October 1, 2000. If an objection (veto) is received from USEPA, the permitting authority will provide a copy of the objection to the applicant.

Provided an objection is not received from USEPA, the PROPOSED permit will become a FINAL permit by operation of law on the 55th day after the permit posting date. Day 55 is October 11, 2000.

The web site address is <http://www2.dep.state.fl.us/air>.



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August 16, 2000

Mr. A.K. Sharma, Director of Power Supply
Kissimmee Utility Authority (KUA)
P.O. Box 423219
Kissimmee, FL 34742-3219

Re: KUA Cane Island Plant
Project No. 0970043-009-AV
PROPOSED Title V Permit No. 0970043-002-AV (Revision)

Dear Mr. Sharma:

One copy of the "PROPOSED PERMIT DETERMINATION" for the KUA Cane Island Power Park located at 6075 Old Tampa Highway, Intercession City, Osceola County, is enclosed. This letter is only a courtesy to inform you that the DRAFT permit has become a PROPOSED permit.

An electronic version of this determination has been posted on the Division of Air Resources Management's world wide web site for the United States Environmental Protection Agency (USEPA) Region 4 office's review. The web site address is <http://www.dep.state.fl.us/air>.

Pursuant to Section 403.0872(6), Florida Statutes, if no objection to the PROPOSED permit is made by the USEPA within 45 days, the PROPOSED permit will become a FINAL permit no later than 55 days after the date on which the PROPOSED permit was mailed (posted) to USEPA. If USEPA has an objection to the PROPOSED permit, the FINAL permit will not be issued until the permitting authority receives written notice that the objection is resolved or withdrawn.

If you should have any questions, please contact Jeff Koerner, P.E., at 850/414-7268.

Sincerely,


C. H. Fandy, Chief
Bureau of Air Regulation

CHF/SMS/jfk

Enclosures

cc: Mr. Jerome Guidry, Perigree Technical Services, Inc.
Mr. Len Kozlov, Central District Office DEP
USEPA, Region 4 (INTERNET E-mail Memorandum)

8/16/00 cc: Pending File
Jeff Koerner

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PROPOSED PERMIT DETERMINATION

KUA Cane Island Plant
Project No. 0970043-009-AV
PROPOSED Title V Permit No. 0970043-002-AV (Revision)

I. Public Notice.

An "INTENT TO ISSUE TITLE V AIR OPERATION PERMIT" for the KUA Cane Island Power Park located at 6075 Old Tampa Highway, Intercession City, and Osceola County was clerked on July 3, 2000. The "PUBLIC NOTICE OF INTENT TO ISSUE TITLE V AIR OPERATION PERMIT" was published on July 12, 2000 in The Orlando Sentinel. The DRAFT Title V Air Operation Permit was available for public inspection at the Department's Central District Office in Orlando and the permitting authority's office in Tallahassee. Proof of publication of the "PUBLIC NOTICE OF INTENT TO ISSUE TITLE V AIR OPERATION PERMIT" was received on August 11, 2000.

II. Comments on the Draft Permit.

The Department received no comments regarding the Draft Permit from the public, the Department's Central District Office, the EPA Region 4 Office, the National Park Service, the Fish and Wildlife Service Office, or the applicant.

The Department noted and corrected the following minor omissions from the Draft Permit:

1. Draft Permit, Page 8 of 29, Condition A.5: Revised NO_x, PM, VOC, and CO "Equivalent Emissions" in table based on 4000 hr/yr gas firing and 1000 hr/yr oil firing. Added combined NO_x emissions cap to Note "d" of table for clarity.
2. Draft Permit, Page 17 of 29, Condition C.1: Changed "Hours of Operation" to "Restricted Operation".
3. Appendix H-1, Page H1: Added permitting histories for Permit Nos. 0970043-005 and 0970043-007-AC. Changed Note "a" to clarify restrictions on hours of operation.

III. Conclusion.

With the minor changes noted above, the Department hereby issues the PROPOSED PERMIT for this project, a revision of Initial Title V Permit No. 0970043-003-AV.

STATEMENT OF BASIS

Kissimmee Utility Authority
Cane Island Power Park
Osceola County

Facility ID No. 0970043

Project No. 0970043-009-AV
Permit Revision - PROPOSED

Initial Title V Permit No. 0970043-002-AV

This Title V air operation permit revision is issued under the provisions of Chapter 403, Florida Statutes (F.S.), and Florida Administrative Code (F.A.C.) Chapters 62-4, 62-210, 62-213, and 62-214. The above named permittee is hereby authorized to perform the work and operate the facility shown on the application and approved drawings, plans, and other documents, attached hereto or on file with the permitting authority, in accordance with the terms and conditions of this permit.

This existing facility consists of two fossil fuel-fired combustion turbine electric generating units and two distillate oil storage tanks. Emissions Unit No. 1 is a 40 MW General Electric Model LM-6000PA simple cycle combustion turbine with an electrical generator set. Emission Unit 002 is a General Electric Model PG7111(EA) combustion turbine with electrical generator set and an unfired heat recovery steam generator (HRSG) with a steam-electric generator. Unit 2 produces 80 MW during simple cycle operation and 120 MW during in combined cycle operation. Each combustion turbine fires natural gas as the primary fuel with very low sulfur distillate oil ($\leq 0.05\%$ sulfur by weight) as a backup fuel. Both units have simple cycle stacks. Unit 2 also has a separate HRSG stack for combined cycle operation.

On June 6, 2000, the permittee requested the addition of an inlet air fogging system for Unit 2 as both an air construction permit and a minor revision to the Title V operation permit. The Department has reviewed the request and determined that the project will not trigger PSD and will not require any restrictions on operation. On June 30, 2000, the permittee also requested incorporating the modification to PSD-FL-182 by Project No. 0970043-007-AC issued on December 21, 1999. The modification established a final NOx emissions limit of 25 ppmvd for Unit No. 1, a corresponding decrease in annual hours of operation to 5000, and a combined NOx emissions cap for Unit Nos. 1 and 2 of 366.1 tons per consecutive 12 months. The Department issued the Final air construction permit authorizing installation of the inlet air fogging system. No comments were received during the Public Notice comments period. This PROPOSED Title V air operation permit incorporates operation of the fogging system and the earlier PSD modification.

The PROPOSED Title V permit includes only the following pages (conditions) for review:

- A new Cover page;
- A new placard page;
- Subsection A of Section III (Emissions Unit 001): page 8 (A.3 and A.5) and page 11 (A.15)
- Subsection B of Section III (Emissions Unit 002): page 12 (B.3), page 13 (B.3), pages 15/16 (B.12)
- Subsection C of Section III (Common Conditions for Emissions Units 001 and 002): page 17 (C.1)
- Appendix H-1 (Permit History): page H1
- Appendix S (Permit Summary Tables): pages S1, S2, S3, and S4

All changes in the PROPOSED Title V Permit are indicated with a dotted underline and a revised date. The electronic version includes the entire Draft Permit with changes also indicated in blue text.

Kissimmee Utility Authority
Cane Island Power Park
Facility ID No. 0970043
Osceola County

Proposed Permit (Revision)
Title V Air Operation Permit
Permit No. 0970043-002-AV

Permitting Authority:
State of Florida
Department of Environmental Protection
Division of Air Resources Management
Bureau of Air Regulation
Title V Section

Mail Station #5505
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Telephone: 850/488-1344
Fax: 850/922-6979

Permittee:
Kissimmee Utility Authority
1701 West Carroll Street
Kissimmee, FL 34741-6804

FINAL Permit No. 0970043-002-AV
Facility ID No. 0970043
SIC Nos.: 49
Project: Initial Title V Air Operation Permit

PLANT / LOCATION: This permit is for the operation of the Kissimmee Utility Authority's Cane Island Power Park. This facility is located at 6075 Old Tampa Highway, Intercession City, Osceola County. The UTM coordinates are Zone 17, 449.8 East, and 3127.9 North. The Latitude is 28 16' 40" North and the Longitude is 81 31' 01" West.

REVISION: Project No. 0970043-009-AV revised the initial Title V permit to add an inlet air fogging system to Emissions Unit 002 and incorporate conditions of previous PSD modification 0970043-007-AC for Emissions Unit 001. Revised pages are marked with the "Revised Date".

STATEMENT OF BASIS: This Title V air operation permit is issued under the provisions of Chapter 403, Florida Statutes (F.S.), and Florida Administrative Code (F.A.C.) Chapters 62-4, 62-210, 62-213, and 62-214. The above named permittee is hereby authorized to perform the work and operate the facility shown on the application and approved drawings, plans, and other documents, attached hereto or on file with the permitting authority, in accordance with the terms and conditions of this permit.

Referenced attachments made a part of this permit:

Appendix U-1, List of Unregulated Emissions Units and/or Activities
Appendix I-1, List of Insignificant Emissions Units and/or Activities
Table 1-1, Summary of Air Pollutant Standards and Terms
Table 2-1, Summary of Compliance Requirements
Appendix TV-1, Title V Conditions (version dated 12/02/97)
Appendix SS-1, Stack Sampling Facilities (version dated 10/07/96)
Table 297.310-1, Calibration Schedule (version dated 10/07/96)
Figure 1 - Summary Report-Gaseous And Opacity Excess Emission And Monitoring System Performance Report (version dated 7/96)
Alternate Sampling Procedure, ASP No. 97-B-01
BACT Determination dated April 7, 1993
Order extending permits dated March 18, 1999

Effective Date: January 1, 2000

Revised Date: (DRAFT)

Renewal Application Due Date: July 5, 2004

Expiration Date: December 31, 2004

(PROPOSED)

Howard L. Rhodes, Director
Division of Air Resource Management

HLR/sms/mph/jfk

A.3. Methods of Operation - Fuels. The only fuels allowed to be fired are pipeline-quality natural gas and low sulfur No. 2 distillate oil. The sulfur content of the No. 2 distillate oil shall not exceed 0.05% sulfur by weight. Operation of Unit No. 1 shall not exceed 5000 hours during any consecutive 12 months. Of the total allowable hours of operation, Unit No. 1 shall fire distillate oil for no more than:

- a. 800 hours during any consecutive 12 months if natural gas is available, or
- b. 1000 during any consecutive 12 months if natural gas is unavailable.

{Permitting Note: The limitations of specific conditions A.3 and A.6 are more stringent than the NSPS sulfur dioxide limitation and thus assure compliance with 40 CFR 60.333 and 60.334} [Rule 62-213.410, F.A.C., AC 49-205703 (PSD-FL-182); 0970043-007-AC (PSD-FL-182A); 0970043-009-AV; Revised on (DRAFT).]

Emission Limitations and Standards

A.4. Visible Emissions. Visible emissions shall not exceed 10 percent opacity, except for during startup, shutdown or periods of part load operation, at which time visible emissions shall not exceed 20 percent opacity.

[AC 49-205703 (PSD-FL-182)]

A.5. The maximum allowable emissions from Unit 1 shall not exceed the emission limitations listed below.

| Pollutant | Emission Limits | | | Basis |
|--------------------------------|--|---------------------------------------|-------------------------------------|--------------|
| | Gas | Number 2 Fuel Oil | Equivalent Emissions Tons/Year a, b | |
| NO _x ^c | 25/15 ppmvd at 15% oxygen on a dry basis | 42 ppmvd at 15% oxygen on a dry basis | 116.9 105.5 ^c | BACT |
| SO ₂ | nil | 20 lb/hr | 10.0 | BACT |
| PM | 0.0245lb/mmBtu | 0.0323 lb/MMBtu | 40.9 24.0 | BACT |
| H ₂ SO ₄ | nil | 2.2 lb/hr | 1.1 | BACT |
| VOC | 1.4 lb/hr | 3 lb/hr | 6.9 4.3 | BACT |
| CO | 30 ppmvd | 63 ppmvd | 193.2 118.0 | BACT |
| Opacity | 10% (see A.4.) | 10% (see A.4.) | | BACT |
| Be ^d | nil | 2.5 E-6 lb/MMBtu | < 1 | BACT |
| As ^d | nil | 4.2 E-6 lb/MMBtu | < 1 | AC 49-205703 |
| Hg ^d | nil | 3.1 E-6 lb/MMBtu | < 1 | AC 49-205703 |
| Pb ^d | nil | 2.8 E-5 lb/MMBtu | < 1 | AC 49-205703 |

- a. Tons per year based on 4000 hrs/yr for natural gas firing, 1000 hrs/yr for number 2 fuel oil firing.
- b. Based on 372 MMBtu/hr for number 2 fuel oil and 367 MMBtu/hr for natural gas.
- c. Original permit PSD-FL-182 limited NO_x emissions to 25 ppmvd for gas firing to be reduced to 15 ppmvd. Project No. 0970043-007-AC (12/21/99) modified the PSD permit establishing the final NO_x emission limit as 25 ppmvd when firing natural gas with a corresponding reduction in hours of operation (5000 hours per year) and a combined NO_x emissions cap (366.1 TPY) with Unit No. 2.
- d. Limits based upon an approved emission factor, which is subject to change in the future.

[AC 49-205703 (PSD-FL-182); 0970043-007-AC; 0970043-009-AV; Revised on ()]

A.12. Excess Emissions by CEMS. The CEMS shall be used to determine periods of excess emissions as per 40 CFR 60.334. Excess emissions are defined for this emissions unit as any 60-minute period during which the average emissions exceed the emission limits of specific condition **A.5.** of this permit. Periods of startup, shutdown and malfunction shall be monitored, recorded and reported with excess emissions following the format and requirements of 40 CFR 60.7.

[AC 49-205703 (PSD-FL-182)]

Record Keeping and Reporting Requirements

A.13. Excess Emission Reports. Semi-annual excess emission reports shall be submitted to the DEP's Central District Office. These reports shall be postmarked by the 30th day following the end of each calendar half. Each excess emission report shall include the information required in 40 CFR 60.7(c) and 60.334.

[AC 49-205703 (PSD-FL-182)]

A.14. Natural Gas Sulfur Content Records Required. The owner or operator shall receive and maintain records of sulfur content of natural gas provided by the natural gas supplier, as per 40 CFR 60.334. The records shall report total sulfur content in terms of grains of sulfur per hundred cubic feet (standard conditions).

[AC 49-205703 (PSD-FL-182)]

A.15. Additional Reports Required. The owner or operator shall report the following with the Annual Operating Report (AOR) by March 1 of each calendar year: sulfur and nitrogen contents, by weight, and lower heating value of the fuel oil being fired, annual fuel consumption of number 2 fuel oil and natural gas, hours of operation per fuel usage and air emission limits. As it may become available, the permittee shall also provide the Department with information regarding documented enhancements to the LM6000PA, dual-fuel class, combustion turbine machine, which have demonstrated in the field the ability to achieve a continuous NO_x emission rate of 15 ppmvd while firing natural gas.

[Rule 62-210.370(3), F.A.C.; and AC49-205703 (PSD-FL-182); 0970043-007-AC; 0970043-009-AV; Revised on (DRAFT)]

Other Conditions

A.16. Maintain Capability to install an SCR. This emissions unit is permitted for maximum NO_x emission levels of 15 (gas)/42 (oil) ppmv. The Department will revise permitted emission levels for NO_x if the manufacturer achieves an even lower NO_x emission, pursuant to F.A.C. Rule 62-4.080. The permittee shall maintain capability for future installation of a selective catalytic reduction (SCR) system. This is required in the event that the permittee is unable to comply with the permitted NO_x levels and the Department requires an SCR to be installed. In the event an SCR system is required to be installed, the emission limitations shall be established at the time of installation by stack test results and through a revised determination of BACT.

[AC 49-205703 (PSD-FL-182)]

A.17. This emissions unit is also subject to conditions **C.1.** through **C.13.** contained in **Subsection C. Common Conditions.**

A.18. This emissions unit is also subject to conditions **D.1.** through **D.6.** contained in **Subsection D. NSPS Common Conditions.**

Subsection B. This section addresses the following emissions unit.

| | |
|-----|---|
| 002 | Combined Cycle Combustion Turbine Unit 2, rated at 120 MW, 869 MMBtu/hr for natural gas and 928 MMBtu/hr for number 2 fuel oil, capable of burning any combination of natural gas and number 2 fuel oil, with emissions exhausted through a 75 ft. stack. |
|-----|---|

{Permitting Notes: This emissions unit is regulated under Acid Rain, Phase II; Rule 62-210.300, F.A.C., Permits Required; and, is subject to 40 CFR 60, Subpart GG, Standards of Performance for New Stationary Gas Turbines. The affected facility to which this subpart applies is the combined cycle gas turbine, Unit 2. This unit underwent a BACT Determination dated April 7, 1993. BACT Limits were incorporated into the subsequent air construction/PSD permits including AC 49-205703 (PSD-FL-182). Exhaust is vented through the heat recovery steam generator that is not equipped with duct burners and then through a 75 ft. stack. NO_x emissions are controlled by low-NO_x combustors, and by water injection, whereas SO₂ and H₂SO₄ emissions are controlled by firing 0.05%S oil for only limited time periods. The turbine exhaust may also be vented through a bypass stack for simple cycle operation when the HRSG or steam turbine is down for maintenance and/or repair. The turbine began commercial operation in 1995.}

The following specific conditions apply to the emissions unit listed above:

Essential Potential to Emit (PTE) Parameters

B.1. Permitted Capacity. The maximum operation heat input rates are as follows:

| Unit No. | MMBtu/hr Heat Input | Fuel Type |
|----------|---------------------|----------------|
| 002 | 869* | Natural Gas |
| | 928* | No. 2 Fuel Oil |

* Based on 101.3 kilopascals pressure, 288 Kelvin and 60% relative humidity (ISO standard day conditions), and lower heating value of the fuel fired.

{Permitting Note: The heat input limitations have been placed in each permit to identify the capacity of each emissions unit for the purposes of confirming that emissions testing is conducted within 95 to 100 percent of the emission unit's rated capacity (or to limit future operation to 105 percent of the test load), to establish appropriate emission limits and to aid in determining future rule applicability.}

[Rules 62-4.160(2), 62-210.200(PTE), F.A.C. and AC 49-205703 (PSD-FL-182)]

B.2. Emissions Unit Operating Rate Limitation After Testing. See specific condition C.8.

[Rule 62-297.310(2), F.A.C.]

B.3. Methods of Operation.

a. Fuels: The only fuel(s) allowed to be burned are natural gas and number 2 fuel oil (0.05%), except that firing of number 2 fuel oil is limited to no more than 1000 hours per year if natural gas is unavailable, or no more than 800 hours per year if gas is available. The sulfur content of the fuel oil shall not exceed 0.05%, by weight. {Permitting Note: The limitations of specific conditions A.3 and A.6 are more stringent than the NSPS sulfur dioxide limitation and thus assure compliance with 40 CFR 60.333 and 60.334}

b. Inlet Air Fogging: The permittee is authorized to install and operate a high pressure, direct water spray fogging system. The proposed equipment will inject up to 26 gpm from spray nozzles to provide evaporative cooling of the compressor inlet air to Unit 2. Based on an inlet air mass flow rate of 2,077,077 pounds per hour, the inlet air fogging system shall be designed to achieve a 25° F cooling reduction from an ambient temperature of 95° F to cooled compressor inlet air

temperature of 70° F. {Permitting Note: The inlet air fogging system will typically operate during periods of peak power demand and high ambient temperatures. Fogging provides evaporative cooling of the inlet air to the compressor, which allows a higher mass flow rate with a corresponding increase in power production of up to 8 MW depending on initial ambient conditions. The increased power production is realized by firing additional fuel, which results in increased actual emissions. However, there are no increases in the maximum heat input rates, power production, or emissions levels, which are established under the coldest expected ambient temperatures. Fogging simply allows performance of the combustion turbine at a lower temperature than the existing ambient conditions.}

[Rule 62-213.410, F.A.C.; AC 49-205703 (PSD-FL-182); 0970043-008-AC (PSD-FL-182); 0970043-009-AV; Revised on (DRAFT)]

Emission Limitations and Standards

B.4. Visible Emissions. Visible emissions shall not exceed 10 percent opacity, except for during startup, shutdown or periods of part load operation, at which time visible emissions shall not exceed 20 percent opacity.

[AC 49-205703 (PSD-FL-182)]

B.5. The maximum allowable emissions from Unit 2 shall not exceed the emission limitations listed below.

| Pollutant | Emission Limits | | | Basis |
|--------------------------------|---------------------------------------|---------------------------------------|-------------------------------------|--------------|
| | Gas | Number 2 Fuel Oil | Equivalent Emissions Tons/Year a, b | |
| NO _x ^c | 15 ppmvd at 15% oxygen on a dry basis | 42 ppmvd at 15% oxygen on a dry basis | 290.6 | BACT |
| SO ₂ | nil | 52 lb/hr | 26 | BACT |
| PM | 0.010 lb/MMBtu | 0.0162 lb/MMBtu | 41.2 | BACT |
| H ₂ SO ₄ | nil | 5.72 lb/hr | 2.86 | BACT |
| VOC | 2 lb/hr | 5 lb/hr | 10.26 | BACT |
| CO | 20 ppmvd | 20 ppmvd | 242 | BACT |
| Opacity | 10% (see B.4.) | 10% (see B.4.) | | BACT |
| Be ^d | nil | 2.5e-6 lb/MMBtu | < 1 | BACT |
| As ^d | nil | 4.2e-6 lb/MMBtu | < 1 | AC 49-205703 |
| Hg ^d | nil | 3.0e-6 lb/MMBtu | < 1 | AC 49-205703 |
| Pb ^d | nil | 2.8e-5 lb/MMBtu | < 1 | AC 49-205703 |

- a. Tons per year based on 7760 hrs/yr for natural gas firing, 1000 hrs/yr for number 2 fuel oil firing.
- b. Based on 928 MMBtu/hr for number 2 fuel oil and 869 MMBtu/hr for natural gas.
- c. NO_x emission limits were permitted to be 25 ppmvd while firing natural gas until 1/1/98 via original application.
- d. Limits based upon an approved emission factor, which is subject to change in the future.

B.9. Sulfur Dioxide - Sulfur Content. The permittee elected to use fuel sampling and analysis in lieu of installing a continuous monitoring system for SO₂ as required by the NSPS. This protocol is allowed because the emissions unit does not have an operating flue gas desulfurization device. The permittee shall demonstrate compliance with the SO₂ limit by EPA test method 8 or fuel sampling and analysis. The permittee shall demonstrate compliance with the gaseous fuel sulfur limit via record keeping. Excess emissions shall be reported if the fuel being fired in the gas turbine exceeds 0.05% sulfur by weight.
[AC 49-205703 (PSD-FL-182)]

B.10. Fuel Sampling & Analysis - Sulfur/Nitrogen and Lower Heating Value. The following fuel sampling and analysis program shall be used to demonstrate compliance with the sulfur dioxide standard:

- a. Determine and record the as-fired fuel sulfur content, percent by weight, for liquid fuels using either ASTM D2622-92, ASTM D4294-90, both ASTM D4057-88 and ASTM D129-91, or the latest editions, to analyze a representative sample of the blended fuel following each fuel delivery. ASTM D3246-81, or its latest edition, shall be used for sulfur content of gaseous fuel.
- b. Record daily the amount of each fuel fired, density of each fuel, heating value, nitrogen content and the percent sulfur content by weight of fuel oil as specified in 40 CFR 60.334.
[Rule 62-213.440, F.A.C., and AC 49-205703 (PSD-FL-182)]

Monitoring of Operations

B.11 Continuous Monitoring Required. A continuous monitoring system shall be maintained to record fuel consumption. A continuous monitoring system shall be maintained to record emissions of nitrogen oxides in accordance with the requirements of 40 CFR 75. Data collected from this system shall be used for periodic monitoring purposes. While water injection is being utilized for NO_x control, water to fuel ratio and fuel bound nitrogen is not required to be continuously monitored as long as the permittee will report excess emissions using the data collected by the continuous monitoring system in accordance with the following conditions:

1. Each NO_x CEMS must be capable of calculating NO_x emissions concentrations corrected to 15% O₂ and ISO conditions.
2. Monitor data availability shall be no less than 95 percent on a quarterly basis.
3. NO_x CEMS should provide at least 4 data points for each hour and calculate a one-hour average.

To implement condition 1, KUA shall use ambient data (temperature, relative humidity, pressure) to correct excess emissions data to ISO conditions if requested by the Department. If monitor availability drops below 95% on a quarterly basis as prescribed in condition 2, KUA shall use water to fuel ratio and fuel-bound nitrogen data to monitor excess emissions in subsequent quarters until the minimum CEMS monitor availability is above 95%. The use of CEMS to monitor excess emissions is more stringent than the surrogate parameter monitoring in 40 CFR 60.334 since the CEMS directly measures NO_x emissions. The CEMS also provides monitoring when no water injection is used to control NO_x emissions (i.e., when firing natural gas, dry low NO_x burners are used).

[AC 49-205703 (PSD-FL-182)]

B.12. Excess Emissions by CEMS. The CEMS shall be used to determine periods of excess emissions as per 40 CFR 60.334. Excess emissions are defined for this emissions unit as any 60-

minute period during which the average emissions exceed the emission limits of specific condition **B.5.** of this permit. Excess emissions from the combustion turbine caused entirely or in part by the operation of the inlet air fogging system shall also be prohibited. Periods of startup, shutdown and malfunction shall be monitored, recorded and reported with excess emissions following the format and requirements of 40 CFR 60.7.

[AC49-205703 (PSD-FL-182); 0970043-008-AC (PSD-FL-182I); 0970043-009-AV; Revised on (DRAFT)]

Record Keeping and Reporting Requirements

B.13. Excess Emission Reports. Semi-annual excess emission reports shall be submitted to the DEP's Central District Office. These reports shall be postmarked by the 30th day following the last day of June and the last day of December. Each excess emission report shall include the information required in 40 CFR 60.7(c) and 60.334.

[AC 49-205703 (PSD-FL-182)]

B.14. Natural Gas Sulfur Content Records Required. The owner or operator shall receive and maintain records of sulfur content of natural gas provided by the natural gas supplier, as per 40 CFR 60.334. The records shall report total sulfur content in terms of grains of sulfur per hundred cubic feet (standard conditions).

[AC 49-205703 (PSD-FL-182)]

B.15. Additional Reports Required. The owner or operator shall report the following with the Annual Operating Report (AOR) by March 1 of each calendar year: sulfur and nitrogen contents, by weight, and lower heating value of the fuel oil being fired, annual fuel consumption of number 2 fuel oil and natural gas, hours of operation per fuel usage and air emission limits.

[Rule 62-210.370(3), F.A.C., and AC 49-205703 (PSD-FL-182)]

Other Conditions

B.16. Maintain Capability to install an SCR. This emissions unit is permitted for maximum NO_x emission levels of 15 (gas)/42 (oil) ppmv. The Department will revise permitted emission levels for NO_x if the manufacturer achieves an even lower NO_x emission, pursuant to F.A.C. Rule 62-4.080. The permittee shall maintain capability for future installation of a selective catalytic reduction (SCR) system. This is required in the event that the permittee is unable to comply with the permitted NO_x levels and the Department requires an SCR to be installed. In the event an SCR system is required to be installed, the emission limitations shall be established at the time of installation by stack test results and through a revised determination of BACT.

[AC 49-205703 (PSD-FL-182)]

B.17. This emissions unit is also subject to conditions **C.1.** through **C.13.** contained in **Subsection C. Common Conditions.**

B.18. This emissions unit is also subject to conditions **D.1.** through **D.6.** contained in **Subsection D. NSPS Common Conditions.**

Subsection C. Common Conditions.

| E.U. ID No. | Brief Description |
|-------------|---|
| 001 | Simple Cycle Combustion Turbine Unit 1, rated at 40 MW, 367 MMBtu/hr for natural gas and 372 MMBtu/hr for number 2 fuel oil, capable of burning any combination of natural gas and number 2 fuel oil, with emissions exhausted through a 65 ft. stack . |
| 002 | Combined Cycle Combustion Turbine Unit 2, rated at 120 MW, 869 MMBtu/hr for natural gas and 928 MMBtu/hr for number 2 fuel oil, capable of burning natural gas and number 2 fuel oil, with emissions exhausted through a 75 ft. stack . |

The following conditions apply to the emissions unit(s) listed above:

Essential Potential to Emit (PTE) Parameters

C.1. Restricted Operation. Unit No. 1 shall operate no more than 5000 hours during any consecutive 12 months. Operation of Unit No. 2 is not restricted (8,760 hours/year). In addition, the combined NOx emissions of Unit Nos. 1 and 2 shall not exceed 366.1 tons during any consecutive 12 months. Compliance with this requirement shall be demonstrated each month with NOx emissions data collected from the installed CEMS. Records shall be maintained on site demonstrating compliance with this cap for each consecutive 12-month period. Additionally, the annual submittal of each Annual Operating Report shall include such data and calculations. {Permitting Note: Revised by Project No. 0970043-009-AV on (DRAFT) to incorporate previous Project No. 0970043-007-AC that modified original permit PSD-FL-182. This action set a final NOx limit for Unit No. 1 of 25 ppmvd with a corresponding reduction in annual hours of operation from 8760 to 5000 and established the NOx emissions cap.} [Rule 62-210.200(PTE), F.A.C.; 0970043-007-AC (PSD-FL-182A); 0970043-009-AV; Revised on (DRAFT)]

Emission Limitations and Standards

{Permitting note: Table 1-1, Summary of Air Pollutant Standards and Terms, summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.}

Excess Emissions

{Permitting note: The excess emissions rule at 62-210.700, F.A.C., cannot vary any requirement of a NSPS, NESHAP, or Acid Rain program provision.}

C.2. Excess emissions resulting from startup, shutdown or malfunction of any emissions unit shall be permitted providing:

- (1) best operational practices to minimize emissions are adhered to and
- (2) the duration of excess emissions shall be minimized but in no case exceed two hours in any 24 hour period unless specifically authorized by the Department for longer duration.

[Rule 62-210.700(1), F.A.C.]

C.3. Excess emissions which are caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure which may reasonably be prevented during startup, shutdown or malfunction shall be prohibited.

[Rule 62-210.700(4), F.A.C.]

Appendix H-1, Permit History/ID Number Changes

Permit History (for tracking purposes):

| E.U. ID No. | Description | Permit No. | Issue Date | Expiration Date | Extended Date ^{1, 2} | Revised Date(s) |
|----------------|---|---------------------------------|---------------|--------------------|----------------------------------|--------------------|
| Unit 1 | Simple Cycle Comb. Turbine, Unit 1 | AC49-205703 PSD-FL-182 | 4/9/93 | 11/1/96 | 9/16/94, 5/8/95 | |
| | | 0970043-004-AC | | | | 5/19/97 |
| | | 970043-003-AC | | | | 8/15/97 |
| | Extension of time to lower NOx limit from 25 to 15 ppmvd | 0970043-005-AC | | | | 12/17/98 |
| | Set NOx limit for Unit 1 at 25 ppmvd, reduce Unit 1 to 5000 hr/yr, establish NOx cap for Units 1 and 2 | 0970043-007-AC | | | | 12/21/99 |
| Unit 2 | Combined Cycle Gas Turbine, Unit 2 | AC49-205703 PSD-FL-182 | 4/9/93 | 11/1/96 | 9/16/94, 5/8/95 | |
| | | 0970043-004-AC | | | | 5/19/97 |
| | | 0970043-003-AC | | | | 8/15/97 |
| | Set NOx limit for Unit 1 at 25 ppmvd, reduce Unit 1 to 5000 hr/yr, establish NOx cap for Units 1 and 2 | 0970043-007-AC | | | | 12/21/99 |
| | Added inlet air fogging for Unit 2 | 0970043-008-AC (PSD-FL-182I) | (DRAFT) | (DRAFT) | | (DRAFT) |
| | Added inlet air fogging for Unit 2 in initial Title V permit | 0970043-009-AV | (DRAFT) | (DRAFT) | | (DRAFT) |

ID Number Changes (for tracking purposes):

From: Facility ID No.: 30ORL490043

To: Facility ID No.: 0970043

Notes:

1 - AO permit(s) automatic extension(s) in Rule 62-210.300(2)(a)3.a., F.A.C., effective 03/21/96.

2 - AC permit(s) automatic extension(s) in Rule 62-213.420(1)(a)4., F.A.C., effective 03/20/96.

{Rule 62-213.420(1)(b)2., F.A.C., effective 03/20/96, allows Title V Sources to operate under existing valid permits}

{Permitting Note: Revised by Project No. 0970043-009-AV on (DRAFT).}

Appendix S
Permit Summary Tables

Table 1-1, Summary of Air Pollutant Emission Standards

This table summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.

| Emiss Unit | Brief Description | | | | | | | | | |
|--------------------|---|-------|----------------------------------|-------|-----|------------|------|--------------|--------------------|------------|
| 001 | Simple Cycle Gas Turbine, Unit 1, rated at 40 MW. | | | | | | | | | |
| Pollutant | Fuel(s) | Hours | Allowable Emissions ^a | | | Equivalent | | Regulatory | See Permit | |
| | | | Standard(s) | lb/hr | TPY | lb/hr | TPY | | | |
| VE | No 2 Oil Nat Gas | 5000 | 10 % opacity | | | | | AC 49-205703 | A.4. | |
| SO ₂ | No 2 Oil Nat Gas | 1000 | 0.05% S by weight, fuel oil | 20 | | | 10 | AC 49-205703 | A.9., A.10., A.13. | |
| NO _x ** | No. 2 Fuel Oil | 1000 | 42 ppmvd at 15% oxygen on a dry | 63 | | | 31.5 | AC 49-205703 | A.5., C.1 | |
| NO _x ** | Natural Gas | 5000 | 25/45 ppmvd at 15% oxygen dry | 22/37 | | | 74.0 | AC 49-205703 | A.5., C.1 | |
| PM | No. 2 Fuel Oil | 1000 | 0.0323 lb/MMBtu | | | | 12.0 | 6.0 | AC 49-205703 | A.5., A.7. |
| PM | Natural Gas | 5000 | 0.0245 lb/MMBtu | | | | 9 | 18.0 | AC 49-205703 | A.5., A.7. |
| VOC | No. 2 Fuel Oil | 1000 | 3 lb/hour | 3 | | | | 1.5 | AC 49-205703 | A.5., A.7. |
| VOC | Natural Gas | 5000 | 1.4 lb/hour | 1.4 | | | | 2.8 | AC 49-205703 | A.5., A.7. |
| CO | No. 2 Fuel Oil | 1000 | 63 ppmvd at 15% oxygen on a dry | 76 | | | | 38 | AC 49-205703 | A.5., A.7. |
| CO | Natural Gas | 5000 | 30 ppmvd at 15% oxygen on a dry | 40 | | | | 80.0 | AC 49-205703 | A.5., A.7. |
| Hg | No. 2 Fuel Oil | 1000 | 3.1 E-6 lb/MMBtu | | | | <1 | <1 | AC 49-205703 | A.5. |
| As | No. 2 Fuel Oil | 1000 | 4.2 E-6 lb/MMBtu | | | | <1 | <1 | AC 49-205703 | A.5. |
| Be | No. 2 Fuel Oil | 1000 | 2.5 E-6 lb/MMBtu | | | | <1 | <1 | AC 49-205703 | A.5. |
| Pb | No. 2 Fuel Oil | 1000 | 2.8 E-5 lb/MMBtu | | | | <1 | <1 | AC 49-205703 | A.5. |

Notes for EU 001:

a No. 2 fuel oil firing is limited to 1000 hours per year. Total operation is limited to 5000 hours per year.

l The "Equivalent Emissions" listed are for informational purposes only. They are based upon 4000 hours per year of gas operation and 1000 hours per year of #2 oil operation. [Rule 62-213.205, F.A.C.]

* Firing of number 2 fuel oil is limited to no more than 1000 hours per year to the unit for any reason.

** {Permitting Note: Emissions Units 001 and 002 have a combined NO_x emissions cap of 366.1 during any consecutive 12 months. Last revised by Project No. 0970043-009-AV on (DRAFT).}

Appendix S
Permit Summary Tables

| Emiss Unit | Brief Description |
|------------|--|
| 002 | Combined Cycle Gas Turbine, Unit 2, rated at 120 MW. |

| Pollutant | Fuel(s) | Hours | Allowable Emissions ^a | | | Equivalent | | Regulatory | See Permit |
|-----------------|------------------|-------|----------------------------------|-------|-----|------------|-------|--------------|--------------------|
| | | | Standard(s) | lb/hr | TPY | lb/hr | TPY | | |
| VE | No 2 Oil Nat Gas | 8760 | 10 % opacity | | | | | AC 49-205703 | A.4. |
| SO ₂ | No 2 Oil Nat Gas | 1000 | 0.05% S by weight, fuel oil | 52 | | | 26 | AC 49-205703 | A.9., A.10., A.13. |
| NO _x | No. 2 Fuel Oil | 1000 | 42 ppmvd at 15% oxygen on a dry | 170 | | | 85.0 | AC 49-205703 | A.15. |
| NO _x | Natural Gas | 8760 | 15 ppmvd at 15% oxygen on a dry | 53 | | | 205.6 | AC 49-205703 | A.15. |
| PM | No. 2 Fuel Oil | 1000 | 0.0162 lb/MMBtu | | | | 15.0 | AC 49-205703 | A.5., A.7. |
| PM | Natural Gas | 8760 | 0.0100 lb/MMBtu | | | | 8.7 | AC 49-205703 | A.5., A.7. |
| VOC | No. 2 Fuel Oil | 1000 | 5.0 lb/hour | 5 | | | 2.5 | AC 49-205703 | A.5., A.7. |
| VOC | Natural Gas | 8760 | 2.0 lb/hour | 2 | | | 7.76 | AC 49-205703 | A.5., A.7. |
| CO | No. 2 Fuel Oil | 1000 | 20 ppmvd at 15% oxygen on a dry | 65 | | | 32.5 | AC 49-205703 | A.5., A.7. |
| CO | Natural Gas | 8760 | 20 ppmvd at 15% oxygen on a dry | 54 | | | 209.5 | AC 49-205703 | A.5., A.7. |
| Hg | No. 2 Fuel Oil | 1000 | 3.0e-6 lb/MMBtu | | | | <1 | AC 49-205703 | A.5. |
| As | No. 2 Fuel Oil | 1000 | 4.2e-6 lb/MMBtu | | | | <1 | AC 49-205703 | A.5. |
| Be | No. 2 Fuel Oil | 1000 | 2.5e-6 lb/MMBtu | | | | <1 | AC 49-205703 | A.5. |
| Pb | No. 2 Fuel Oil | 1000 | 2.8e-5 lb/MMBtu | | | | <1 | AC 49-205703 | A.5. |

Notes for EU 002:

a lb/hour and TPY values based on using number 2 fuel oil for 1000 hours per year; for natural gas using 7760 hours per year.

1 The "Equivalent Emissions" listed are for informational purposes only. They are based upon 7760 hours per year of gas operation and 1000 hours per year of #2 oil operation. [Rule 62-213.205, F.A.C.]

* Firing of number 2 fuel oil is limited to no more than 1000 hours per year to the unit for any reason.

{Permitting Note: Emissions Units 001 and 002 have a combined NOx emissions cap of 366.1 during any consecutive 12 months. Last revised by Project No. 0970043-009-AV on (DRAFT).}

Appendix S
Permit Summary Tables

Table 2-1, Summary of Compliance Requirements

This table summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.

| Emissions Unit | Brief Description |
|----------------|--|
| 001 | Simple Cycle Combustion Turbine, Unit 1, rated at 40 MW. |

| Pollutant or Parameter | Fuel(s) | Compliance Method | Testing Frequency | Frequency Base Date ¹ | Minimum Compliance Test Duration | CMS ² | See Permit Condition(s) |
|------------------------|-------------------------|---|---------------------------------|----------------------------------|----------------------------------|------------------|-------------------------|
| VE | No 2 Fuel Oil, Nat. Gas | EPA Method 9 | Annual | August 1st | 1 hour | No | A.6. |
| SO ₂ | " | Method 8 for Fuel oil firing only; Fuel Sampling & Analysis | As Fired | | | Yes* | A.9, A.10. |
| NO _x | " | EPA Test Method 20 | Annual | August 1st | 3 hours | Yes | A.6. |
| PM | " | EPA Test Methods 5 or 17 | Only if 10% Opacity is exceeded | | 3 hours | No | A.7. |
| VOC | " | EPA Test Method 25A | Initial Compliance | | | No | A.7. |
| CO | " | EPA Test Method 10 | Annual | | | No | A.7. |
| Hg | No.2 oil | EPA Method 101 or fuel sampling | Initial Compliance | | | No | A.5. |
| As | No.2 oil | Fuel sampling | Initial Compliance | | | No | A.5. |
| Be | No.2 oil | EPA Method 104 or fuel sampling | Initial Compliance | | | No | A.5. |
| Pb | No.2 oil | Fuel sampling | Initial Compliance | | | No | A.5. |

Notes for EU 001:

* Continuous monitoring of fuel consumption required.

¹ Frequency base date established for planning purposes only; see Rule 62-297.310, F.A.C.

² CMS = continuous monitoring system

See also Section C for general testing requirements

{Permitting Note: Emissions Units 001 and 002 have a combined NO_x emissions cap of 366.1 during any consecutive 12 months. Compliance must be demonstrated monthly by CEMS data. Last revised by Project No. 0970043-009-AV on (DRAFT).}

**Appendix S
Permit Summary Tables**

| Emissions Unit | Brief Description |
|----------------|---|
| 002 | Combined Cycle Combustion Turbine, Unit 2, rated at 120 MW. |

| Pollutant or Parameter | Fuel(s) | Compliance Method | Testing Frequency | Frequency Base Date ¹ | Minimum Compliance Test Duration | CMS ² | See Permit Condition(s) |
|------------------------|-------------------------|---|---------------------------------|----------------------------------|----------------------------------|------------------|-------------------------|
| VE | No 2 Fuel Oil, Nat. Gas | EPA Method 9 | Annual | August 1st | 1 hour | No | B.6. |
| SO₂ | " | Method 8 for Fuel oil firing only; Fuel Sampling & Analysis | As Fired | | | Yes* | B.9, B.10. |
| NO_x | " | EPA Test Method 20 | Annual | August 1st | 3 hours | Yes | B.6. |
| PM | " | EPA Test Methods 5 or 17 | Only if 10% Opacity is exceeded | | 3 hours | No | B.7. |
| VOC | " | EPA Test Method 25A | Initial Compliance | | | No | B.7. |
| CO | " | EPA Test Method 10 | Annual | | | No | B.7. |
| Hg | No.2 oil | EPA Method 101 or fuel sampling | Initial Compliance | | | No | B.5. |
| As | No.2 oil | Fuel sampling | Initial Compliance | | | No | B.5. |
| Be | No.2 oil | EPA Method 104 or fuel sampling | Initial Compliance | | | No | B.5. |
| Pb | No.2 oil | Fuel sampling | Initial Compliance | | | No | B.5. |

Notes for EU 002:

* Continuous monitoring of fuel consumption required.

¹ Frequency base date established for planning purposes only; see Rule 62-297.310, F.A.C.

² CMS = continuous monitoring system

See also Section F for general testing requirements.

{Permitting Note: Emissions Units 001 and 002 have a combined NO_x emissions cap of 366.1 during any consecutive 12 months. Compliance must be demonstrated monthly by CEMS data. Last revised by Project No. 0970043-009-AV on (DRAFT).}