Memorandum

Florida Department of Environmental Protection

TO: Scott Sheplak, Administrator
Title V Section

FROM: Jeff Koerner, Project Engineer
New Source Review Section

DATE: October 17, 2000

SUBJECT: Project No. 0970043-009-AV, Final Permit Revision
Initial Title V Air Operation Permit No. 0970043-002-AV
Kissimmee Utility Authority, Cane Island Power Park

Attached is the final revision to the initial Title V air operation permit for the KUA Cane Island Power Park. It includes revised conditions for:

- The addition of an inlet air fogging system for Unit 2, which received an air construction permit on August 17, 2000.
- Incorporation of the modification to Permit No. PSD-FL-182 (Project No. 0970043-007-AC) issued on December 21, 1999. This 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.

No comments were received from EPA Region 4 regarding the Proposed Title V air operation permit. This Final Permit revision incorporates operation of the fogging system and the earlier PSD modification. The mailed hardcopies include only the following revised pages:

- 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
- New Appendix TV-3

An electronic version of the complete Title V air operation permit revision can be downloaded from the following web site: http://www.dep.state.fl.us/air/permitting/TitleVperm.htm

I recommend issuance of the attached Final Permit Revision.

Attachments

jfk

Memorandum

Florida Department of Environmental Protection

TO: Howard L. Rhodes

FROM: Clair H. Fancy CHF

I SIGNED HOWARD OUT MOST OF NEXT WEEK

DATE: October 17, 2000

SUBJECT: Project No. 0970043-009-AV, Final Permit Revision
Initial Title V Air Operation Permit No. 0970043-002-AV
Kissimmee Utility Authority, Cane Island Power Park

Attached is the final revision to the initial Title V air operation permit for the KUA Cane Island Power Park. It includes revised conditions for:

- The addition of an inlet air fogging system for Unit 2, which received an air construction permit on August 17, 2000.
- Incorporation of the modification to Permit No. PSD-FL-182 (Project No. 0970043-007-AC) issued on December 21, 1999. This 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.

No comments were received from EPA Region 4 regarding the Proposed Title V air operation permit. This Final Permit Revision incorporates operation of the inlet air fogging system and the earlier PSD modification. It includes only the revised pages and the new Appendix TV-3.

I recommend issuance of the attached Final Permit Revision.

Attachments

jfk

STATEMENT OF BASIS

Kissimmee Utility Authority
Cane Island Power Park
Osceola County

Facility ID No. 0970043

Project No. 0970043-009-AV
Revision of Initial Title V Air Operation Permit
Title V Permit No. 0970043-002-AV
(Revised on 10/13/00)

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 on the Draft Permit during the public comment period. No comments were received from EPA Region 4 regarding the Proposed Title V air operation permit. This Final Permit revision incorporates operation of the fogging system and the earlier PSD modification and includes only the following revised pages.

- A new Cover page;
- A new placard page;
- Section II: page 4, facility-wide condition No. 1 (changed TV-1 to TV-3)
- 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
- New Appendix TV-3

An electronic version of the complete Title V air operation permit revision can be downloaded from the following web site: http://www.dep.state.fl.us/air/permitting/TitleVperm.htm

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

Title V Air Operation Permit
(Revised October 13, 2000)
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
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Tallahassee, Florida 32399-2400

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Department of Environmental Protection

Jeb Bush
Governor

Twin Towers Office Building
2600 Blair Stone Road
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David B. Struhs
Secretary

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-3, Title V Conditions (version dated 04/30/99)
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: October 13, 2000
Renewal Application Due Date: July 5, 2004
Expiration Date: December 31, 2004

for C. H. Fancy
Howard L. Rhodes, Director
Division of Air Resource Management

HLR/sms/mph/jfk

Section II. Facility-wide Conditions.

The following conditions apply facility-wide:

1. APPENDIX TV-3, TITLE V CONDITIONS, is a part of this permit.
{Permitting note: APPENDIX TV-3, TITLE V CONDITIONS, is distributed to the permittee only. Other persons requesting copies of these conditions shall be provided a copy when requested or otherwise appropriate.}

2. **Not Federally Enforceable.** General Pollutant Emission Limiting Standards. Objectionable Odor Prohibited. The permittee shall not cause, suffer, allow, or permit the discharge of air pollutants which cause or contribute to an objectionable odor.
[Rule 62-296.320(2), F.A.C.]

3. General Particulate Emission Limiting Standards. General Visible Emissions Standard. Except for emissions units that are subject to a particulate matter or opacity limit set forth or established by rule and reflected by conditions in this permit, no person shall cause, let, permit, suffer or allow to be discharged into the atmosphere the emissions of air pollutants from any activity, the density of which is equal to or greater than that designated as Number 1 on the Ringelmann Chart (20 percent opacity). EPA Method 9 is the method of compliance pursuant to Chapter 62-297, F.A.C.
[Rules 62-296.320(4)(b)1. & 4, F.A.C.]

4. Prevention of Accidental Releases (Section 112(r) of CAA). If required by 40 CFR 68, the permittee shall submit to the implementing agency:
   a. a risk management plan (RMP) when, and if, such requirement becomes applicable; and
   b. certification forms and/or RMPs according to the promulgated rule schedule.
[40 CFR 68]

5. Unregulated Emissions Units and/or Activities. Appendix U-1, List of Unregulated Emissions Units and/or Activities, is a part of this permit.
[Rule 62-213.440(1), F.A.C.]

6. Insignificant Emissions Units and/or Activities. Appendix I-1, List of Insignificant Emissions Units and/or Activities, is a part of this permit.
[Rules 62-213.440(1), 62-213.430(6), and 62-4.040(1)(b), F.A.C.]

7. General Pollutant Emission Limiting Standards. Volatile Organic Compounds Emissions or Organic Solvents Emissions. The permittee shall allow no person to store, pump, handle, process, load, unload or use in any process or installation, volatile organic compounds or organic solvents without applying known and existing vapor emission control devices or systems deemed necessary and ordered by the Department.
[Rule 62-296.320(1)(a), F.A.C.]

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 10/13/00]

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 ppmvd at 15% oxygen on a dry basis	42 ppmvd at 15% oxygen on a dry basis	105.5 [c]	BACT
SO_2	nil	20 lb/hr	10.0	BACT
PM	0.0245lb/mmBtu	0.0323 lb/MMBtu	24.0	BACT
H_2SO_4	nil	2.2 lb/hr	1.1	BACT
VOC	1.4 lb/hr	3 lb/hr	4.3	BACT
CO	30 ppmvd	63 ppmvd	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 NOx 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 NOx 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.

[AC49-205703 (PSD-FL-182); 0970043-007-AC; 0970043-009-AV, Revised on 10/13/00]

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 10/13/00]

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 SO_2 and H_2SO_4 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-182I); 0970043-009-AV, Revised on 10/13/00]

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_2SO_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 SO_2 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 SO_2 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 NOx 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 10/13/00]

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 10/13/00 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 10/13/00]

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.]

Department of
Environmental Protection

Jeb Bush
Governor

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

David B. Struhs
Secretary

NOTICE OF FINAL PERMIT

In the Matter of an
Application for Permit by:

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

Project No. 0970043-009-AV
Final Permit No. 0970043-002-AV
Permit Revision
KUA Cane Island Power Park

Enclosed is the FINAL Permit Revision to initial Title V air operation Permit No. 0970043-002-AV for the operation of the Kissimmee Utility Authority's Cane Island Power Park located at 6075 Old Tampa Highway, Intercession City, Osceola County. This permit is issued pursuant to Chapter 403, Florida Statutes (F.S.).

Any party to this order (permit) has the right to seek judicial review of the permit pursuant to Section 120.68, F.S., by the filing of a Notice of Appeal pursuant to Rule 9.110, Florida Rules of Appellate Procedure, with the Clerk of the permitting authority in the Legal Office; and by filing a copy of the Notice of Appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The Notice of Appeal must be filed within 30 (thirty) days from the date this Notice is filed with the Clerk of the permitting authority.

Executed in Tallahassee, Florida.

C. H. Fancy, P.E., Chief
Bureau of Air Regulation

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this NOTICE OF FINAL PERMIT (including the revised pages of the FINAL permit) was sent by certified mail (*) and copies were mailed by U.S. Mail before the close of business on 10/31/00 to the person(s) listed or as otherwise noted:

Mr. A.K. Sharma, KUA*
Mr. Jerome Guidry, Perigree Technical Services, Inc.
Mr. Len Kozlov, Central District Office DEP
USEPA, Region 4 (INTERNET E-mail Memorandum)

10/31/00 cc: Jeff Koerner Reading File

Clerk Stamp

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

Barbara J. Friday (Clerk) 10/31/00 (Date)

SENDER: *COMPLETE THIS SECTION*

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

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

COMPLETE THIS SECTION ON DELIVERY

A. Received by *(Please Print Clearly)* — B. Date of Delivery
- MANUEL Durling 4-3-00

C. Signature
X Manuel Durling ☐ Agent ☐ Addressee

D. ~~Is~~ delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
XX Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? *(Extra Fee)* ☐ Yes

2. Article Number *(Copy from service label)*
7099 3400 0000 1449 3034

PS Form 3811, July 1999 — Domestic Return Receipt — 102595-99-M-1789

U.S. Postal Service
CERTIFIED MAIL RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

Article Sent To:
Mr. A.K. Sharma

Postage	$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	$

Postmark Here

Name (Please Print Clearly) (to be completed by mailer)
Mr. A.K. Sharma
Street, Apt. No.; or PO Box No.
P.O. Box 423219
City, State, ZIP+4
Kissimmee, Fl 34742-3219

PS Form 3800, July 1999 — See Reverse for Instructions

7099 3400 0000 1449 3034

FINAL PERMIT DETERMINATION

Project No. 0970043-009-AV
FINAL Revised Permit No. 0970043-002-AV

I. Comment(s).

No comments were received from USEPA, Region 4 and no changes were made to the PROPOSED Title V permit.

II. Conclusion.

The permitting authority hereby issues the FINAL Title V permit revision.

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)		10/13/00
	Added inlet air fogging for Unit 2 in initial Title V permit	0970043-009-AV	(DRAFT)	(DRAFT)		10/13/00

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 10/13/00.}

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.

			Allowable Emissions[a]			Equivalent			
Pollutant	Fuel(s)	Hours	Standard(s)	lb/hr	TPY	lb/hr	TPY	Regulatory	See Permit
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 ppmvd at 15% oxygen dry basis	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 NOx emissions cap of 366.1 during any consecutive 12 months. Last revised by Project No. 0970043-009-AV on 10/13/00.}

Appendix S
Permit Summary Tables

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

			Allowable Emissions[a]			Equivalent			
Pollutant	Fuel(s)	Hours	Standard(s)	lb/hr	TPY	lb/hr	TPY	Regulatory	See Permit
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	7.5	AC 49-205703	A.5., A.7.
PM	Natural Gas	8760	0.0100 lb/MMBtu			8.7	33.7	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	<1	AC 49-205703	A.5.
As	No. 2 Fuel Oil	1000	4.2e-6 lb/MMBtu			<1	<1	AC 49-205703	A.5.
Be	No. 2 Fuel Oil	1000	2.5e-6 lb/MMBtu			<1	<1	AC 49-205703	A.5.
Pb	No. 2 Fuel Oil	1000	2.8e-5 lb/MMBtu			<1	<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 10/13/00.}

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 NOx 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 10/13/00.}

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.
SO_2	"	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 NOx 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 10/13/00.}