Florida Department of Environmental Protection

Memorandum

To: Joseph Kahn, Division of Air Resource Management
Through: Trina Vielhauer, Bureau of Air Regulation
From: Jeff Koerner, New Source Review Section
Date: April 6, 2009
Subject: Final Air Permit No. PSD-FL-177E
Project No. 1010071-006-AC
Pasco Cogeneration Plant
SPRINT Heat Input Increase Project

This project was originally submitted to the Bureau of Air Regulation as a minor air construction permit revision with a concurrent Title V revision. We forwarded it to the Southwest District Office for processing and committed to co-reviewing the air construction permit request. The application includes the following requests: an increase in the maximum heat input rate when firing natural gas from 427 to 450 MMBtu per hour; installation of continuous emissions monitoring systems (CEMS) for nitrogen oxides (NO_X); and revision of the averaging period for the NO_X standard and compliance method representing the Best Available Control Technology (BACT) determination to demonstrate compliance by CEMS instead of annual stack tests. Since the requests affect the original BACT determination, the Bureau of Air Regulation is responsible for the PSD permit revision. We coordinated with the Southwest District Office to process the revised Title V air operation permit based on the draft PSD permit revision with a common public notice. The Final Determination summarizes the public notice, comments received and minor changes made to the final permit.

I recommend your approval of the attached Final Permit package.

Attachments

JK/tlv/jfk

PERMITTEE

Pasco Cogeneration, Limited
14850 Old State Road 23
Dade City, Florida 33523

PERMITTING AUTHORITY

Florida Department of Environmental Protection (Department)
Division of Air Resource Management
Bureau of Air Regulation, New Source Review Section
2600 Blair Stone Road, MS #5505
Tallahassee, Florida 32399-2400

PROJECT

Air Permit No. PSD-FL-177E
Project No. 1010071-006-AC
Pasco Cogeneration Plant

The Pasco Cogeneration Plant is an electrical generating plant located in Pasco County at 14850 Old State Road 23, Dade City, Florida 33523. For existing combined cycle Units 1 and 2, this final permit revision authorizes: an increase in the maximum heat input rate when firing natural gas from 427 to 450 MMBtu per hour based on a compressor inlet temperature of 51° F; installation of continuous emissions monitoring systems (CEMS) for nitrogen oxides (NO_X); and revision of the averaging period for the NO_X standard and compliance method representing the Best Available Control Technology (BACT) determination to demonstrate compliance by CEMS instead of annual stack tests.

NOTICE AND PUBLICATION

The Department distributed a Notice of Intent to Issue Air Permit package on November 12, 2008. The applicant published the Public Notice in The Tampa Tribune on February 20, 2009. We received the proof of publication on February 26, 2009. No petitions or requests for extensions of time to file a petition for an administrative hearing were received.

COMMENTS

No comments on the Draft Permit were received from the public or the EPA Region 4 Office. The applicant submitted three comments, which the Department summarizes and addresses below.

1. *Comment*: The revised maximum heat input rate of 450 MMBtu/hour based on a compressor inlet temperature of 51° F is correct. However, the revised heat input rate of 425 MMBtu/hour based on a compressor inlet temperature of 59° F is not correct. It should be "429" MMBtu/hour.

   Response: The Department agrees that this was an error. The original heat input rate at 59° F should have been increased by a factor of 1.065 to accommodate for the full increase including the original SPRINT project. Therefore, the final permit was corrected to reflect a heat input rate of 429 MMBtu/hour at 59° F.

2. *Comment*: The applicant requests clarification that compliance with the allowable SO_2 emissions rate is demonstrated by actual fuel sulfur data and fuel consumption rates for firing both natural gas and distillate oil.

   Response: For informational purposes, the Department added a permitting note after the emissions table in Condition 1 to clarify.

3. *Comment*: The testing frequency for CO emissions was changed from every five years to annual. The applicant requests changing this back to every five years.

Response: The test frequency was not revised in the draft permit. The previous PSD permit revision authorizing the original SPRINT project imposed an annual test for CO emissions to provide data to ensure that CO emissions did not exceed the PSD significant emissions rate. In addition, pursuant to Rule 62-297.310(7), F.A.C., annual testing may be required for pollutants with potential emissions exceeding 100 tons per year. No change was made to the final permit.

In addition, the Department's Southwest District Office pointed out that the oil firing rate in the first bullet of Condition 6 was revised from 2921 to 2191 gallons/hour/combustion turbine. This was a typographical error and not an intended change. The project did not address oil firing. It was corrected back to 2921 gallons/hour/combustion turbine in the final permit.

CONCLUSION

The final action of the Department is to issue the final permit with the corrections and permitting note described above.

Florida Department of
Environmental Protection

Bob Martinez Center
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Charlie Crist
Governor

Jeff Kottkamp
Lt. Governor

Michael W. Sole
Secretary

NOTICE OF FINAL PERMIT

Sent by Electronic Mail – Received Receipt Requested

Mr. Richard Christmas, Plant Manager
Pasco Cogeneration, Limited
14850 Old State Road 23
Dade City, Florida 33523

Air Permit No. PSD-FL-177E
Project No. 1010071-006-AC
Pasco Cogeneration Plant
Units 1 and 2
SPRINT Capacity Increase
Pasco County, Florida

Dear Mr. Christmas:

Enclosed is the final air construction permit revision for the Pasco Cogeneration Plant, which authorizes the following for existing Units 1 and 2: an increase in the maximum heat input rate when firing natural gas from 427 to 450 MMBtu per hour ; install at 51° F; installation of continuous emissions monitoring systems (CEMS) for nitrogen oxides (NO_X); and revision of the averaging period for the NO_X standard and compliance method representing the Best Available Control Technology (BACT) determination to demonstrate compliance by CEMS instead of annual stack tests. The existing facility is located in Pasco County at 14850 Old State Road 23, Dade City, Florida 33523. As noted in the attached Final Determination, only minor changes and clarifications were made to the permit as drafted. This permit is issued pursuant to Chapter 403, Florida Statutes.

Any party to this order has the right to seek judicial review of it under Section 120.68 of the Florida Statutes by filing a notice of appeal under Rule 9.110 of the Florida Rules of Appellate Procedure with the clerk of the Department of Environmental Protection in the Office of General Counsel (Mail Station #35, 3900 Commonwealth Boulevard, Tallahassee, Florida, 32399-3000) 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 must be filed within 30 days after this order is filed with the clerk of the Department.

Executed in Tallahassee, Florida.

Trina Vielhauer, Chief
Bureau of Air Regulation

TLV/jfk

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that either this Notice of Final Air Permit (including the Final Air Permit, Appendices and Final Determination), or a link to these documents available electronically on a publicly accessible server, was sent by electronic mail with received receipt requested before the close of business on 4/6/09 to the persons listed below.

Mr. Richard Christmas, Pasco Cogeneration, Limited (rchristmas@caithnessenergy.com)
Mr. Thomas Grace, Caithness Energy (tgrace@caithnessenergy.com)
Mr. Scott Osbourn, Golder Associates Inc. (scott_osbourn@golder.com)
Mr. David Zell, Southwest District Office (david.zell@dep.state.fl.us)
Ms. Cindy Zhang-Torres, Southwest District Office (cindy.zhang-torres@dep.state.fl.us)
Ms. Kathleen Forney, EPA Region 4 (forney.kathleen@epa.gov)
Ms. Heather Abrams, EPA Region 4 (abrams.heather@epamail.epa.gov)
Ms. Vickie Gibson, BAR Reading File (victoria.gibson@dep.state.fl.us)

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.

Elizabeth A. Walker (Clerk) 4/6/09 (Date)

Florida Department of Environmental Protection

Bob Martinez Center
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Charlie Crist
Governor

Jeff Kottkamp
Lt. Governor

Michael W. Sole
Secretary

PERMITTEE

Pasco Cogeneration, Limited
14850 Old State Road 23
Dade City, Florida 33523
Authorized Representative:
Mr. Richard Christmas, Plant Manager

Air Permit No. PSD-FL-177E
Project No. 1010071-006-AC
Permit Expires: December 31, 2009
Pasco Cogeneration Plant
Facility ID No. 1010071
SPRINT Capacity Increase

PROJECT AND LOCATION

For combined cycle Units 1 and 2, this permit authorizes: an increase in the maximum heat input rate when firing natural gas from 427 to 450 MMBtu per hour; installation of continuous emissions monitoring systems (CEMS) for nitrogen oxides (NO_X); and revision of the averaging period for the NO_X standard and compliance method representing the Best Available Control Technology (BACT) determination to demonstrate compliance by CEMS instead of annual stack tests. The proposed work will be conducted at the Pasco Cogeneration Plant, which is an electrical generating plant (SIC No. 4911). The facility is located in Pasco County at 14850 Old State Road 23, Dade City, Florida 33523. The UTM coordinates are Zone 17, 383.5 km East, and 3139.0 km North.

STATEMENT OF BASIS

This air pollution construction 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.). The permittee is authorized to conduct the proposed work in accordance with the conditions of this permit and as described in the application, approved drawings, plans, and other documents on file with the Department. The existing facility is a major stationary source in accordance with Rule 62-212.400, F.A.C. for the Prevention of Significant Deterioration (PSD) of Air Quality. This project is subject to the general preconstruction review requirements in Rule 62-212.300, F.A.C. and is a modification of the original PSD permit; however, the project remains minor with respect to the resulting projected emissions increases.

CONTENTS

Executed in Tallahassee, Florida

Joseph Kahn, Director
Division of Air Resource Management

4/6/09
(Date)

FACILITY AND PROJECT DESCRIPTION

The existing facility consists of two combined cycle gas turbines (EU-001 and EU-002); an oil storage tank (EU-003); emergency generators (EU-004); and fugitive volatile organic compounds emissions (EU-005). For combined cycle Units 1 and 2, this permit authorizes: an increase in the maximum heat input rate when firing natural gas from 427 to 450 MMBtu/hour; installation of the NO_X CEMS; and revision of the averaging period for the NO_X standard and compliance method representing the BACT determination to demonstrate compliance by CEMS instead of annual stack tests.

PREVIOUS PSD PERMIT AND MODIFICATIONS

Permit No. PSD-FL-177 (AC51-196460) authorized initial construction of the combined cycle combustion turbine facility. The following describes the subsequent revisions to the original permit.

Modification, Permit No. PSD-FL-177A

- Specific Condition No. 1: Revised emissions table to Table 1A.
- Specific Condition No. 2: Deleted condition that referenced the acceptable ambient concentrations (AAC) for beryllium, lead and mercury. The revisions also stated that the permit would be re-numbered accordingly, but it was never re-numbered.
- Specific Condition No. 6: Revised the last three bullets related to the maximum heat input rates and duct firing.
- Specific Condition No. 16: Revised condition requiring combustion control and a space to accommodate future oxidation catalyst.
- Specific Condition No. 20: Revised condition that specified NSPS Subpart Dc and GG provisions.

Modification, Permit No. PSD-FL-177B

Specific Condition No. 20: Revised condition to add custom fuel monitoring plan for NSPS Subpart GG provisions.

Modification, Permit No. PSD-FL-177C

This amendment extended the expiration date of the permit.

Modification, Permit No. PSD-FL-177D (Project No. 1010071-002-AC)

This project authorized installation of the SPRINT technology with a slight increase in the heat input rate when firing natural gas and slight increases in the mass emissions rates for carbon monoxide (CO) and NO_X emissions. Tests for CO and NO_X emissions were required to demonstrate compliance.

REGULATORY CLASSIFICATION

- The existing facility is not a major source of hazardous air pollutants (HAP).
- The existing facility has no units subject to the acid rain provisions.
- The existing facility is a Title V major source of air pollution in accordance with Chapter 213, F.A.C.
- The existing facility is a major stationary source of air pollution pursuant to Rule 62-212.400, F.A.C. for the Prevention of Significant Deterioration (PSD) of Air Quality
- The existing combined cycle gas turbines are subject to the applicable New Source Performance Standards (NSPS) in Part 60, Title 40 of the Code of Federal Regulations (CFR) including Subpart A (General Provisions) and Subpart KKKK (Stationary Combustion Turbines).

1. Permitting Authority: Applications for permits regarding PSD preconstruction review shall be submitted to the New Source Review Section of the Department's Bureau of Air Regulation at 2600 Blair Stone Road (MS #5505), Tallahassee, Florida 32399-2400. Applications for permits regarding operation or the construction of minor sources shall be submitted to the Air Resources Section of the Department's Southwest District Office at 13051 North Telecom Parkway, Temple Terrace, FL 33637-0926.
2. Compliance Authority: All documents related to compliance activities such as reports, tests, and notifications shall be submitted to the Air Resources Section of the Department's Southwest District Office at 13051 North Telecom Parkway, Temple Terrace, FL 33637-0926.
3. Appendices: Appendix A (CEMS Requirements) is attached as part of this permit.
4. Applicable Regulations, Forms and Application Procedures: Unless otherwise specified in this permit, the construction and operation of the subject emissions units 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 Chapters 62-4, 62-204, 62-210, 62-212, 62-213, 62-296, and 62-297, F.A.C. Issuance of this permit does not relieve the permittee from compliance with any applicable federal, state, or local permitting or regulations.
5. New or Additional Conditions: 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.]
6. Modifications: The permittee shall notify the Compliance Authority upon commencement of construction. No new emissions unit shall be constructed and no existing emissions unit shall be modified without obtaining an air construction permit from the Department. Such permit shall be obtained prior to beginning construction or modification. [Rules 62-210.300(1) and 62-212.300(1)(a), F.A.C.]
7. Source Obligation: At such time that a particular source or modification becomes a major stationary source or major modification (as these terms were defined at the time the source obtained the enforceable limitation) solely by exceeding its projected actual emissions, then the requirements of subsections 62-212.400(4) through (12), F.A.C., shall apply to the source or modification as though construction had not yet commenced on the source or modification. [Rule 62-212.400(12)(c), F.A.C.]
8. Application for Title V Permit: This project included a request to process a concurrent Title V revision. The SWD Office is processing the concurrent application (No. 1010071-007-AV). [Rules 62-4.030, 62-4.050, 62-4.220 and Chapter 62-213, F.A.C.]
9. Actual Emissions Reporting: This permit is based on an analysis that compared baseline actual emissions with projected actual emissions and avoided the requirements of subsection 62-212.400(4) through (12), F.A.C. for several pollutants. Therefore, pursuant to Rule 62-212.300(1)(e), F.A.C., the permittee is subject to the following monitoring, reporting and recordkeeping provisions.
    a. The permittee shall monitor the emissions of any PSD pollutant that the Department identifies could increase as a result of the construction or modification and that is emitted by any emissions unit that could be affected; and, using the most reliable information available, calculate and maintain a record of the annual emissions, in tons per year on a calendar year basis, for a period of 10 years following resumption of regular operations after the change. Emissions shall be computed in accordance with the provisions in Rule 62-210.370, F.A.C., which are provided in Appendix C of this permit.
    b. The permittee shall report to the Department within 60 days after the end of each calendar year during the 10-year period setting out the unit's annual emissions during the calendar year that preceded submission of the report. The report shall contain the following:

1) The name, address and telephone number of the owner or operator of the major stationary source;
2) The annual emissions as calculated pursuant to the provisions of 62-210.370, F.A.C., which are provided in Appendix C of this permit;
3) If the emissions differ from the preconstruction projection, an explanation as to why there is a difference; and
4) Any other information that the owner or operator wishes to include in the report.

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

For this project, the Department requires the annual reporting of actual CO and NO_X emissions for combined cycle Units 1 (EU-001) and 2 (EU-002). The applicant estimated the baseline emissions for these pollutants as: 157.3 tons/year of CO emissions and 240.6 tons/year of NO_X emissions.

[Rules 62-4.070(3), 62-212.300(1)(e) and 62-210.370, F.A.C.]

Emissions Units 001 and 002

Description: Each unit consists of a General Electric Model LM6000 gas turbine, heat recovery steam generator (HRSG) with duct firing, chiller system, and SPRINT spray inter-cooling. Steam generated in the HRSGs is directed to a common steam turbine-electrical generator, which is rated at 26.5 MW. Alternatively, steam can be directed to an independent steam host (an adjacent citrus processing facility).

Fuel: Each unit fires pipeline natural gas as the primary fuel and distillate oil as a restricted alternate fuel.

Capacity: At a turbine inlet temperature of 51° F, the maximum heat input rate from gas firing based on the LHV: without SPRINT is 423 MMBtu per hour, which produces approximately 42 MW; or with SPRINT is 450 MMBtu per hour, which produces approximately 52 MW.

NOx Controls: A water injection system is used to reduce NOx emissions. The water-to-fuel ratio is monitored continuously and adjusted by the automatic control system based on load conditions.

Stack Parameters: The stack is a maximum of 11 feet in diameter and at least 100 feet tall. At base load conditions and a compressor inlet temperature of 51° F, exhaust gas exits the stack at approximately 250° F with a volumetric flow rate of approximately 320,253 acfm.

CEMS: Permit Modification No. PSD-FL-177E adds a NO_X CEMS.

MODIFIED PERMIT CONDITIONS

The following changes refer to original Permit No. PSD-FL-177 and the subsequent modifications. The specific conditions of this permit were directly modified in Permit Nos. PSD-FL-177A, PSD-FL-177B, PSD-FL-177C and PSD-FL-177D. In addition, Permit PSD-FL-177D established several new conditions. For this new project, Permit PSD-FL-177E (Project 1010071-006-AC) will identify each specific condition as currently modified and show the new revisions. For clarity, all conditions of Permit PSD-FL-177D (Project No. 1010071-002-AC) will be superseded by this new permitting action. New text will be shown with double underline and deleted text will be shown with ~~strikethrough~~.

Placard Page (Permit No. PSD-FL-177): Revise description to, "For the construction of a ~~108~~ 130.5 MW combined cycle cogeneration facility to be located adjacent to ~~the Lykes Pasco~~ a ~~C~~citrus ~~P~~processing ~~P~~plant in Pasco County, Florida."

Specific Condition No. 1 (Permit Nos. PSD-FL-177A and D): Revise Table 1 A as follows.

1. The maximum allowable emissions from this facility shall not exceed the emission rates listed in Table 1A.

Table 1A (Revised). Pasco Cogen Limited Allowable Emissions Limits

Pollutant	Source[a]	Fuel[b]	Allowable Emissions Limits[g]				
				Maximum Allowable Emissions Rates			
				@ 59° F		@ 51° F	
			Basis ~~of~~ or Limit	lb/hour	TPY	lb/hour[d]	TPY[e]
NO_X[c]	CT	NG	BACT Limit: 25 ppmvd at 15% O_2 as determined by a 24-hour CEMS block average NSPS Subpart KKKK Limit: 42 ppmvd at 15% O_2 as determined by a 30-day rolling CEMS average	82.7	393.6	~~86.0~~ 85.5	404.7
	CT	DFO	BACT Limit: 42 ppmvd at 15% O_2 as determined by a 24-hour CEMS block average NSPS Subpart KKKK Limit: 96 ppmvd at 15% O_2 as determined by a 30-day rolling CEMS average	143.9		148.3	

A. Combined Cycle Units 1 and 2

Pollutant	Source[a]	Fuel[b]	Allowable Emissions Limits[g]				
				Maximum Allowable Emissions Rates			
				@ 59° F		@ 51° F	
			Basis ~~of~~ or Limit	lb/hour	TPY	lb/hour[d]	TPY[e]
NO_X[c]	DB	NG	BACT Basis: 0.1 lb/MMBtu NSPS Subpart KKKK Limit: NO_X emission from duct burners included in CT limits	18.0		18.0	
	CT&DB	NG	NSPS Subpart KKKK Limit: NO_X emission from duct burners included in CT limits	100.7		~~104.0~~ 103.5	
CO	CT	NG	BACT Basis: 28 ppmvd	54.6	350.3	~~56.5~~ 56.0	350.3
	CT	DFO	BACT Basis: 78 ppmvd	33.0		34.5	
	DB	NG	BACT Basis: 0.2 lb/MMBtu	36.0		36.0	
	CT&DB	NG	---	90.6		~~92.5~~ 92.0	
PM/PM_{10}	CT	NG	BACT Basis: 0.0065 lb/MMBtu	5.0	27.0	5.0	
	CT	DFO	BACT Basis: 0.0026 lb/MMBtu	20.0		2.0	
	DB	NG	BACT Basis: 0.006 lb/MMBtu	2.6		2.6	
	CT&DB	NG	---	7.6		7.6	
SO_2	CT	DFO	NSPS Subpart KKKK Limit: 0.05% sulfur by weight distillate oil ~~Estab. By Applicant 0.1% S~~	~~80.0~~ 43.8	~~21.0~~ 10.5	~~80.0~~ 43.8	~~21.0~~ 10.5
VOC	CT	NG	~~Established~~ Requested by Applicant to avoid PSD	3.3	30.8	3.4	30.8
	CT	DFO	~~Established~~ Requested by Applicant to avoid PSD	8.3		8.7	
	DB	NG	~~Established~~ Requested by Applicant to avoid PSD	5.4		5.4	
	CT&DB	NG	---	8.7		8.8	
Sulfuric Acid Mist	CT	DFO	~~Established~~ Requested by Applicant to avoid PSD	---	0.80	---	0.80

a. CT = 2 combustion turbines, DB = 2 duct burners

b. NG = natural gas, DFO = distillate fuel oil

c. NO_X limits for 59° F are at 60% relative humidity (ISO conditions). The CEMS-based BACT and NSPS NO_X limits apply to each unit. The 24-hour block average for the BACT limit shall be determined from the valid CEMS operating data collected for each calendar day.

d. Unless otherwise specified by this permit, ~~C~~compliance with the Maximum Allowable Emissions Limits shall be demonstrated for CT limits and CT&DB limits based on data from stack tests or data from the annual RATA.

e. The Maximum Allowable TPY of emissions, based on a worst case scenario, are the sum of the CT emissions while firing NG for 355 days, the CT emissions while firing DFO for 10 days, and the DB emissions at the maximum heat input for the previous combinations of CT firing. The DB will only fire

only NG and only while the CT is firing NG.

f. These are the Maximum Allowable Emissions Limits that shall never be exceeded at any temperature and/or operating configuration. All emissions standards also apply when utilizing the SPRINT technology and firing natural gas in the CT.

Permitting Notes: All temperatures cited in this table refer to turbine inlet temperatures. Demonstrate compliance with the annual SO_2 allowable emissions limit by calculating the actual SO_2 emissions from records of the actual fuel sulfur levels and fuel consumption rates of each fuel. For natural gas, fuel sulfur data provided by the natural gas pipeline vendor is sufficient. For distillate oil, the as-delivered fuel sulfur level based on analysis or vendor certification is sufficient.

Specific Condition No. 6 (Permit Nos. PSD-FL-177A and D): Revise condition as follows.

6. The permitted materials and utilization rates for the combined cycle gas turbine shall not exceed the values as follows:

- Maximum distillate fuel oil consumption shall not exceed either of the following limitations: 2921 gals/hr/CT; 701,050 gals/yr/CT.
- Maximum annual firing using fuel oil shall not exceed an equivalent of 10 days per year at full load.
- Maximum sulfur (S) content in the oil shall not exceed ~~0.1~~ 0.05 percent by weight.
- Maximum heat input, based on the lower heating value (LHV) while burning gas shall not exceed ~~427~~ 450 MMBtu/hr/CT at 51° F or ~~403~~ 429 MMBtu/hr/CT when corrected to ISO conditions. The maximum heat input, based on the LHV while burning distillate fuel oil shall not exceed 424 MMBtu/hr/CT at 51° F or 406 MMBtu/hr/CT when corrected to ISO conditions.
- Duct firing shall be limited to natural gas firing only with a maximum heat input rate of 90 MMBtu/hr, based on the higher heating value of approximately 1054.5 Btu/cubic feet.
- Duct firing shall be limited to 525,000 MMBtu/year/HRSG-duct burner.

Specific Condition No. 9 (Permit No. PSD-FL-177A and D): Revise condition as follows.

10. Initial (I) compliance tests shall be performed on each CT using both fuels. The stack test for each turbine shall be performed within 10 percent of the maximum heat input rate for the tested operating temperature. Annual (A) compliance tests shall be performed on each CT with the fuel(s) used for more than 400 hours in the preceding 12-month period. Tests shall be conducted using EPA reference methods in accordance with the ~~November 2, 1989, version of~~ 40 CFR 60 Appendix A.

a. 5 or 17 for PM (I, A, for oil only)

b. 10 for CO (I, A)

c. 9 for VE (I, A)

d. 20 for NO_X (I, A) Compliance with the maximum allowable mass emissions rates (lb/hour) shall be demonstrated by conducting annual tests or from data collected during the annual RATA tests for each CEMS. Compliance with the 24-hour block standard and annual limit shall be demonstrated by CEMS data.

Other ~~DER~~ Department-approved methods may be used for compliance testing after prior Department approval.

Specific Condition No. 13 (Permit No. PSD-FL-177): Replace entire condition regarding NSPS Subpart GG with the following.

13. Each combined cycle combustion turbine is subject to the applicable requirements of NSPS Subparts A and KKKK in 40 CFR 60. {Permitting Note: The applicable provisions of NSPS Subparts A and KKKK have already been included in the current Title V air operation permit and are not repeated here.}

Specific Condition No. 20 (Permit No. PSD-FL-177): Replace entire condition regarding NSPS Subpart GG with the following.

20. Each combined cycle combustion turbine is subject to the applicable requirements of NSPS Subparts A and KKKK in 40 CFR 60. {Permitting Note: The applicable provisions of NSPS Subparts A and KKKK have already been included in the current Title V air operation permit and are not repeated here.}

NEW PERMIT CONDITIONS – SPRINT PROJECT

26. SPRINT Upgrade: The permittee is authorized to add General Electric's "SPRINT" spray inter-cooling technology. In general, the equipment consists of a system that will automatically meter approximately 9 to 12 gpm of de-mineralized water to a series of 24 spray nozzles. [Design]

27. CEMS Required: To demonstrate compliance with the NO_X emissions concentration limits, the permittee shall install and operate a NO_X CEMS in accordance with the provisions of 40 CFR 75, NSPS Subparts A and KKKK, and the requirements in Appendix A (CEMS Requirements) of this permit. [40 CFR 75, NSPS Subparts A and KKKK, and Rule 62-4.070(3), F.A.C.]

28. Previous Permits: For the affected emissions units, the conditions of this permit supplement all previously issued air construction and operation permits, which include operational restrictions, permitted capacities, and emissions standards as well as requirements for testing, monitoring, record keeping, reporting, etc. Unless specifically modified by this permit, the affected emissions units remain subject to all other applicable conditions specified in original Permit No. PSD-FL-177 as well as the subsequent Modifications A, B and C. This permit supersedes all of the conditions of Permit PSD-FL-177D (Project No. 1010071-002-AC). [Rule 62-4.070, F.A.C.]

{Permitting Note for Draft Permit: This entire Appendix is new.}

CEMS OPERATION PLAN

1. Affected Units: The permittee is required to install and operate a NO_X CEMS on each of the two combined cycle gas turbines (EU-001 and EU-002).

2. CEMS Operation Plan: The owner or operator shall maintain a facility-wide plan for the proper installation, calibration, maintenance and operation of each NO_X CEMS required by this permit. Copies of this plan shall be provided to the Compliance Authority and kept on site for review. The owner or operator shall revise this plan as necessary and provide updates to the Compliance Authority.

INSTALLATION, PERFORMANCE SPECIFICATIONS AND QUALITY ASSURANCE

3. Installation Deadline: The owner or operator shall install and operate a NO_X CEMS in accordance with the provisions of 40 CFR 75 and NSPS Subparts A and KKKK in 40 CFR 60. For this project, each NO_X CEMS has already been installed and certified.

4. Installation: All CEMS shall be installed such that representative measurements of emissions or process parameters from the facility are obtained. The owner or operator shall locate the CEMS by following the procedures contained in the applicable performance specification of 40 CFR Part 60, Appendix B.

5. Span Values and Dual Range Monitors: The owner or operator shall set appropriate span values for the CEMS. The owner or operator shall install dual range monitors if required by and in accordance with the CEMS Operation Plan.

6. Continuous Flow Monitor: For compliance with mass emission rate standards, the owner or operator shall install a continuous flow monitor to determine the stack exhaust flow rate. The flow monitor shall be certified pursuant to 40 FR Part 60, Appendix B, Performance Specification 6. Alternatively, the owner or operator may install a fuel flow monitor and use an appropriate F-Factor computational approach to calculate stack exhaust flow rate.

7. Diluent Monitor: If it is necessary to correct the CEMS output to the oxygen concentrations specified in this permit's emission standards, the owner or operator shall either install an oxygen monitor or install a CO_2 monitor and use an appropriate F-Factor computational approach.

8. Moisture Correction: If necessary, the owner or operator shall determine the moisture content of the exhaust gas and develop an algorithm to enable correction of the monitoring results to a dry basis (0% moisture). *{Permitting Note: The CEMS Operation Plan will contain additional CEMS-specific details and procedures for installation.}*

9. Performance Specifications: The owner or operator shall evaluate the acceptability of each CEMS by conducting the appropriate performance specification, as follows. CEMS determined to be unacceptable shall not be considered installed for purposes of meeting the timelines of this permit. For NO_X monitors, the owner or operator shall conduct Performance Specification 2 of 40 CFR Part 60, Appendix B.

10. Quality Assurance: The owner or operator shall follow the quality assurance procedures of 40 CFR Part 60, Appendix F. The required RATA tests for NO_X shall be performed using EPA Method 7E in Appendix A of 40 CFR Part 60. NO_X emissions shall be expressed "as NO_2."

11. Substituting RATA Tests for Compliance Tests: Data collected during CEMS quality assurance RATA tests can substitute for annual stack tests, and vice versa, at the option of the owner or operator, provided the owner or operator indicates this intent in the submitted test protocol and follows the procedures outlined in the CEMS Operation Plan.

CALCULATION APPROACH

12. CEMS Used for Compliance: Once adherence to the applicable performance specification for each CEMS is demonstrated, the owner or operator shall use the CEMS to demonstrate compliance with the applicable emission standards as specified by this permit.

13. CEMS Data: Each CEMS shall monitor and record emissions during all periods of operation and whenever emissions are being generated, including during episodes of startups, shutdowns, and malfunctions. All data shall be used, except for invalid measurements taken during monitor system breakdowns, repairs, calibration checks, zero adjustments and span adjustments, and except for allowable data exclusions as per Condition 19 of this Appendix.

14. Operating Hours and Operating Days: For purposes of this Appendix, the following definitions shall apply. An hour is the 60-minute period beginning at the top of each hour. Any hour during which an emissions unit is in operation for more than 15 minutes is an operating hour for that emission unit. A day is the 24-hour period from midnight to midnight. Unless otherwise specified by this permit, any day with at least one operating hour for an emissions unit is an operating day for that emission unit.

15. Valid Hourly Averages: Each CEMS shall be designed and operated to sample, analyze and record data evenly spaced over the hour at a minimum of one measurement per minute. All valid measurements collected during an hour shall be used to calculate a 1-hour block average that begins at the top of each hour.

    a. Hours that are not operating hours are not valid hours.

    b. For each operating hour, the 1-hour block average shall be computed from at least two data points separated by a minimum of 15 minutes. If less than two such data points are available, there is insufficient data, the 1-hour block average is not valid, and the hour is considered as "monitor unavailable."

16. Compliance Averages: Compliance with the "24-hour block average" shall be determined for each calendar day of operation by calculating the arithmetic average of valid hourly averages collected during the calendar day.

MONITOR AVAILABILITY

17. Monitor Availability: The quarterly excess emissions report shall identify monitor availability for each quarter in which the unit operated. Monitor availability for the CEMS shall be 95% or greater in any calendar quarter in which the unit operated for more than 760 hours. In the event the applicable availability is not achieved, the permittee shall provide the Department with a report identifying the problems in achieving the required availability and a plan of corrective actions that will be taken to achieve 95% availability. The permittee shall implement the reported corrective actions within the next calendar quarter. Failure to take corrective actions or continued failure to achieve the minimum monitor availability shall be violations of this permit.

EXCESS EMISSIONS

18. Definitions:

    a. *Startup* is defined as 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.

    b. *Shutdown* means the cessation of the operation of an emissions unit for any purpose.

    c. *Malfunction* means any unavoidable mechanical and/or electrical failure of air pollution control

equipment or process equipment or of a process resulting in operation in an abnormal or unusual manner.

19. Excess Emissions Prohibited: Excess emissions caused entirely or in part by poor maintenance, poor operation or any other equipment or process failure that may reasonably be prevented during startup, shutdown or malfunction shall be prohibited.

20. Data Exclusion Procedures for SIP Compliance: As per the procedures in this condition, limited amounts of CEMS emissions data may be excluded from the corresponding compliance demonstration, provided that best operational practices to minimize emissions are adhered to and the duration of data excluded is minimized. The data exclusion procedures of this condition apply only to SIP-based emission limits.

    a. *Excess Emissions.* Data in excess of the applicable emission standard may be excluded from compliance calculations if the data are collected during periods of permitted excess emissions (for example, during startup, shutdown or malfunction). The maximum duration of excluded data is 2 hours in any 24-hour period, unless some other duration is specified by this permit.

    b. *Limited Data Exclusion.* If the compliance calculation using all valid CEMS emission data, as defined in Condition 14 of this Appendix, indicates that the emission unit is in compliance, then no CEMS data shall be excluded from the compliance demonstration.

    c. *Event Driven Exclusion.* The underlying event (for example, the startup, shutdown or malfunction event) must precede the data exclusion. If there is no underlying event, then no data may be excluded. Only data collected during the event may be excluded.

    d. *Reporting Excluded Data.* The data exclusion procedures of this condition are not necessarily the same procedures used for excess emissions as defined by federal rules. Quarterly or semi-annual reports required by this permit shall indicate not only the duration of data excluded from SIP compliance calculations but also the number of excess emissions as defined by federal rules.

21. Notification Requirements: The owner or operator shall notify the Compliance Authority within one working day of discovering any emissions that demonstrate noncompliance for a given averaging period. Within one working day of occurrence, the owner or operator shall notify the Compliance Authority of any malfunction resulting in the exclusion of CEMS data. For malfunctions, notification is sufficient for the owner or operator to exclude CEMS data.

ANNUAL EMISSIONS

22. CEMS Used for Calculating Annual Emissions: All valid data, as defined in Condition 14 of this Appendix, shall be used when calculating annual emissions.

    a. Annual emissions shall include data collected during startup, shutdown and malfunction periods.

    b. Annual emissions shall include data collected during periods when the emission unit is not operating but emissions are being generated (for example, when firing fuel to warm up a process for some period of time prior to the emission unit's startup).

    c. Annual emissions shall not include data from periods of time where the monitor was functioning properly but was unable to collect data while conducting a mandated quality assurance/quality control activity such as calibration error tests, RATA, calibration gas audit or RAA. These periods of time shall be considered missing data for purposes of calculating annual emissions.

    d. Annual emissions shall not include data from periods of time when emissions are in excess of the calibrated span of the CEMS. These periods of time shall be considered missing data for purposes of calculating annual emissions.

23. Accounting for Missing Data: All valid measurements collected during each hour shall be used to calculate a 1-hour block average. For each hour, the 1-hour block average shall be computed from at least two data points separated by a minimum of 15 minutes. If less than two such data points are available, the owner or operator shall account for emissions during that hour using site-specific data to generate a reasonable estimate of the 1-hour block average.

24. Emissions Calculation: Hourly emissions shall be calculated for each hour as the product of the 1-hour block average and the duration of pollutant emissions during that hour. Annual emissions shall be calculated as the sum of all hourly emissions occurring during the year.

Walker, Elizabeth (AIR)

From: Walker, Elizabeth (AIR)
Sent: Monday, April 06, 2009 2:28 PM
To: 'rchristmas@caithnessenergy.com'
Cc: 'tgrace@caithnessenergy.com'; 'Osbourn, Scott'; Zell, David; Zhang-Torres; 'Forney.Kathleen@epamail.epa.gov'; 'abrams.heather@epamail.epa.gov'; Gibson, Victoria; Koerner, Jeff
Subject: Pasco Cogeneration, Ltd., Final Permit 1010071-006-AC/PSD-FL-177E
Attachments: Notice of Final Permit signed.pdf

Dear Sir/ Madam:

Attached is the official **Notice of Final Permit** for the project referenced below. Click on the link displayed below to access the permit project documents and send a "reply" message verifying receipt of the document(s) provided in the link; this may be done by selecting "Reply" on the menu bar of your e-mail software, noting that you can view the documents, and then selecting "Send".

*Note: **We must receive verification that you are able to access the documents.** Your immediate reply will preclude subsequent e-mail transmissions to verify accessibility of the document(s).*

Click on the following link to access the permit project documents:
http://ARM-PERMIT2K.dep.state.fl.us/adh/prod/pdf_permit_zip_files/1010071.006.AC.F_pdf.zip

Owner/Company Name: PASCO COGENERATION, LTD.
Facility Name: PASCO COGENERATION, LTD.
Project Number: 1010071-006-AC/ PSD-FL-177e
Permit Status: FINAL
Permit Activity: CONSTRUCTION/PSD MODIFICATION
Facility County: PASCO
Processor: JEFF KOERNER, NEW SOURCE REVIEW SECTION

The Bureau of Air Regulation is issuing electronic documents for permits, notices and other correspondence in lieu of hard copies through the United States Postal System, to provide greater service to the applicant and the engineering community. Access these documents by clicking on the link provided above, or search for other project documents using the "*Air Permit Documents Search*" website at http://www.dep.state.fl.us/air/eproducts/apds/default.asp .

Permit project documents are addressed in this email may require immediate action within a specified time frame. Please open and review the document(s) as soon as possible, and verify that they are accessible. Please advise this office of any changes to your e-mail address or that of the Engineer-of-Record. If you have any problems opening the documents or would like further information, please contact the Florida Department of Environmental Protection, Bureau of Air Regulation at (850)488-0114.

Elizabeth Walker
Bureau of Air Regulation
Division of Air Resource Management (DARM)
(850)921-9505

Walker, Elizabeth (AIR)

From: Mail Delivery System [MAILER-DAEMON@mseive02.rtp.epa.gov]
Sent: Monday, April 06, 2009 2:29 PM
To: Walker, Elizabeth (AIR)
Subject: Successful Mail Delivery Report
Attachments: Delivery report; Message Headers

This is the mail system at host mseive02.rtp.epa.gov.

Your message was successfully delivered to the destination(s) listed below. If the message was delivered to mailbox you will receive no further notifications. Otherwise you may still receive notifications of mail delivery errors from other systems.

The mail system

<Forney.Kathleen@epamail.epa.gov>: delivery via 127.0.0.1[127.0.0.1]:10025: 250 OK, sent 49DA49DA_19168_4057_1 379A544339

<abrams.heather@epamail.epa.gov>: delivery via 127.0.0.1[127.0.0.1]:10025: 250 OK, sent 49DA49DA_19168_4057_1 379A544339

Walker, Elizabeth (AIR)

From: Mail Delivery System [MAILER-DAEMON@mx1.golder.com]
Sent: Monday, April 06, 2009 2:29 PM
To: Walker, Elizabeth (AIR)
Subject: Successful Mail Delivery Report
Attachments: Delivery report; Message Headers

This is the mail system at host mx1.golder.com.

Your message was successfully delivered to the destination(s) listed below. If the message was delivered to mailbox you will receive no further notifications. Otherwise you may still receive notifications of mail delivery errors from other systems.

The mail system

<Scott_Osbourn@golder.com>: delivery via 127.0.0.1[127.0.0.1]:10025: 250 OK,
sent 49DA49D5_17833_2710267_1 681B21CF0C25

Walker, Elizabeth (AIR)

From: Exchange Administrator
Sent: Monday, April 06, 2009 2:29 PM
To: Walker, Elizabeth (AIR)
Subject: Delivery Status Notification (Relay)
Attachments: ATT386982.txt; Pasco Cogeneration, Ltd., Final Permit 1010071-006-AC/PSD-FL-177E

This is an automatically generated Delivery Status Notification.

Your message has been successfully relayed to the following recipients, but the requested delivery status notifications may not be generated by the destination.

rchristmas@caithnessenergy.com
tgrace@caithnessenergy.com

Walker, Elizabeth (AIR)

From: Osbourn, Scott [Scott_Osbourn@golder.com]
To: Walker, Elizabeth (AIR)
Sent: Monday, April 06, 2009 3:27 PM
Subject: Read: Pasco Cogeneration, Ltd., Final Permit 1010071-006-AC/PSD-FL-177E

Your message

To: Scott_Osbourn@golder.com
Subject:

was read on 4/6/2009 3:27 PM.

Walker, Elizabeth (AIR)

From: Richard Christmas [rchristmas@caithnessenergy.com]
Sent: Monday, April 06, 2009 2:31 PM
To: Walker, Elizabeth (AIR)
Subject: Read: Pasco Cogeneration, Ltd., Final Permit 1010071-006-AC/PSD-FL-177E
Attachments: Read_ Pasco Cogeneration, Ltd., Final Permit 1010071-006-AC_PSD-FL-177E.txt