Final Determination

Progress Energy Florida
University of Florida Cogeneration Plant

Air Construction Permit No.: 0010001-006-AC

Alachua County

An Intent to Issue an air construction permit to Progress Energy Florida's University of Florida Cogeneration Plant, located on Mowry Road at Building 82, University of Florida, Gainesville, Alachua County, Florida, was distributed on August 14, 2003. The Public Notice of Intent to Issue an Air Construction Permit was published in the Gainesville Sun Newspaper on September 21, 2003. There were no comments submitted in response to the Public Notice.

The final action of the Department will be to issue the air construction permit as noticed.

Department of Environmental Protection

Jeb Bush
Governor

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

David B. Struhs
Secretary

October 9, 2003

CERTIFIED MAIL – Return Receipt Requested

Mr. Wilson B. Hicks, Jr.
Plant Manager
Progress Energy Florida
University of Florida Cogeneration Plant
Mowery Road, Building 82, University of Florida
Gainesville, Florida 32611

Re: ~~Draft~~ Final Air Construction Permit No.: 0010001-006-AC
Amendment to Air Construction Permit No.: 0010001-004-AC
University of Florida Cogeneration Plant

Dear Mr. Hicks:

This letter modification reduces the combustion turbine's (CT's) short-term allowable limits for CO, alters some compliance language associated with NO_X established in previously issued air construction permits, Nos. 0010001-003-AC and 0010001-004-AC, and corrects the emissions unit IDs based on ARMS data. The changes are being incorporated into the Title V Air Operation Permit under revision No. 0010001-005-AV. Therefore, the following are changed:

1. Specific Condition 9a.1.: 0010001-003-AC
FROM:

Carbon Monoxide (CO) Emissions:
a. Combustion Turbine (EU 001):
1. When firing natural gas, CO emissions from the combustion turbine shall not exceed any of the following: 36 ppmvd (corrected to 15% oxygen), 35.8 pounds per hour, 127.5 tons per year.
[Applicant Request, Rule 62-212.400, F.A.C.]

TO:

Carbon Monoxide (CO) Emissions:
a. Combustion Turbine (EU 007):
1. When firing natural gas, CO emissions from the combustion turbine shall not exceed any of the following: 31.6 ppmvd (corrected to 15% oxygen), 29.9 pounds per hour, 127.5 tons per year.
[Applicant Request; and, Rule 62-212.400, F.A.C.]

2. Specific Condition 6: 0010001-004-AC
FROM:

6. Hours of Operation/Fuel Usage Limitations: Combustion turbine/duct burner operation at maximum firing rates shall be limited to 7,211 hours per year (to prevent retroactive PSD applicability for NOx under PSD-FL-181, pursuant to Rule 62-212.400(5), F.A.C., by reaching the 40 tons per year PSD applicability threshold). The turbine/duct burner may operate at lower than maximum rates for more hours per year provided that ~~the annual fuel consumption limitations are not exceeded~~ **NOx emissions from the turbine alone do not exceed 141 tons per year** and that facility-wide NOx emissions do not exceed 194.3 TPY. ~~The total annual fuel usage for the combustion turbine and the duct burner combined shall not exceed 3.48 trillion BTU (includes up to 635,100~~

~~gallons No. 2 fuel oil fired in the turbine).~~ The annual fuel usage by the duct burner is limited to 519.5 million ft^3 natural gas.

EU 002 and 003 (Boilers Nos. 4 and 5) shall be allowed to operate as required for backup only as long as the facility-wide NOx cap of 194.3 TPY is not exceeded for any calendar year. Emission factors pursuant to condition C.14 of the facility's Title V permit shall be applied to the fuel consumed by Boilers Nos. 4 and 5 to determine compliance with the facility cap. The NOx emissions calculations shall be submitted to the Compliance Authority with the Annual Operating Report. The permittee shall install and operate a continuous monitoring system to monitor and record fuel consumption as required by 40 CFR 60.334.
[Applicant Request, Rules 62-210.200 (Definitions), 62-212.400(5), F.A.C., 40 CFR 60 Subpart GG]

TO:

6. Hours of Operation, Fuel Usage Limitations and Compliance Demonstration. The CT and DB are allowed to operate continuously (i.e., 8760 hrs/yr) while firing NG. The CT is limited to firing No. 2 FO, at its maximum firing rate, for only 219 hrs/yr (the DB is not permitted to fire FO); and, the maximum NG usage by the DB is 519.5 million ft^3/yr. Because compliance for NO_X emissions is by a CEMS (see Specific Condition **E.44.**), the CT and DB may operate individually or in combination provided: 1) that NO_X emissions from the CT alone do not exceed 141 TPY for any calendar year; 2) that NO_X emissions from the CT/DB's combined operation do not exceed 174.6 TPY for any calendar year; and, 3) that the facility-wide NO_X emissions do not exceed 194.3 TPY for any calendar year.

EUs 002 and 003 (Boilers Nos. 4 and 5) are allowed to operate, as needed for backup, for only as long as the facility-wide NO_X cap of 194.3 TPY is not exceeded for any calendar year (see Facility-wide Condition No. 10). Emission factors pursuant to Specific Condition **C.14.** shall be applied to the fuel consumed by Boilers Nos. 4 and 5 to determine compliance with the facility cap. The permittee shall install and operate a continuous monitoring system to monitor and record fuel consumption as required by 40 CFR 60.334.
[Rules 62-212.400(2)(g) & (5), F.A.C.; 40 CFR 60, Subpart GG; PSD-FL-181/PSD-FL-181(A); 0010001-003-AC; and, 0010001-004-AC]

3. Specific Condition 8.a.1.: 0010001-004-AC
FROM:

Nitrogen Oxides (NO_X) Emissions:
a. Combustion Turbine (EU 001):
1. When firing natural gas, NO_X emissions from the combustion turbine shall not exceed any of the following: 25 ppmvd (corrected to 15% oxygen), 39.6 pounds per hour, 141* tons per year **(141 tons per year includes total annual NOx emissions from firing natural gas or distillate oil in the combustion turbine)**.
[Applicant Request*, Rule 62-212.400, F.A.C., Permit 0010001-001-AV]

TO:

Nitrogen Oxides (NO_X) Emissions:
a. Combustion Turbine (EU 007):
1. When firing natural gas, NO_X emissions from the combustion turbine shall not exceed any of the following: 25 ppmvd (corrected to 15% oxygen), 39.6 pounds per hour, 141* tons per year (141 tons per year includes total annual NOx emissions from the firing of all fuels in the combustion turbine).
[Applicant Request*; Rule 62-212.400, F.A.C.; 0010001-001-AV; 0010001-003-AC; and, 0010001-004-AC]

4. Specific Condition 8.a.2.: 0010001-004-AC
FROM:

Nitrogen Oxides (NO_X) Emissions:

a. Combustion Turbine (EU 001):

2. When firing distillate oil, NO_X emissions from the combustion turbine shall not exceed any of the following: 42.0 ppmvd corrected to 15% oxygen, 66.3 pounds per hour~~, 7.3 tons per year~~ **(141 tons per year includes total annual NOx emissions from firing natural gas or distillate oil in the combustion turbine)**. The nitrogen content of the fuel oil shall be monitored in accordance with 40 CFR 60.334(b).
[40 CFR 60 Subpart GG, Rule 62-212.400, F.A.C., Permit 0010001-001-AV]

TO:

Nitrogen Oxides (NO_X) Emissions:

a. Combustion Turbine (EU 007):

2. When firing distillate oil, NO_X emissions from the combustion turbine shall not exceed any of the following: 42.0 ppmvd corrected to 15% oxygen, 66.3 pounds per hour (141 tons per year includes total annual NOx emissions from the firing of all fuels in the combustion turbine). The nitrogen content of the fuel oil shall be monitored in accordance with 40 CFR 60.334(b).
[40 CFR 60, Subpart GG; Rule 62-212.400, F.A.C.; 0010001-001-AV; 0010001-003-AC; and, 0010001-004-AC]

5. Specific Condition 8.a.3.: 0010001-004-AC
FROM:

Nitrogen Oxides (NO_X) Emissions:

a. Combustion Turbine (EU 001):

3. Ongoing and annual compliance for EU 001 and shall be determined by the existing NOx CEM system on a 30-day rolling average basis and reported as required by the current Title V permit, except for the following addition/revision: *To verify* ***compliance with the 141 TPY cap for EU 001 and*** *facility-wide compliance with the 194.3 TPY cap for NOx emissions including* ***EU 002****, EU 003 and 004 (****Duct burner****, Boilers Nos. 4 and 5), and to provide reasonable assurance that NOx emissions will not be PSD-significant, CEM records along with cumulative fuel consumption records for EU 003 and 004 shall be kept and maintained by the permittee. Total NOx emissions for* ~~*the*~~ ***both*** *calendar year* ***caps*** *shall be reported in the facility's annual operating report.*
[PSD-FL-181, Rule 62-212.400, F.A.C., Permit 0010001-001-AV]

TO:

Nitrogen Oxides (NO_X) Emissions:

a. Combustion Turbine (EU 007):

3. Ongoing and annual compliance for EU 007, and EUs 007 and 005 firing simultaneously, shall be determined by the existing NO_X CEM system on a 30-day rolling average basis and reported as required by this permit, except for the following addition/revision: to verify compliance with the 141 TPY cap for EU 001 and facility-wide compliance with the 194.3 TPY cap for NO_X emissions, including EU 007 (CT), EU 005 (DB), and EUs 002 and 003 (Boilers Nos. 4 and 5, respectively), and to provide reasonable assurance that NOx emissions will not be PSD-significant, CEM system records for EUs 007 and 005, along with cumulative fuel consumption records for EUs 002 and 003, shall be kept and maintained by the permittee. Total NO_X emissions for both calendar year caps shall be reported in the facility's annual operating report.
[PSD-FL-181; Rules 62-4.070(3) and 62-212.400(2)(g) & (5), F.A.C.; 0010001-003-AC; and, 0010001-004-AC]

This permit (letter) is issued pursuant to Chapter 403, Florida Statutes (F.S.). Any party to this order has the right to seek judicial review of it under Section 120.68, F.S., 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 thirty days after this order is filed with the clerk of the Department.

Executed in Tallahassee, Florida.

Sincerely,

Michael G. Cooke, Director
Division of Air Resource Management

MGC/sms/rbm

cc: Mr. Chris Kirts, NED
Mr. Scott Osbourn, P.E., ENSRI
Ms. Norma Castlen, FDEP Northeast District Branch Office
Mr. J. Michael Kennedy, Application Contact, PEF
Mr. Matt Lydon, Application Contact, PEF

10/15/03 cc: Bruce Mitchell
Reading File
Trina's File

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1. Article Addressed to:

Mr. Wilson B. Hicks, Jr.
Plant Manager
Progress Energy of Florida
University of Florida Cogeneration Plant
Mowery Road, Building 82, University of Florida
Gainesville, Florida 32611

COMPLETE THIS SECTION ON DELIVERY

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X B. Wilson Hicks — ☒ Agent ☐ Addressee

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Mr. Wilson B. Hicks, Jr.

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Mr. Wilson B. Hicks, Jr.
Street, Apt. No.; or PO Box No. Mowery Road, Building 82
City, State, ZIP+4
Gainesville, Florida 32611

PS Form 3800, January 2001 See Reverse for Instructions

INTEROFFICE MEMORANDUM

TO: Michael Cooke

FROM: Bruce Mitchell

THRU: Scott Sheplak
Trina Vielhauer

SUBJECT: Final Air Construction Permit No.: 0010001-006-AC
Progress Energy Florida: University of Florida Cogeneration Facility

DATE: October 8, 2003

The attached Final Air Construction Permit is being issued to correct the carbon monoxide (CO) short-term emissions limits to avoid the New Source Review Requirements pursuant to Rule 62-212.400(5), F.A.C., which was not evaluated when the new combustion turbine was authorized to be constructed under Air Construction Permit, No. 0010001-003-AC, and amended under Air Construction Permit, No. 0010001-004-AC. Therefore, this Air Construction Permit, No. 0010001-006-AC, is being issued to reduce the short-term allowable limits for CO and alter some compliance language associated with NO_X established in previously issued air construction permits, Nos. 0010001-003-AC and 0010001-004-AC.

Originally, a revision project (0010001-005-AV) was ready to be issued and posted when the CO error was discovered. Upon notification to the company's representatives, an amendment to the application was submitted on June 13, 2003, to address this concern and requested an Air Construction Permit be issued in conjunction with the revision. It is recommended that the combined permitting project be issued as noticed.

RBM/sms/bm

Attachment

cc: Scott Sheplak, P.E.