

Jeb Bush
Governor

Department of Environmental Protection

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

David B. Struhs
Secretary

June 15, 2001

CERTIFIED MAIL – RETURN RECEIPT REQUESTED

Mr. Robert McGarrab, Superintendent
Electric Power Production Division
City of Tallahassee
300 South Adams Street
Tallahassee, Florida 32301

Re: DEP File No. PSD-FL-239 (PA97-36)
Interpretation of Condition

Dear Mr. McGarrab:

We reviewed your letter dated May 29 requesting a formal document summarizing our review of your interpretation of the permit condition related to applicability of the facility-wide emission caps. Conditions Nos. B5 and B6 are as follow:

Oxides of Nitrogen. Beginning with the calendar year following successful completion of the initial performance test for Unit 8, annual emissions of NO_x shall not exceed 467 tons per year from the Purdom facility (Unit 8, Unit 7, GT1, GT2, and the aux boiler) on a calendar year basis, as measured by applicable compliance methods. (Requested by the applicant).

Sulfur Dioxides. Beginning with the calendar year following successful completion of the initial performance test for Unit 8, annual emissions of SO₂ shall not exceed 80 tons per year from the Purdom facility (Unit 8, Unit 7, GT1, GT2, and the aux boiler) on a calendar year basis, as measured by applicable compliance methods. (Requested by the applicant).

The City conducted compliance testing on the main fuel (natural gas) for Unit 8 almost one year ago. We understand that compliance testing on the back-up fuel oil has not yet been conducted. We believe the tests on natural gas are the initial compliance tests and that they were successfully completed.

We have numerous situations such as cement plants that are permitted to burn various fuels such as tires and other solid fuels that have only tested on coal. We consider those projects to have completed initial testing notwithstanding the fact that they have postponed testing on back-up, supplementary, or waste fuels.

We agree that higher than expected burning on fuel oil related to shakedown for fuel oil firing may cause the facility to use more of the cap than would typically be attributed to fuel oil use.

"More Protection, Less Process"

Printed on recycled paper.

Conditions B5 and B6 are hereby modified as follows:

Oxides of Nitrogen. Beginning with the calendar year 2001 following successful completion of the initial performance test for Unit 8, annual emissions of NO_x shall not exceed 467 tons per year from the Purdom facility (Unit 8, Unit 7, GT1, GT2, and the aux boiler) on a calendar year basis, as measured by applicable compliance methods. The cap may be exceeded only in 2001 and only to the extent that the cause is directly attributable to shakedown and compliance testing on Unit 8 related to fuel oil firing. (Requested by the applicant).

Sulfur Dioxides. Beginning with the calendar year 2001 following successful completion of the initial performance test for Unit 8, annual emissions of SO₂ shall not exceed 80 tons per year from the Purdom facility (Unit 8, Unit 7, GT1, GT2, and the aux boiler) on a calendar year basis, as measured by applicable compliance methods. The cap may be exceeded only in 2001 and only to the extent that the cause is directly attributable to shakedown and compliance testing on Unit 8 related to fuel oil firing. (Requested by the applicant).

This letter shall be attached to the referenced permit and is hereby made a part of the permit.

A person whose substantial interests are affected by the proposed permitting decision may petition for an administrative proceeding (hearing) under sections 120.569 and 120.57 of the Florida Statutes. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida, 32399-3000. Petitions filed by the permit applicant or any of the parties listed below must be filed within fourteen days of receipt of this notice of intent. Petitions filed by any persons other than those entitled to written notice under section 120.60(3) of the Florida Statutes must be filed within fourteen days of publication of the public notice or within fourteen days of receipt of this notice of intent, whichever occurs first. Under section 120.60(3), however, any person who asked the Department for notice of agency action may file a petition within fourteen days of receipt of that notice, regardless of the date of publication. A petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. The failure of any person to file a petition within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under sections 120.569 and 120.57 F.S., or to intervene in this proceeding and participate as a party to it. Any subsequent intervention will be only at the approval of the presiding officer upon the filing of a motion in compliance with Rule 28-106.205 of the Florida Administrative Code.

A petition that disputes the material facts on which the Department's action is based must contain the following information: (a) The name and address of each agency affected and each agency's file or identification number, if known; (b) The name, address, and telephone number of the petitioner, the name, address, and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial interests will be affected by the agency determination; (c) A statement of how and when petitioner received notice of the agency action or proposed action; (d) A statement of all disputed issues of material fact. If there are none, the petition must so indicate; (e) A concise statement of the ultimate facts alleged, including the specific facts the petitioner contends warrant reversal or modification of the agency's proposed

Mr. Robert McGarrab
DEP Files PSD-FL-239 and PA97-36
June 15, 2001

action; (f) A statement of the specific rules or statutes the petitioner contends require reversal or modification of the agency's proposed action; and (g) A statement of the relief sought by the petitioner, stating precisely the action petitioner wishes the agency to take with respect to the agency's proposed action.

A petition that does not dispute the material facts upon which the Department's action is based shall state that no such facts are in dispute and otherwise shall contain the same information as set forth above, as required by Rule 28-106.301.

Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means that the Department's final action may be different from the position taken by it in this notice. Persons whose substantial interests will be affected by any such final decision of the Department on the application have the right to petition to become a party to the proceeding, in accordance with the requirements set forth above. Mediation is not available in this proceeding.

In addition to the above, a person subject to regulation has a right to apply for a variance from or waiver of the requirements of particular rules, on certain conditions, under Section 120.542 F.S. The relief provided by this state statute applies only to state rules, not statutes, and not to any federal regulatory requirements. Applying for a variance or waiver does not substitute or extend the time for filing a petition for an administrative hearing or exercising any other right that a person may have in relation to the action proposed in this notice of intent.

The application for a variance or waiver is made by filing a petition with the Office of General Counsel of the Department, 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida 32399-3000. The petition must specify the following information: (a) The name, address, and telephone number of the petitioner; (b) The name, address, and telephone number of the attorney or qualified representative of the petitioner, if any; (c) Each rule or portion of a rule from which a variance or waiver is requested; (d) The citation to the statute underlying (implemented by) the rule identified in (c) above; (e) The type of action requested; (f) The specific facts that would justify a variance or waiver for the petitioner; (g) The reason why the variance or waiver would serve the purposes of the underlying statute (implemented by the rule); and (h) A statement whether the variance or waiver is permanent or temporary and, if temporary, a statement of the dates showing the duration of the variance or waiver requested.

The Department will grant a variance or waiver when the petition demonstrates both that the application of the rule would create a substantial hardship or violate principles of fairness, as each of those terms is defined in Section 120.542(2) F.S., and that the purpose of the underlying statute will be or has been achieved by other means by the petitioner.

Persons subject to regulation pursuant to any federally delegated or approved air program should be aware that Florida is specifically not authorized to issue variances or waivers from any requirements of any such federally delegated or approved program. The requirements of the program remain fully enforceable by the Administrator of the EPA and by any person under the Clean Air Act unless and until the Administrator separately approves any variance or waiver in accordance with the procedures of the federal program.

Mr. Robert McGarrab
DEP Files PSD-FL-239 and PA97-36
June 15, 2001

This Permit Amendment constitutes final agency action unless a petition is filed in accordance with the above paragraphs or unless a request for extension of time in which to file a petition is filed within the time specified for filing a petition that conforms to Rule 62-110.106, F.A.C. Upon timely filing of a petition or a request for an extension of time this Notice will not be effective until further Order of the Department.

If either a petition for administrative hearing or a request for extension of time is not timely filed with the Department, then this Permit Amendment shall constitute final agency action. Any party to this order would then have the right to seek judicial review pursuant to Rule 9.110, 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 of appeal must be filed within thirty days after this order is filed with the clerk of the Department.

Executed in Tallahassee, Florida.



Howard L. Rhodes, Director
Division of Air Resources
Management

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this Permit Modification was sent by certified mail (*) and copies were mailed by U.S. Mail before the close of business on 6/18/01 to the person(s) listed:

Robert McGarrab, COT*
Buck Oven, DEP PPSO

Clerk Stamp

FILING AND ACKNOWLEDGMENT
FILED, on this date, pursuant to §120.52,
Florida Statutes, with the designated
Department Clerk, receipt of which is hereby
acknowledged.

Charlotte J. Hayes 6/18/01
(Clerk) (Date)



ELECTRIC OPERATIONS
2602 JACKSON BLUFF RD.
TALLAHASSEE, FL 32304
850/891-5001 OFFICE
850/891-5033 FAX

SCOTT MADDOX
Mayor
STEVE MEISBURG
Mayor Pro Tem

JOHN PAUL BAILEY
Commissioner
CHARLES E. BILLINGS
Commissioner
DEBBIE LIGHTSEY
Commissioner

ANITA R. FAVORS
City Manager
GARY HERNDON
Interim City Treasurer-Clerk

JAMES R. ENGLISH
City Attorney
SAM M. McCALL
City Auditor

6/1 AL
pls draft response.
Clair

May 29, 2001

RECEIVED

MAY 29 2001

BUREAU OF AIR REGULATION

CERTIFIED MAIL

Mr. Clair H. Fancy, Chief
Bureau of Air Regulation (BAR)
Florida Department of Environmental Protection (FDEP)
2600 Blair Stone Road
Tallahassee, Florida 32399-2400
Mail Station 5505

**Re: Confirmation of Permit Condition
Unit 8 Combined Cycle Combustion Turbine
Permit No. PSD-FL-239
Sam O. Purdom Generating Station**

Dear Mr. Fancy:

Since mid-December, the City of Tallahassee has been attempting to get the above-referenced unit properly operating on fuel oil (successful performance testing on natural gas occurred on September 15, 2000). However, due to multiple unforeseen circumstances (detailed in performance test extension requests to EPA dated January 29th and March 1st of this year), we have had to extend the fuel oil shakedown period on the unit. Due to this extended shakedown period, an unexpected increase in fuel oil fired in Unit 8 has occurred and the performance testing has not yet been completed. Thus, the City would like to confirm its interpretation of Condition Nos. B.5. and B.6. of Permit No. PSD-FL-239, which it had voluntarily proposed. These conditions are as follows:

Oxides of Nitrogen. Beginning with the calendar year following successful completion of the initial performance test for Unit 8, annual emissions of NOx shall not exceed 467 tons per year from the Purdom facility (Unit 8, Unit 7, GT1, GT2, and the aux boiler) on a calendar year basis, as measured by applicable compliance methods. [Requested by the applicant]

Sulfur Dioxide. Beginning with the calendar year following successful completion of the initial performance test for Unit 8, annual emissions of SO2 shall not exceed 80 tons per year from the Purdom facility (Unit 8, Unit 7, GT1, GT2, and the aux boiler) on a calendar year basis, as measured by applicable compliance methods. [Requested by the applicant]

As "successful completion of the initial performance test" on fuel oil has not occurred yet, it is the City's position that application of the facility-wide caps associated with Purdom is not yet effective. Even though these limits are not effective for calendar year 2001, the City will provide information to the Department demonstrating that all emissions measured during calendar 2001 from Unit 7, GT1, GT2 and the auxiliary boiler and all emissions associated with the burning of natural gas in Unit 8 during calendar year 2001 comply with these facility-wide caps.

Mr. Clair H. Fancy
Page 2
May 29, 2001

The City respectfully requests the Department's confirmation of the interpretation outlined above and would appreciate a formal document summarizing your consideration of this matter.

If you have any questions about the City's interpretation of the permit conditions listed above, please feel free to contact either myself at (850) 891-5534 or Ms. Jennette Curtis at (850) 891-8850.

Yours Truly,

A handwritten signature in black ink, appearing to read 'R. McGarrah', written in a cursive style.

Robert McGarrah, Superintendent
Electric Production Division

cc: Martin Costello, FDEP
B. Cowart, COT
G. King, COT
J. Curtis, COT



PSD FILE 239

AL

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

MAR 20 2001

RECEIVED

MAR 26 2001

4APT-ARB

Mr. C.H. Fancy, P.E.
Chief
Bureau of Air Regulation
Department of Environmental Protection
Division of Air Resource Management
Mail Station 5500
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

BUREAU OF AIR REGULATION

SUBJ: Initial Performance Test Extension Request Submitted by the ~~City of Tallahassee~~ for Unit No. 8 at the Sam O. Purdom Generating Station, Tallahassee, Florida

Dear Mr. Fancy:

The purpose of this letter is to provide you with a written determination regarding the referenced request that was sent to U.S. Environmental Protection Agency (EPA) Region 4 and to you in a March 2, 2001, letter from the City of Tallahassee. Unit No. 8 is a combined cycle combustion turbine which is subject to 40 C.F.R. Part 60, Subpart GG (Standards of Performance for Stationary Gas Turbines). The City requested an extension of the deadline for completing testing under New Source Performance Standards (NSPS) because it cannot fire the turbine with fuel oil at the present time. Since the City needs to correct an operating problem that is preventing it from firing oil, an extension of the deadline for testing would be acceptable to Region 4, and based upon the information provided by the City, an extension of 720 operating hours following the restart of the turbine on oil would be reasonable. Details regarding the operating problem that is preventing oil firing and the basis for our determination are provided in the remainder of this letter.

Under the provisions of 40 C.F.R. §60.8(a), an initial performance test must be conducted on facilities subject to NSPS no later than 60 days after reaching maximum capacity or 180 days after startup, whichever comes first. Based upon the date that Unit No. 8 was first fired with oil at its maximum operating rate, the deadline for completing an initial performance test on the turbine would have been January 30, 2001. When the City attempted to fire Unit No. 8 with oil on January 28, 2001, leaks in the water injection system used to control nitrogen oxides (NO_x) emissions were found. Because the City was unable to repair the water injection system prior to the deadline for testing, it requested an extension of the deadline. This request was made in a letter dated January 29, 2001, and in a February 8, 2001, letter to the Florida Department of Environmental Protection, we approved this request and granted an extension of 30 days following the restart of the unit on oil to complete the performance test.

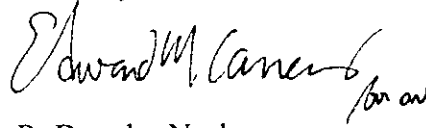
The City completed the repairs on the turbine's water injection system on January 31, 2001, but problems with the atomizing air compressor in the unit prevented it from achieving sustained operation on oil following the restart. The atomizing air compressor appears to be causing vibrations which are making the compressor trip, and this forces the turbine into a shutdown mode. Because of the shutdowns caused by the atomizing air compressor, Unit No. 8 operated on oil for only about 60 hours during the first nine calendar days after the restart of the unit on oil. In order to prevent damage to the unit, the turbine manufacturer (General Electric) has asked the City to suspend oil firing until the unit can be visually inspected in order to identify the reason for the vibrations that are causing the unit to shut down. Suspending oil firing until an inspection is conducted and repairs are finished will prevent the City from completing an initial performance under the terms of the extension granted in our February 8, 2001, letter. Therefore, the City's March 2, 2001, letter asked that the testing deadline be extended for 720 operating hours, but not more than 90 calendar days, following a restart on fuel oil.

Since the City has fired Unit No. 8 with fuel oil for a relatively small amount of time so far, extending the deadline for completing an initial performance test during oil firing is acceptable to Region 4. Because Unit No. 8 has been fired with oil on only a limited basis, it is possible that the City may encounter additional problems when the unit resumes operation. Since this factor makes it difficult to predict the number of days it will take to successfully bring the unit back on line and prepare it for testing, granting an extension based upon hours of operation will be a better approach than granting one based upon calendar days in the City's case. Another advantage of basing the extension on operating hours, instead of operating days, is that it will reduce the likelihood that the City will need to submit any further requests for testing extensions on Unit No. 8.

Based upon extensions that we have approved for other facilities that have not been able to operate on the deadline for testing, giving the City up to 720 operating hours following the restart of Unit No. 8 on oil to complete an initial performance would be reasonable. The majority of the extensions we have granted in the past have given owners and operators 30 calendar days following the restart of an affected facility to complete testing. If the restart of Unit No. 8 on oil is relatively trouble free, extending the testing deadline by 720 operating hours will ensure that testing is completed within roughly the same number of calendar days following the restart as other facilities for which we have granted extensions in the past. In the event that any unexpected problems are encountered following the restart of Unit No. 8, extending the testing deadline for up to 90 calendar days following the restart would be acceptable since expediting the completion of the testing will not be a high priority if the unit is running only intermittently while any new problems are being resolved.

If you have any questions about the issues addressed in this letter, please contact Mr. David McNeal of the EPA Region 4 staff at (404) 562-9102.

Sincerely,

A handwritten signature in black ink, appearing to read "Edward M. Neeley" with a flourish at the end that includes the letters "for on".

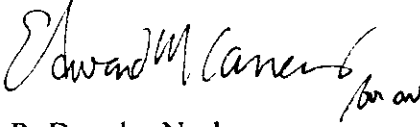
R. Douglas Neeley
Chief
Air and Radiation Technology Branch
Air, Pesticides and Toxics
Management Division

cc: Mr. Martin Costello
FL DEP

Mr. Robert McGarrah, Superintendent
Electric Production Division

If you have any questions about the issues addressed in this letter, please contact Mr. David McNeal of the EPA Region 4 staff at (404) 562-9102.

Sincerely,

A handwritten signature in black ink, appearing to read "Edward M. Neeley" with a flourish at the end.

R. Douglas Neeley
Chief

Air and Radiation Technology Branch
Air, Pesticides and Toxics
Management Division

cc: Mr. Martin Costello
FL DEP

Mr. Robert McGarrah, Superintendent
Electric Production Division



ELECTRIC OPERATIONS
2602 JACKSON BLUFF RD.
TALLAHASSEE, FL 32304
850/891-5001 OFFICE
850/891-5033 FAX

SCOTT MADDOX
Mayor
STEVE MEISBURG
Mayor Pro Tem

JOHN PAUL BAILEY
Commissioner
CHARLES E. BILLINGS
Commissioner
DEBBIE LIGHTSEY
Commissioner

ANITA R. FAVORS
City Manager
GARY HERNDON
Interim City Treasurer-Clerk

JAMES R. ENGLISH
City Attorney
SAM M. McCALL
City Auditor

March 2, 2001

Via Fax and Certified Mail

Mr. Winston A. Smith, Director
Air, Pesticides & Toxics Management Division
United States Environmental Protection Agency
Region 4
Atlanta Federal Center
61 Forsyth Street, SW
Atlanta, GA 30303-3104

RECEIVED
MAR 05 2001
BUREAU OF AIR REGULATION

**Re: Initial Performance Testing Schedule Extension
Unit 8 Combined Cycle Combustion Turbine
Permit No. PSD-FL-239
Sam O. Purdom Generating Station**

Dear Mr. Smith:

The City of Tallahassee submits this letter seeking approval from the US EPA for an additional extension to complete initial performance testing of the above-referenced unit due to our current inability to operate the unit on oil. The unit, subject to regulation under 40 CFR 60, Subpart GG, initiated firing on No. 2 fuel oil on November 28, 2000. On December 1, 2000, the City achieved "maximum production rate" for firing No. 2 fuel oil in the unit. As such, initial performance testing on No. 2 fuel oil was scheduled to be completed no later than January 30, 2001. Due to difficulties with water injection system leaks, the City was unable to complete the initial performance test by the January 30, 2001, deadline and was granted a 30-day extension [from the date oil firing resumed after January 30, 2001] by the US EPA (dated February 8, 2001). The City repaired the water injection system and was able to resume oil firing again on January 31, 2001. However, the City was able to fire oil for only four calendar days since January 31, 2001 (for a total of nine calendar days [60.3 hrs of total oil operation] since the unit first fired oil on November 28, 2000) due to an additional operational difficulty that has arisen.

The current difficulty appears to be associated with the atomizing air compressor. A vibration sensor on the compressor trips while operating on oil, sending the entire unit into a shutdown mode. The manufacturer (General Electric) has not been able to identify the cause of the vibration and will require a temporary outage to visually inspect and repair the source of the vibration in the atomizing air compressor. Until such time, General Electric has directed the City to refrain from operating the unit on oil. General Electric's directive is attached.

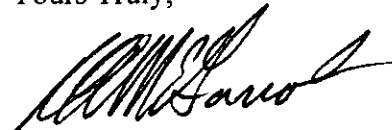
An All-America City

Finally, note that this unit primarily operates on natural gas, and that it passed all NSPS-required performance tests for this fuel in September 2000.

For the above reasons, the City hereby requests an initial performance test extension of 90 days from the date that the unit is able to resume fuel oil firing, but not exceeding 720 hours of oil firing following the manufacturer-mandated inspection and repairs to the atomizing air compressor.

If you have any questions regarding this performance testing extension request, please feel free to contact either myself at (850) 891-5534 or Ms. Jennette Curtis at (850) 891-8850.

Yours Truly,

A handwritten signature in black ink, appearing to read "R. McGarrah", written in a cursive style.

Robert McGarrah, Superintendent
Electric Production Division

cc: Dave McNeal, US EPA Region IV
Clair Fancy, FDEP
Martin Costello, FDEP
B. Cowart, COT
G. King, COT
J. Curtis, COT



General Electric International, Inc.

03/01/01

TO: City of Tallahassee

ATTN: Mr. Gordon King

RE: Atomizing Air Compressor Outage

Gordon,

As a precautionary step, GE would like to make an overall inspection of the Atomizing Air Compressor at the next available time. This request comes as a result of the engineering study as to what occurred during our last attempt to transfer from Gas fuel to Liquid fuel.

I apologize for any inconvenience this might cause the City of Tallahassee, however we cannot proceed with liquid fuel commissioning and transfers between fuels until this inspection has been made and is satisfactory.

This critical inspection will hopefully prove to save us from another unplanned trip and/or damage from possible equipment failure in the future.

Best Regards,

Karl Bauer

Karl A. Bauer

GE - Start up Engineer
1 River Road, Bld. 36-6
Schenectady, NY 12345
(518) 209-1140 Cell.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

2/17
copy Jim
original to AT for
Profile

FEB 08 2001

RECEIVED

FEB 14 2001

4APT-ARB

BUREAU OF AIR REGULATION

C. H. Fancy, P.E.
Chief
Bureau of Air Regulation
Department of Environmental Protection
Division of Air Resource Management
Mail Station 5500
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

SUBJ: Initial Performance Test Extension Request Submitted by the City of Tallahassee for Unit No. 8 at the Sam O. Purdom Generating Station, Tallahassee, Florida

Dear Mr. Fancy:

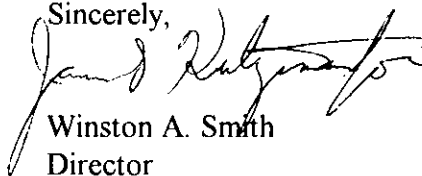
The purpose of this letter is to provide you with a written determination regarding the referenced request that was sent to U.S. Environmental Protection Agency (EPA) Region 4 and to you in a January 29, 2001, letter from the City of Tallahassee. Unit No. 8 is a combined cycle system that includes a turbine which is subject to 40 C.F.R. Part 60, Subpart GG (Standards of Performance for Stationary Gas Turbines). The City requested an extension of the deadline for completing testing under New Source Performance Standards (NSPS) because it has experienced a number of operating problems since the startup of the turbine, and these problems are preventing the City from firing the turbine with fuel oil at the present time. Based upon our review of the information that the City provided with its request, extending the testing deadline for the turbine until 30 days after it restarts on fuel oil is acceptable to Region 4. Details regarding the specific operating problems experienced by the City and the basis for our determination are provided in the remainder of this letter.

According to its January 29, 2001 letter, the City has experienced problems with both the fuel oil feed system and the water injection system used for controlling nitrogen oxides (NO_x) emissions from Unit No. 8. The fuel oil feed system problems were caused by fuel filter plugging that the company attributed to degradation of the fuel hoses used on the unit, and these hoses were replaced prior to the deadline for completing an initial performance test under Subpart GG. The City attempted to fire the unit with fuel oil on January 28, 2001, in preparation for an initial performance test scheduled for January 30, 2001. This test had to be postponed, however, because of leaks in the system used to inject water for NO_x control. According to the City's January 29, 2001, letter, these leaks may have been caused by improper reinstallation of the water injection system after a scheduled outage in December 2000.

Under the provisions of 40 C.F.R. §60.8(a), an initial performance test on facilities subject to NSPS must be conducted no later than 60 days after reaching maximum capacity or 180 days after startup, whichever comes first. Based upon the date that Unit No. 8 was first fired at its maximum capacity with fuel oil, the deadline for completing the initial performance test on the unit would have been January 30, 2001. Since the unit is currently unable to operate on fuel oil pending repairs to the water injection system, the City asked that deadline for completing the initial performance test be extended until 30 days after the unit is restarted on oil following the completion of the water injection system repairs. The City's proposal is acceptable to Region 4 since the amount of additional time requested for completing the testing is consistent with previous extensions that EPA has approved for owners and operators of other facilities that have been unable to operate on the deadline for initial performance testing.

If you have any questions about the issues addressed in this letter, please contact Mr. David McNeal of the EPA Region 4 staff at (404) 562-9102.

Sincerely,



Winston A. Smith
Director
Air, Pesticides and Toxics
Management Division

cc: Mr. Martin Costello
FL DEP

Mr. Robert McGarrah, Superintendent
Electric Production Division

AZ



ELECTRIC OPERATIONS
2602 JACKSON BLUFF RD.
TALLAHASSEE, FL 32304
850/891-5001 OFFICE
850/891-5033 FAX

SCOTT MADDOX
Mayor
STEVE MEISBURG
Mayor Pro Tem

JOHN PAUL BAILEY
Commissioner
CHARLES E. BILLINGS
Commissioner
DEBBIE LIGHTSEY
Commissioner

ANITA R. FAVORS
City Manager
GARY HERNDON
Interim City Treasurer-Clerk

JAMES R. ENGLISH
City Attorney
SAM M. McCALL
City Auditor

February 1, 2001
RECEIVED
FEB 02 2001
BUREAU OF AIR REGULATION

CERTIFIED MAIL

Mr. Clair H. Fancy, Chief
Bureau of Air Regulation (BAR)
Florida Department of Environmental Protection (FDEP)
2600 Blair Stone Road
Tallahassee, Florida 32399-2400
Mail Station 5505

**Re: Notification of Revised Performance Testing Schedule
Unit 8 Combined Cycle Combustion Turbine
Permit No. PSD-FL-239
Sam O. Purdom Generating Station**

Dear Mr. Fancy:

The City of Tallahassee submits this letter notifying you of the revised schedule for completion of No. 2 fuel oil performance testing required under Specific Condition D.1 of the above-referenced permit. Originally scheduled for November 16, 2000, and subsequently re-scheduled for December 20 and 29, 2000, and January 30, 2001, the City of Tallahassee has tentatively re-scheduled the performance testing to begin at approximately 7:30 AM on February 8, 2001, for visible emissions (Method 9), carbon monoxide (Method 10), and oxides of nitrogen (Method 20) on the above-referenced emission unit (a nominal 160 MW GE Series MS7FA combustion turbine attached to a non-fired heat recovery steam generator with a nominal 90 MW steam turbine) at the Sam O. Purdom Generating Station located at 667 Port Leon Drive, St. Marks, Wakulla County, Florida.

Please note that delays have occurred as a result of fuel oil feed process and water injection system difficulties. Although the City believes that the difficulties have been properly addressed, the actual performance test date will continue to be subject to change.

If you have any questions regarding this performance testing notification, please feel free to contact either myself at (850) 891-5534 or Ms. Jennette Curtis at (850) 891-8850.

Yours Truly,

Robert McGarrah, Superintendent
Electric Production Division

cc: Winston A. Smith, EPA Region IV
Martin Costello, FDEP
B. Cowart, COT
G. King, COT
J. Curtis, COT



ELECTRIC OPERATIONS
2602 JACKSON BLUFF RD.
TALLAHASSEE, FL 32304
850/891-5001 OFFICE
850/891-5033 FAX

SCOTT MADDOX
Mayor
STEVE MEISBURG
Mayor Pro Tem

JOHN PAUL BAILEY
Commissioner
CHARLES E. BILLINGS
Commissioner
DEBBIE LIGHTSEY
Commissioner

ANITA R. FAVORS
City Manager
GARY HERNDON
Interim City Treasurer-Clerk

JAMES R. ENGLISH
City Attorney
SAM M. McCALL
City Auditor

January 26, 2000
RECEIVED

JAN 30 2001

via FAX and CERTIFIED MAIL

Mr. Clair H. Fancy, Chief
Bureau of Air Regulation (BAR)
Florida Department of Environmental Protection (FDEP)
2600 Blair Stone Road
Tallahassee, Florida 32399-2400
Mail Station 5505

BUREAU OF AIR REGULATION

**Re: Notification of Revised Performance Testing Schedule
Unit 8 Combined Cycle Combustion Turbine
Permit No. PSD-FL-239
Sam O. Purdom Generating Station**

Dear Mr. Fancy:

The City of Tallahassee submits this letter notifying you of the revised schedule for completion of No. 2 fuel oil performance testing required under Specific Condition D.1 of the above-referenced permit. Originally scheduled for November 16, 2000, and subsequently re-scheduled for December 20 and 29, 2000 the City of Tallahassee has tentatively re-scheduled the performance testing to begin at approximately 7:30 AM on January 30, 2001, for visible emissions (Method 9), carbon monoxide (Method 10), and oxides of nitrogen (Method 20) on the above-referenced emission unit (a nominal 160 MW GE Series MS7FA combustion turbine attached to a non-fired heat recovery steam generator with a nominal 90 MW steam turbine) at the Sam O. Purdom Generating Station located at 667 Port Leon Drive, St. Marks, Wakulla County, Florida.

Please note that delays have occurred as a result of fuel oil feed process difficulties and that the unit will undergo evaluation this weekend to assure that performance testing may occur on January 30th at loads specified in 40 CFR 60, Subpart GG. As such, the actual performance test date will continue to be subject to change.

We apologize for the delay in submitting this letter to your office. But, it should also be noted that today is the first time since the beginning of January that the City has recognized that performance testing was still possible within the 60 day time frame cited in 40 CFR 60.8.

If the City determines that testing on January 30, 2001, is not possible, a letter will be submitted to the EPA justifying the need for a 30 day extension to complete performance testing.

If you have any questions regarding this performance testing notification, please feel free to contact either myself at (850) 891-5534 or Ms. Jennette Curtis at (850) 891-8850.

Yours Truly,

A handwritten signature in black ink, appearing to read "R. McGarrah", with a long horizontal flourish extending to the right.

Robert McGarrah, Superintendent
Electric Production Division

cc: Winston A. Smith, EPA Region IV
Martin Costello, FDEP
B. Cowart, COT
G. King, COT
J. Curtis, COT



ELECTRIC OPERATIONS
2602 JACKSON BLUFF RD.
TALLAHASSEE, FL 32304
850/891-5001 OFFICE
850/891-5033 FAX

SCOTT MADDOX
Mayor
STEVE MEISBURG
Mayor Pro Tem

JOHN PAUL BAILEY
Commissioner
CHARLES E. BILLINGS
Commissioner
DEBBIE LIGHTSEY
Commissioner

ANITA R. FAVORS
City Manager
GARY HERNDON
Interim City Treasurer-Clerk

JAMES R. ENGLISH
City Attorney
SAM M. McCALL
City Auditor

January 29, 2001

Via Fax and Certified Mail

Mr. Winston A. Smith, Director
Air, Pesticides & Toxics Management Division
United States Environmental Protection Agency
Region 4
Atlanta Federal Center
61 Forsyth Street, SW
Atlanta, GA 30303-3104

**Re: Initial Performance Testing Schedule Extension
Unit 8 Combined Cycle Combustion Turbine
Permit No. PSD-FL-239
Sam O. Purdom Generating Station**

Dear Mr. Smith:

This letter is submitted to your office seeking an extension to the initial performance test 60-day deadline required under 40 CFR 60.8. The unit, subject to regulation under 40 CFR 60, Subpart GG, initiated firing on No. 2 fuel oil on November 28, 2000. On December 1, 2000, the City achieved "maximum production rate" for firing No. 2 fuel oil in the unit. As such, initial performance testing on No. 2 fuel oil was scheduled to be completed no later than January 30, 2001. However, since achieving the maximum production rate, the City has experienced fuel line filter plugging and water injection system leaks and now projects that the unit will not be able to operate while firing fuel oil before the 60-day deadline has expired.

Originally, the fuel line filter plugging was associated with possible algal contamination of the fuel oil. The City contracted filtering and cleaning of the fuel oil, which delayed the December 20, 2000, initial performance test schedule by nine days. On the morning of December 29, 2000, the City found that fuel line filter plugging was a continuing source of difficulty and had to again postpone initial performance testing. However, fuel line filter plugging was then projected to be associated with fuel hose degradation. Replacement fuel hoses were installed on January 26, 2001, and initial performance testing was re-scheduled for January 30, 2001. On January 28, 2001, the unit was brought online firing fuel oil, and water injection system leaks were noted, causing postponement of the January 30, 2001 testing. The City speculates that the latest difficulty encountered (water injection system leaks) may be associated with improper re-installation of the water injection system after a scheduled maintenance outage that occurred between December 1 and 13, 2000.

As a result of the maintenance outage and mechanical failures that have been encountered, the City has only been able to fire fuel oil in the unit during five calendar days, including November 28, 2000 (the initial start up date).

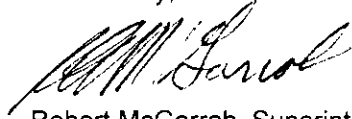
In accordance with past extensions granted by the EPA, the City hereby requests an initial performance test extension of 30 days from the date that the unit is able to resume fuel oil firing following repairs to the water injection system.

An All-America City

Mr. Clair H. Fancy
January 29, 2001
Page 2

If you have any questions regarding this performance testing extension request, please feel free to contact either Ms. Jennette Curtis at (850) 891-8850 or me at (850) 891-5534.

Yours Truly,

A handwritten signature in cursive script, appearing to read "R. McGarrah".

Robert McGarrah, Superintendent
Electric Production Division

RM:lh

cc: Dave McNeal, US EPA Region IV
Clair Fancy, FDEP
Martin Costello, FDEP
B. Cowart, COT
G. King, COT
J. Curtis, COT

AL



ELECTRIC OPERATIONS
2602 JACKSON BLUFF RD.
TALLAHASSEE, FL 32304
850/891-5001 OFFICE
850/891-5033 FAX

SCOTT MADDOX
Mayor
STEVE MEISBURG
Mayor Pro Tem

JOHN PAUL BAILEY
Commissioner
CHARLES E. BILLINGS
Commissioner
DEBBIE LIGHTSEY
Commissioner

ANITA R. FAVORS
City Manager
GARY HERNDON
Interim City Treasurer-Clerk

JAMES R. ENGLISH
City Attorney
SAM M. McCALL
City Auditor

December 19, 2000

CERTIFIED MAIL

Mr. Clair H. Fancy, Chief
Bureau of Air Regulation (BAR)
Florida Department of Environmental Protection (FDEP)
2600 Blair Stone Road
Tallahassee, Florida 32399-2400
Mail Station 5505

RECEIVED

DEC 20 2000

BUREAU OF AIR REGULATION

**Re: Notification of Revised Performance Testing Schedule
Unit 8 Combined Cycle Combustion Turbine
Permit No. PSD-FL-239
Sam O. Purdom Generating Station**

Dear Mr. Fancy:

The City of Tallahassee submits this letter notifying you of the revised schedule for completion of No. 2 fuel oil performance testing required under Specific Condition D.1 of the above-referenced permit. Originally scheduled for November 16, 2000, and subsequently re-scheduled for December 20, 2000, the City of Tallahassee has postponed testing once again and has tentatively re-scheduled the performance testing to begin at approximately 7:30 AM on December 29, 2000, for visible emissions (Method 9), carbon monoxide (Method 10), and oxides of nitrogen (Method 20) on the above-referenced emission unit (a nominal 160 MW GE Series MS7FA combustion turbine attached to a non-fired heat recovery steam generator with a nominal 90 MW steam turbine) at the Sam O. Purdom Generating Station located at 667 Port Leon Drive, St. Marks, Wakulla County, Florida.

The actual performance test date will continue to be subject to change as a result of schedule impacts during completion of adjustments to the unit. The City of Tallahassee will re-notify your office of any schedule changes that occur.

If you have any questions regarding this performance testing notification, please feel free to contact either myself at (850) 891-5534 or Ms. Jennette Curtis at (850) 891-8850.

Yours Truly,

Robert McGarrah, Superintendent
Electric Production Division

cc: Winston A. Smith, EPA Region IV
Martin Costello, FDEP
B. Cowart, COT
G. King, COT
J. Curtis, COT



ELECTRIC OPERATIONS
2602 JACKSON BLUFF RD.
TALLAHASSEE, FL 32304
850/891-5001 OFFICE
850/891-5033 FAX

SCOTT MADDOX
Mayor
CHARLES E. BILLINGS
Mayor Pro Tem

JOHN PAUL BAILEY
Commissioner
DEBBIE LIGHTSEY
Commissioner
STEVE MEISBURG
Commissioner

ANITA R. FAVORS
City Manager
ROBERT B. INZER
City Treasurer-Clerk

JAMES R. ENGLISH
City Attorney
SAM M. McCALL
City Auditor

December 12, 2000

CERTIFIED MAIL

Mr. Clair H. Fancy, Chief
Bureau of Air Regulation (BAR)
Florida Department of Environmental Protection (FDEP)
2600 Blair Stone Road
Tallahassee, Florida 32399-2400
Mail Station 5505

RECEIVED

DEC 14 2000

BUREAU OF AIR REGULATION

**Re: Notification of Initial Startup on Fuel Oil
Unit 8 Combined Cycle Combustion Turbine
Permit No. PSD-FL-239
Sam O. Purdom Generating Station**

Dear Mr. Fancy:

On November 28, 2000, the City of Tallahassee initiated startup on fuel oil of a GE Series MS7FA combined-cycle combustion turbine at the Sam O. Purdom Generating Station located at 667 Port Leon Drive, St. Marks, Wakulla County, Florida. The City of Tallahassee submits this letter as notification of the initial startup date in accordance with Chapter 40 of the Code of Federal Regulations Part 60.7(a)(3), as adopted by reference in Chapter 62-204.800, Florida Administrative Code.

If you have any questions regarding this initial startup notification, please feel free to contact either Ms. Jennette Curtis at (850) 891-8850 or me at (850) 891-5534.

Yours truly,

Robert McGarrah, Superintendent
Electric Production Division

REM/lh

cc: Winston A. Smith, EPA Region IV
B. Cowart, COT
G. King, COT
J. Curtis, COT



ELECTRIC OPERATIONS
2602 JACKSON BLUFF RD.
TALLAHASSEE, FL 32304
850/891-5001 OFFICE
850/891-5033 FAX

SCOTT MADDOX
Mayor
CHARLES E. BILLINGS
Mayor Pro Tem

JOHN PAUL BAILEY
Commissioner
DEBBIE LIGHTSEY
Commissioner
STEVE MEISBURG
Commissioner

ANITA R. FAVORS
City Manager
ROBERT B. INZER
City Treasurer-Clerk

JAMES R. ENGLISH
City Attorney
SAM M. McCALL
City Auditor

December 12, 2000

CERTIFIED MAIL

Mr. Clair H. Fancy, Chief
Bureau of Air Regulation (BAR)
Florida Department of Environmental Protection (FDEP)
2600 Blair Stone Road
Tallahassee, Florida 32399-2400
Mail Station 5505

**Re: Notification of Revised Performance Testing Schedule
Unit 8 Combined Cycle Combustion Turbine
Permit No. PSD-FL-239
Sam O. Purdom Generating Station**

Dear Mr. Fancy:

The City of Tallahassee submits this letter notifying you of the revised schedule for completion of No. 2 fuel oil performance testing required under Specific Condition D.1 of the above-referenced permit. Originally scheduled for November 16, 2000, the City of Tallahassee has tentatively re-scheduled the performance testing to begin at approximately 7:30 AM on December 20, 2000, for visible emissions (Method 9), carbon monoxide (Method 10), and oxides of nitrogen (Method 20) on the above-referenced emission unit (a nominal 160 MW GE Series MS7FA combustion turbine attached to a non-fired heat recovery steam generator with a nominal 90 MW steam turbine) at the Sam O. Purdom Generating Station located at 667 Port Leon Drive, St. Marks, Wakulla County, Florida.

The actual performance test date is subject to change as a result of schedule impacts during completion of adjustments to the unit. The City of Tallahassee will re-notify your office of any schedule changes that occur.

If you have any questions regarding this performance testing notification, please feel free to contact either Ms. Jennette Curtis at (850) 891-9850 or me at (850) 891-5534.

Yours truly,

Robert McGarrah, Superintendent
Electric Production Division

REM/lh

cc: Winston A. Smith, EPA Region IV
Martin Costello, FDEP
B. Cowart, COT
G. King, COT
J. Curtis, COT

10-30-00
2:35 Hand Delivered
Rum



ELECTRIC OPERATIONS
2602 JACKSON BLUFF RD.
TALLAHASSEE, FL 32304
850/891-5001 OFFICE
850/891-5033 FAX

SCOTT MADDOX
Mayor
CHARLES E. BILLINGS
Mayor Pro Tem

JOHN PAUL BAILEY
Commissioner
DEBBIE LIGHTSEY
Commissioner
STEVE MEISBURG
Commissioner

ANITA R. FAVORS
City Manager
ROBERT B. INZER
City Treasurer-Clerk

JAMES R. ENGLISH
City Attorney
SAM M. MCCALL
City Auditor

October 30, 2000

Hand Delivered

Mr. Clair H. Fancy, Chief
Bureau of Air Regulation (BAR)
Florida Department of Environmental Protection (FDEP)
2600 Blair Stone Road
Tallahassee, Florida 32399-2400
Mail Station 5505

RECEIVED

OCT 30 2000

BUREAU OF AIR REGULATION

**Re: Performance Testing Results
Unit 8 Combined Cycle Combustion Turbine
Permit No. PSD-FL-239
Sam O. Purdom Generating Station**

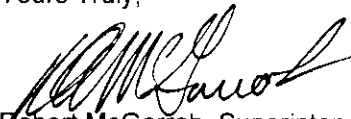
Dear Mr. Fancy:

Pursuant to Specific Condition A.2 of the above-referenced permit, the City of Tallahassee submits the attached manufacturer's curves for natural gas firing of the Unit 8 combined cycle combustion turbine (a nominal 160 MW GE Series MS7FA combustion turbine attached to a non-fired heat recovery steam generator with a nominal 90 MW steam turbine) at the Sam O. Purdom Generating Station located at 667 Port Leon Drive, St. Marks, Wakulla County, Florida. The curves represent corrections relative to the turbine compressor inlet temperature (Curve No. 522HA852) and specific humidity (Curve No. 498HA697).

As this unit has just recently initiated operation (May 2000), the City of Tallahassee continues to monitor, test and fine-tune the unit to optimize performance. If, for any reason, the City identifies any deviation from the attached curves, we will contact the Department to explain details of the findings and resolution. Based on information and belief formed after reasonable inquiry of individuals primarily responsible for obtaining the information, I certify that the statements and information in this report are to the best of my knowledge and belief true, accurate, and complete.

If you have any questions regarding this compliance test notification, please feel free to contact either myself at (850) 891-5534 or Ms. Jennette Curtis at (850) 891-8850.

Yours Truly,


Robert McGarrah, Superintendent
Electric Production Division

cc: B. Cowart, COT
G. King, COT
J. Curtis, COT

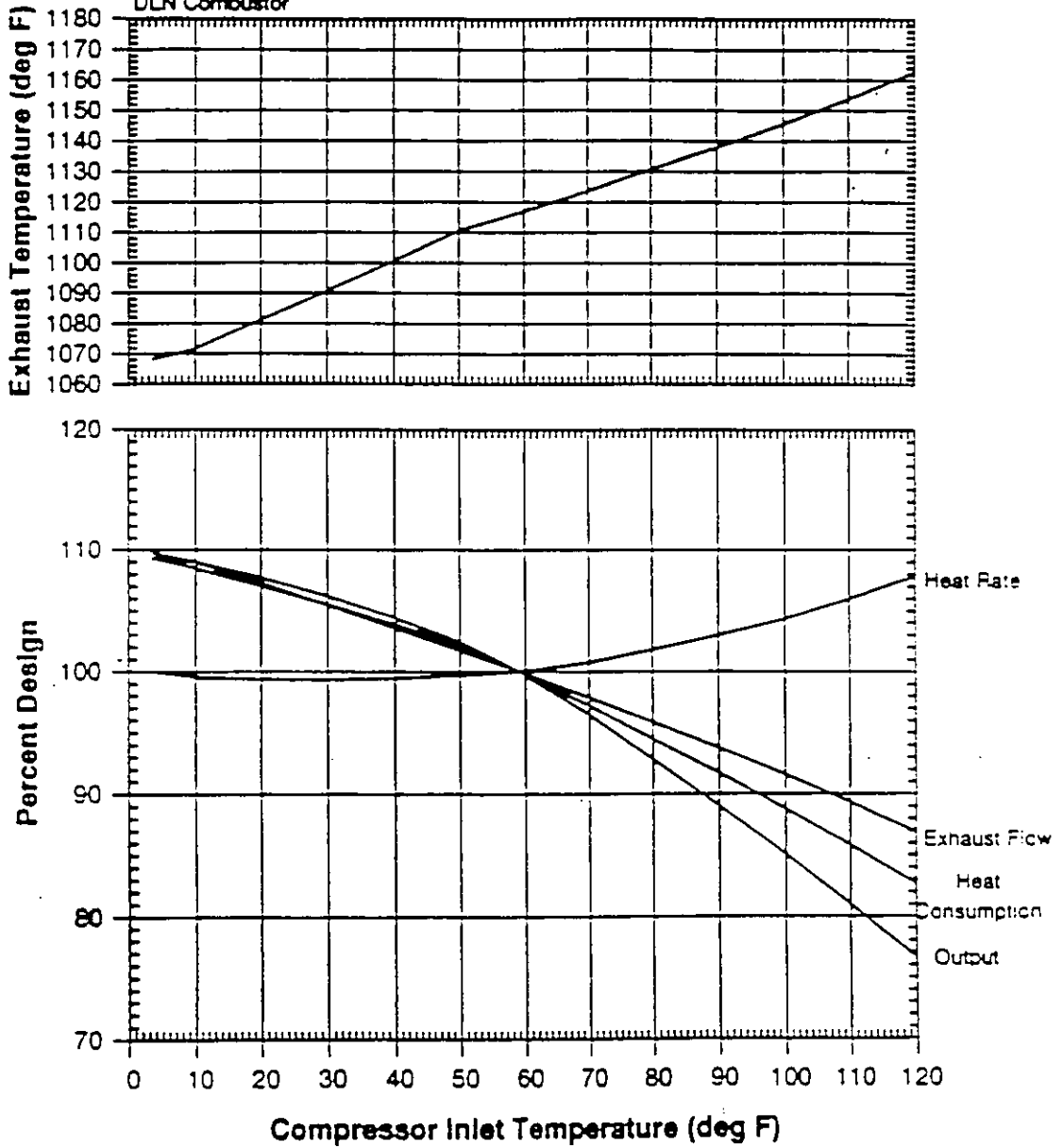
OCT 30 2000

BUREAU OF AIR REGULATION

GENERAL ELECTRIC MODEL PG7241(FA) GAS TURBINE

Effect of Compressor Inlet Temperature on
Output, Heat Rate, Heat Consumption, Exhaust Flow
And Exhaust Temperature at Baseload

Fuel: Methane
Design Values on Curve 522HA851 Rev 0
DLN Combustor



F. Brooks
1/24/97

522HA852
Rev - 0

WEB

RECEIVED

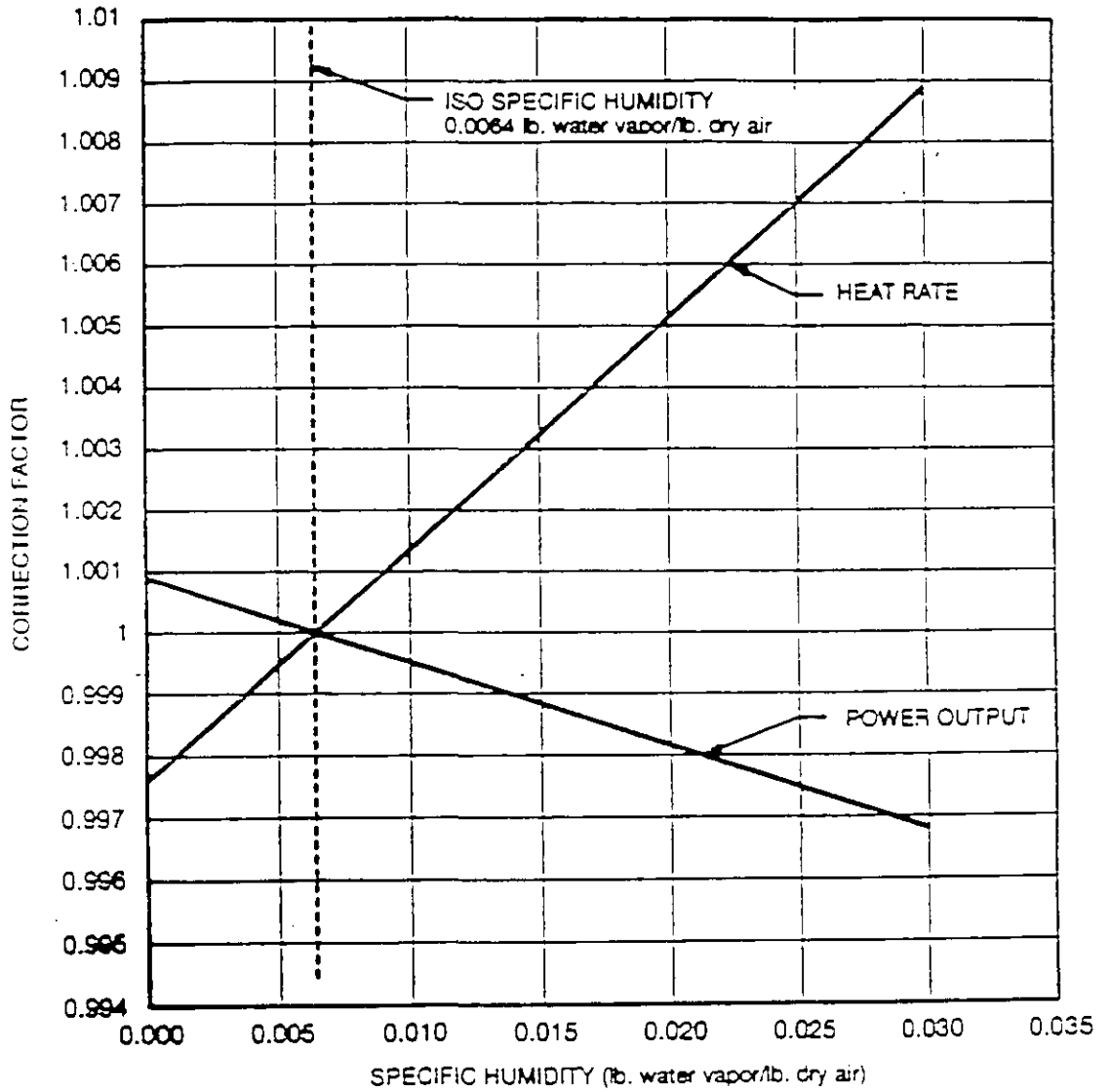
OCT 30 2000

BUREAU OF AIR REGULATION

General Electric MS6001, MS7001 And MS9001 Gas Turbines

Corrections To Output And Heat Rate
For Non-Iso Specific Humidity Conditions

For Operation At Base Load On Exhaust
Temperature Control Curve



MEB



ELECTRIC OPERATIONS
2602 JACKSON BLUFF RD.
TALLAHASSEE, FL 32304
850/891-5001 OFFICE
850/891-5033 FAX

SCOTT MADDOX
Mayor
CHARLES E. BILLINGS
Mayor Pro Tem

JOHN PAUL BAILEY
Commissioner
DEBBIE LIGHTSEY
Commissioner
STEVE MEISBURG
Commissioner

ANITA R. FAVORS
City Manager
ROBERT B. INZER
City Treasurer-Clerk

JAMES R. ENGLISH
City Attorney
SAM M. McCALL
City Auditor

October 27, 2000

FedEx

Mr. Clair H. Fancy, Chief
Bureau of Air Regulation (BAR)
Florida Department of Environmental Protection (FDEP)
2600 Blair Stone Road
Tallahassee, Florida 32399-2400
Mail Station 5505

RECEIVED

OCT 31 2000

**Re: Performance Testing Results
Unit 8 Combined Cycle Combustion Turbine
Permit No. PSD-FL-239
Sam O. Purdom Generating Station**

BUREAU OF AIR REGULATION

Dear Mr. Fancy:

On September 15, 2000, the City of Tallahassee completed performance testing, in accordance with Specific Condition D.1 of the above-referenced permit, for visible emissions (Method 9), carbon monoxide (Method 10), and oxides of nitrogen (Method 20) on the above-referenced emission unit (a nominal 160 MW GE Series MS7FA combustion turbine attached to a non-fired heat recovery steam generator with a nominal 90 MW steam turbine) at the Sam O. Purdom Generating Station located at 667 Port Leon Drive, St. Marks, Wakulla County, Florida. Results of the testing are contained in the attached report (two copies). Based on information and belief formed after reasonable inquiry of individuals primarily responsible for obtaining the information, I certify that the statements and information in this report are to the best of my knowledge and belief true, accurate, and complete.

If you have any questions regarding this compliance test notification, please feel free to contact either myself at (850) 891-5534 or Ms. Jennette Curtis at (850) 891-8850.

Yours Truly,

Robert McGarrah, Superintendent
Electric Production Division

cc: Winston A. Smith, EPA Region IV
B. Cowart, COT
G. King, COT
J. Curtis, COT



CITY HALL
300 S. ADAMS ST.
TALLAHASSEE, FL
32301-1731
850/891-0010
TDD 1-800/955-8771

SCOTT MADDOX
Mayor
JOHN PAUL BAILEY
Mayor Pro Tem

CHARLES E. BILLINGS
Commissioner
DEBBIE LIGHTSEY
Commissioner
STEVE MEISBURG
Commissioner

ANITA R. FAVORS
City Manager
ROBERT B. INZER
City Treasurer-Clerk

JAMES R. ENGLISH
City Attorney
RICARDO FERNANDEZ
City Auditor

October 27, 2000

FedEx

Mr. Clair H. Fancy, Chief
Bureau of Air Regulation (BAR)
Florida Department of Environmental Protection (FDEP)
2600 Blair Stone Road
Tallahassee, Florida 32399-2400
Mail Station 5505

RECEIVED

OCT 31 2000

BUREAU OF AIR REGULATION

**Re: Continuous Monitoring System Performance Demonstration
Unit 8 Combined Cycle Combustion Turbine
Permit No. PSD-FL-239
Sam O. Purdom Generating Station**

Dear Mr. Fancy:

On August 31 and September 1, 2000, the City of Tallahassee completed demonstration of the continuous monitoring system (CMS) performance, in compliance with Specific Condition F.1. of Permit No. PSD-FL-239 on the above-referenced emission unit (a nominal 160 MW GE Series MS7FA combustion turbine attached to a non-fired heat recovery steam generator with a nominal 90 MW steam turbine) at the Sam O. Purdom Generating Station located at 667 Port Leon Drive, St. Marks, Wakulla County, Florida. Results of the demonstration are contained in the attached report (two copies). Based on information and belief formed after reasonable inquiry of individuals primarily responsible for obtaining the information, I certify that the statements and information in the report are to the best of my knowledge and belief true, accurate, and complete.

If you have any questions regarding this compliance test notification, please feel free to contact either myself at (850) 891-5534 or Ms. Jennette Curtis at (850) 891-8850.

Yours Truly,

Robert McGarrah, Superintendent
Electric Production Division

cc: Winston A. Smith, EPA Region IV
B. Cowart, COT
G. King, COT
J. Curtis, COT

2.0 SUMMARY AND DISCUSSION OF RESULTS

Unit 8 at the Purdom Plant was found to be operating within compliance limits. Tables 1 (70, 80 and 90 % of full load) and 2 (Full Load Test) summarize the emissions results.

Oxides of Nitrogen emissions at full load averaged 8.74 ppmvd @ 15% O₂, which is within the permitted standard of 12 ppmvd @ 15% O₂.

Full load CO emissions averaged 0.85 ppmvd, which is also within the permitted limit of 25 ppmvd.

Compliance with Federal New Source Performance Standards (NSPS) by 40CFR 60 Subpart GG, were calculated by first adjusting observed NO_x concentrations to 15% O₂ and then finally to ISO standard ambient conditions using the following equation:

$$\text{ISO NO}_x \text{ Emissions} = (\text{NO}_{x\text{obs}} \text{ ppm}) (P_{\text{ref}}/P_{\text{obs}})^{0.5} e^{19(H_{\text{obs}}-0.00633)} (288^\circ\text{K}/T_{\text{amb}})^{1.53}$$

Where:

NO_{x,obs} = measured NO_x ppm at 15% O₂

P_{ref} = reference combustor inlet absolute pressure at 101.3 kilopascal ambient pressure (29.92 in. Hg)

P_{obs} = measured combustor inlet absolute pressure at test ambient pressure (actual barometric pressure in in. Hg)

H_{obs} = specific humidity at ambient air at test (g H₂O/g air)

T_{amb} = temperature of ambient air at test

e = 2.718 - transcendental constant

Oxide of nitrogen emissions at ISO ambient conditions averaged 10.87 ppm.

Mass emissions for NO_x and CO in pounds per hour were calculated using the actual heat input (HHV) and the pollutant concentration.

The fuel analysis of the natural gas stream was obtained from the Florida Gas Transmission and showed 3.57 ppm Sulfur and 0.89 lbs/hr SO₂ at full load. SO₂ emissions represented here, were calculated based on this value and the fuel flow rate.

Table 1. Emission Summary
 Combustion Turbine Unit 8 - Gas Fired
 City of Tallahassee Sam O. Purdom Plant
 Tallahassee, Florida
 September 15, 2000

Run Number	Time	Oxygen %	NOx Emissions					CT		SO2 lbs/hr
			ppm	ppm 15% O2	ppm @ ISO	lbs/hr	lbs/MMBTU	Gas Flow 100scf/hr	Heat Input MMBTUH HHV	
70% Load										
1	0753-0817	14.06	8.80	7.59	8.72	30.35	0.028	10495	1085.5	0.620
2	0828-0852	14.01	8.54	7.31	8.70	29.71	0.027	10659	1102.5	0.630
3	0900-0924	13.99	8.27	7.06	8.54	29.98	0.026	11151	1153.4	0.660
4	0932-0956	13.98	8.10	7.00	8.47	29.33	0.025	11151	1153.4	0.660
Average	---	14.01	8.43	7.24	8.61	29.84	0.027	10864	1123.7	0.643
80% Load										
1	1022-1038	13.92	7.04	5.95	7.46	28.07	0.022	12381	1280.6	0.730
2	1046-1102	13.91	7.34	6.19	7.78	29.20	0.023	12381	1280.6	0.730
3	1109-1125	13.87	7.37	6.18	7.76	30.30	0.023	12873	1331.5	0.760
Average	---	13.90	7.25	6.11	7.67	29.19	0.023	12545	1297.6	0.740
90% Load										
1	1143-1159	13.76	7.86	6.49	8.88	34.25	0.024	13857	1433.3	0.820
2	1208-1224	13.86	8.12	6.81	8.40	35.93	0.025	13857	1433.3	0.820
3	1231-1247	13.81	7.89	6.64	8.19	35.07	0.024	13857	1433.3	0.820
Average	---	13.81	7.96	6.65	8.49	35.08	0.024	13857	1433.3	0.820

Natural Gas Fd-Factor = 8710 MMBTU/dscf

lbs/hr = ppm(2.595 x 10^{^E-9})MW (20.9/20.9-%O2)(Fd)(Heat Input HHV)

MW NOx = 46 lbs/lb-mole

Heat Input HHV = (gas flow)(gross calorific value)/10E06

Table 2. Emission Summary
 Combustion Turbine Unit 8 - Gas Fired - Full Load
 City of Tallahassee Sam O. Purdom Plant
 Tallahassee, Florida
 September 15, 2000

Run Number	Time	Oxygen %	NOx Emissions					CO Emissions			CT		SO2 lbs/hr
			ppm	ppm 15% O2	ppm @ ISO	lbs/hr	lbs/MMBTU	ppm	lbs/hr	lbs/MMBTU	Gas Flow 100scf/hr	Heat Input MMBTUH HHV	
Full Load													
1	1303-1403	13.61	10.84	8.77	10.55	50.70	0.032	0.88	2.52	0.002	15169	1568.9	0.900
2	1418-1518	13.70	10.83	8.87	11.15	50.71	0.033	0.86	2.45	0.002	15005	1552.0	0.890
3	1529-1629	13.63	10.58	8.59	10.92	48.71	0.032	0.80	2.24	0.001	14882	1539.3	0.880
Average	---	13.65	10.75	8.74	10.87	50.04	0.032	0.85	2.40	0.002	15019	1553.4	0.890

Natural Gas Fd-Factor = 8710 MMBTU/dscf
 lbs/hr = ppm(2.595 x 10⁻⁹)MW (20.9/20.9-%O2)(Fd)(Heat Input HHV)
 MW NOx = 46 lbs/lb-mole
 MW CO = 28 lbs/lb-mole
Allowable Emissions
 NOx = 12 ppmvd @ 15%O2
 CO = 25 ppmvd

Heat Input HHV = (gas flow)(gross calorific value)/10E06