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Ms. Laura Crouch
 Manager, Air Programs
 Environmental Affairs
 Tampa Electric Company
 Post Office Box 111
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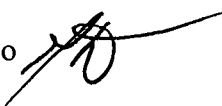
BUREAU OF AIR REGULATION



Florida Department of Environmental Protection

Memorandum

TO: Trina Vielhauer

FROM: Greg DeAngelo 

DATE: December 8, 2003

SUBJECT: **Authorization to Conduct PM CEM Testing at Elevated Grain Loadings**
Tampa Electric Company, Big Bend Station
AIRS ID 0570039

As required by their Federal Consent Decree, Tampa Electric Company (TEC) is evaluating the technical feasibility of their particulate matter (PM) continuous emissions monitoring (CEM) system. As part of this evaluation, they have been conducting a series of PM stack test events designed to correlate PM CEM output with concurrent EPA reference test method results.

The proposed fourth and final test plan event is designed to gather data at elevated grain loadings. To date, the stack test events have produced "grouped" data at the low grain loadings typical of normal operation. To create a good fit, TEC needs a wider spread of data.

To achieve a higher grain loading, TEC is planning on bypassing most of the Unit 3 flue gas around the otherwise required wet flue gas desulfurization (FGD) scrubber. Recall that Unit 3 and Unit 4 share the Unit 3/4 scrubber and employ a common exhaust stack. Target PM for the stack test event is 0.03 lb/MMBtu (less than the limits for Unit 3 and Unit 4). Opacity is expected to range from 20 to 25 percent.

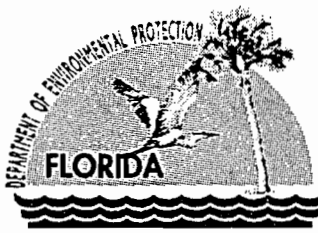
Of greater concern, however, is bypassing the FGD. Scrubber bypass is necessary as PM removal across the FGD is unpredictable. The Title V permit specifies a 90 percent removal efficiency of sulfur dioxide (SO₂) across the scrubber, and TEC is not sure that this removal efficiency will be met with most of Unit 3's flue gas bypassing the FGD.

The attached authorization is conditioned upon submittal of data from the prior stack test events and information related to maintenance and operation of the PM CEM. All of the results and submitted information will be helpful in evaluating the feasibility of the device.

(Note: TEC also requested variance from the conditions of the Federal Consent Decree, which require a greater percent removal of SO₂ across the scrubber and a maximum number of "unscrubbed days." We have no authority to grant such a request.)

I recommend your approval and signature of the attached authorization.

Attachments



Jeb Bush
Governor

Department of Environmental Protection

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

David B. Struhs
Secretary

December 8, 2003

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Laura Crouch
Manager, Air Programs
Environmental Affairs
Tampa Electric Company
P.O. Box 111
Tampa, FL 33601-0111

Re: Authorization to Conduct PM CEM Testing at Elevated Grain Loadings
Tampa Electric Company, Big Bend Station
AIRS ID No. 0570039

Dear Ms. Crouch:

The Department has reviewed your request for authorization to conduct particulate matter (PM) testing at elevated grain loadings at the Tampa Electric Company (TEC) Big Bend Station located in Apollo Beach, Hillsborough County, and we have received the corresponding test plan (see attached). The proposed test plan is the fourth and final in a series of PM stack test events designed to correlate the data from the PM continuous emission monitor (CEM) system with concurrent EPA reference test method results. We understand that the PM observed during the previous stack test events have been "grouped" at low grain loading conditions typical of normal operation. To more accurately establish the correlation between CEM output and EPA reference test method result, testing is needed during conditions of elevated grain loadings closer to permitted emission limits. Ultimately, this information will be helpful in the determination of whether the PM CEM system is feasible under the terms of the Consent Decree between TEC and EPA.

Background

In February 2000, TEC entered into a settlement agreement with the EPA. Part of the resulting Consent Decree required TEC to install, operate, and evaluate the feasibility of a PM CEM system (see paragraphs 32.E through 32.I). One part of the CEM feasibility analysis is correlating the CEM output to the results of concurrently conducted EPA reference test methods. To perform this correlation, TEC has conducted a series of stack test events.

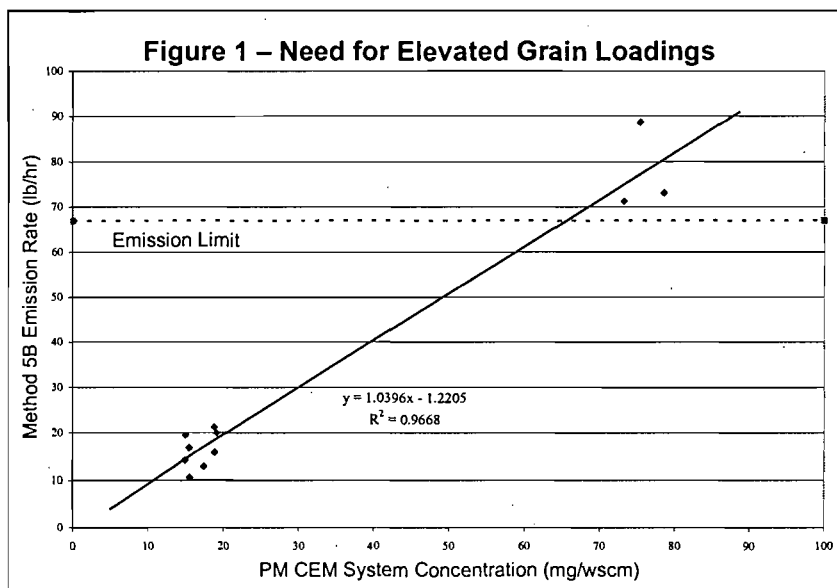
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The first PM stack test event was originally attempted over May 13 – 16, 2002, but was rescheduled and conducted June 17 – 23, 2002. The May testing was aborted after the sampling equipment proved inadequate for use in a wet stack (i.e., downstream of wet flue gas desulfurization, FGD). The June event produced 10 of 26 test runs that met the precision relative standard deviation requirements of draft EPA Performance Specification 11 (PS-11). The PM CEM system response ranged from 5.9 to 13 mg/dscm. The paired sampling trains employed EPA Method 5, however, which includes condensable mass emissions of sulfuric acid as PM. The Title V air operation permit for Big Bend specifies the use of EPA Method 5B, which determines nonsulfuric acid PM.

The second and third PM stack test events more appropriately used EPA Method 5B to determine PM emissions. These events took place January 15 – 17, 2003, and June 16 – 20, 2003, respectively. Again, the testing events consisted of paired sampling trains and multiple test runs. At least 10 of the 40 total test runs passed the PS-11 precision relative standard deviation, but the events represent a somewhat narrow range of operating conditions. The second event resulted in readings from 1.6 to 4.4 mg/dscm, while the third event reported 3.1 to 5.8 mg/dscm.

To better understand the need for a wider range of particulate concentrations, consider the following graph (modeled after MSI Mechanical, Inc.; data from another facility). With temporary operation above the applicable emission limit, the facility was able to generate enough



data points to correlate the PM CEM with the reference test method. The correlation is quite good, with an R^2 value of 0.9668. Without these elevated grain loading data points, it would be difficult to establish a meaningful correlation between the CEM and the reference test method.

The situation at TEC Big Bend is analogous to having all of the grouped data points at the low end of the example figure but no elevated data points to establish an accurate

correlation. To that end, TEC desires to operate at elevated grain loadings during the fourth and final PM stack test event in Spring 2004.

TEC plans to achieve elevated grain loadings during the PM testing through bypassing approximately 80 to 95 percent of the flue gas from Unit 3 around the scrubber and then powering down the Unit 3 ESP transformer/rectifier sets until the opacity approaches 20 to 25 percent. The results from the first two days of the seven day event will be used to establish the target operating conditions that result in PM emissions in the range of 0.01 to 0.03 lb/MMBtu,

which is below the PM emission limits of 0.1 and 0.03 lb/MMBtu for Units 3 and 4, respectively. TEC will then operate at the target conditions for the remaining five days.

Note that Unit 3 and Unit 4 share a common FGD and exhaust stack; the location of the stack testing is downstream of the FGD after reintroduction of bypassed Unit 3 flue gas.

While it is not TEC's intent to operate at conditions above 0.03 lb/MMBtu (the PM emission limit for Unit 4), we understand that there may be some short term periods where PM emissions may exceed 0.03 lb/MMBtu. In addition, both units are subject to a 20 percent opacity standard, and the opacity during the test runs may need to exceed 20 percent in order to obtain the desired particulate loading.

Of greater concern to TEC, however, is bypassing Unit 3 flue gas around the FGD. Scrubber bypass is necessary to accurately control the grain loading because the FGD impacts PM emissions in a way that is difficult to quantify with the level of precision needed during the stack testing. The Title V permit specifies a 90 percent removal efficiency of sulfur dioxide (SO₂) across the FGD, and TEC is not sure that this removal efficiency will be met with most of Unit 3's flue gas bypassing the scrubber.

Settlement Requirements

The Federal Consent Decree requires a greater removal efficiency than the current Title V permit (i.e., 95 percent versus 90 percent). In addition, the Consent Decree provides for a maximum of 30 "unscrubbed days" of operation during the calendar year. Each day for which there is any operation of Unit 3 without employing the scrubber counts against this 30 day limit.

The Department has no authority to waive these requirements of the Federal Consent Decree.

Under the Consent Final Judgment signed between TEC and the State, TEC must "maximize scrubber utilization on all four boilers at Big Bend." In the Consent Final Judgment, however, "[the Department] recognizes the need for shut down for operational reasons." We believe that this short-term, fixed-length, pre-planned bypass of the scrubber can be accommodated under the Consent Final Judgment language. Note also that the test plan calls for pre-bunkering of coal with a lower sulfur content (2.2 lb/MMBtu) to be fired in Unit 3 during the entire stack testing event.

Additional Information Needed Prior to Authorization

The Department requests the following information relevant to the PM CEM system and the proposed fourth round of stack testing:

1. A discussion of the PM CEM system maintenance procedures, including any current problems and how they will be addressed in the future, referencing or attaching:
 - Standard Operating Procedures, identifying timely responses to CEM alarms by technicians, schedules for changing out the CEM filter tape, etc.
 - Maintenance logs and vendor supplied weekly or monthly maintenance checklists.

2. A summary of data from the previous three stack test events, including test conditions, the reference test method results (lb/hr, lb/MMBtu, etc.), and the corresponding PM CEM output (mg/dscm, etc.).
3. An explanation why it is inappropriate to include or correct the Method 5 data with respect to combining them with the Method 5B results for purposes of meeting the relative standard deviation requirements of PS-11.
4. An identification of any mechanical, technical, or operational problems with the PM CEM system that remain outstanding.

Authorization

Paragraph 403.061(16), Florida Statutes (F.S.), authorizes the Department to encourage voluntary cooperation by persons in order to achieve the purposes of the state environmental control act. Paragraph 403.061(18), F.S., authorizes the Department to encourage and conduct studies, investigations, and research relating to the causes and the control of pollution. Rule 62-210.700(5), Florida Administrative Code (F.A.C.), authorizes the Department to consider variation in industrial equipment and make allowances for excess emissions that provide reasonable and practical regulatory controls consistent with public interest.

The proposed PM CEM stack testing protocol at TEC is consistent with the aforementioned provisions. Although the PM CEM system is not used for compliance purposes at TEC, implementing this protocol will help ensure that the CEM system is accurately measuring PM while demonstrating the viability of PM CEM systems in general for application at other utilities and to other industries.

In accordance with the provisions of Paragraphs 403.061(16) and (18), F.S., and Rule 62-210.700(5), F.A.C., you are hereby authorized to conduct the PM CEM stack testing protocol in accordance with your submitted test plan for the Big Bend facility in Apollo Beach, Hillsborough County. This protocol will require TEC to bypass some portion of the Unit 3 flue gas around the FGD, which may result in short-term, temporary exceedences of the PM, opacity, and SO₂ removal efficiency requirements of the Big Bend Title V permit (0570039-010-AV).

The authorization to implement the PM CEM stack testing protocol shall be subject to the following conditions:

1. TEC shall submit to the Department's Bureau of Air Regulation the information requested above under the heading "Additional Information Needed Prior to Authorization" at least 10 days prior to commencement of the PM CEM stack test protocol.
2. Unless waived, the permittee shall notify the Environmental Protection Commission of Hillsborough County at least 10 days prior to commencement of the PM CEM stack test protocol.
3. The PM CEM stack test protocol will occur over a period not to exceed 7 days between January 1, 2004, and March 31, 2004. If additional time is needed, the permittee shall provide the Department with documentation of the progress accomplished to date and

shall identify what is left to be done to complete the testing and measurements or monitoring. Testing shall not resume without the written approval of the Department.

4. A written report shall be submitted to the Department's Bureau of Air Regulation within 60 days upon completion of the protocol. The written report shall include a summary of the data consistent with the level of detail provided for the first three stack test events.
5. The PM CEM stack test protocol shall immediately cease upon the occurrence of an environmental complaint by a citizen or other party, or a nuisance or danger to the public health or welfare, as verified or determined by the Environmental Protection Commission of Hillsborough County or the Department's Southwest District Office. The protocol shall not resume until appropriate measures to correct the problem have been implemented.
6. This Department action authorizes only the performance testing, parameter measurements, monitoring, and other activities performed pursuant to and outlined in the PM CEM stack test protocol, incorporated by reference (see attached).
7. Complete documentation of the activity shall be kept on file for at least five years.
8. The Environmental Protection Commission of Hillsborough County shall be notified in writing on the date of the completion of the PM CEM stack test protocol. If after work hours, notification shall occur the next work day.
9. The permittee shall notify the Department if any substantive changes or revisions to the PM CEM stack test protocol are made prior to testing.
10. During the 7-day stack test period, TEC will maintain PM emissions below 0.03 lb/MMBtu and opacity below 20 percent to the extent possible.
11. SO₂ removal efficiencies recorded during the 7-day stack test period shall not be included in the 30-day average removal efficiency calculations. Unit 3 flue gas will only bypass the scrubber during the approximately 12-hour per day testing periods.

Administrative Rights

The Department has relied on conversations with representatives of TEC, the EPA, the Environmental Protection Commission of Hillsborough County, the Department's Southwest District Office, and MSI Mechanical, Inc., in authorizing this activity. This authorization will take effect immediately unless a timely petition for an administrative hearing is filed pursuant to Sections 120.569 and 120.57, Florida Statutes (F.S.). The procedures for petitioning for a hearing are set forth below.

A person whose substantial interests are affected by this authorization may petition for an administrative proceeding (hearing) under Sections 120.569 and 120.57, F.S. 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 permittee or any of the parties listed below must be filed within twenty-one days of receipt of this authorization. Petitions filed by any

persons other than those entitled to written notice under Section 120.60(3), F.S., must be filed within twenty-one days of receipt of this authorization. Under Section 120.60(3), F.S., however, any person who asked the Department for notice of agency action may file a petition within twenty-one days of receipt of that notice. A petitioner shall mail a copy of the petition to the permittee 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, F.A.C.

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, as well as the rules and statutes which entitle the petitioner to relief; and (f) A demand for relief.

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, F.A.C.

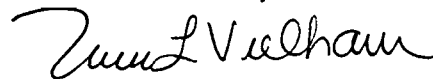
Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means that the Department's final action may be different from the position taken by it in this notice. Persons whose substantial interests will be affected by any such final decision of the Department regarding this authorization 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.

Any party to this authorization 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 authorization is filed with the Clerk of the Department.

Ms. Crouch
December 8, 2003
Page 7 of 7

A copy of this authorization and accompanying materials related to the agency action are available for public inspection during normal business hours, 8:00 a.m. to 5:00 p.m., Monday through Friday, except legal holidays, at the Department of Environmental Protection, Division of Air Resources Management, Suite 23, Magnolia Courtyard, 111 South Magnolia Drive, Tallahassee, Florida 32301.

Sincerely,



Trina Vielhauer, Chief
Bureau of Air Regulation

TLV/gpd

Enclosure

cc: Greer Briggs, TEC Big Bend
David Lloyd, EPA Region 4
Errin Pichard, DEP – BAMMS
Scott Sheplak, DEP – BAR/Title V
Jerry Kissel, DEP – SWD
Sterlin Woodard, EPCHC



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BUREAU OF AIR REGULATION

September 19, 2003

Ms. Trina Vielhauer
Chief Bureau of Air Regulation
Florida Department of Environmental Protection
111 South Magnolia Drive, Suite 4
Tallahassee, Florida 32301

Via FedEx
Airbill No. 7916 7645 1040

Re: Tampa Electric Company
Big Bend Station
Permit No. 0570039-010-AV
PM CEM Higher Grain Loading Test Protocol

Dear Ms. Vielhauer:

Tampa Electric Company (TEC) is requesting authorization to conduct Particulate Matter (PM) testing at elevated grain loadings in order to evaluate the performance of the Particulate Matter Continuous Emissions Monitoring (PM CEM) at Big Bend Station in the first quarter of 2004. Pursuant to Paragraph 32.F of the Consent Decree, TEC is to determine if the PM CEM is feasible. Specifically Paragraph 32.F of the Consent Decree states:

"Continuous operation" of the PM CEM shall mean operation at all times that Unit 4 operates, except for periods of malfunction of the PM CEM or routine maintenance performed on the PM CEM. If after Tampa Electric operates this PM CEM for at least two years, and if the parties then agree that it is infeasible to sustain continuous operation of the PM CEM, Tampa Electric shall submit an alternative PM monitoring plan for review and approval by EPA. The plan shall include an explanation of the basis for stopping operation of the PM CEM and a proposal for an alternative monitoring protocol. Until EPA approves such plan, Tampa Electric shall continue to operate the PM CEM."

In order to meet this requirement, TEC is planning a series of particulate emission tests, at a higher grain loading than previously tested, to evaluate the performance of the PM CEM. Simply stated, this evaluation will require TEC to reduce the collection efficiency of the electrostatic precipitator (ESP) on Big Bend Station Unit 3 (Unit 3) and bypass the Unit 3 flue gas around the flue gas desulfurization (FGD) system that services Unit 3 and Big Bend Station Unit 4 (Unit 4). During this test period, Unit 4 will be totally scrubbed and Unit 3 will be burning the unscrubbed compliance fuel with a sulfur content of no greater than 2.2 lb/mmmbtu. Because Unit 3 and Unit 4 gases are combined, the effect of bypassing will significantly lower the indicated removal efficiencies of both Unit 3 and Unit 4.

TAMPA ELECTRIC COMPANY
P. O. BOX 111 TAMPA, FL 33601-0111

(813) 228-4111

AN EQUAL OPPORTUNITY COMPANY
HTTP://WWW.TAMPAELECTRIC.COM

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HILLSBOROUGH COUNTY (813) 223-0800
OUTSIDE HILLSBOROUGH COUNTY 1 (888) 223-0800

Ms. Trina Vielhauer
September 19, 2003
Page 2 of 2

TEC is sensitive to both the Consent Decree requirements and the Title V Permit requirements. The unscrubbed days and Unit 3's and Unit 4's removal efficiencies will be in jeopardy since Unit 3's flue gas will bypass the FGD system. TEC requests that during this test period, removal efficiencies not be included in the thirty (30) day average removal efficiency calculations, and that this testing will not result in TEC utilizing additional Unit 3 unscrubbed days to perform this test. Therefore, TEC is requesting a temporary variance with regard to the affected conditions of the Consent Decree and Title V Permit which may be directly attributed to this testing. Authorization of these tests is consistent with the Department's power and duty under Section 403.061(18), Florida Statutes, to "encourage and conduct studies, investigations, and research relating to pollution and its causes, effects, prevention, abatement, and control."

The specific equipment to be tested is the PM CEM, which will be compared to the PM data collected using EPA Method 5B. TEC will measure and record all other parameters required under Title V and the Consent Decree.

Provided in Attachment A is an authorization statement by Karen A. Sheffield, the Responsible Official outlining her approval of this temporary variance request. Provided in Attachment B is a statement by a professional engineer regarding the certification of the test protocol and schedule. Attachment C contains the PM CEM Higher Grain Loading Test Protocol.

Please note that we recently spoke with the staff at the EPA, DEP, and EPCHC to outline this request and TEC's proposed PM CEM test schedule. Mr. Gregory DeAngelo is being copied on this correspondence. If you have any questions or need further information regarding the test procedures for Big Bend Station, please feel free to contact Ms. Greer Briggs or me at (813) 641-5034.

Sincerely,

A handwritten signature in cursive script, appearing to read "Laura Crouch for".

Laura Crouch
Manager, Air Programs
Environmental Affairs

EA/bmr/GMB106

Enclosure

Attachment A

**CERTIFICATION BY RESPONSIBLE OFFICIAL
BIG BEND STATION UNITS 3 & 4 PARTICULATE MATTER
CONTINUOUS EMISSIONS MONITOR TEST TEMPORARY
VARIANCE REQUEST**

“I, the undersigned, am the responsible official, as defined in Chapter 62-210.200, F.A.C., for the Big Bend Station for which this temporary variance is being submitted. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made and data contained in this request are true, accurate and complete.”

Responsible Official Signature:

Karen A. Sheffield

Karen A. Sheffield
General Manager of Big Bend Station

9/19/03

Date:

ATTACHMENT B

**TAMPA ELECTRIC COMPANY
BIG BEND STATION
UNITS 3 & 4 PARTICULATE MATTER
CONTINUOUS EMISSIONS MONITOR
TEST PROTOCOL AND SCHEDULE**

Professional Engineer Certification

Professional Engineer Statement:

I, the undersigned, hereby certify, except as particularly noted herein, that:*

(1) To the best of my knowledge, the information provided in this submittal concerning particulate matter continuous emissions monitoring system (PM CEMS) higher grain loading tests at the Tampa Electric Company (TEC) Big Bend Station is true, accurate, and complete based on my review of material provided by TEC engineering and environmental staff; and

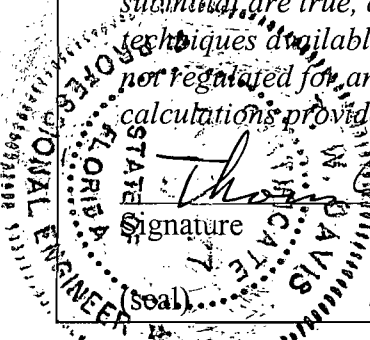
(2) To the best of my knowledge, any emission estimates reported or relied on in this submittal are true, accurate, and complete and are either based upon reasonable techniques available for calculating emissions or, for emission estimates of air pollutants not regulated for an emissions unit, based solely upon the materials, information and calculations provided with this certification.

Thomas W. Davis

Signature

9/16/03

Date



* Certification is applicable to the Tampa Electric Company (TEC) request to conduct PM CEMS higher grain loading tests at its Big Bend Station.

Attachment C

Tampa Electric Company



Big Bend Station Units 3 & 4 PM CEM Higher Grain Loading Test Plan

September 19, 2003

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1.0 INTRODUCTION

Tampa Electric Company's Big Bend Station (ORIS Code No. 00645) has requested the authorization to conduct Particulate Matter Continuous Emissions Monitoring (PM CEM) testing in two of its steam generator units (Units 3 and 4). Particulate matter is produced as a by-product of combustion in coal-fired boilers. This request was forwarded to the Environmental Protection Agency (EPA) and Florida Department of Environmental Protection (Department) and is consistent with the Department's power and duty under Section 403.061(18), Florida Statutes, to "[e]ncourage and conduct studies, investigations, and research relating to pollution and its causes, effects, prevention, abatement, and control.

The purpose of this performance testing is to determine the dynamic linearity of the PM CEM equipment and its accuracy at higher grain loading in the range of 0.01 to 0.03 lb/mmbtu. The test for PM will be conducted using USEPA reference method 5B for "Determination of Particulate Matter Emissions from Stationary Sources" and the Sulfur Dioxide (SO₂) removal efficiency and opacity will be monitored using data from the plant CEMS. The testing for PM will be conducted at the outlet of the flue gas desulfurization (FGD or scrubber) system that serves both Big Bend Station Units 3 and 4 in common stack 3 (CS003). Tampa Electric Company has contracted ENSR to perform the PM stack testing.

2.0 FACILITY DESCRIPTION

2.1 Facility Location and Description

Tampa Electric Company's Big Bend Station is located in Apollo Beach, Hillsborough County, Florida. Big Bend Station consists of four steam boilers (Units 1 through 4). Units 1, 2, 3, and 4 have a nominal maximum heat input of 4,037, 3,996, 4,115, and 4,330 million Btu/hour, respectively. Units 1 through 4 are each serviced by an electrostatic precipitator (ESP) for the control of flyash emissions and an FGD system for the control of SO₂ emissions. Opacity monitors are located in the ductwork downstream of the ESP and upstream of the FGD system. These units are fired with either bituminous coal or with a petcoke/coal mixture up to 20 percent petcoke and 80 percent coal (by weight).

2.2 Reference Methods Sampling Location

The emission sampling location on the outlet downstream from the FGD system for Units 3 and 4 consists of four (4) ports spaced 90 degrees apart. Also, Units 3 and 4 share common stacks with test platforms located inside a stack annulus at the 250-foot level on each stack. The emission sampling location in the outlet downstream of the FGD system for CS003 consists of multiple ports accessed by a testing platform located inside the stack annulus. All of the sampling port locations meet EPA Reference Method 1 testing criteria.

3.0 REFERENCE METHOD TESTING

Particulate Matter will be sampled and analyzed using USEPA test method 5B (40CFR60, Appendix A). SO₂ and Opacity will be monitored using the existing CEM.

Output megawatts, applicable boiler operating data, ESP operating data, FGD operating data, etc will be measured, documented, and recorded, to verify the various process conditions during testing.

3.1 QA/QC Operations

Gas Emission Test and Gas Sample Strategy:

The data from approximately twenty runs will be used for the purposes of determining the feasibility of the PM CEM as specified in Paragraph 32.F of the Consent Decree. PM emission test runs will be a minimum of 1 hour in duration and will be performed with the Units operating at their daily load capabilities.

Unit Exhaust Gas for PM Measurements:

Each probe will be calibrated at the ENSR instrument laboratory and QA/QC procedures will be performed as required by each USEPA test methods. Following initial calibrations of the equipment, a sample of exhaust gas will be extracted from CS003 using paired trains as specified in the USEPA's proposed Performance Specification 11 (PS-11). The results of these measurements will be manually recorded and entered into a portable personal computer to document the sample analysis, calibrations and quality assurance activities conducted during the tests.

3.2 Instrumental Reference Methods - PM

USEPA Proposed Performance Specification 11 for PM CEM:

PM will be measured by extracting an exhaust gas sample from CS003. The mass of the collected PM from the gas sample will be determined gravimetrically from the nozzle, probe, and filter holder and front half filter fraction. A heated, glass-lined probe with a glass nozzle and attached thermocouple and pitot tubes will be used to sample the gas from CS003. The sample gas passes through the probe to the heated glass fiber filter. The temperature of the probe and filter are heated to 320°F +/-25°F. Four impingers are located after the filter box. A pump, dry gas meter, and calibrated orifice follow the impingers. In addition, molecular weight will be determined using an integrated tedlar bag sample collected from the gas stream for O₂ and CO₂ analysis.

ENSR will perform an analysis of the PM samples and filters at the ENSR Air Toxics Laboratory, after the sample collection and recovery procedures have been completed for all twenty test runs.

4.0 PROPOSED TESTING SCHEDULE

The dynamic linearity and high grain loading tests are tentatively scheduled to begin in the first quarter of 2004. Testing is planned for completion in one week or until twenty runs have been completed, based on the operating conditions of both Units. During the tests, emissions from CS003 will be evaluated while firing coal with a sulfur content of no more than 2.2 lb/mmbtu in Unit 3. Listed below is the proposed schedule for each day of testing. This is subject to change based on the daily operation of Units 3 and 4.

Day 1:

1. Reduce booster fans for the FGD system on A and B towers until approximately 80% of Unit 3's flue gas is bypassed.
2. Reduce power to Unit 3's ESP transformer/rectifier (T/R) sets until the opacity is between 16 and 20%.
3. Hold this condition for approximately 12 hours while 5 to 6 Reference Method 5B PM sample runs are performed in CS003.
4. Reset Unit 3's ESP T/R sets to their original power levels.
5. Reset the FGD system booster fans to their normal operation.
6. Check the grain loading recorded by the PM CEM.

Day 2:

1. If 12 to 20 mg/dscm was recorded by the PM CEM during the first day's testing, then repeat the procedures for day 1. If not, proceed with step 2.
2. Reduce booster fans for the FGD system on A and B towers until approximately 90 to 95% of Unit 3's flue gas is bypassed.
3. Reduce power to Unit 3's ESP T/R sets until the opacity is between 20 and 25%.
4. Hold this condition for approximately 12 hours while 5 to 6 Reference Method 5B PM sample runs are performed in CS003.
5. Reset Unit 3's ESP T/R sets to their original power levels.
6. Reset the FGD booster fans to their normal operation.
7. Check the grain loading recorded by the PM CEM.

Day 3:

1. If 12 to 20 mg/dscm was recorded by the PM CEM during the first day's testing, then repeat the procedures for day 1. If not, repeat the procedures for Day 2.

Day 4:

1. If 12 to 20 mg/dscm was recorded by the PM CEM during the first day's testing, then repeat the procedures for day 1. If not, repeat the procedures for Day 2.

Day 5:

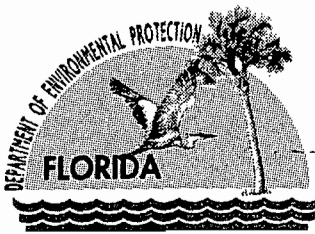
1. If 12 to 20 mg/dscm was recorded by the PM CEM during the first day's testing, then repeat the procedures for day 1. If not, repeat the procedures for Day 2.

Day 6:

1. If 12 to 20 mg/dscm was recorded by the PM CEM during the first day's testing, then repeat the procedures for day 1. If not, repeat the procedures for Day 2.

Day 7:

1. If 12 to 20 mg/dscm was recorded by the PM CEM during the first day's testing, then repeat the procedures for day 1. If not, repeat the procedures for Day 2.



Department of Environmental Protection

Jeb Bush
Governor

Central District
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803-3767

David B. Struhs
Secretary

Ms. Bea Polk
101 Riverpark Boulevard
Titusville, Florida 32780

OCD-AP-113

main files?
Recycle?

Public Records Request
Reliant Energy Indian River, L.L.C.
Indian River Plant
US 1 and King's Highway
Titusville, Brevard County, Florida

Dear Ms. Polk:

This is in response to your December 4, 2003 request for information on the Reliant Energy Indian River power generating facility. I have enclosed a copy of the current Title-V Air Operating permit that will list the various regulations and requirements for operation of the facility, and a copy of a report detailing the latest compliance inspection performed by an FDEP air inspector. I have also enclosed a compact disc that includes various letters, e-mails, and reports concerning the Indian River facility, including the last three years of emissions testing reports. This CD is a duplicate of the information provided to Brevard County during a recent file review. Emissions testing is performed on the facility on an annual basis. A private company that is hired by Reliant Energy performs the testing. Testing is witnessed by qualified FDEP personnel to ensure that emissions testing is conducted in a manner that adheres to the EPA testing methods, and that plant operation represents the daily operating conditions of the facility. FDEP does not have the staff or equipment to conduct emissions testing of this magnitude. As we discussed in our phone conversation, the Indian River plant was built prior to enactment of the 1990 Clean Air Act Amendments, is exempted from certain portions of the Clean Air Act requirements, and at this time is not required to provide additional pollution control devices or utilize fuels other than the options specified in the attached permit.

If you require any additional records, please contact Dina Jones at (407) 893-3333 to schedule an appointment for a file review. A copier can be reserved and copies of any of the records can be made for \$0.15 per page. If you have any questions concerning the information provided, please contact Tom Mulligan at (407) 893-3333 or e-mail at tom.mulligan@dep.state.fl.us.

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BUREAU OF AIR REGULATION

Sincerely,

L. T. Kozlov, P. E.
Program Administrator
Air Resources Management

12-9-03

Date

- Attachments: 1 - Reliant Energy Title-V Operating Permit
2 - Compliance Inspection Report
3 - CD containing various letters and reports

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BUREAU OF AIR REGULATION

From

SUSAN MCKINLEY / CD-AIR PROGRAM

Date

12/12/03

Phone

407-893-3333