January 22, 2010

Byron T. Burrows
Manager – Air Programs
Environmental, Health & Safety
Tampa Electric Company
Post Office Box 111
Tampa, FL 33601-0111

Re: Petition for Relief from Standard Missing Data Substitution for Common Stack CS0W1 at the Big Bend Power Station (Facility ID (ORISPL) 645)

Dear Mr. Burrows:

The United States Environmental Protection Agency (EPA) has reviewed the July 8, 2009 petition submitted under 40 CFR 75.66(l) by Tampa Electric Company (TEC), in which TEC requested relief from using missing data substitution for failing to complete a required 3-load relative accuracy test audit (RATA) of the flow monitor on common stack CS0W1 at the Big Bend Power Station (Big Bend). EPA approves the petition, in part, with conditions, as discussed below.

Background

TEC's Big Bend Power Station has two coal-fired wet bottom turbo-fired boilers, Units BB01 and BB02, that share a common stack, known as CS0W1. Each of the units serves a generator having a nameplate capacity of 445.5 MW. According to TEC, the units are subject to the Acid Rain Program and to the Clean Air Interstate Rule (CAIR). Therefore, TEC is required to continuously monitor and report sulfur dioxide (SO_2), nitrogen oxides (NO_x) and carbon dioxide (CO_2) emissions and heat input for these units in accordance with 40 CFR Part 75. To meet these monitoring requirements, TEC has installed and certified dilution-extractive continuous emission monitoring systems (CEMS) at the common stack for SO_2, NO_x, and CO_2, and a flow monitor. Emission control devices for Units BB01 and BB02 include an electrostatic precipitator for particulate matter and a wet limestone scrubber for SO_2.

Section 2.3.1.3(c)(4) of Appendix B to Part 75 requires the owner or operator to perform a 3-load RATA of each flow monitor, at "low", "mid", and "high" load levels, once every 5 years (20 calendar quarters). The last 3-load RATA of the flow monitor installed on CS0W1 was completed in the fourth quarter of 2003. Therefore, the next 3-load RATA was due either in the fourth quarter of 2008 or within a 720 unit operating

hour grace period following that quarter (See 40 CFR Part 75, Appendix B, section 2.3.3(a)).

According to TEC, it was not possible to perform a 3-load flow RATA within the required time frame because both units must be operating to perform the RATA at the required load levels (particularly the high load), and Unit BB02 was taken off-line for an extended period, beginning on November 28, 2008 for the installation of a selective catalytic reduction (SCR) system. Unit BB02 did not return to service until April 30, 2009, but entered into a second major outage on May 1, 2009 to correct operational problems discovered during the startup process. Unit BB02 restarted on May 26, 2009, went into a third outage on June 19, 2009, and was still off-line as of July 8, 2009, the date of TEC's petition.

TEC performed and passed a low-load flow RATA at CS0W1 on May 7 and June 11, 2009 and performed and passed a mid-load flow RATA on June 18, 2009. However, as of the date of TEC's petition, Units BB01 and BB02 had operated in the "high" load range for only 120 hours in 2009. According to TEC, only 30 of those 120 high-load hours were consecutive, i.e., during commissioning of the SCR, and maintaining the steady load necessary for the RATA could not be assured.

In the July 8, 2009 petition, TEC asked EPA to: (a) accept the flow rate data recorded at CS0W1 in 2009 as quality-assured; and (b) suspend the use of missing data substitution for stack gas flow rate at CS0W1 until such time that it is feasible to perform a 3-load flow RATA. TEC also requested that EPA apply the 720 operating hour grace period only to data recorded at high load. TEC would then perform a high-load flow RATA within the grace period and combine the high-load RATA with the low-load and mid-load RATAs from May and June 2009 to satisfy the 3-load RATA requirement.

EPA's Determination

EPA denies TEC's request to suspend the use of missing data substitution for stack gas volumetric flow rate until a 3-load RATA of the flow monitor installed on CS0W1 at Big Bend has been performed and passed. Sections 2.3.3 (a) and (c) of Appendix B to Part 75 state that whenever a required 3-load RATA of a flow monitor is not completed by the end of a 720 operating hour grace period following of the end of the calendar quarter in which the RATA is due, data from the flow monitor must be invalidated until the required RATA has been successfully completed.

TEC did not perform a 3-load RATA of the flow monitor on CS0W1 either during the 4th quarter of 2008 when the test was due, or within a 720 operating hour grace period following that quarter. Although the 3-load test could not have been done during the grace period due to the outage of Unit BB02, TEC could have performed it in October or November 2008, before Unit BB02 was taken out of service. Therefore, in accordance with section 2.3.3(c) of Appendix B, data from the flow monitor are invalid starting on February 2, 2009, hour 04, immediately after the expiration of the grace period, and will

remain invalid until TEC completes a successful, "hands-off" 3-load RATA of the monitor.

EPA also denies TEC's requests to: (a) apply the 720 operating hour grace period only to data recorded at high load; (b) perform only a high-load flow RATA when Unit BB02 returns to normal operation; and (c) meet the 3-load flow RATA requirement of Appendix B, section 2.3.1.3(c)(4) by combining the high-load RATA with the low- and mid-load flow RATAs performed in May and June 2009. Section 6.5(e) of Appendix A to Part 75 requires a multi-load flow RATA to be completed within 720 unit or stack operating hours. While the multi-load RATA can be conducted in segments, Part 75 limits the period over which it can be performed in order to show that the CEMS is able to perform properly at all loads at the same time. The Agency has determined that as of the date of TEC's petition (July 8, 2009) more than 720 operating hours had elapsed at CS0W1 since May 7, 2009 when the low-load flow RATA was commenced. Therefore, the low- and mid-load RATAs from May and June 2009 may not be combined with a high load RATA performed after July 8, 2009 to make a valid 3-load flow RATA. To resume valid data status for the flow monitor on CS0W1, a full 3-load flow RATA must be performed "hands-off" and passed within a 720 operating hour window of time.

Notwithstanding the above denials, EPA is allowing TEC to use an alternative to the standard missing data routines in §75.33(c) until a 3-load flow RATA is performed and passed, in view of the extended outages of Unit BB02 in the first half of 2009 due to SCR installation and various operational problems encountered during unit restart. EPA is allowing this alternative because the standard missing data algorithm would grossly overestimate emissions (by about 68 percent in the case of NO_x and by about 63 percent in the case of SO_2) and because the subsequent successful flow RATA and daily calibration error tests indicate that the data recorded by the monitors are reasonably representative of the actual stack gas flow rates. The following tables shows the emissions for NO_x and SO_2 using standard missing data, using the approved alternative substitute missing data, and using the unofficial monitored emissions data sent by TEC staff to EPA staff on January 11, 2010. All of the emissions are for the operating hours beginning after the end of the grace period (2/2/2009, hour 4) through the hour before the completion of the three load RATA (8/28/2009, hour 10), according to quality assurance data submitted by TEC to EPA.

Time Period	NO_x Emissions (tons)		
	Standard Missing Data	Approved Alternate Substitute Missing Data	Unofficial Monitored Data
2/2/2009, hour 4 – 8/28/2009, hour 10	6,047	3,759	3,601

Time Period	SO_2 Emissions (tons)		
	Standard Missing Data	Approved Alternate Substitute Missing Data	Unofficial Monitored Data
2/2/2009, hour 4 – 8/28/2009, hour 10	1,645	1,052	1,008

Therefore, in the time period extending from February 2, 2009, hour 04 until successful completion of a 3-load flow RATA (or, as described below, until the commencement of conditional data validation), TEC may report substitute flow rate data at CS0W1 for each operating hour, as follows:

1. Perform a 2,160 hour lookback through the quality-assured flow rate data recorded immediately prior to February 2, 2009, hour 04.

2. Separate the 2,160 hours of bias-adjusted, quality-assured flow rate data according to load range ("load bin").

3. Determine the 95th percentile value of the data found in each load bin.

4. Report the 95th percentile value from the appropriate load bin for each operating hour in the missing data period. If there are no data in the lookback for a particular load bin, report the 95th percentile value from the next highest load bin for that operating hour. Manual entry of the substitute data values is permissible.

5. Report a method of determination code (MODC) of "55" for each hour of flow rate data during the missing data period.

6. If the percent monitor data availability (PMA) of the flow monitor has dropped below 80.0 percent by the end of the missing data period, TEC may use the missing data substitution procedure described in steps 1 through 5, above, in lieu of reporting the maximum potential flow rate (MPF), until the PMA returns to 80.0 percent. From that point forward, TEC shall resume use of the standard missing data routines in §75.33(c) for stack gas flow rate.

If TEC elects to use the approved alternative missing data procedures described immediately above, TEC shall resubmit the first, second, third, and fourth quarter 2009 electronic data reports for CS0W1, no later than January 30, 2010. To minimize the use

of substitute data prior to completing the 3-load flow RATA, TEC may apply the conditional data validation provisions of §§75.20(b)(3) when Unit BB02 resumes normal operation and all necessary load levels for the 3-load RATA are achievable. If conditional data validation is used for the 3-load flow RATA, a <QA Certification Event Data> record must be submitted in addition to the test results.

EPA's determination relies on the accuracy and completeness of the information provided by TEC in the July 8, 2009 petition and the supplemental information that TEC provided on January 11, 2010 and is appealable under Part 78. If you have any questions about this determination, please contact Art Diem at (202) 343-9340 or diem.art@epa.gov. Thank you for your continued cooperation.

Sincerely,

/s/
Sam Napolitano, Director
Clean Air Markets Division

cc: A. Stanley Meiburg, EPA Region IV
Carol M. Kemker, EPA Region IV
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Michael Pacoine, Florida DEP
Art Diem, CAMD