

11/1/2011

Mr. James O. Vick
Designated Representative
Gulf Power
One Energy Place
Pensacola, FL 32520

RE: Petition for Approval of a 7-Day Calibration Error Test Exemption for Units 4, 5, 6, and 7 at the Crist Electric Generating Plant (Facility ID (ORISPL) 641)

Dear Mr. Vick:

The United States Environmental Protection Agency (EPA) has reviewed the April 6, 2011 petition submitted under §75.66 (1) by Gulf Power, requesting approval of an exemption from performing 7-day calibration error tests, required under 40 CFR Part 75, of the continuous emission monitoring systems (CEMS) installed on two bypass stacks at the Crist Electric Generating Plant (Crist). EPA approves the petition, with conditions, as discussed below.

Background

Gulf Power owns and operates four coal-fired boilers, Units 4, 5, 6, and 7, at the Crist Electric Generating Plant, which is located near Pensacola, Florida. Units 4 and 5 have a combined generating capacity of 198 megawatts (MW), while Units 6 and 7 have a combined generating capacity of 905 MW. The units are subject to the Acid Rain Program. Therefore, Gulf Power is required to continuously monitor and report sulfur dioxide (SO₂), nitrogen oxides (NO_x), and carbon dioxide (CO₂) emissions and heat input data for the units in accordance with Part 75. To meet these monitoring requirements, Gulf Power uses in-stack dilution extractive gas monitors and a stack gas volumetric flow rate monitor.

Beginning in January of 2010, Gulf Power began operating a flue gas desulfurization (FGD) system to reduce SO₂ emissions from Crist Units 4, 5, 6, and 7. During normal operation, the flue gases from all four units are routed through the FGD to a common stack, known as CS1FGD. Occasionally, however, it becomes necessary to bypass the FGD (e.g., for scheduled maintenance) and to send the flue gases through two older (pre-FGD installation) common stacks, one that serves Units 4 and 5 (CS1BYP) and one that serves Units 6 and 7 (CS2BYP).

In the 4th quarter of 2010, Gulf Power installed CEMS on the two bypass stacks, in order to avoid reporting maximum potential concentration values during bypass hours. All required certification tests of the CEMS, except for the 7-day calibration error tests, were completed

within the time period required under Part 75. However, because the bypass stacks are seldom used, Gulf Power was unable to complete the 7-day calibration error tests of the new CEMS installed on CS1BYP and CS2BYP on time. According to Gulf Power, the only way to have met the deadline would have been to force an FGD bypass, which was not a viable option.

In view of these considerations, Gulf Power submitted a petition to EPA on April 6, 2011, requesting an exemption from the 7-day calibration error test for the CEMS installed on bypass stacks CS1BYP and CS2BYP. The basis for the request is that the infrequent use of the bypass stacks is similar to the intermittent operation of a “peaking unit” (as defined in 40 CFR §72.2). Under sections 6.3.1 and 6.3.2 of Appendix A to Part 75, CEMS installed on peaking units are exempt from the 7-day calibration error test.

A peaking unit is defined in §72.2 as a unit that has: (a) an average capacity factor (based either on heat input or electrical generation) of 10.0% or less during the previous three calendar years and (b) a capacity factor of 20.0 % or less in each of those calendar years. On a heat input basis, bypass stacks CS1BYP and CS2BYP typically have annual capacity factors well within these limits. Table 1, below, shows the typical expected annual utilization of the main scrubber stack and the two bypass stacks at Crist. Only about 7% of the annual heat input to Units 4, 5, 6, and 7 is expected to occur during bypass hours. This means that in the “worst case”, if all four units are operated all year (8,760 hours) at their maximum rated heat input capacities, the heat-input-based annual capacity factor for the bypass stacks, calculated according to §72.2, would be roughly 7%. However, the actual capacity factor should be considerably lower, because in practice, Units 4, 5, 6, and 7 are not likely to operate every hour.

Table 1: Expected Operation of the Scrubber Stack and Bypass Stacks at the Crist Facility

Percentage of Total Annual Heat Input While Using the Following Stack(s):		
Scrubber Stack	Units 4 & 5 Bypass Stack	Units 6 & 7 Bypass Stack
93.0%	1.0%	6.0%

EPA’s Determination

EPA approves Gulf Power’s April 6, 2011 petition to exempt the CEMS installed on bypass stacks CS1BYP and CS2BYP from the 7-day calibration error test, on the basis of the infrequent utilization of the bypass stacks. The purpose of the 7-day calibration error test is to demonstrate that the day-to-day calibration drift of a CEMS is minimal over an extended period of unit operation. Section 6 of Appendix A to Part 75 requires the test to be performed over 7 consecutive unit or stack operating days. However, for a CEMS installed on a peaking unit that operates sporadically, or for a bypass stack that is seldom used, it may take weeks or even

months to complete a 7-day calibration error test, causing the test to lose its significance.

The conditions of this approval are as follows:

- (4) Beginning with calendar year 2011 and for each subsequent calendar year, Gulf Power shall calculate the total annual heat input (MMBtu) to Crist Units 4, 5, 6, and 7 during hours when bypass stacks CS1BYP and CS2BYP are utilized.
- (2) Beginning with calendar year 2011 and for each subsequent calendar year, Gulf Power shall use the result from item (1) above to calculate the annual capacity factor for the bypass stacks, in accordance with the definition of “capacity factor” in 40 CFR 72.2.
- (3) For the 3-year period beginning with calendar years 2011 through 2013 and for each subsequent 3-year period (i.e., 2012-2014, 2013-2015, etc.), Gulf Power shall calculate the arithmetic average of the annual bypass stack capacity factors for the individual years.
- (4) If, at the end of a particular calendar year, the percentage of the annual capacity factor of the bypass stacks (item (2) above) exceeds 20.0% for that year, or if the 3-year average annual capacity factor, i.e., for that year and the two previous calendar years (item (3) above), exceeds 10.0%, Gulf Power shall perform diagnostic 7-day calibration error tests of all CEMS installed on bypass stacks CS1BYP and CS2BYP, as soon as practicable after the end of that year.¹

EPA’s determination relies on the accuracy and completeness of Gulf Power’s April 6, 2011 petition and the associated electronic data reports and is appealable under Part 78. If you have any questions regarding this correspondence, please contact Carlos R. Martinez at (202) 343-9747 or by e-mail at martinez.carlos@epa.gov. Thank you for your continued cooperation.

Sincerely,

/s/

Sam Napolitano, Director
Clean Air Markets Division

¹ Note that this is consistent with Part 75, Appendix A, section 6.3.3, which requires a diagnostic 7-day calibration error test to be performed when a unit loses peaking unit status. However, unlike section 6.3.3, which requires the 7-day test to be completed within one year, no specific deadline is set for Gulf Power to complete the test, due to the unpredictable nature of bypass stack operation from year-to-year. Instead, the test must be completed “as soon as practicable” after the end of the year in which the annual or 3-year average bypass stack capacity factor exceeds the threshold value.

cc: David McNeal, USEPA Region IV
John Glunn, Florida DEP
Carlos R. Martínez, CAMD