

May 9, 2001

Ms. Rebecca Voss Fields  
Environmental Manager  
Calpine  
Washington Parish Energy Center  
700 Louisiana Street  
Suite 2700  
Houston, TX 77002

Re: Petition for a Temporary Alternative Monitoring during simple cycle operation at Washington Parish

Dear Ms. Voss Fields:

The United States Environmental Protection Agency (EPA) has reviewed your February 15, 2001 petition requesting an alternative monitoring procedure during simple cycle operation at the Washington Parish Energy Center LLC's (WPEC) in Washington Parish Energy Center (Washington Parish).

#### Background

Washington Parish is under construction in Bogalusa, Washington Parish, Louisiana and will consist of two 200 MWe combustion turbines, each firing pipeline natural gas and exhausting to a supplementary-fired heat recovery steam generator (HRSG) that serves a steam turbine. Starting around June 1, 2002, the two combustion turbines will generate electricity for 18 weeks, 80 hours per week in simple cycle. Then the units will shut down, and the HRSGs and steam turbines will be constructed. The units will restart in combined cycle mode in January 2003. During the period of simple cycle operation, the units will each exhaust through a temporary stack. When the HRSGs and steam turbines are completed, the stacks will be relocated to a permanent location, and the turbines will operate in combined cycle thereafter.

Under Part 75, the units will not qualify as peaking units and so cannot monitor nitrogen oxide (NOx) emissions using Appendix E and must use continuous emission monitoring systems (CEMS) for NOx. Part 75 requires certification of each unit's CEMS within 90 days of the commencement of commercial operation of the unit. Since each stack is going to be moved from a temporary location, the CEMS would have to be installed and certified in the temporary stack

location and then reinstalled and recertified in the permanent stack location to comply with the monitoring requirements. With regard to sulfur dioxide (SO<sub>2</sub>) emissions, the units will qualify to use Appendix D, which allows SO<sub>2</sub> monitoring using a fuel flow meter and a default emission rate for pipeline natural gas. However, WPEC does not intend to install a data acquisition and handling system (DAHS) until the full NO<sub>x</sub> CEMS are installed.

WPEC therefore requests an extension of the NO<sub>x</sub> and SO<sub>2</sub> CEMS certification deadline until after the HRSG and steam turbine are constructed and the stack is moved to its permanent location. Specifically, WPEC proposes to install each unit's NO<sub>x</sub> and SO<sub>2</sub> CEMS (including the DAHS) within 90 days after commencement of commercial under the combined cycle mode. WPEC also proposes to report substitute emission data based on the maximum potential emission rates for NO<sub>x</sub> and SO<sub>2</sub> until the certification of the NO<sub>x</sub> CEMS in the permanent stack. The maximum potential emission rates will be determined by a single performance test conducted under §60.8, in accordance with applicable test methods listed in Part 60, within 90 days of commencement of commercial operation in simple cycle mode.

#### EPA's Determination

EPA agrees that WPEC should not be required to install and certify NO<sub>x</sub> CEMS twice at each unit, first at the temporary stack location and then 18 weeks later at the permanent stack location. Further, EPA agrees that it is reasonable to coordinate installation of the DAHS and certification of the SO<sub>2</sub> CEMS with the certification of NO<sub>x</sub> CEMS. Consequently, EPA approves extension of the deadline for certification of NO<sub>x</sub> and SO<sub>2</sub> CEMS at each unit at Washington Parish until 90 days from the commencement of commercial operation of the unit in combined cycle mode.

The extension is conditioned on WPEC reporting emission data, starting 90 days after the commencement of commercial operation of the unit in simple cycle mode. With regard to NO<sub>x</sub>, WPEC must report substitute data based on the unit's maximum potential concentration for NO<sub>x</sub>. WPEC must report substitute data for each operating hour until the unit's NO<sub>x</sub> CEMS is provisionally certified at the permanent stack location under §75.20(a)(3). With regard to SO<sub>2</sub>, WPEC must use Appendix D to report emissions based on a fuel flow and the default emission rate for pipeline natural gas. These conditions will ensure that emissions are not under-reported during the period before CEMS certification.

While WPEC requests to determine the unit's maximum potential concentration of NO<sub>x</sub> on a single performance test conducted under §60.8, EPA does not agree that such test results would provide an adequate basis for determining maximum potential concentration. Part 75, Appendix A, Section 2.1.2.1(a) provides options for determining maximum potential concentration of NO<sub>x</sub>. One option under that section for determining maximum potential concentration is to use "NO<sub>x</sub> emission test results." 40 CFR part 75, appendix A, section 2.1.2.1(a). However, EPA maintains that WPEC's proposal to use the results of a one-time performance test under §60.8 is likely to result in a "maximum" value that understates emissions during certain hours. This is particularly true for hours during unit startup, when NO<sub>x</sub> controls such as water or steam injection or dry low NO<sub>x</sub> are likely not to be operating. EPA notes that, under §60.8(c), the performance test must be conducted under "representative" conditions and

operation "during periods of startup, shutdown, and malfunction" are expressly excluded from being treated as representative conditions for the performance test. 40 CFR 60.8(c).

A second option under Part 75, Appendix A, Section 2.1.2.1(a) is to use the values in Table 2-2 in Appendix A.<sup>1</sup> WPEC must use whatever value is in the table after 90 days of operation in simple cycle. This maximum potential concentration value must then be used to determine maximum potential NOx emission rate, in accordance with Section 2.1.2.1(b) of Appendix A.

Because the deadline for installation and certification of NOx and SO<sub>2</sub> CEMS (including a DAHS) is extended until 90 days after commencement of commercial operation in combined cycle mode, WPEC will not have a DAHS through which to report electronically the above-described NOx substitute data and SO<sub>2</sub> data. Consequently, for the period prior to certification of the NOx and SO<sub>2</sub> CEMS, WPEC must record hourly emission data and fuel usage in an electronic spreadsheet and submit such a spreadsheet for each quarter that includes any hour of unit operation prior to CEMS certification. For any hour of unit operation when the CEMS are certified, WPEC must submit a quarterly electronic report in accordance with Part 75.

EPA's response in this letter relies on the accuracy and completeness of the information in the February 15, 2001 letter and may be appealed under part 78. If you have any further questions or concerns about this matter, please contact Ruben Deza at (202) 564-3956 or [deza.ruben@epa.gov](mailto:deza.ruben@epa.gov).

Sincerely,

/s/

/s/

Brian J. McLean, Director  
Clean Air Markets Division

cc: Joseph Winkler, Region VI  
John R. Smith, State of Texas

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<sup>1</sup> A third option under part 75, appendix A, section 2.1.2.1(a) is to use historical, quality-assured CEMS data over the previous 720 unit operating hours. That option is not applicable in this case, where substitute data must be developed for the period before a CEMS is installed and certified.