UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF
AIR AND RADIATION

JAN 28 2003

Mr. Charles M. Darling, IV
Designated Representative
Desert Power, L.P.
5847 San Felipe, Suite 2900
Houston, Texas 77057

Re: Application and petition concerning use of LME excepted monitoring methodology at Desert Power Units #1 and #2

Dear Mr. Darling:

We have reviewed your September 17, 2002 certification application and December 23, 2002 supplemental information concerning use of the low mass emitter (LME) excepted methodology, under 40 CFR §75.19, on two gas-fired combustion turbines, Desert Power (ORIS 55848) Units #1 and #2 in Tooele County, Utah. The supplemental information included a petition to allow Desert Power to establish eligibility to use LME methodology using data on actual emissions and to extend the time to perform the initial Method 20 stack tests on Units #1 and #2. Units #1 and #2 are owned and operated by Desert Power, L.P. As explained below, EPA approves Desert Power, L.P.'s LME application and petition to use actual emissions to establish LME eligibility and to extend the time to perform the initial Method 20 stack tests, with conditions.

Background

Desert Power, L.P. has applied to use LME provisions in §75.19 instead of installing nitrogen oxides (NO_x) continuous emission monitoring systems (CEMS) on Units #1 and #2. Units #1 and #2 are new, identical, 35.9 MW, simple cycle, General Electric Frame 6 Model PG6541B combustion turbines, with lean pre-mixed dry low NO_x technology, firing pipeline natural gas. Each unit has its own separate exhaust stack. Neither unit has a bypass stack. Each unit commenced commercial operation on May 1, 2002.

EPA's Determination

Desert Power, L.P. submitted all the required items for an LME application: (a) a certification application; (b) a hardcopy and electronic monitoring plan; (c) three years of projected annual emissions; (d) a statement identifying the projected date that LME will first be used; (e) a description of the methodology that will be used to demonstrate on-going compliance;

and (f) documentation that the units are eligible to use projected emissions to qualify for LME status.

EPA finds items (a), (b), (c) and (e) to be approvable, subject to final resolution of any problems uncovered by our audit software. However, while Desert Power, L.P. requested in its application to start using the LME methodology on November 1, 2002, §75.19(a)(1)(ii) and §75.19(b)(4) require use of that methodology starting May 1, 2002 because that is the date when each unit commenced commercial operation. This also means, pursuant to §75.19(a)(1)(ii), §75.19(b)(4), and §75.64(a), that Desert Power must report the 2nd, 3rd and 4th quarter 2002 electronic data reports (EDR) to EPA. Desert Power, L.P.'s supplementary information stated that the 2nd and 3rd quarter 2002 EDRs would be submitted December 24, 2002. EPA received the 2nd and 3rd quarter EDRs on January 8, 2003. EPA notes that the 4th quarter 2002 EDR is due January 30, 2003.

Section 75.19(a)(2)(iv) requires appropriate documentation that Units #1 and #2 are eligible to use projected emissions to qualify for LME status. Under §75.19(a)(3)(i), Desert Power has an enforceable permit restriction on the number of annual operating hours and NO_x stack gas concentration so that the units will not emit more than the allowable tons of NO_x. At the time of the September 17, 2002 LME application, the Utah Department of Environmental Quality (DEQ) had only issued a proposed approval order for the permit for Units #1 and #2. However, on December 13, 2002, a final approval order (#DAQE-AN2519004-02) was issued by the DEQ containing the required restriction of 15 ppmdv NO_x concentration and 8,110 hours of operation per rolling 12-month period for each unit. These restrictions will allow the emissions from each unit to be below 100 tons of NO_x and 25 tons of sulfur dioxide (SO_2) per year, as required by §75.19(a)(1)(i)(A)(1).

Desert Power will use the fuel-and-unit-specific NOx emission rate of 0.055 lb NO_x/mmBtu (derived from the 15 ppmdv NOx permit limit) allowed in §75.19(c)(1)(iv) and the maximum rated hourly heat input (442.2 mmBtu/hr) method in §75.19(c)(3)(i) to calculate hourly NO_x mass emissions. For SO_2, Desert Power will use 0.0006 lb SO_2/mmBtu from §75.19, Table LM-1 multiplied by the maximum rated capacity, 442.2 mmBtu/hr. For CO_2, Desert Power will use the default emission factor 0.059 tons CO_2/mmBtu from §75.19, Table LM-3 multiplied by 442.2 mmBtu/hr.

Desert Power will use the excepted methodology, consistent with §75.19(c)(1)(iv)(H)(2) and §75.53, and provide evidence that the two units are operating in the pre-mixed combustion mode, fired with natural gas, and being operated within the acceptable ranges of the parameters specified in the monitoring plan. In addition, as required in §75.19(b), Desert Power will provide an annual demonstration that the two units continue to stay below the LME thresholds for SO_2 and NO_x.

Desert Power, L.P. has petitioned to establish eligibility to use LME methodology using actual emission data and for an extension of time to perform the initial Method 20 stack tests on

Units #1 and #2. Under §75.19, Desert Power has four options to perform the first year demonstration that Units #1 and #2 have emitted less than or equal to 100 tons NOx per year: (1) use 0.7 lb NO_x/mmBtu, the default maximum potential NO_x emission rate (MER) for a gas-fired turbine from §75.19, Table LM-2; (2) use 0.55 lb NO_x/mmBtu, based on 150 ppm NOx maximum potential concentration (MPC) from part 75, appendix A, Table 2-2; (3) use a manufacturer's estimate of uncontrolled emission rate, pursuant to appendix A, §2.1.2.1(a); or (4) perform a stack test on each turbine with the turbines operating in non-pre-mixed mode, pursuant to part 75, appendix A, §2.1.2.1(d).

Because each unit ran more than 1500 hours during 2002, neither NOx default emission factor (0.7 or 0.55 lb NO_x/mmBtu) would allow Unit #1 or #2 to qualify for LME status. Because of problems with the initial turbine contractor, a new contractor was brought in and the NO_x controls had to be replaced. Manufacturer's estimates are, therefore, unavailable for the turbines because the new contractor has not yet completed installation of the new dry low NO_x burners. The turbines have not operated since early November 2002 to allow installation of the new NO_x controls. According to the December 23, 2002 petition, this is the first time that dry low NOx technology has been installed on GE Frame 6B turbines at high altitude (4,000 feet above sea level), and this application presented some unique design considerations that required some experimentation. Finally, performing a stack test on each turbine with the turbines operating in non-pre-mixed mode would not allow the turbines to qualify for LME status because of the number of unit operating hours in 2002.

For the following reasons, EPA approves Desert Power, L.P.'s LME application and petition to use actual emission data to establish LME eligibility. First, EPA finds that Desert Power, L.P. has made a good faith effort to install and operate appropriate NO_x controls on Units #1 and #2, but because of initial contractor problems and a first time application of dry low NO_x controls at high altitude for these model turbines, has been unable to comply with the qualification requirements of §75.19 in a timely manner. Second, in the December 23, 2002 supplement, Desert Power, L.P. provided actual NO_x mass emissions for each unit for 2002. These emissions are based on AP-42 emission factors, stack tests, and logs of actual hours of operation in both the "pre-mix" (i.e., low NO_x), and "lean-lean" (i.e., non-low NO_x) modes. EPA finds Desert Power, L.P.'s 2002 determination of actual NO_x mass emissions to be acceptable. Third, it would be inappropriate to deny use of LME to Units #1 and #2, forcing installation of NO_x CEMS, because the federally enforceable operating hour limits and NO_x stack gas concentration limits in the final Utah permit, together with the soon to be completed dry low NO_x control installation, ensure that the two units will likely meet the LME requirements in the next few months.

Finally, under §75.19(b)(4) and §75.19(c)(1)(iv), Desert Power is required to perform initial Method 20 stack tests by the end of 2002 (the first year in which the LME methodology will be used) in order to determine the fuel-and-unit specific NOx emission rate for the units. Desert Power, L.P. requested an extension of time. EPA conditionally approves an extension of time to perform the initial Method 20 stack tests for the following reasons. First, Desert Power,

L.P. is in the process of installing dry low NO_x technology on Units #1 and #2. Stack tests would not be meaningful until this process is complete. Second, neither unit has been operating since early November 2002 because there are no electricity sales contracts in place and because of the installation of NO_x controls. Approval of the extension of time is conditioned on Desert Power, L.P. completing the initial Method 20 stack tests on Units #1 and #2 within 30 unit operating days from recommencement of commercial operation. Pursuant to §75.19(a)(4), Desert Power, L.P. must report from May 1, 2002 until the fuel-and-unit-specific NO_x emission rate testing (i.e., the initial Method 20 stack testing) is completed using a default MER of 0.7 lb NOx/mmBtu (Table LM-2), 0.55 lb NOx/mmBtu (based on 150 ppm NOx MPC from Table 2-2), or a manufacturer's estimate of the uncontrolled emission rate, pursuant to appendix A, §2.1.2.1(a).

If Units #1 or #2 fail to qualify as LME units once the new dry low NO_x controls are installed, the provisions of §75.19(b)(2)(ii)-(iii) shall apply, including use of appropriate CEMS or other methodology by December 31, 2003.

For submitting the required quarterly EDR reports, Desert Power, L.P. should go to the following web site to access EDR version 2.2 forms and instructions: http://www.epa.gov/airmarkets/reporting/edr21/. The following address has software that can be used to quality assure the electronic reports prior to submission: http://www.epa.gov/airmarkets/reporting/index.html.

EPA's approval of Desert Power, L.P.'s application under §75.19 and petition under §75.66 relies on the accuracy and completeness of the information in Desert Power, L.P.'s September 17, 2002 and December 23, 2002 supplemental information concerning use of the LME methodology and is appealable under Part 78 of the Acid Rain regulations. If there are any further questions or concerns about this matter, please contact John Schakenbach of my staff at 202-564-9158 or at (schakenbach.john@epa.gov) .

Sincerely,

Sam Napolitano, Acting Director
Clean Air Markets Division

cc: John Schakenbach, EPA, CAMD
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