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

AUG - 1 2002

OFFICE OF
AIR AND RADIATION

James V. Locher
Authorized Account Representative
Reliant Energy
1001 Broad Street
P.O. Box 1050
Johnstown, PA 15907-1050

Re: Petition to Use Reference Method 7E in Lieu of Method 20 for Combustion Turbines at the Mountain and Tolna Facilities (ORIS Codes 3111 and 3116)

Dear Mr. Locher:

This is in response to your June 3, 2002 petition under § 75.66, in which Reliant Energy (Reliant) requested to use EPA Reference Method 7E in lieu of Method 20 to determine fuel-and unit-specific default NO_x emission rates for combustion turbines at the Mountain and Tolna facilities. EPA approves the petition, for the reasons stated below.

Background

Reliant owns and operates four combustion turbines in Pennsylvania, two of which are located at its Mountain facility, and two at its Tolna facility. Mountain Units 031 and 032 and Tolna Units 031 and 032 are affected units in the NO_x Budget Trading Program under 25 Pa. Code Chapter 145. Therefore, Reliant is required to monitor and report NO_x mass emissions and heat input from these units in accordance with Subpart H of 40 CFR Part 75, beginning on May 1, 2002.

Since 1998, Reliant has reported NO_x mass emissions data from Mountain Units 031 and 032 and Tolna Units 031 and 032, under the Ozone Transport Commission (OTC) NO_x Budget Program (see 25 Pa. Code Chapter 123). For the OTC Program, the estimates of NO_x mass emissions for these units have been made using fuel-and-unit-specific NO_x emission rates derived from emission testing, in conjunction with records of fuel usage. The required OTC Program emission tests of the units were performed in 1997, using a methodology approved by the Pennsylvania Department of Environmental Protection (PADEP). However, since these emission tests were done five years ago, re-testing of the units in 2002 is required to satisfy the requirements of 25 Pa. Code Chapter 145.

For the past three ozone seasons (i.e., 1999, 2000, and 2001) the NO_x mass emissions from Mountain Units 031 and 032 and Tolna Units 031 and 032 have ranged from 3 to 17 tons per unit per ozone season. Therefore, the units qualify as low mass emissions (LME) units under § 75.19. The units also qualify under § 75.19 (c)(1)(iv)(B)(*1*) as a group of "identical" LME units. As there are four identical units in the group, Table LM-4 in § 75.19 requires fuel-and-unit-specific testing of at least two of them to determine the appropriate default NO_x emission rate(s) for the individual units.

As an attachment to the June 3, 2002 petition, Reliant submitted a proposed NO_x emission test protocol for the units. Reliant proposed to test Mountain Units 031 and 032 separately while combusting oil and natural gas. Testing of each unit would be done at two operating load levels, base and peak (see § 75.19 (c)(1)(iv)(C)(*9*)), and, for each type of fuel, the higher of the two 3-run average NO_x emission rates obtained at each load level would be applied to all units in the group. Although EPA Method 20 is the specified test method for fuel-and-unit-specific NO_x emission testing of LME combustion turbines (see § 75.19 (c)(1)(iv)(A)), for the reasons indicated below, Reliant requested permission to use Method 7E instead of Method 20.

The exhaust ducts for the Mountain and Tolna units are lined with a special synthetic membrane that prevents excessive heat from reaching the external surface of the ductwork. According to Reliant, the integrity of the membrane must be maintained, to prevent major structural failure in the ductwork. If Method 20 were to be used for the emission testing, several new sampling ports would have to be installed to enable the stratification test to be performed, thereby jeopardizing the integrity of the membrane. Reliant asserts that replacement of these synthetic membranes is expensive, and that in 1993, when the membranes were last replaced, the cost was $500,000 per unit.

In view of these considerations, Reliant petitioned to use Method 7E for the NO_x emission rate testing, in lieu of Method 20. Reliant proposed to use three sample points for each test, located at 16.7%, 50.0% and 83.3% of the way across the duct. These sample points are consistent with the "long" measurement line used for relative accuracy testing of Part 75 continuous emission monitoring systems (see section 8.1.3.2 of Performance Specification 2 in Appendix B of 40 CFR Part 60). A previous petition to use this same test methodology for these units was approved by PADEP in 1997, under the OTC NO_x Budget Program.

EPA's Determination

EPA approves Reliant's petition to use Method 7E for the required emissions tests of the Mountain and Tolna combustion turbines, in view of the unusual safety concerns associated with the use of Method 20 at this facility. The Agency believes that Reliant's proposed use of the "long" 3-point measurement line will adequately account for any gas stratification that may be present.

EPA's determination in this letter relies on the accuracy and completeness of the information provided by Reliant in the June 3, 2002 petition and is appealable under Part 78. If you have any questions or concerns about this determination, please contact Robert Vollaro, at (202) 564-9116. Thank you for your continued cooperation.

Sincerely,

Larry F. Ketcher, for

Peter Tsirigotis, Acting Director
Clean Air Markets Division

cc: Renee McLaughlin, EPA Region III
Joseph Nazzaro, Pennsylvania DEP
Robert Vollaro, CAMD