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

MAY 14 2001

OFFICE OF
AIR AND RADIATION

George Benoit
Authorized Account Representative
FPL Energy Operating Services, Inc.
P. O. Box 1213, 92 Depot Street
Bellingham, MA 02019

Re: Petition to Allow Common Pipe Monitoring of Fuel Flow at NEA Bellingham

Dear Mr. Benoit:

EPA has reviewed your October 26, 2000 petition under 310 CMR 7.28(11) and 40 CFR 75.70(h) for NEA Bellingham, ORIS Code 10307. The petition requests approval to measure fuel flow at a common pipe at NEA Bellingham. As discussed below, EPA approves the petition with certain conditions.

Background

The two units at NEA Bellingham are subject to a limit on nitrogen oxide (NOx) mass emissions under the Ozone Transport Region NO_x Budget Program and will become subject to 40 CFR Part 75, Subpart H monitoring in the near future. The units are gas turbines that combust natural gas and fuel oil. Their emissions are exhausted through a common stack. The units' NOx emission rate is measured by a continuous emissions monitoring system that includes a NOx monitor and diluent monitors installed on the common stack.

As noted in the petition, Appendix D, section 2.1.2 in Part 75 prohibits the use of fuel flow monitoring at a common pipe for any unit using Subpart H of Part 75 to monitor NOx mass emissions under a state or federal NOx mass emission reduction program. The petition requests to determine heat input for the units from natural gas by monitoring fuel flow rate using a gas flow meter installed on a common pipe to the units and similarly to determine fuel oil heat input by using a oil flow meter on a common pipe. The entire fuel flow in each common pipe is combusted in the two units.

EPA's Determination

EPA agrees that common pipe monitoring of natural gas and fuel oil flow rate is reasonable at NEA Bellingham. The units are monitoring NOx mass emissions at the common stack shared by the two units. If the units were to use two sets of gas flow meters and oil flow meters to separately measure fuel flows to each unit, the resulting fuel flow data would be summed and used, along with the common stack NOx emission rate, to determine common stack NOx mass emissions. In addition, using two sets, rather than one set, of meters would increase the potential for measurement error. Under these circumstances, there is no reason to bar monitoring at the common pipes for natural gas and fuel oil. EPA therefore approves the petition with the following condition.

Although NOx mass emissions are determined at the common stack for the units, NEA Bellingham must still report fuel flow separately for each unit. As a condition of approval of the petition, Equation D-10 in Part 75, Appendix D shall be used to apportion the common pipe fuel flows in order to report separate fuel flows for each unit. Equation D-10 is as follows:

$$GAS_{unit} = GAS_{meter}\left(\frac{U_{output}}{\sum_{all-units} U_{output}}\right)$$

(Eq. D-10)

Where:

GAS_{unit} = Gas flow apportioned to a unit, 100 scf.
GAS_{meter} = Total gas flow through the fuel flowmeter, 100 scf.
U_{output} = Total unit output, MW or klb/hr.

EPA's determination in this letter relies on the accuracy and completeness of the information in the submission of September 22, 2000 and is appealable under 40 CFR Part 78. If you have any further questions or concerns about this matter, please contact Theresa Alexander at (202)564-9747 or alexander.theresa@epa.gov.

Sincerely,

Brian J. McLean, Director
Clean Air Markets Division

cc: Ian Cohen, Region I
Sharon Weber, Mass. DEP