

June 3, 2010

Mr. Robert D. Teetz
National Grid
Director Environmental Management
175 East Old Country Road
Hicksville, NY 11801-4280

Re: Petition for Use of Fuel-and-Unit-Specific NO_x Emission Rates for Units at the Holtsville Combustion Turbine Facility (Facility ID (ORISPL) 8007)

Dear Mr. Teetz:

The United States Environmental Protection Agency (EPA) has reviewed the petition submitted under §75.66(a) by National Grid on August 7, 2009, in which National Grid has requested approval to use fuel-and-unit-specific NO_x emission rates, for periods of unit operation without use of water injection NO_x control systems, under the low mass emissions (LME) methodology described in §75.19. Because National Grid is requesting to use an alternative to the requirements of §75.19, EPA is treating the request as a petition under 6 NYCCR §243-8.6 and §244-8.6 of New York's Clean Air Interstate Rule (CAIR) NO_x ozone season and NO_x annual trading program rules. EPA approves the petition, with conditions, as discussed below.

Background

National Grid owns and operates the Holtsville Combustion Turbine Facility (Holtsville), located in Suffolk County, New York and consisting of twenty combustion turbines that combust diesel oil. The turbines, which commenced commercial operation in July, 1974, operate in pairs, with each pair ("twin pack") powering a 56.7 megawatt (MW) generator. Each combustion turbine has a maximum rated heat input capacity of 416 mmBtu/hr. According to National Grid, the units are subject to the CAIR NO_x Annual, SO₂, and NO_x Ozone Season Trading Programs, which require the monitoring and reporting of sulfur dioxide (SO₂) and nitrogen oxides (NO_x) emissions and heat input data for the unit in accordance with 40 CFR Part 75.

Under Part 75, oil and gas-fired units have three possible compliance options for NO_x monitoring. The owner or operator may: (1) install continuous emission monitoring systems (CEMS); (2) use the methodology in Appendix E to Part 75 (for peaking units, only); or (3) use the low mass emissions (LME) methodology in §75.19. National Grid utilizes the LME methodology to determine NO_x mass emissions for the Holtsville combustion turbines. According to National Grid, the Holtsville's 20 simple cycle combustion turbines have installed water injection systems to control NO_x emissions and ensure continuing compliance with NO_x RACT requirements (6 NYCRR Subpart 227-2). These water injection systems operate during the summer to provide significant NO_x reductions during the ozone season. Because these units operate infrequently during the winter months, the water injection NO_x control systems are not winterized and thus only operate from mid-late April through early October. This is reflected in the combustion turbines' permit, which allows for operation without these controls during the rest of the year.

National Grid states that it has developed representative NO_x emission rates for uncontrolled

operating conditions for the Holtsville combustion turbines. However, §75.19(c)(1)(iv)(H)(1) requires that the default NO_x emission rates from Table LM-2 be reported for any hour of operation where installed water or steam injection is not operating within the appropriate range to ensure proper NO_x control. National Grid claims that the default values are 25 to 50% higher than the actual maximum values determined during uncontrolled operation of these combustion turbines. Further, National Grid believes that the use of “grossly inappropriate” NO_x emission rates from Table LM-2 “incorrectly overstates emissions” and may “adversely affect” the database used in EPA’s modeling of regulatory requirements. National Grid requests to use for the Holtsville combustion turbines, unit-specific NO_x emission rates from test data collected from uncontrolled hours of base operation of these combustion turbines, in lieu of the required default values from Table LM-2.

EPA’s Determination

For the reasons discussed below, EPA is approving, with conditions, National Grid’s request to use fuel-and-unit-specific, uncontrolled NO_x emission rates for the Holtsville combustion turbines. However, at the outset, EPA notes that, to the extent National Grid is challenging in general the merits of the default NO_x emission rates in Table LM-2 of §75.19 (rather than simply requesting to use fuel-and-unit-specific alternatives to §75.19 requirements), such a challenge could only be raised -- in accordance with section 307(b)(1) of the Clean Air Act -- through an appeal filed with the United States Court of Appeals for the District of Columbia within 60 days of the finalization of the challenged rule provisions, which were finalized in October, 1998. Rather than simply denying National Grid’s request on this ground, EPA is treating National Grid’s request as a petition under 6 NYCRR §243-8.6 and §244-8.6 of New York’s CAIR NO_x ozone season and NO_x annual trading program rules for an alternative to the requirements of §75.19.

The LME provisions in §75.19 were adopted in response to requests for simplified, less burdensome monitoring and recordkeeping requirements for units that both operate infrequently and have low mass emissions. EPA explained that, while the LME methodology was “a less accurate methodology” for determining emissions for SO₂ and NO_x, than use of continuous emissions monitoring systems (CEMS), the methodology would “significantly reduce the burden on industry for these sources.” 63 FR 57356, 57484 (Oct. 27, 1998). EPA approved the LME methodology because the emissions covered by the units qualifying to use the methodology were *de minimis* both from the standpoint of each unit’s individual emissions and of the aggregate emissions of all units allowed to use methodologies that were exceptions to the general CEMS requirement. *Id.* at 57486-88. The default emission rates used under the LME methodology were developed as generic defaults for specified categories of units and were intended to provide conservative emission estimates that would ensure that emissions were not underreported. Specifically, EPA adopted default emission rates that would be unlikely to be less than the rate any unit in the relevant category would demonstrate based on unit-specific testing. *Id.* at 57489.

Further, EPA allowed the use of unit-specific NO_x emission rates, based on actual tests results, only under certain specified circumstances. In particular, EPA decided not to require units with controls to use unit-specific emission rates for periods of uncontrolled emissions because:

- (1) the Agency does not support adopting a rule which would require sources to operate in a manner that would increase emissions; and
- (2) some sources which have controls are not allowed to operate when the controls are not operating by permit restrictions and these units would be disallowed from using the low mass emission methodology unfairly. *Id.* at 57490.

With regard to units with controls using unit-specific emission rates for periods of controlled emissions, EPA decided to impose a floor on the default rate by allowing such units to use the lower of the unit-

specific rate or 0.15 lb/mmBtu in order to, among other things, avoid the risk of underreporting of emissions. Id. at 57490-91.

Section 75.19 requires controlled units to use the generic default values from Table LM-2 during uncontrolled periods (rather than unit-specific, uncontrolled emission rates) in order to avoid requiring the units to operate in an uncontrolled manner -- simply to develop unit-specific rates -- when the units should be operating their controls. However, the Holtsville combustion turbines are permitted to operate, during part of the year, without utilizing their controls, and National Grid has collected test data, using EPA reference methods during the allowed period of uncontrolled operation, to show that for these units, uncontrolled emission rates are 25 to 50% below the default values in Table LM-2. EPA therefore finds that the use of unit-specific default emission rates, as an alternative to the requirement in §75.19(c)(1)(iv)(H)(1) to use Table LM-2 values, is consistent with the purpose of that provision and that the applicable Table LM-2 values grossly overstate the Holtsville combustion turbines' emission rates.

However, default emission rates, whether from Table LM-2 or from unit-specific testing, should be conservative in order to avoid the risk of underreporting of emissions. Consequently, EPA has decided not to approve the fuel-and-unit specific NO_x emission rates for uncontrolled base and peak operations that were requested by National Grid.

Instead, EPA conditions its approval of the use of fuel-and-unit-specific default emission rates by National Grid for the Holtsville units on the following. National Grid shall use the test data available from the twenty Holtsville twin-pack combustion turbines to calculate a maximum potential NO_x emission rate (MER) and substitute the MER, in lieu of Table LM-2 data required under §75.19(c)(1)(iv)(H)(1), for hourly missing data. For this purpose, the MER shall be calculated from the maximum potential NO_x concentration (MPC) measured from any of the twenty units tested under base operating conditions and either the maximum oxygen concentration (or minimum carbon dioxide concentration) or the appropriate diluent cap value, using the appropriate equation from section 3 of appendix F to part 75. National Grid shall then multiply the resulting maximum emission rate by 1.15 to account for the untested peak operating conditions. This value shall be used as the MER for these units and shall be reported as the emission rate for each hour of uncontrolled operation in lieu of the applicable values in Table LM-2. Determining the MER in this manner will ensure that the emissions are not underreported during hours of uncontrolled unit operation.

EPA's determination relies on the accuracy and completeness of National Grid's August 7, 2009 petition and is appealable under Part 78. If you have any questions regarding this determination, please contact Matthew Boze at (202) 343-9211.

Sincerely,

/s/

Samuel Napolitano, Director
Clean Air Markets Division

cc: Esther Nelson, EPA Region II
Randall Orr, NYSDEC
Cathy Waxman, National Grid
Matthew Boze, CAMD