



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Washington, DC 20460

OFFICE OF AIR AND RADIATION

AUGUST 4, 2022

Mr. Jeff Shanahan
Lon D. Wright Power Plant Superintendent
City of Fremont, Nebraska / Department of Utilities
2701 E. 1st Street
Fremont, Nebraska 68025

Re: Petition for a waiver of the 50-ton ozone-season NO_x limit for Unit 50T at the Lon D. Wright Power Plant (Facility ID (ORISPL) 2240)

Dear Mr. Shanahan:

The United States Environmental Protection Agency (EPA) has reviewed the June 22, 2017 petition submitted under 40 CFR 75.66 by the Fremont Department of Utilities (FDU) in which FDU requested a waiver of the 50-ton ozone-season nitrogen oxides (NO_x) limit as a qualifying condition for use of the low mass emissions (LME) methodology in § 75.19 for Unit 50T at the Lon D. Wright Power Plant (Wright). EPA approves the petition, as discussed below.

Background

The city of Fremont owns and FDU operates Wright, located in Dodge County, Nebraska. Unit 50T is a simple cycle combustion turbine serving a generator with a capacity of 42.1 megawatts (MW). Unit 50T combusts pipeline natural gas as its primary fuel and diesel oil as a secondary fuel. According to FDU, the unit is subject to both the Acid Rain Program (ARP) and the Cross-State Air Pollution Rule (CSAPR) trading programs for sulfur dioxide (SO₂) and annual NO_x. FDU is therefore required to continuously monitor and report SO₂, NO_x, and carbon dioxide (CO₂) mass emissions, NO_x emission rate, and heat input for Unit 50T in accordance with 40 CFR part 75.

FDU has elected to use the LME methodology in § 75.19 to satisfy the part 75 monitoring requirements for Wright Unit 50T. Under § 75.19(a)(1)(i)(A)(1) and (a)(1)(i)(B), in order to remain qualified to use the LME methodology, a unit that is subject to both the ARP and the CSAPR annual trading programs, such as Wright Unit 50T, must annually demonstrate that its SO₂ mass emissions are no more than 25 tons annually and that its NO_x mass emissions are less than 100 tons annually and no more than 50 tons during the May – September ozone-season. Under § 75.19(b)(2)(ii), exceeding either the annual SO₂ limit, the annual NO_x limit, or the ozone-season NO_x limit in a given year causes a unit to lose its LME status and requires that the

unit implement another part 75 monitoring methodology by December 31st of the calendar year immediately following the year in which the limit was exceeded.

Under § 75.19(c)(1)(ii), a gas- or oil-fired unit, as defined in § 72.2, may determine reported NO_x mass emissions using either default NO_x emission rates from Table LM-2 of § 75.19 or fuel-and-unit-specific NO_x emission rates determined based on testing. Under § 75.19(c)(3), a unit may determine reported heat input (which is also used in the computations of reported NO_x mass emissions) using either maximum rated hourly heat input or records of long-term fuel flow. Historically, FDU has elected to report Unit 50T's NO_x mass emissions using the default NO_x emission rate of 0.7 lb/mmBtu specified in Table LM-2 for the combustion of natural gas in the turbine along with the unit's maximum rated hourly heat input. Since 2009, Unit 50T's reported NO_x mass emissions, as calculated in accordance with these elections, have been less than 100 tons each calendar year but exceeded 50 tons during the 2016 ozone-season. Absent a waiver from EPA of the requirement to demonstrate that the unit's 2016 ozone-season NO_x mass emissions were less than 50 tons, the unit would have lost its qualification to use the LME methodology and FDU would have been required to implement another part 75 monitoring methodology by December 31, 2017, and the unit would have been unable to requalify to use the LME methodology without first obtaining actual emissions data below the applicable emissions limits for three consecutive years after 2016.

On June 22, 2017, FDU submitted a petition requesting a waiver of the 50-ton ozone-season NO_x limit for calendar year 2016 to allow Unit 50T to qualify to use the LME methodology in 2018. In the petition, FDU offers three arguments in support of its request. First, FDU suggests that waiver of the LME qualification requirement related to ozone-season NO_x emissions is appropriate for Unit 50T because the unit is not otherwise subject to part 75 requirements related to its ozone-season NO_x mass emissions (except to the extent that those emissions are part of the unit's annual NO_x mass emissions). FDU points out that when the current LME qualification provisions were adopted in 2002, no NO_x mass emissions regulatory program existed that established part 75 requirements related to annual but not ozone-season NO_x mass emissions. The NO_x Budget Trading Program, which was promulgated in 1998 and was implemented from 2003 through 2008, established part 75 requirements related to ozone-season NO_x mass emissions for all units affected under that program. The first program establishing part 75 requirements relating to annual but not ozone-season NO_x mass emissions, for units in some states, was the Clean Air Interstate Rule (CAIR), which was promulgated in 2005 and implemented from 2009 through 2014. Units in Nebraska were not subject to CAIR and first became subject to part 75 requirements relating to annual NO_x mass emissions, but not ozone-season NO_x mass emissions, when CSAPR was implemented in 2015, replacing CAIR.

FDU's second argument is that Unit 50T's reported emissions were unusually high in 2016 because of circumstances that are unlikely to be repeated. The petition includes data showing that the unit's reported ozone-season NO_x emissions did not exceed 50 tons in any year from 2009 through 2015.¹

¹ EPA has reviewed Unit 50T's reported emissions subsequent to receipt of the petition and notes that 2016 was the only year in the period from 2009 through 2021 in which the unit's reported ozone-season NO_x mass emissions exceeded 50 tons.

The third argument FDU offers in support of its request is that, according to FDU, Unit 50T's emissions during the 2016 ozone season were reported as higher than 50 tons only because the default NO_x emission rate of 0.7 lb/mmBtu from Table LM-2 in § 75.19 and the maximum hourly heat input rate used to compute the reported 2016 emissions were higher than Unit 50T's actual NO_x emission rate and actual heat input during that period. In 2004, FDU conducted an Appendix E test on Unit 50T and the highest average NO_x emission rate measured in that test was 0.239 lb/mmBtu.

EPA's Determination

For the following reasons, EPA approves, with conditions, FDU's petition to waive the 50-ton ozone-season NO_x mass emission limit under § 75.19(a)(1)(i)(A)(1) for Wright Unit 50T for purposes of the annual demonstration under § 75.19(a)(1)(i)(B) for 2016. First, EPA agrees that the purpose of including the 50-ton ozone-season NO_x limit in § 75.19(a)(1)(i)(A)(1) in addition to the 100-ton annual NO_x limit was to ensure that regardless of whether a unit reported NO_x mass emissions for the full year or only the ozone-season, because all units covered by the provision were expected to be subject to the ozone-season NO_x requirements under the NO_x Budget Trading Program, those units that chose to use the LME methodology in place of other monitoring approaches would be subject to a consistent qualification requirement as to ozone-season NO_x mass emissions.² Second, because Wright Unit 50T is not otherwise subject to part 75 requirements related to ozone-season NO_x mass emissions (except to the extent that those emissions are part of the unit's annual NO_x mass emissions), the purpose of ensuring consistent treatment across all units subject to part 75 requirements related to ozone-season NO_x mass emissions does not apply in this instance. Third, allowing Wright Unit 50T to use the LME methodology through this waiver does not expand the universe of units eligible to use methods other than continuous emissions monitoring systems (CEMS) to meet part 75 requirements, because the unit could in any event qualify to monitor NO_x mass emission using appendix E to part 75, which similarly does not require the use of NO_x CEMS equipment.

In granting the waiver, EPA is not relying on the other arguments made in the petition. With respect to the assertion that 2016 was an atypical year, the Agency observes that the LME provisions are designed to balance the possibility that a unit may experience an unusual year with the possibility that a year thought to be unusual actually is not. Thus, units lose eligibility to use the LME methodology after a single failure to demonstrate compliance with the qualification thresholds but then can later reestablish eligibility by demonstrating compliance with the thresholds for three successive years.³ With respect to the assertion that Unit 50T's actual ozone-season NO_x emissions in 2016 were less than its reported emissions, EPA acknowledges that the LME methodology is designed to provide a lower-cost means for qualifying units to determine reported emissions while avoiding potential understatement of those emissions. To mitigate possible overstatement of emissions, the LME provisions offer operators several options for determining a unit's reported NO_x mass emissions, as noted above. For example, instead of using default NO_x emission factors reflecting the fuel and unit type, the operator can elect to use fuel-and-unit-specific NO_x emission rates determined through testing, and instead of using the

² Refer to 67 FR 40394, 40403 (June 12, 2002).

³ Refer to 40 CFR 75.19(b)(5).

unit's maximum rated hourly heat input, the operator can elect to determine the unit's reported heat input based on records of long-term fuel flow. However, the annual demonstrations under § 75.19(a)(1)(i)(B) necessarily rely on the emissions reported for the unit using the options elected, not the emissions that might have been reported if the operator had elected different options.⁴

EPA notes that this waiver extends to the LME qualification requirements only as they apply to 2016 ozone-season NO_x mass emissions. FDU has not requested a waiver as to emissions in any other year. EPA also notes that this waiver of the 50-ton ozone-season NO_x emission limit under § 75.19(a)(1)(i)(A)(1) for Wright Unit 50T is not a general authorization for FDU to use the LME methodology for Unit 50T in future years, for example, if the unit's emissions were to increase, if the unit were to become subject to additional part 75 requirements with respect to ozone-season NO_x emissions in the future, or if EPA were to revise part 75 so as to change the qualification requirements for use of the LME methodology.

EPA's determination is conditioned and relies on the accuracy and completeness of FDU's June 22, 2017 petition and is appealable under 40 CFR part 78. If you have any questions regarding this determination, please contact Ron Sobocinski at (202) 343-9722 or by e-mail at sobocinski.ron@epa.gov.

Sincerely,

Rona Birnbaum, Director
Clean Air Markets Division

cc: Scott Postma, EPA Region VII
Brad Pracheil, Nebraska DEE
Matt Turco, Nebraska DEE
Ron Sobocinski, CAMD

⁴ Refer to 40 CFR 75.19(a)(2)(ii).