

February 5, 2019

Mr. Robert Benham  
OGE Energy Corp.  
PO Box 321  
Oklahoma City, Oklahoma 73101-0321

Re: Petition for waiver of the requirement to provide operating data to qualify as "gas-fired" for units 4 and 5 at Muskogee Generating Station (Facility ID (ORISPL) 2952).

Dear Mr. Benham:

The United States Environmental Protection Agency (EPA) has reviewed the petition under 40 CFR 75.66 submitted on August 7, 2018 by Oklahoma Gas and Electric Company (OG&E). In the petition, OG&E requests a waiver for units 4 and 5 at the Muskogee Generating Station (Muskogee) of the requirement to submit operating data to qualify as "gas-fired" units under § 72.2. EPA approves the petition, with conditions, as discussed below.

### **Background**

OG&E owns and operates Muskogee, located in Muskogee County, Oklahoma. Muskogee units 4 and 5 have historically been operated as coal-fired boilers. Each unit has a design heat input capacity of 5,480 million Btu per hour (mmBtu/hr) and serves an electricity generator with a nameplate capacity rating of 572 megawatts.<sup>1</sup> According to OG&E, units 4 and 5 are subject to the Acid Rain Program (ARP) and a Cross-State Air Pollution Rule (CSAPR) ozone season trading program for nitrogen oxides (NO<sub>x</sub>). OG&E is therefore required to continuously monitor and report NO<sub>x</sub>, sulfur dioxide (SO<sub>2</sub>), and carbon dioxide (CO<sub>2</sub>) mass emissions, NO<sub>x</sub> emission rate, and heat input for this unit in accordance with 40 CFR part 75. To meet these monitoring requirements, OG&E has installed and certified a NO<sub>x</sub>-diluent continuous emission monitoring system (CEMS), an SO<sub>2</sub> CEMS, a CO<sub>2</sub> CEMS, a stack gas flow rate monitor, and a continuous opacity monitoring system (COMS) on the exhaust stack for each unit.

According to OG&E, Muskogee units 4 and 5 are being permanently converted from coal-firing to natural gas-firing prior to the January 4, 2019 regional haze federal implementation plan (FIP) compliance date for these units. Units 4 and 5 are undergoing physical modifications as part of the conversion project that will render them permanently incapable of combusting coal. A large portion of the fuel piping from the

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<sup>1</sup> 2017 early release Energy Information Administration Form 860, released on June 1, 2018, available at <https://www.eia.gov/electricity/data/eia860/>. At Muskogee, boiler #4 serves electricity generator #4 and boiler #5 serves electricity generator #5.

pulverizers to the burners is being physically removed, creating an ‘air-block’ and making it physically impossible to introduce coal into the boiler. In addition, all access points to the burners from the current coal conveyance system are being removed. OG&E further states that in response to the FIP requirements for regional haze (76 FR 81728; December 28, 2011), OG&E submitted a permit application to the Oklahoma Department of Environmental Quality (ODEQ) requesting authorization to permanently convert units 4 and 5 so that they can utilize only natural gas as fuel. The ODEQ subsequently issued Permit No. 2005-271-C (M-9) on February 27, 2017 authorizing the project to convert units 4 and 5 to natural gas and requiring that each unit burn only pipeline natural gas no later than January 4, 2019.

Under part 75, units that meet the definition of “gas-fired” units in § 72.2 have monitoring options that are not available to coal-fired units, including the option to quantify the units’ SO<sub>2</sub> mass emissions and heat input rate using the methodology in appendix D to part 75, which relies on measurements of the quantity and quality of fuel combusted, as an alternative to using SO<sub>2</sub> and stack gas flow rate CEMS. Gas-fired units also have options for quantifying CO<sub>2</sub> mass emissions under appendix G to part 75 that are not available to coal-fired units.

In the August 7, 2018 petition, OG&E has requested a waiver of an otherwise applicable condition for Muskogee units 4 and 5 to be considered gas-fired units for purposes of part 75. The definition of the term “gas-fired” in § 72.2 includes provisions under which a unit that previously has not qualified as gas-fired can qualify as gas-fired based upon the submission of operating data for three calendar years or 720 operating hours, whichever is less, demonstrating that the unit has combusted natural gas for specified minimum percentages of its overall fuel usage and only fuel oil for its remaining fuel usage. OG&E requests that units 4 and 5 be considered gas-fired units for purposes of part 75 without the submission of such operating data.

### **EPA’s Determination**

Absent the waiver requested in OG&E’s petition, OG&E would be required to submit three calendar years or 720 operating hours of operating data for units 4 and 5 following the conversion to gas-fired operation to demonstrate that the units qualify as gas-fired under § 72.2. The purpose of this data submission requirement is to provide assurance that the conversion is permanent. As described above, OG&E has provided information intended to demonstrate the permanence of the conversion. Specifically, the units are completing physical modifications that render them incapable of combusting coal and a permit amendment prohibits the units from combusting fuels other than pipeline natural gas<sup>2</sup> no later than January 4, 2019.<sup>3</sup> EPA views these factors as providing sufficient assurance that the conversion from coal to gas combustion of units 4 and 5 is permanent, fulfilling the purpose of the operating data submission requirement and making that requirement unnecessary in this instance.

In view of these considerations, EPA approves OG&E’s petition for a waiver of the requirement to submit three calendar years or 720 hours of unit operating data to demonstrate that Muskogee units 4 and 5 meet the definition of “gas-fired” under § 72.2. Units 4 and 5 are considered gas-fired for purposes of 40 CFR part 75, the Acid Rain Program, and the Cross-State Air Pollution Rule as of the first hour of operation following completion of the physical modifications and issuance of the permit summarized above. EPA notes that this approval by itself does not alter any requirement to continue to use a CEMS that may arise

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<sup>2</sup> As defined in § 72.2, pipeline natural gas must have 0.5 grains or less of total sulfur per 100 standard cubic feet and be composed of at least 70 percent methane by volume or have a gross calorific value between 950 and 1100 Btu per standard cubic foot.

<sup>3</sup> State of Oklahoma Department of Environmental Quality Permit No. 2005-271-C (M-9) issued on February 27, 2017.

under legal authority other than 40 CFR part 75, such as the facility's Title V operating permit, a state regulation, or a consent decree.

### **Conditions of Approval**

As conditions of this approval for Muskogee units 4 and 5 to be considered gas-fired units for purposes of 40 CFR part 75, the Acid Rain Program, and the Cross-State Air Pollution Rule without the submission of operating data that would otherwise be required, OG&E shall:

1. Make all necessary revisions to the electronic monitoring plans for Muskogee units 4 and 5 to represent the change from coal combustion to natural gas combustion and any changes in monitoring methodology. The monitoring plan revisions may include, but are not limited to, assigning appropriate closeout dates, activation dates, and codes for monitoring systems, monitoring methodologies, emissions and heat input rate formulas, and monitoring system span and range values;
2. If OG&E elects to use the monitoring methodology under appendix D to part 75, ensure that the natural gas flowmeters are certified according to section 2.1.5 of appendix D to part 75; and
3. If OG&E elects to use the monitoring methodology under appendix D to part 75, ensure that the data acquisition and handling systems are properly programmed to use the appendix D methodology for quantifying SO<sub>2</sub> mass emissions and heat input rate and Equation G-4 for quantifying CO<sub>2</sub> mass emissions.

EPA's determination relies on the accuracy and completeness of OG&E's August 7, 2018 petition and is appealable under 40 CFR part 78. If you have any questions regarding this determination, please contact Travis Johnson at (202) 343-9018. Thank you for your continued cooperation.

Sincerely,

/s/

Reid P. Harvey, Director  
Clean Air Markets Division

cc: Travis Johnson (CAMD)  
Raymond Magyar, EPA Region VI  
Heather Sessing, Oklahoma DEQ