



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

ELECTRONIC MAIL
DELIVERY RECEIPT REQUESTED

Angela Beeson
Enbridge Energy Company, Inc.
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RE: Request for Operating Limits / Monitoring Petition under 40 C.F.R. Part 63,

Subpart YYYY, NESHAP for Stationary Combustion Turbines
Enbridge Energy Company, Inc., Houston, Texas

Dear Ms. Beeson:

The U.S. Environmental Protection Agency (EPA) has received and reviewed a revised petition dated May 9, 2023, from Enbridge Energy Company, Inc. doing business as Texas Eastern Transmission, LP. (TETLP) in Ohio. The petition requests the use of Gas Producer Turbine Speed (%NGP) and Inlet Air Temperature (T1) for satisfying operating limits to demonstrate compliance with the formaldehyde emissions limitation for lean premix gas-fired combustion turbines under 40 C.F.R. § 63.6125(b) at TETLP's Somerset Compressor Station in Somerset, Ohio. In summary, EPA approves your petition to use %NGP and T1 as operating limits within limited ranges, under the regulations at 40 C.F.R. Part 63, Subpart YYYY.

Regulatory Background

40 C.F.R. Part 63, Subpart YYYY, National Emission Standards for Hazardous Air Pollutants for Stationary Combustion Turbines (Subpart YYYY) establishes national emission limitations and operating limitations for hazardous air pollutants (HAP) emissions from stationary combustion turbines located at major stationary sources of HAP emissions, and requirements to demonstrate initial and continuous compliance with the emission and operating limitations.

40 C.F.R. § 63.6095(a)(3) requires the owner or operator of a new or reconstructed lean premix gas-fired stationary combustion turbine or a diffusion flame gas-fired stationary combustion turbine that started up on or before March 9, 2022, to comply with the emissions limitations and operating limitations of Subpart YYYY no later than March 9, 2022.

40 C.F.R. § 63.6100 requires that each new or reconstructed lean premix gas-fired stationary combustion turbine must comply with the emission limitations and operating limitations in Table

1 and Table 2 of Subpart YYYY. Table 1 provides that each new or reconstructed lean premix gas-fired stationary combustion turbine must comply with an emission limit of 91 ppbvd formaldehyde or less at 15% O₂, except during turbine startup. The period for turbine startup is subject to the limits specified at 40 C.F.R. § 63.6175. Table 2 requires each stationary combustion turbine that is required to comply with the formaldehyde emissions limitation and is not using an oxidation catalyst to maintain any operating limitations approved by the Administrator.

40 C.F.R. § 63.6120(e) states that if the owner or operator's stationary combustion turbine is not equipped with an oxidation catalyst, it must petition the Administrator for operating limitations that you will monitor to demonstrate compliance with the formaldehyde emission limitation in Table 1. The owner or operator must measure these operating parameters during the initial performance test and continuously monitor thereafter. 40 C.F.R. § 63.6120(f) provides the specific information that must be included in a petition to the Administrator for approval of additional operating limitations to demonstrate compliance with the formaldehyde emission limitation in Table 1.

40 C.F.R. § 63.6125(b) requires that owners or operators of a stationary combustion turbine that is required to comply with the formaldehyde emission limitation and not using an oxidation catalyst must continuously monitor any parameters specified in the approved petition to comply with operating limitations specified in Table 2 and as specified in Table 5 of the Subpart.

All terms used in this letter have their ordinary meaning unless such terms are defined in the Clean Air Act, 42 U.S.C. §§ 7401 *et seq.*, or Subpart YYYY, in which case they have the meaning ascribed to them in those authorities.

TETLP's Petition

TETLP owns and operates a gas-fired lean premix stationary combustion turbine identified as Unit P012 at the Somerset Compressor Station in Somerset, Ohio. The turbine was constructed after January 14, 2003, is not equipped with an oxidation catalyst, and is an "affected source" under Subpart YYYY; therefore, the compliance deadline was March 9, 2022.

TETLP submitted its petition under 40 C.F.R. § 63.6120(e) for justifying the required information under 40 C.F.R. § 63.6120(f)(1) through (5). TETLP requests that EPA accept monitoring of Gas Producer Turbine Speed (%NGP) and Inlet Air Temperature (T1) as parameters to meet the Subpart YYYY monitoring requirements for lean premix combustion equipped gas-fired turbines, instead of utilizing oxidation catalysts.

TETLP claims that lean premix mode (LPM) "is dependent on" %NGP and T1. TETLP claims that LPM combustion provides "the mixing necessary to ensure complete combustion of the fuel and minimize emissions of CO and UHCs [unburned hydrocarbons] including formaldehyde."

EPA's Analysis

The petition addresses the required information described in 40 C.F.R. § 63.6120(f)(1) through (5), as summarized below. EPA makes the following determinations regarding the lean premixed gas-fired combustion turbine under Subpart YYYY, which is operating without an oxidation catalyst, and is subject to emission and operating limitations.

Based on the information provided by TETLP, EPA makes the following findings:

- (1) TETLP's petition clearly proposes to monitor the identified %NGP and T1 parameters, along with monitoring LPM.
- (2) TETLP's discussion of the relationship between %NGP and T1, and formaldehyde emissions, and how limitations on these parameters will serve to limit formaldehyde emissions, is insufficient to support the requested parameters. The fact that a gas turbine is lean premix does not guarantee that it will meet the 91 ppbvd formaldehyde standard. However, the emissions testing conducted at the Somerset Compressor Station on August 31, 2022, November 15, 2022, March 1, 2023, and March 19, 2023, showed compliance within the formaldehyde standard, and within the proposed ranges of %NGP and T1.
- (3) TETLP proposed upper and lower values of 90-103.6% for the %NGP parameter, and 0-105 °F for the T1 parameter. TETLP has demonstrated that limiting operations to within the ranges of proposed values would ensure compliance.
- (4) In follow-up emails on September 1, 2022, January 4, 2023, January 6, 2023, and January 30, 2023, TETLP adequately described the methods it would use to measure and the instruments it would use to monitor these parameters, as well as the relative accuracy and precision of these methods and instruments. TETLP provided the manufacturer documentation that EPA requested.
- (5) In follow-up emails on September 1, 2022, January 4, 2023, January 6, 2023, and January 30, 2023, TETLP adequately described the frequency and methods of instrument recalibration it would use. TETLP provided the manufacturer documentation that EPA requested.


In summary, TETLP has demonstrated that limiting operations to within the full ranges of proposed values of the parameters %NGP and T1 would ensure compliance with the 91 ppbvd formaldehyde emissions standard. EPA approves the petition for the facility to operate between 90.0-103.6 % NGP, and 0.0-105.0 °F inlet air temperature.

EPA therefore approves TETLP's May 9, 2023 petition for operating and monitoring limits under Subpart YYYY. This approval is based on the information submitted to EPA by the company. Should TETLP change the operating conditions of the turbine to an operation which is different than the operating conditions represented in this approval such that formaldehyde emissions increase because of the change, TETLP must submit a revised petition to address the change(s).

We have coordinated this determination with the Office of Enforcement and Compliance Assurance (OECA) and the Office of Air Quality Planning and Standards (OAQPS). If you have any further questions, please contact Jacob Herbers of my staff at Herbers.Jacob@epa.gov.

Sincerely,

**MICHAEL
HARRIS**

 Digitally signed by MICHAEL
HARRIS
Date: 2023.05.23 10:53:18
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