



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

OCT 09 2018

OFFICE OF  
AIR AND RADIATION

Mr. Kirk Toth  
Designated Representative  
FPL Energy Wyman, LLC  
677 Cousins Street  
Yarmouth, ME 04086

Re: Petition to use an alternative fuel flowmeter calibration procedure for units 1-4 at the NextEra Energy Resources William F. Wyman Power Plant (facility ID (ORISPL) 1507)

Dear Mr. Toth:

The United States Environmental Protection Agency (EPA) has reviewed the May 21, 2018 petition submitted by NextEra Energy Resources (NextEra) under 40 CFR 75.66(c), requesting approval of an alternative calibration procedure for fuel flowmeters that are being or may be used to measure oil flow rates at units 1, 2, 3, and 4 at the William F. Wyman Power Plant (Wyman). EPA approves the petition, with conditions, as discussed below.

Background

A NextEra affiliate co-owns and NextEra operates the Wyman facility in Yarmouth, Maine. Wyman units 1, 2, 3, and 4 are oil-fired boilers serving electricity generators with reported nameplate capacities of 50, 50, 114, and 632 megawatts, respectively. According to NextEra, the units are subject to the Acid Rain Program. NextEra is therefore required to continuously monitor and report sulfur dioxide (SO<sub>2</sub>), nitrogen oxides (NO<sub>x</sub>), and carbon dioxide (CO<sub>2</sub>) emissions and heat input for the units in accordance with 40 CFR part 75.

To meet the SO<sub>2</sub> emissions and heat input monitoring requirements, NextEra has elected to use the monitoring methodology in appendix D to part 75. Section 2.1 of appendix D requires continuous monitoring of the fuel flow rate to each affected unit using gas and/or oil fuel flowmeters that meet initial certification requirements set forth in section 2.1.5 and ongoing quality assurance requirements set forth in section 2.1.6.

Section 2.1.5 specifies three acceptable ways to initially certify a fuel flowmeter: (1) by design (this option is available for orifice, nozzle, and venturi flowmeters only), (2) by measurement under laboratory conditions using an approved method, or (3) by in-line comparison against a reference meter that either meets the design criteria in (1) above or that within the previous 365 days has met the accuracy requirements of appendix D by measurement using an approved method under (2) above. Certain approved measurement methods are listed in section 2.1.5.1. However, the section provides that unlisted methods using equipment traceable to National Institute of Standards and Technology (NIST) standards may also be used, subject to EPA approval pursuant to a petition submitted under 40 CFR 75.66(c). Section 2.1.6 generally allows ongoing quality assurance tests to be carried out using the same methods as section 2.1.5.

Unit 1 is equipped with a Coriolis fuel flowmeter manufactured by Emerson Process Management – Micro Motion, Inc. (Emerson MMI) to measure fuel oil usage. The flowmeter is a model F200S342C2BAEZAZX fuel flowmeter (serial number 14737438). NextEra also anticipates the possibility of using additional like-kind fuel flowmeters at unit 1 or the other Wyman units in the future. Each individual flowmeter must meet the initial certification requirements set forth in section 2.1.5 of appendix D and the ongoing quality assurance requirements set forth in section 2.1.6.

Emerson MMI has developed a calibration procedure it calls the Transfer Standard Method (TSM). According to Emerson MMI, the TSM uses equipment that is traceable to NIST standards. According to the NextEra petition, the flowmeter has already been tested for initial certification using the TSM and will be calibrated for ongoing quality assurance purposes using the same method.

The Coriolis flowmeters are not orifice, nozzle, or venturi flowmeters and therefore do not qualify for certification based on their design. Further, the TSM is not listed in section 2.1.5.1 of appendix D as an approved method. However, EPA has previously evaluated and approved the use of the TSM as an alternative certification and quality assurance testing method for Coriolis flowmeters at other facilities. In view of these circumstances, NextEra submitted a petition to EPA under § 75.66(c) requesting approval of the use of the TSM as an alternative certification and quality assurance testing method for Coriolis flowmeters at the Wyman facility. NextEra requests approval to use the TSM process not only for the flowmeter identified by the serial number above but also for additional like-kind Coriolis fuel flowmeters that NextEra may use at the facility in the future.

#### EPA's Determination

EPA has reviewed the information provided by NextEra in the May 21, 2018 petition describing the alternative calibration procedure that NextEra requests approval to use to verify the accuracy of the fuel oil flowmeter installed at Wyman unit 1 and any other Coriolis fuel flowmeters to be installed at the Wyman facility.



EPA approves use of the Emerson MMI TSM calibration procedure for initial certification of NextEra's fuel flowmeter (Serial Number 14737438) installed on Wyman unit 1. The basis for this approval is as follows:

1. The alternative calibration methodology used equipment traceable to NIST standards. In Emerson MMI's TSM, the candidate fuel flowmeter to be tested for accuracy is calibrated against a reference meter that was calibrated against a "Global Reference Meter" which, in turn, was calibrated using Micro Motion's "Primary Flow Stand." The Primary Flow Stand is an ISO 17025-accredited calibration system that uses equipment traceable to NIST standards. Thus, the reference meter used to test NextEra's flowmeter had fully traceable calibrations through an accredited path back to NIST standards.
2. The calibration procedure followed for initial certification of NextEra's flowmeter met the requirements of section 2.1.5.2(a) of appendix D to part 75 for in-line testing of candidate flowmeter by comparison against a reference flowmeter. Specifically:
  - a. The reference flowmeter and secondary elements (i.e. temperature transmitters and pressure transducers) used to test NextEra's flowmeter had been calibrated within 365 days prior to the comparison testing;
  - b. The comparison testing was performed in a laboratory over a period of less than seven operating days; and
  - c. For the candidate flowmeter, three test runs were conducted at each of three flow rate levels with each test run lasting 20 minutes in duration.
3. At each tested flow rate level, the fuel flowmeter demonstrated accuracy better than the accuracy requirement specified in section 2.1.5 of appendix D – 2.0 percent of the flowmeter's upper range value (URV). The test results are summarized in Table 1 below.

**Table 1 – Average three-run fuel flowmeter accuracy results (flowmeter serial number 14737438)**

<b>Flow rate level</b>	<b>Accuracy (% of URV)</b>
<b>Low</b> (10% of URV)	0.000%
<b>Mid</b> (50% of URV)	0.000%
<b>High</b> (100% of URV)	0.000%

EPA also approves the use of the TSM calibration procedure to meet the applicable on-going quality assurance requirements for the Wyman unit 1 fuel flowmeter under section 2.1.6 of appendix D, subject to the following conditions:

1. The application of the TSM for each future accuracy test must meet the requirements of section 2.1.5.2(a) listed above as part of the basis for EPA's approval of use of the TSM for the initial certification of the fuel flowmeter; and
2. The three flow rate levels tested in each future accuracy test must correspond to: (1) normal full unit operating load, (2) normal minimum unit operating load, and (3) a load point approximately equally spaced between the full and minimum unit operating loads.

EPA further approves the use of the TSM calibration procedure to meet the applicable initial certification and on-going quality assurance requirements for like-kind Coriolis fuel flowmeters used in the future at NextEra's Wyman facility subject to the satisfaction, for each such like-kind fuel flowmeter, of all approval conditions set forth in paragraphs (1) and (2) of this approval for the fuel flowmeter identified by serial number above.

EPA's determination relies on the accuracy and completeness of the information provided by NextEra and is appealable under 40 CFR part 78. If you have any questions regarding this determination, please contact Charles Frushour at (202) 343-9847 or by e-mail at [frushour.charles@epa.gov](mailto:frushour.charles@epa.gov). Thank you for your continued cooperation.

Sincerely,



Reid P. Harvey, Director  
Clean Air Markets Division

cc: Charles Frushour, CAMD  
Susan Lancey, EPA Region I  
Robert Hartley, Maine Department of Environmental Protection (Maine DEP)