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Particulate Emission Compliance Test Report

We Energies
Presque Isle Power Plant
Flue 9 Stack
Marquette, Michigan
June 4, 2015

Report Submittal Date:
July 16, 2015

Project No. M152202O

888 Industrial Drive
Elmhurst, Illinois 60126
630-993-2100

1.0 EXECUTIVE SUMMARY

MOSTARDI PLATT conducted a particulate emissions compliance test program for We Energies at the Presque Isle Power Plant on the Flue 9 Stack in Marquette, Michigan on June 4, 2015. This report summarizes the results of the test program and test methods used.

The test location, test date, and test parameter are summarized below.

TEST INFORMATION		
Test Location	**Test Date**	**Test Parameter**
Flue 9 Stack	June 4, 2015	Filterable Particulate Matter (PM) (Method 5)

The purpose of this test program was to evaluate the particulate emissions on the Flue 9 Stack during normal operating conditions to satisfy compliance requirements of the operating permit. Selected results of the test program are summarized below. A complete summary of emission test results follows the narrative portion of this report.

TEST RESULTS			
Test Location	**Test Date**	**Parameter**	**Emission Rates**
Flue 9 Stack	June 4, 2015	lb/hr	3.150
		lb/mmBtu	0.0037

All times recorded are CEMs times.

The identifications of individuals associated with the test program are summarized below.

TEST PERSONNEL INFORMATION		
Location	**Address**	**Contact**
Test Coordinator	We Energies Presque Isle Power Plant Marquette, Michigan	Ms. Brenda Bergemann (414) 221-2459 (phone) Brenda.Bergemann@we-energies.com
Testing Company Representative	Mostardi Platt 888 Industrial Drive Elmhurst, Illinois 60126	Mr. Timothy A. Mei (630) 993-2100 (phone) tmei@mp-mail.com

The test crew consisted of Messrs. A. Hasan, L. Sorce, R. Iozzo, S. Van Daal, A. Tracy, and T. Mei of Mostardi Platt.

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2.0 TEST METHODOLOGY

Emissions testing was conducted following the methods specified in 40 CFR, Part 60, Appendix A. A drawing depicting the sampling ports and test point locations is found in Appendix B, drawings depicting sampling trains are found in Appendix C, explanations of nomenclature and calculations are found in Appendix D, sample analysis data are found in Appendix E, reference method data are found in Appendix F, field data sheets are found in Appendix G and calibration data are found in Appendix H. Operating data are found in Appendix A.

The following methodologies were used during the test program:

Method 1 Sample and Velocity Traverse Determination

Test measurement points were selected in accordance with Method 1. The characteristics of the measurement location are summarized below.

TEST POINT INFORMATION				
Location	Upstream Diameters	Downstream Diameters	Test Parameter	Number of Sampling Points
Flue 9 Stack	> 2.0	> 8.0	PM	12

Method 2 Volumetric Flow Rate Determination

Gas velocity was measured following Method 2, for purposes of calculating the gas volumetric flow rate. An S-type pitot tube, incline manometer, thermocouple and temperature readout were used to determine gas velocity at each sample point at the Flue 9 Stack test location. All of the equipment used was calibrated in accordance with the specifications of the Method. Calibration data are presented in Appendix H.

Method 3A Carbon Dioxide (CO_2) and Oxygen (O_2) Determination

Stack gas carbon dioxide (CO_2) and oxygen (O_2) content was determined in accordance with Method 3A. A Servomex analyzer was used to determine flue gas CO_2 and O_2. All of the equipment used was calibrated in accordance with the specifications of the Method. Calibration data are presented in Appendix H and copies of the gas cylinder certifications are found in Appendix I.

Method 5 Particulate Determination

Stack gas particulate concentrations and emission rates were determined in accordance with Method 5, 40 CFR, Part 60, Appendix A. An Environmental Supply Company, Inc. sampling train was used to sample stack gas at an isokinetic rate, as specified in the Method. Particulate matter in the sample probe was recovered using an acetone rinse. The probe wash and filter catch were analyzed by Mostardi Platt in accordance with the Method in the Elmhurst, Illinois laboratory. Laboratory data are found in Appendix E. All of the equipment used was calibrated in accordance with the specifications of the Method. Calibration data are presented in Appendix H.

3.0 TEST RESULT SUMMARY

Client:	We Energies
Facility:	Presque Isle Power Plant
Test Location:	Flue 9 Stack
Test Method:	5

Source Condition	Normal Full Load			
Date	6/4/15	6/4/15	6/4/15	
Start Time	7:30	9:20	11:05	
End Time	8:45	10:32	12:18	
	Run 1	Run 2	Run 3	Average
Stack Conditions				
Average Gas Temperature, °F	320.0	324.8	333.1	326.0
Flue Gas Moisture, percent by volume	12.2%	11.8%	11.8%	11.9%
Average Flue Pressure, in. Hg	28.82	28.82	28.82	28.82
Gas Sample Volume, dscf	44.571	44.815	42.887	44.091
Average Gas Velocity, ft/sec	82.055	83.693	83.658	83.135
Gas Volumetric Flow Rate, acfm	348,974	355,942	355,790	353,569
Gas Volumetric Flow Rate, dscfm	199,709	203,309	201,127	201,382
Gas Volumetric Flow Rate, scfm	227,524	230,638	228,141	228,768
Average %CO_2 by volume, dry basis	13.3	13.3	13.1	13.2
Average %O_2 by volume, dry basis	6.3	6.3	6.5	6.4
Isokinetic Variance	104.6	103.4	100.0	102.7
Fd Factor, dscf/mmBtu	9,820.0	9,820.0	9,820.0	9,820.0
Filterable Particulate Matter (Method 5)				
grams collected	0.0047	0.0048	0.0061	0.0052
grains/acf	0.0009	0.0009	0.0012	0.0010
grains/dscf	0.0016	0.0017	0.0022	0.0018
lb/hr	2.785	2.880	3.784	3.150
lb/mmBtu (Standard Fd Factor)	0.0033	0.0033	0.0045	0.0037

4.0 CERTIFICATION

MOSTARDI PLATT is pleased to have been of service to We Energies. If you have any questions regarding this test report, please do not hesitate to contact us at 630-993-2100.

CERTIFICATION

As project manager, I hereby certify that this test report represents a true and accurate summary of emissions test results and the methodologies employed to obtain those results, and the test program was performed in accordance with the methods specified in this test report.

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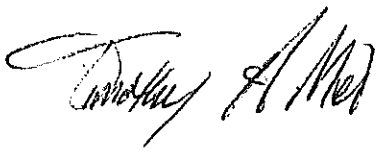

Timothy A. Mei — Program Manager

Scott W. Banach — Quality Assurance