RECEIVED
NOV 29 2017
AIR QUALITY DIVISION

mostardi platt

Mercury Low Emitting Electrical Generating Unit Demonstration Test Report

---

We Energies
Presque Isle Power Plant
Flue 6 Stack
Marquette, Michigan
Project No. M172202R Rev. 1
August 24 through September 25, 2017

mostardi platt

Mercury Low Emitting Electrical Generating Unit Demonstration Test Report

We Energies
Presque Isle Power Plant
Flue 6 Stack
Marquette, Michigan
August 24 through September 25, 2017

Report Resubmittal Date
November 15, 2017

Project No. M172202R Rev. 1

[redacted]

1.0 EXECUTIVE SUMMARY

MOSTARDI PLATT conducted a mercury (Hg) low emitting electrical generating unit (LEE) test program for We Energies at the Presque Isle Power Plant in Marquette, Michigan. This report summarizes the results of the test program and test methods used.

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

TEST INFORMATION		
Test Location	**Test Dates**	**Test Parameter**
Flue 6 Stack	August 24 through September 25, 2017	Mercury (Hg)

The purpose of this test program was to demonstrate the LEE status per 40CFR63, UUUUU (Utility MATS Rule) Section 63.10005 (h)(1)(ii)(A or B) of the Flue 6 Stack. The test consisted of nine paired Method 30B Hg sampling runs. Each trap pair was sampled for a time frame of between 70-96 total hours. Note that due to the size of each trap set data file, the files are only included in the electronic copy of this test report. The hard copy report includes a separate CD which contains the minute data for each trap set. A standard F_c factor of 1,840 scf/mmBtu for sub-bituminous coal was utilized to calculate emissions on a lb/TBtu basis. Carbon dioxide (CO_2) data was taken from CEM hourly data and corrected from a wet basis to dry basis utilizing a default factor of 8%. Pounds per year emissions were calculated using the average lb/Tbtu emissions, the maximum potential heat input and 8,760 hrs/yr of operation. Selected results of the test program are summarized below.

Parameter	Dates	LEE Demonstration	LEE Demonstration Requirement	Pass/Fail
Hg	8/24/17-9/25/17	0.913 lb/TBtu and 8.87 lb/yr maximum potential to emit	≤ 1.200 lb/TBtu and 29.0 lbs/yr	Pass

The test results from this test program indicate that the Presque Isle Power Plant Flue 6 Stack demonstrated the level to achieve Hg LEE status per 40CFR63, UUUUU Section 63.10005 (h)(1)(ii)(B).

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

TEST PERSONNEL INFORMATION		
Location	**Address**	**Contact**
Test Coordinator	We Energies 333 West Everett Street Environmental Department A231 Milwaukee, Wisconsin 53203	Mr. Rob Bregger (414) 221-2772 (phone) rob.bregger@we-energies.com
Test Facility	We Energies Presque Isle Power Plant 2701 Lakeshore Boulevard, North Marquette, Michigan 49885	Ms. Amanda Studinger (906) 226-5704 (phone) amanda.studinger@we-energies.com
Testing Company Representative	Mostardi Platt 888 Industrial Drive Elmhurst, Illinois 60126	Mr. Pat Lyons Project Manager (630) 993-2100 (phone) plyons@mp-mail.com

2.0 TEST METHODOLOGY

Emission testing was conducted following the methods specified in 40 CFR, Part 60, Appendices A and B, USEPA Method 30B. A drawing depicting the sampling port and test point location is found in Appendix A of this test report, drawings depicting the sampling train is found in Appendix B of this test report, calculation and nomenclature explanations are found in Appendix C of this test report, sample analysis data are found in Appendix D of this test report, mercury sampling QA/QC data are found in Appendix E of this test report, reference method test data are found in Appendix F of this test report, CEMs data are found in Appendix G of this test report, and field data sheets are found in Appendix H of this test report.

The following methodology was used during the test program:

Mercury Determination by Method 30B (Sorbent Trap Method)

Paired trains were utilized sampling one test point at the Flue 6 Stack test location.

Per Method 30B sampling, each sample was collected on the paired in-situ sorbent traps. A tube of silica was used to capture remaining moisture prior to the sample reaching the gas metering system. Expected concentrations for the test runs were calculated based on previous Method 30B test data to total approximately 1500 ng of Hg collected on each trap during sampling.

The sample train used for this test program was designed by APEX, Inc. and meets all requirements for Method 30B sampling. Each sample was extracted at one sample point, within 10% of the centroid of the stack.

The mercury traps were analyzed offsite utilizing an Ohio Lumex analyzer. A complete summary of emission test results follows the narrative portion of this report.

3.0 TEST RESULTS SUMMARY

Method 30B (Sorbent Trap) Mercury Test Results Summary
We Energies
Presque Isle Power Plant
Flue 6

Test No.	Total Hours Sampled	Operating Days	Start Date	Start Time	End Date	End Time	V_m (standard L)	ng detected	ppb	ug/dscm	ug/wscm	lb/Tbtu (Fc Factor)
1A	94	4	8/24/2017	9:40	8/28/2017	7:32	1,545.636	779.4	0.060	0.504	0.464	0.452
1B							1,497.641	730.3	0.058	0.488	0.449	0.437
Average								754.9	0.059	0.496	0.456	0.444
2A	95	4	8/28/2017	8:05	9/1/2017	7:00	1,567.742	1,105.8	0.085	0.705	0.649	0.637
2B							1,506.812	1,200.7	0.096	0.797	0.733	0.720
Average								1,153.3	0.090	0.751	0.691	0.678
3A	96	4	9/1/2017	7:46	9/5/2017	7:06	1,572.533	1,384.4	0.106	0.880	0.810	0.802
3B							1,511.621	1,437.5	0.114	0.951	0.875	0.866
Average								1,411.0	0.110	0.916	0.842	0.834
4A	72	3	9/5/2017	7:32	9/8/2017	8:12	1,193.653	899.6	0.090	0.754	0.693	0.699
4B							1,144.162	926.5	0.097	0.810	0.745	0.751
Average								913.1	0.094	0.782	0.719	0.725
5A	72	3	9/8/2017	8:44	9/11/2017	9:03	1,180.774	1,132.5	0.115	0.959	0.882	0.852
5B							1,132.580	1,173.0	0.124	1.036	0.953	0.920
Average								1,152.8	0.120	0.997	0.918	0.886
6A	72	3	9/11/2017	9:35	9/14/2017	8:58	1180.031	919.2	0.093	0.779	0.717	0.771
6B							1135.321	883.0	0.093	0.778	0.716	0.770
Average								901.1	0.093	0.778	0.716	0.771
7A	95	4	9/14/2017	9:40	9/18/2017	8:57	1576.551	1,356.8	0.103	0.861	0.792	0.791
7B							1516.627	1,436.6	0.114	0.947	0.871	0.870
Average								1,396.7	0.108	0.904	0.832	0.831
8A	70	3	9/18/2017	9:34	9/21/2017	7:30	1153.060	1,641.4	0.171	1.424	1.310	1.368
8B							1107.572	1,710.3	0.185	1.544	1.421	1.484
Average								1,675.9	0.178	1.484	1.365	1.426
9A	95	5	9/21/2017	8:23	9/25/2017	7:13	1566.858	2,692.5	0.206	1.718	1.581	1.636
9B							1514.078	2,710.4	0.215	1.790	1.647	1.704
Average								2,701.5	0.210	1.754	1.614	1.670
Total Times	761	33	Overall Total Weighted Average									0.913

Maximum Potential to Emit

0.913 lb/Tbtu * 995 mmBtu/hr (Maximum Rated Heat Input) * 8760 hr/yr = 8.87 lbs/yr
1,000,000 mmBtu/Tbtu

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.

MOSTARDI PLATT

Program Manager

Pat Lyons

Quality Assurance

Scott W. Banach