

1.0 EXECUTIVE SUMMARY

MOSTARDI PLATT conducted a mercury (Hg) low emitting electrical generating unit (LEE) test program for Marquette Board of Light and Power at the Shiras Steam 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
Unit 3 Stack	April 6 through May 8, 2016	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 Unit 3 Stack. The test consisted of four paired Method 30B Hg sampling runs. Each trap pair was sampled for a time frame of approximately 190 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 for sub-bituminous coal was utilized to calculate emissions on a lb/TBtu basis. Carbon dioxide (CO₂) data was taken from CEM hourly data and corrected from a wet basis to dry basis utilizing ALT-091 moisture determination procedures. Selected results of the test program are summarized below.

Parameter	Test Dates	Hg lb/TBtu	Hg lb/yr	LEE Demonstration Requirement	Pass/Fail
Hg	4/6/16- 5/8/16	0.561	2.113	10% of MATS Hg limit of 1.2 lb/TBtu or 0.013 lb/Gwh; or ≤ 29 lb/yr of Hg and the unit also meets the MATS Hg limit.	Pass

The test results from this test program indicate that the Shiras Steam Plant Unit 3 Stack demonstrated the level to achieve Hg LEE status per 40CFR63, UUUUU Section 63.10005 (h)(1)(ii)(A or B). Carbon injection averaged 18.55 lb/hr during the duration of sampling.

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

TEST PERSONNEL INFORMATION		
Location	Address	Contact
Test Facility	Marquette Board of Light and Power Shiras Steam Plant 2200 Wright Street Marquette, Michigan 49855	Mr. Erik Booth 906-228-0333 (phone) ebooth@mblp.org
Testing Company Representative	Mostardi Platt 888 Industrial Drive Elmhurst, Illinois 60126	Mr. Patrick Lyons Project Supervisor (630) 993-2100 (phone) plyons@mp-mail.com

3.0 TEST RESULTS SUMMARY

Method 30B (Sorbent Trap) Mercury Test Results Summary
Marquette Board of Light & Power
Shiras Steam Plant

Unit 3 Stack

Test No.	Boiler Operating Days	Boiler Operating Hours	Start Date	Start Time	End Date	End Time	V _m (standard L)	ng detected	ppb	ug/dscm	ug/wscm	lb/yr	lb/Gwh	lb/Tbtu (Fc Factor)
1A	8	190	4/6/2016	12:01	4/14/2016	10:04	3,245.676	3,083.3	0.114	0.950	0.849	3.367	0.011	0.809
1B							3,072.362	2,500.0	0.098	0.814	0.701	2.781	0.009	0.693
Average								2,791.7	0.108	0.882	0.775	3.074	0.010	0.751
2A	8	190	4/14/2016	10:48	4/22/2016	9:55	3,173.632	1,351.2	0.051	0.426	0.371	1.379	0.005	0.369
2B							3,019.400	658.5	0.039	0.317	0.277	1.026	0.004	0.276
Average								1,154.9	0.045	0.372	0.324	1.201	0.004	0.322
3A	8	190	4/22/2016	10:40	4/30/2016	9:40	3,251.226	1,922.0	0.071	0.691	0.521	1.937	0.007	0.515
3B							3,055.974	2,189.9	0.066	0.717	0.631	2.348	0.008	0.625
Average								2,056.0	0.078	0.854	0.576	2.142	0.008	0.570
4A	9	190	4/30/2016	10:15	5/8/2016	9:39	3,207.372	2,263.0	0.085	0.706	0.632	2.206	0.008	0.638
4B							3,027.573	1,817.3	0.072	0.600	0.538	1.677	0.007	0.543
Average								2,040.2	0.078	0.653	0.585	2.042	0.008	0.590
Total Operating Days/Hours	33	760								Overall Weighted Test Average		2.115	0.007	0.558