



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
New England Regional Laboratory
Laboratory Services and Applied Science Division
11 Technology Drive, North Chelmsford, MA 01863

Report Memorandum

Drafted Date: 1/29/2021

Finalized Date: 2/02/2021

Subject: Stack Emission Testing Observations – Green Mountain Power

From: William Osbahr, Stack Testing Coordinator /WAO/
Field Services Branch (FSB)

Through: Jerry Keefe, Team Leader /JCK/
FSB

To: Christine Sansevero, Air Technical Unit Chief
Enforcement and Compliance Assurance Division (ECAD)

Facility Information

- A. Facility Name: Green Mountain Power
- B. Facility Location: 2 Mechanic St Vergennes, VT 05491
- C. Facility Contact: John Greenan
- D. ICIS-Air #: VT0000005000100017

Background Information

- A. Date of inspection: 7/14/2020
- B. US EPA Representative(s): William Osbahr
- C. Federally Enforceable Requirements Investigated:
 - 40 CFR Part 63 Subpart ZZZZ
- D. Units Tested: William Osbahr
- E. Pollutants Tested: CO

Disclaimer:

Unless otherwise noted, this report describes conditions at the facility/property as observed by EPA inspector(s), and/or through records provided to and/or information reported to EPA inspector(s) by facility representatives and as understood by the inspector(s). This report may not capture all operations or activities ongoing at the time of the inspection. This report does not make final determinations on potential areas of concern. Nothing in this report affects EPA's authorities under federal statutes and regulations to pursue further investigation or action.

Test Observation Notes

On January 26, 2021, I performed a remote observation of emissions testing at Green Mountain Power.

Listed below are the following test observations.

Test Participants:

Name	Company	Role
William Osbahr	USEPA	Remote Observer
Sean MacKay	CEM Services	Project Director, QSTI
Finn MacKay	CEM Services	Technician
Tony Ferreira	CCA Combustion Systems	Technician
Ryan Gray	GMP	Controls/Technician
John Greenan	GMP	Observer
Jacob Bent	GMP	Generator Operator/Mechanic
Beth Eliason	VHB	Observer

Prior to test day, Mr. Greenan of GMP reached out via email to inform me that GMP had secured a camera system within the plant which could assist in a remote observation. I did not utilize this system for the part of the EPA remote observation.

Mr. MacKay of CEM Services and I held a teleconference on January 20, 2021. We agreed to communicate via text, email, videos, and/or facetime on the test day. Consequently, Mr. MacKay acted as the primary test contact throughout the test event.

Mr. Greenan stated in an email that he would also remain available on the test day via cell phone should I have any questions or need any information.

Mr. Greenan was copied on all correspondence regarding the remote test observation efforts.

Throughout the test day, Mr. MacKay provided continuous updates and a steady flow of information regarding testing set up, activities, and results.

Mr. MacKay and I held a teleconference at 10:47 am during the test. During that call, he explained that the test was proceeding on Engine 6. He stated that load had been stable at approximately 91% and that the first 2 runs were completed.

Mr. MacKay stated that raw emissions test data appeared to indicate that Engine 6 was meeting the outlet emissions requirements of ZZZZ. While full corrected and final data was not yet available, the Oxidation Catalyst (OC) inlet was in the range of 50-55 ppm for each of the first 2 runs. The OC outlet was approximately 5 ppm for the first 2 runs.

During the test day, Mr. MacKay sent a series of videos via email depicting the sample line, sample probe, and sample port location. During our call, I reviewed one of the longer videos several times. I explained to Mr. MacKay that the sampling system appeared to be acceptable for a ZZZZ test. This video also provided a narrative of a walk through from the sample trailer complete through to the inlet sample location.

Mr. MacKay provided another video showing the Allen Bradley system, which displayed the Continuous Parameter Monitoring System (CPMS). I noted that the data display panel at 8:30 am revealed that Engine 6 load was at 96%, SCR inlet was 619 Deg F, and an OC Delta P of 1.4 lwc.

Additionally, Mr. MacKay stated that he would send email updates during the test day and that he would be available via cell phone. He further explained that he would call me should any abnormal operations or sample problems occur.

Throughout the day Mr. MacKay provided me with a series of 8 emails which included 5 photos, 6 attachments, 3 videos, and a summary spreadsheet of the full test day results.

Additionally, Mr. MacKay provided several text messages which included 9 photos of sample run data and final QA/QC calibrations.

Attached at the bottom of this document is a copy of the draft emissions data summary for both engines.

The final test data will be included in the test report to be submitted to EPA.

Green Mountain Power Test Draft Summary Data. Submitted via email 1/26/2021 4:07 PM

		40 CFR 63, SUBPART ZZZZ TEST						
PLANT:	GREEN MOUNTAIN POWER - VERGENNES							
UNIT:	GENERATOR 6							
DATE:	1/26/2021							
RUN #	TIME	INLET O2	INLET CO	INLET CO	OUTLET O2	OUTLET CO	OUTLET CO	DESTRUCTION EFFICIENCY
		%	PPM	PPM @ 15% O2	%	PPM	PPM @ 15% O2	%
1	0900-1000	12.62	49.95	35.59	12.62	3.50	2.49	93.00
2	1010-1110	12.57	54.55	38.63	12.61	5.27	3.75	90.31
3	1120-1220	12.51	56.48	39.74	12.51	4.62	3.25	91.82
AVGERAGE								
LIMIT							23	70
UNIT:	GENERATOR 5							
DATE:	1/26/2021							
RUN #	TIME	INLET O2	INLTET CO	INLET CO	OUTLET O2	OUTLET CO	OUTLET CO	DESTRUCTION EFFICIENCY
		%	PPM	PPM @ 15% O2	%	PPM	PPM @ 15% O2	%
1	1240-1340	12.14	183.42	123.52	12.11	9.89	6.63	94.63
2	1350-1450	12.12	186.90	125.55	12.07	8.10	5.41	95.69
3	1500-1600	12.13	183.03	123.06	12.09	7.71	5.16	95.81
AVGERAGE								
LIMIT							23	70
Where:								
CO @ 15% O2 = CO PPM x 5.9/(20.9-O2%)								
DE = Inlet CO @15% O2 - Outlet CO @15% O2 / Inlet CO @15% O2								