Notification of Compliance Status Report

National Emission Standards for Hazardous Air Pollutants:

Stationary Reciprocating Internal Combustion Engines

40 CFR Part 63, Subpart ZZZZ

SECTION I : GENERAL INFORMATION

Renewable Operating Permit No. (if applicable)	SRN
MI-ROP-B2803-2013	B2803

Facility Name

The DTE Electric Company – Placid Peaking Facility

Facility Street Address

4912 Edgar

City	State	ZIP Code
Springfield	Michigan	48016

Responsible Official's Name/Title

Ryan Randazzo / Plant Manager

Street Address

38155 Cherry Hill Rd.

City	State	ZIP Code
Westland	Michigan	48186

A. Indicate the relevant standard or other requirement that is the basis for this notification and the source's compliance date: (§63.9(b)(2)(iii))

Basis for this notification (relevant standard or other requirement)	Compliance Date (mm/dd/yyyy)
40 CFR 63.6645	5/3/2013

SECTION II: FACILITY DESIGNATION

If the relevant standard applies to both major and area sources, present an analysis demonstrating whether the affected source is a major source, using the emissions data generated for this notification. [§63.9(h)(2)(i)(E)]

This facility five (5) GM Electro-Motive Division MP45 20 – cylinder diesel fueled compression ignition (CI) engines with 3,600 nominal brake horsepower and nominally rated at 2.5 megawatts generating capacity (2.75 MW peaking; maximum 2 hours per 24 hours operation). These engines, installed in 1971, are used to generate additional electricity during periods of high customer demand. Putnam Peaking Facility is an area source of Hazardous Air Pollutants and these existing, non-emergency, stationary CI engines fall subject to 40 CFR Part 63 Subpart ZZZZ MACT standards. Please see attached table titled 'HAPS Emission Estimate: Area Source Designation' which shows the site's Potential To Emit of HAPS and determines the source to be an Area Source.

SECTION III: METHODS

Describe the methods you used to determine compliance. [§63.9(h)(2)(i)(A)]

This facility installed oxidation catalyst to reduce carbon monoxide emissions from their five (5) stationary existing non-emergency compression ignition engines in order to comply with the emission standards in Table 2d of 40 CFR Part 63, Subpart ZZZZ. Performance testing was completed on 05/7/2013 using USEPA Method 3A and Method 10 of 40 CFR Part 60 Appendix A to determine the concentration of O_2 and CO in the exhaust stream. The catalyst inlet temperature and catalyst pressure drop were recorded during the initial performance test. This facility installed and operated a continuous parametric monitoring system (CPMS) to continuously measure the catalyst inlet temperature and catalyst pressure drop according to the requirements in 40 CFR 63.6625(b) and Table 5 of 40 CFR Part 63, Subpart ZZZZ. The catalyst inlet temperature and catalyst pressure drop that were recorded were within the allowed ranges as specified in Table 2b of 40 CFR Part 63, Subpart ZZZZ. This facility followed the startup requirements in 63.6625(h). The startup time was limited to 30 minutes and this facility minimized the engine's time spent at idle during startup.

SECTION IV: RESULTS

Describe the results of any performance tests, opacity or visible emission observations, continuous monitoring system (CMS) performance evaluations, and/or other monitoring procedures or methods that were conducted. [§63.9(h)(2)(i)(B)] Facility can attach test reports and output results from a CEMS and/or CPMS to this notification.

	Results								
Source ID	Test Date	Ambient Pres. (inHg)	Ambient Temp. (°F)	Ambient Humidity	Carbon Monoxide Reduction	Carbon Monoxide Conc. (ppm*)	Catalyst Inlet Temperature (°F)	Catalyst Pressure Drop("H2O)	Percent Load During Testing
DG 11-1	Testing Last Completed 4/16/2013 Retest scheduled early 2016.								
DG 11-2	10/19/15	30.24	52	46%	71.3%	20.4	458	0.003	100%
DG 11-3	10/20/15	30.10	64	35%	78.9%	32.9	740	0.002	100%
DG 11-4	10/22/15	30.21	57	66%	80.8%	14.8	704	0.004	100%
DG 11-5	10/20/15	30.09	72	30%	76.4 %	25.4	725	0.005	100%

* Corrected for analyzer drift per USEPA Method 7E

SECTION V: CONTINUOUS COMPLIANCE

Describe the methods you will use to determine continuous compliance, including a description of monitoring and reporting requirements and test methods. [§63.9(h)(2)(i)(C)]

This facility will determine continuous compliance with applicable requirements by continuing to use monitoring methods as identified in Section II of this notification. In addition, the facility plans to do the following: (1) continuously monitor the catalyst inlet temperature to ensure it remains greater than or equal to 450°F and less than or equal to 1,350°F; (2) monitor the catalyst pressure drop monthly to ensure that the pressure drop across the catalyst does not change by more than 2 inches of water at 100 percent load plus or minus 10 percent from the pressure drop across the catalyst that was measured during the initial performance test; (3) conduct performance test on each engine every 8,760 hours of operation or 3 years, whichever comes first, and after catalyst change to ensure that carbon monoxide emissions are reduced by 70 percent or more; (4) maintain all records for compliance as specified in §63.6655; and (5) submit the necessary notifications and reports, according to the requirements in §63.6645 and §63.6650.

SECTION VI: CONTROLS

Describe the air pollution control equipment or method for each emission point, including each control device (or method) for each hazardous air pollutant and the control efficiency (percent) for each control device or method. [§63.9(h)(2)(i)(F)]

The following pollution control equipment is used for each engine listed at this facility. Additionally, this facility uses other compliance methods that do not involve pollution control equipment, including a CPMS.

Source ID	Equipment Type	Control Device	Control Efficiency	HAP Controlled
DG 11-1	DCL International Inc. Quick-Lid Catalytic Converter Model DC69.5-22	Oxidation Catalyst	Reduces carbon monoxide by 70% or more	Carbon Monoxide
DG 11-2	DCL International Inc. Quick-Lid Catalytic Converter Model DC69.5-22	Oxidation Catalyst	Reduces carbon monoxide by 70% or more	Carbon Monoxide
DG 11-3	DCL International Inc. Quick-Lid Catalytic Converter Model DC69.5-22	Oxidation Catalyst	Reduces carbon monoxide by 70% or more	Carbon Monoxide
DG 11-4	DCL International Inc. Quick-Lid Catalytic Converter Model DC69.5-22	Oxidation Catalyst	Reduces carbon monoxide by 70% or more	Carbon Monoxide
DG 11-5	DCL International Inc. Quick-Lid Catalytic Converter Model DC69.5-22	Oxidation Catalyst	Reduces carbon monoxide by 70% or more	Carbon Monoxide

SECTION VII : CERTIFICATION

Based upon information and belief formed after a reasonable inquiry, I, as a responsible official of the above-mentioned facility, certify the information contained in this report is accurate and true to the best of my knowledge. The above-mentioned facility has complied with the relevant standard or and other applicable requirements referenced in the relevant standard. [§63.9(h)(2)(i)(G)]

Name of Responsible Official (Print or Type)	Title	Date (mm/dd/yyyy)
Ryan Randazzo	Plant Manager	12/14/2015

Signature of Responsible Official

Note: Responsible official is defined under §63.2 as one of the following: a president, vice-president, secretary, or treasurer of the company that owns the plant; the owner of the plant; the plant engineer or supervisor; a government official if the plant is owned by the Federal, State, city, or county government; or a ranking military officer if the plant is located on a military installation.

December 18, 2015

DTE Energy

Mr. Reza Bagherian
US EPA Region V
Compliance Tracker (AE-17J)
77 West Jackson Boulevard
Chicago, IL 60604-3507

RE: MACT ZZZZ Notification of Compliance Status: SRN B2803 – DTE Electric Company: Placid Peaking Facility

The DTE Electric Company owns and operates five (5) GM Electro-Motive Division MP45 20 – cylinder diesel fueled compression ignition (CI) engines with 3,600 nominal brake horsepower and nominally rated at 2.5 megawatts generating capacity at its Placid Peaking Facility (SRN B2803) located in Clarkston, MI. These engines are used to generate additional electricity during periods of high customer demand. Placid Peaking Facility is an area source of Hazardous Air Pollutants and these existing, non-emergency, stationary CI engines fall subject to 40 CFR Part 63 Subpart ZZZZ MACT standards.

Attached you will find documentation summarizing the performance testing and compliance methods and monitoring for each engine at the Placid Peaking Facility that satisfies the requirement to provide a Notification of Compliance Status per 40 CFR 63.6645. All monitoring, recordkeeping and reporting required by Subpart ZZZZ will be in accordance with the compliance date of May 3, 2013 per 40 CFR 63.6595(a)(1).

If you have any questions or concerns regarding this notification, please contact either Frank LeForce at (313)235-2745 or via email at (leforcef@dteenergy.com), or myself at (313) 897-0770 or via email at (snydertj@dteenergy.com).

Sincerely,
DTE ENERGY CORPORATE SERVICES, LLC

Thomas Snyder, QSTI
Senior Engineering Technician – Field Services Group
Environmental Management & Resources

Enc: Emissions Test Report – Units 12-2 to 12-5 (1 copy)

Cc: Karen Kajiya-Mills, MDEQ (with enclosure)
Robert Elmouchi, MDEQ (with enclosure)
Frank LeForce, DTE EM&R

COMPLIANCE TEST REPORT

for

CARBON MONOXIDE EMISSIONS (CO)

UNITS 12-2 to 12-5

SRN: B2803

Placid Substation
Clarkston, Michigan

October 19-22, 2015

Prepared By
Environmental Management & Resources
Environmental Field Services Group
DTE Corporate Services, LLC
7940 Livernois H-136
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EXECUTIVE SUMMARY

DTE Energy's Environmental Management and Resources (EM&R) Field Services Group, performed emissions testing on four (4) 3,600 Brake-HP diesel engines located at the Placid Substation in Clarkston, Michigan. The fieldwork, performed on October 19-22, 2015 was conducted to satisfy requirements of 40CFR Part 63 Subpart ZZZZ. Emission tests were performed on Units 12-2 to 12-5 for carbon monoxide (CO) destruction efficiency.

The results of the emissions testing are highlighted below:

CO Emissions Test Results
Placid Substation
October, 2015

Date	Unit	Average CO Destruction Efficiency (%)
10-19-15	12-2	71.3
10-20-15	12-3	78.9
10-21-15	12-4	80.8
10-20-15	12-5	76.4

Subpart ZZZZ Limit: Limit the concentration of CO in the stationary RICE exhaust to 23 ppmvd or less at 15% O2; or Reduce CO emissions by 70% or more

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1.0 INTRODUCTION

DTE Energy's Environmental Management and Resources (EM&R) Field Services Group, performed emissions testing on four (4) 3,600 Brake-HP diesel engines located at the Placid Substation in Clarkston, Michigan. The fieldwork, performed on October 19-22, 2015 was conducted to satisfy requirements of 40CFR Part 63 Subpart ZZZZ. Emission tests were performed on Units 12-2 to 12-5 for carbon monoxide (CO) destruction efficiency.

Testing was performed pursuant to Title 40, *Code of Federal Regulations*, Part 60, Appendix A (40 CFR §60 App. A), Methods 3A and 10.

The fieldwork was performed in accordance with EPA Reference Methods, the requirements outlined in 40CFR Part 63 Subpart ZZZZ, and EM&R's Intent to Test[1], Test Plan Submittal, which was approved in a letter by Mr. Tom Gasloli from the Michigan Department of Environmental Quality (MDEQ), dated June 8, 2015. The following EM&R personnel participated in the testing program: Mr. Thomas Snyder, Senior Technician, and Mr. Mark Grigereit, Principal Engineer. Mr. Rahn Ledesma, Reliability Supervisor with DTE Electric, provided process coordination for the testing program.

2.0 SOURCE DESCRIPTION

The Placid Substation located at 4912 Edgar Rd, Clarkston, Michigan, employs the use of five EM&D, MP45, 20 cylinder, 3,600 Horse Power diesel engines (Units 12-1 to 12-5). The engines generate supplemental electrical power during peak electrical demand periods or when required for load stability. On site diesel generators produce the electrical power supply which is sent to the electrical grid. Each unit is capable of producing approximately 2.5 GMW at full load conditions. Unit 12-1 was not tested due to operational issues with the unit.

The emissions from the engines are exhausted through individual catalyst beds and to the atmosphere through individual exhaust stacks.

During the emissions testing the engines were operated at 100% load conditions (2.5 MW).

A schematic representation of the engines exhausts and sampling locations are presented in Figure 1. Sampling was performed in the duct prior to and downstream of the catalyst bed.

[1] MDEQ, Test Plan, Submitted May 6, 2015. (Attached-Appendix A)
[2] MDEQ, Approval Letter (Attached-Appendix A)

3.0 SAMPLING AND ANALYTICAL PROCEDURES

DTE Energy obtained emissions measurements in accordance with procedures specified in the USEPA *Standards of Performance for New Stationary Sources*. The sampling and analytical methods used in the testing program are indicated in the table below:

Sampling Method	Parameter	Analysis
USEPA Method 3A	Oxygen	Instrumental Analyzer Method
USEPA Method 10	Carbon Monoxide	NDIR Instrumental Analyzer Method

3.1 OXYGEN AND CARBON MONOXIDE (USEPA METHODS 3A AND 10)

3.1.1 Sampling Method

Oxygen (O_2) emissions were evaluated using USEPA Method 3A, "Gas Analysis for Carbon Dioxide, Oxygen, Excess Air, and Dry Molecular Weight (Instrumental Analyzer Method)". The O_2 analyzer utilizes a paramagnetic sensor.

Carbon monoxide (CO) emissions were evaluated using USEPA Method 10, "Determination of Carbon Monoxide Emissions from Stationary Sources". The CO analyzer utilizes a NDIR detector.

3.1.2 O_2 and CO Sampling Train

The EPA Methods 3A and 10 sampling systems at the inlet and outlet (Figure 2) consisted of the following components:

(1) Single-point stainless steel sampling probe with a cintered filter.
(2) Heated PTFE™ sampling line.
(3) Universal® and MAK® gas conditioners with a particulate filter.
(4) Flexible unheated PTFE sampling line.
(5) Servomex 1400 O_2/CO_2 gas analyzer and TECO 48i NDIR CO gas analyzer.
(6) USEPA Protocol 1 calibration gases.
(7) Data Acquisition System.

3.1.3 Sampling Train Calibration

The O_2 / CO sampling trains were calibrated according to procedures outlined in USEPA Methods 3A & 10. Zero, span, and mid range calibration gases were introduced directly into the CO and O_2 analyzers to determine the instruments linearity. A zero and mid range span gas was then introduced through the entire sampling system to determine sampling system bias for each analyzer. Additional system calibrations were performed at the completion of each test.

3.1.4 Sampling Duration & Frequency

The emissions testing of each engine consisted of triplicate 60-minute samples at the inlet and exhaust of the catalyst. Testing was conducted at three points across the diameter of the exhaust duct during each run. Sampling was performed simultaneously for O_2 and CO. Data was recorded as 1-minute averages.

3.1.5 Quality Control and Assurance (O_2 and CO)

All sampling and analytical equipment was calibrated according to the guidelines referenced in Methods 3A and 10. Calibration gases were EPA Protocol 1 gases and the concentrations were within the acceptable ranges (40-60% mid range and span) specified in Method 7E. Calibration gas certification sheets are located in Appendix C.

3.1.6 Data Reduction

The O_2 and CO emission readings in percent (%) and parts per million (ppm) were recorded at 4-second intervals and averaged to 1-minute increments. The CO emissions were normalized to 15% O_2, and that number was used to determine CO % Destruction Efficiency (DE) as required by 40CFR Part 63 Subpart ZZZZ. Emission calculations are based upon calculations found in USEPA Methods 3A, 7E, 10 and 19. Example calculations can be found in Appendix D.

The 1-minute O_2 and CO readings collected can be found in Appendix B.

4.0 OPERATING PARAMETERS

The test program included the collection of catalyst inlet temperature (°F), catalyst pressure drop ("H_2O), and crank case vacuum ("H_2O). Ambient temperature (°F), Relative Humidity (%), and Barometric Pressure (in) were also recorded during each test. Operational and atmospheric data collected during the testing is located in Appendix E.

5.0 RESULTS

Tables 1-4 present the CO emissions @ 15% O_2 results from Units 12-2 to 12-5. The CO emissions are presented in parts per million (ppm) for the inlet and outlet and the destruction efficiency in percent (%). Also presented are the Oxygen inlet and outlet in percent (%), the catalyst inlet temperature in degrees Fahrenheit (°F), and pressure drop across the catalyst in inches of water ("H_2O). The results of the testing indicate that Units 12-2 to 12-5 are in compliance with 40CFR Part 63 Subpart ZZZZ requirements of reducing CO emissions by 70% or more.

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6.0 CERTIFICATION STATEMENT

"I certify that I believe the information provided in this document is true, accurate, and complete. Results of testing are based on the good faith application of sound professional judgment, using techniques, factors, or standards approved by the Local, State, or Federal Governing body, or generally accepted in the trade."

Thomas Snyder, QSTI

This report prepared by:

Mr. Thomas Snyder, QSTI
Senior Environmental Technician, Field Services Group
Environmental Management and Resources
DTE Energy Corporate Services, LLC

This report reviewed by:

Mr. Mark Grigereit, QSTI
Principal Engineer, Field Services Group
Environmental Management and Resources
DTE Energy Corporate Services, LLC

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RESULTS TABLES

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TABLE NO. 1
CARBON MONOXIDE (CO) EMISSION TESTING RESULTS
Unit 12-2 Placid Substation
October 19, 2015

Test	Time	Load (MW)	Catalyst Inlet Temperature (°F)	Catalyst Pressure Drop ("H_2O)	Oxygen [1] Inlet (%)	Oxygen [1] Outlet (%)	CO Emissions @ 15% O_2 [1] Inlet (ppm)	CO Emissions @ 15% O_2 [1] Outlet (ppm)	Destruction Efficiency (%)
Run - 1	8:56-9:56	2.6	670	0.003	12.5	12.5	65.4	19.2	70.7
Run - 2	10:05-11:05	2.6	656	0.003	12.5	12.4	71.0	20.6	71.0
Run - 3	11:16-12:16	2.6	649	0.003	12.3	12.3	77.7	21.5	72.3
	Avg:	***2.6***	***658***	***0.003***	***12.4***	***12.4***	***71.4***	***20.4***	***71.3***

[1] Corrected for analyzer drift per USEPA method 7E

40CFR Part 63 Subpart ZZZZ Limit: 70% DE

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TABLE NO. 2
CARBON MONOXIDE (CO) EMISSION TESTING RESULTS
Unit 12-3 Placid Substation
October 20, 2015

Test	Time	Load (MW)	Catalyst Inlet Temperature (°F)	Catalyst Pressure Drop ("H_2O)	Oxygen [1]		CO Emissions @ 15% O_2 [1]		Destruction Efficiency (%)
					Inlet (%)	Outlet (%)	Inlet (ppm)	Outlet (ppm)	
Run - 1	8:42-9:42	2.6	744	0.002	11.6	11.5	145.0	31.6	78.2
Run - 2	9:52-10:52	2.6	736	0.002	11.5	11.4	154.4	32.8	78.7
Run - 3	11:05-12:05	2.6	739	0.002	11.4	11.3	168.5	34.2	79.7
	Avg:	*2.6*	*740*	*0.002*	*11.5*	*11.4*	*156.0*	*32.9*	*78.9*

[1] Corrected for analyzer drift per USEPA method 7E

40CFR Part 63 Subpart ZZZZ Limit: 70% DE

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TABLE NO. 3
CARBON MONOXIDE (CO) EMISSION TESTING RESULTS
Unit 12-4 Placid Substation
October 22, 2015

Test	Time	Load (MW)	Catalyst Inlet Temperature (°F)	Catalyst Pressure Drop ("H_2O)	Oxygen [1] Inlet (%)	Oxygen [1] Outlet (%)	CO Emissions @ 15% O_2 [1] Inlet (ppm)	CO Emissions @ 15% O_2 [1] Outlet (ppm)	Destruction Efficiency (%)
Run - 1	8:41-9:41	2.6	715	0.004	12.2	12.1	78.9	14.4	81.8
Run - 2	9:49-10:49	2.6	700	0.004	12.2	12.1	75.1	15.1	79.9
Run - 3	11:06-12:06	2.6	696	0.004	12.2	12.1	76.5	14.9	80.6
	Avg:	*2.6*	*704*	*0.004*	*12.2*	*12.1*	*76.8*	*14.8*	*80.8*

[1] Corrected for analyzer drift per USEPA method 7E

40CFR Part 63 Subpart ZZZZ Limit: 70% DE

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TABLE NO. 4
CARBON MONOXIDE (CO) EMISSION TESTING RESULTS
Unit 12-5 Placid Substation
October 20, 2015

Test	Time	Load (MW)	Catalyst Inlet Temperature (°F)	Catalyst Pressure Drop ("H_2O)	Oxygen [1]		CO Emissions @ 15% O_2 [1]		Destruction Efficiency (%)
					Inlet (%)	Outlet (%)	Inlet (ppm)	Outlet (ppm)	
Run - 1	12:17-13:17	2.6	727	0.005	11.8	11.7	103.9	23.6	77.3
Run - 2	13:27-14:27	2.6	725	0.006	11.8	11.7	107.8	26.4	75.5
Run - 3	14:37-15:37	2.6	723	0.005	11.8	11.7	110.6	26.2	76.3
	Avg:	*2.6*	*725*	*0.005*	*11.8*	*11.7*	*107.4*	*25.4*	*76.4*

[1] Corrected for analyzer drift per USEPA method 7E

40CFR Part 63 Subpart ZZZZ Limit: 70% DE

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FIGURES

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Figure 1 – Sampling Location
Placid Substation Diesel Generators
October 19-22, 2015

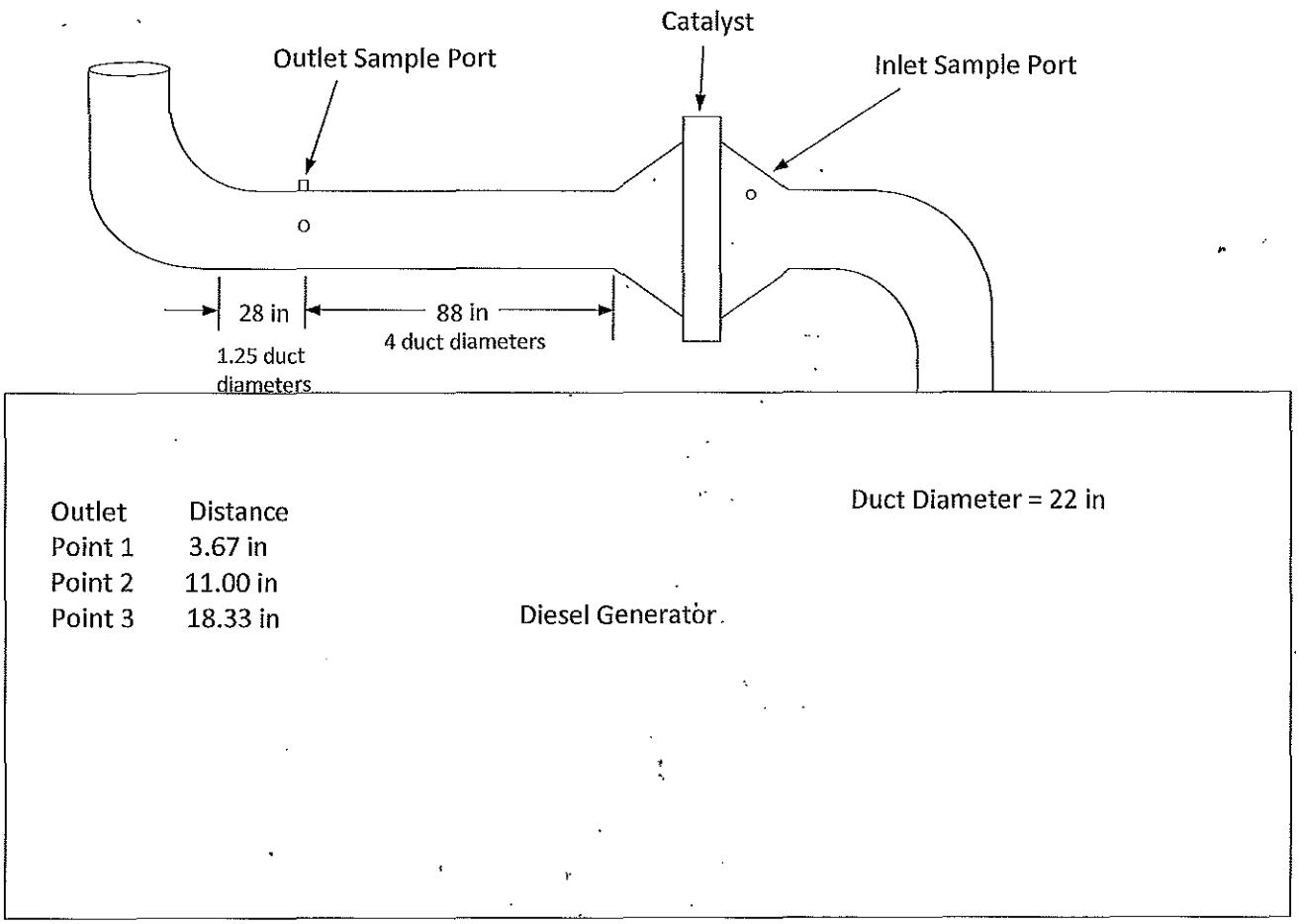

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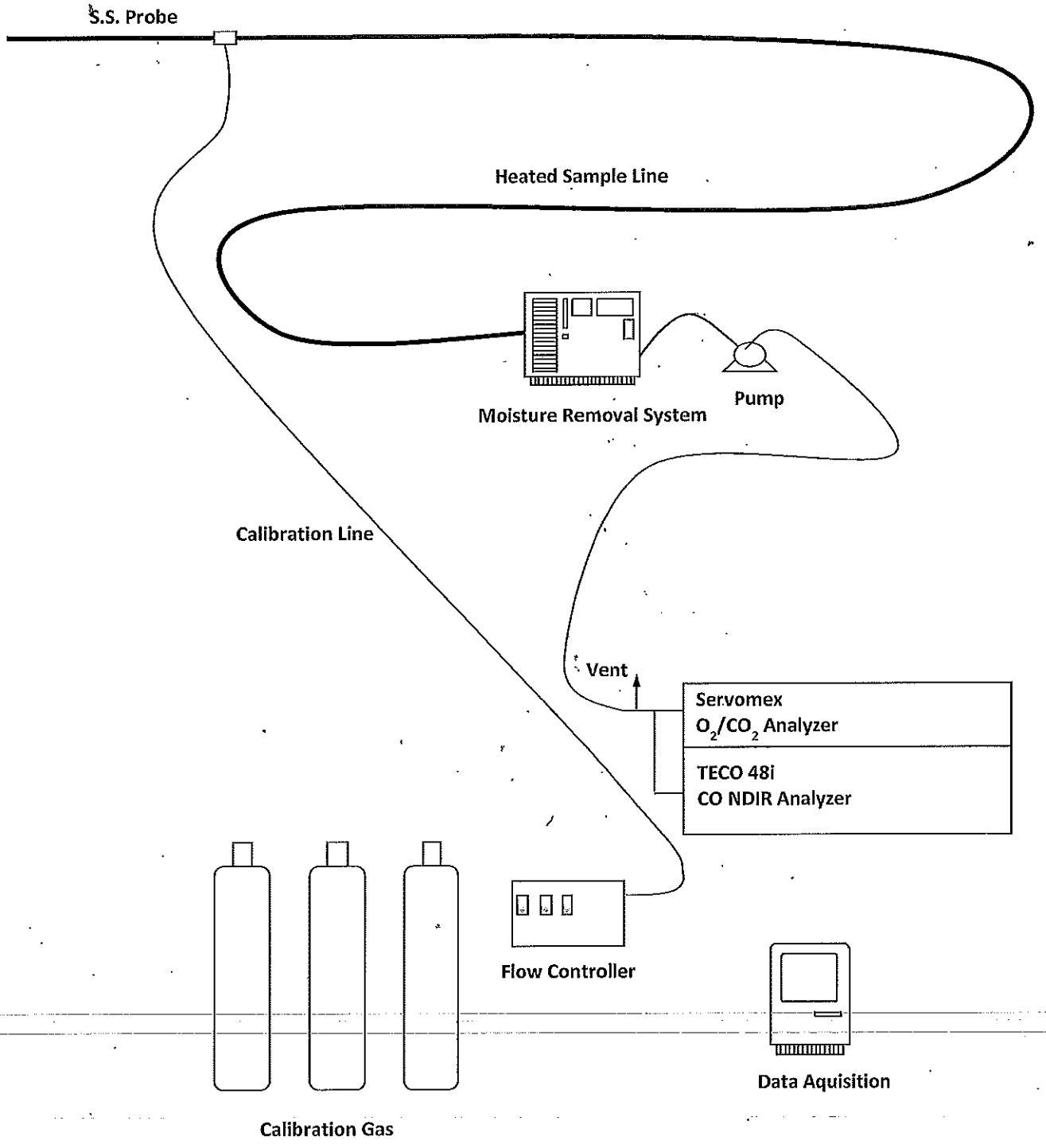
Figure 2 – EPA Methods 3A/10
Placid Substation Diesel Generator
October 19-22, 2015



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APPENDIX A

MDEQ TEST PLAN