P0423
FY2018 Insp
SM CMS

DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: Self Initiated Inspection

P042343903

FACILITY: STERLING PERFORMANCE, INC.		SRN / ID: P0423
LOCATION: 54420 PONTIAC TRAIL, MILFORD		DISTRICT: Southeast Michigan
CITY: MILFORD		COUNTY: OAKLAND
CONTACT: Mr. Michael J. D'Anniballe , President		ACTIVITY DATE: 03/15/2018
STAFF: Iranna Konanahalli	COMPLIANCE STATUS: Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT: FY 2018 inspection of Sterling Performance, Inc. ("Sterling")		
RESOLVED COMPLAINTS:		

Sterling Performance, Inc. (P0423)
54420 Pontiac Trail
Milford, Michigan 48381-4344

www.sterlingpeformance.org

NAICS Code: 336399; SIC Code: 3519

VNs: Violation Notices dated February 13, 2013 (Rules 201 PTI & 707 Cold-cleaner) and October 24, 2013 (Rule 210 ROP).

Synthetic Minor (ROP, area MACT) PTI No. 43-13 dated July 17, 2013 (Rule 702 BACT – cost analysis $39,000 per ton VOC controlled). Prior to the permit, Sterling was subject to ROP (PTE CO > 100 TPY), Major MACT, PSD (above threshold levels for CO and above significant level for VOC); PSD review was not performed. Potential lead (Pb) emissions were also high due to leaded gasoline use. One of two test cells is permanently shutdown.

Subject to: MAERS – annual reporting required due to synthetic minor permit.

Consent Order (CO): AQD No. 38-2014 effective June 4, 2014, executed by G. Vinson Hellwig, AQD Chief. $10,000 settlement. CO resolved two Violation Notices dated February 13 (Rules 336.1201 Permit-to-Install & 336.1707 Cold-cleaners) and October 24 (Rule 336.1210 ROP), 2013. On October 24, 2017, AQD Director Lynn Fiedler denied request (via August 30, 2017, letter from Mr. D'Anniballe) for not fully keeping records and not performing all required calculations based upon October 17, 2017, inspection. Again, on March 15, 2018, Mr. D'Anniballe requested termination of CO stating that the required calculations had been performed. In addition, Sterling, henceforth, would promptly perform the required calculations and keep all required records including lead (Pb) content in gasoline. AQD will terminate the CO based upon March 15, 2018, inspection and Mr. D'Anniballe's commitments.

Not Subject to: NESHAP/ MACT T, area source National Emission Standards for Hazardous Air Pollutants: Halogenated Solvent Cleaning (40 CFR, Part 63, Subpart T; NESHAP/ MACT T); Correction; 29484 Federal Register / Vol. 60, No. 107 / Monday, June 5, 1995 / Rules and Regulations; amended National Air Emission Standards for Hazardous Air Pollutants: Halogenated Solvent Cleaning (40 CFR, Part 63, Subpart T);

Final Rule; Page 25138 Federal Register / Vol. 72, No. 85 / Thursday, May 3, 2007 / Rules and Regulations.

Not subject to NSPS (none for test cells / dynamometers)

Not Subject to: NESHAP/ MACT 5P, 40 CFR Part 63, Subpart PPPPP - National Emission Standards for Hazardous Air Pollutants for Engine Test Cells/Stands, Page 28774, Federal Register / Vol. 68, No. 101 / Tuesday, May 27, 2003 / Rules and Regulations / Final rule.

Prior to obtaining the synthetic minor permit PTI No. 43-13, Sterling was a major source for ROP, PSD, HAP (all). Although Sterling was a major MACT source (prior to PTI No. 43-13 issuance), the dynamometer / Engine test cell, in spite of then once-in-always-in policy (OIAI policy), is not subject to MACT 5P because it was constructed before May 14, 2002 (built about 1991). Sterling is now, upon issuance of the permit, an Area MACT source based upon legally, federally and practically enforceable limits of the permit.

OIAI policy repeal: Effective on February 8, 2018, US EPA Issuance ("Reclassification of Major Sources as Area Sources Under Section 112 of the Clean Air Act')' and withdrawal ("Potential to Emit for MACT Standards—Guidance on Timing Issues.") of guidance memorandums, Page 5543, Federal Register /Vol. 83, No. 27 /Thursday, February 8, 2018 / Rules and Regulations.

As is explained in the memorandum, the plain language of the definitions of "major source" in CAA section 112(a)(1) and of "area source" in CAA section 112(a)(2) compels the conclusion that a major source becomes an area source at such time that the source takes an enforceable limit on its potential to emit (PTE) hazardous air pollutants (HAP) below the major source thresholds (i.e., 10 tons per year (tpy) of any single HAP or 25 tpy of any combination of HAP). In such circumstances, a source that was previously classified as major, and which so limits its PTE, will no longer be subject either to the major source MACT or other major source requirements that were applicable to it as a major source under CAA section 112. The guidance signed on January 25, 2018, supersedes that which was contained in the May 1995 Seitz Memorandum.

On March 15, 2018, I conducted a level 2 self-initiated SM CMS FY 2018 inspection of Sterling Performance, Inc. ("Sterling") located at 54420 Pontiac Trail, Milford, Michigan 48381-4344. The inspection was conducted to determine compliance with the Federal Clean Air Act; Article II, Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451; Consent Order AQD No. 38-2014; Michigan Department of Environmental Quality, Air Quality Division (MDEQ-AQD) administrative rules; and Synthetic Minor (ROP, MACT) PTI No. 43-13.

During the inspection, Mr. Michael J. D'Anniballe (Phone: 248-684-5040; Fax: 248-684-0080; E-mail: mDanniballe@SterlingPerformance.org), President, assisted me.

Ms. Christina Boggina (Phone: 248-684-5040; Fax: 248-684-0080; E-mail: kHyde@SterlingPerformance.org) keeps and records performs MS Spreadsheet calculations. Derenzo Environmental Services (Mr. Tyler Wilson; Phone: 734-464-3880) of Livonia is helping Sterling with MS Spreadsheet calculations to show compliance with the permit.

Mr. Jeff Burrill (Phone: 248-684-5040; Fax: 248-684-0080; E-mail: jBurrill@SterlingPerformance.org), VP, did not participate. Mr. Burrill runs the dynamometer cell (no controls).

Sterling is in the business of manufacturing / assembling performance engines for pleasure / racing boating. Sterling also provides testing services for automotive industry such as evaporative testing of hoses, fittings, injection pumps, on-board vehicle carbon canisters, etc. Sterling started its operations in Milford about 1991. Engine building & assembly and testing operations are conducted in three buildings: 54474 (Building #1), 54420 (Building #2) & 54380 (Building #3) Pontiac Trail, Milford. Performance engine business is going down.

Building #1: 54474 Pontiac Trail

In this building fabrication and machining takes place. Lathe (1), mills (3) and surface grinders are present. All emissions are discharged into in-plant ambient air and there is no ventilation dedicated to these sources. The machines are exempt from Rule 336.1201 (Permit-to-Install) pursuant to Rule 336.1285(2)(l).

Building #2: 54420 Pontiac Trail

Sandblast machine

One sandblast machine (Trinco) equipped with its own dedicated capture device for particulate matter emissions and a dry filter system. Upon cleaning to remove particulate matter (filtration), exhaust gases are released to in-plant environment.

The machine is exempt from Rule 336.1201 (Permit-to-Install) pursuant to Rule 336.1285(2)(l).

Cold-cleaners

There are five (5) Gray Mills parts cold-cleaners with spray a brush and a solvent tank. The cold-cleaners are subject rule 336.611 or 336.1707 depending on if it is existing or new. A cold-cleaner is exempt from Rule 336.1201 pursuant to Rule 281(2)(h) or Rule 285(2)(r)(iv). Existing (Rule 611) cold cleaners were placed into operation prior to July 1, 1979. New (Rule 707) cold cleaners were placed into operation on or after July 1, 1979.

All cold-cleaners are soaker type. Solvent is pumped over the part. Brush may be used to clean. All are equipped with mechanically assisted lid. All lids were open during the FY 2013 inspection; lids were kept open as a matter of practice. Work-practice procedures were not posted. Please refer to the February 13, 2013 (Rules 336.1201 Permit-to-Install & 336.1707 Cold-cleaners), violation notice.

After February 13, 2013, Violation Notice, based upon FY 2018 inspection, the procedures (DEQ Decals) are posted and mechanically-assisted lids are kept closed when access is not needed. The decals were soiled, and I gave additional decals during the FY 2016 inspection. I asked the company to follow the common-sense work practice in the procedures.

Heritage Crystal Clean, Inc. (a competitor of Safetky-Kleen) supplies the solvents and services the cold-cleaners. Synthetic Isoparafinic Hydrocarbons (Exxon Chemical 800-424-9300) containing no halogenated solvents is used.

The Cold-cleaners are NOT Subject to: 40 CFR, Part 63, Subpart T, NESHAP/ MACT T, since solvents containing halogenated compounds are not used.

100% VOC solvent. Flash Point (FP) = NA °F TCC. Auto Ignition = NA °F. Boiling Point (BP) = 354-372 °F @ 760 mm Hg. Vapor Pressure (VP) = 1 mm Hg at 68 °F. Specific Gravity (SG, Water = 1.0) = 0.76. Density (ρ) @ 68 °F = 6.5 lbs. / gallon. Flammability range = NA %v (LEL) – NA %v (UEL).

Engine dynamometer

DESCRIPTION:

Emission Unit ID	Emission Unit Description (Process Equipment & Control Devices)	Installation Date / Modification Date	Flexible Group ID
EUTESTCELL1	One marine/racing engine dynamometer. The engines tested will be fueled by unleaded and leaded gasoline. The cell is equipped with a single exhaust stack, SVTESTCELL1.	1/1/1991	N/A
Changes to the equipment described in this table are subject to the requirements of R 336.1201, except as allowed by R 336.1278 to R 336.1290. One of two dynamometer test cells is permanently removed. Two engine dynamometers were installed about 1991. One of two dynamometers has been permanently removed.			

I. EMISSION LIMITS

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. CO	68.0 tpy	12-month rolling time period as determined at the end of each calendar month.	EUTESTCELL1	SC VI.2	R 336.1205(1) (a) & (3)
2. Benzene	0.25 tpy	12-month rolling time period as determined at the end of each calendar month.	EUTESTCELL1	SC VI.2	R 336.1224, R 336.1225
Emission Factors: CO – 3,940 lb/1,000 gallons Benzene – 1.47E-2 lb/gallon No catalytic control at all for the dynamometer.					

Two engine dynamometers were installed about 1991. One of two dynamometers has been permanently removed. Large engines (750 HP) are tested for specifications. Two pairs of mufflers are present outside the building; one pair for each dynamometer. No catalytic control at all for the dynamometer.

Violation Notices and Consent Order

AQD issued February 13, 2013, Violation Notice (VN) of Rule 336.1201 for installing dynamometers (2) without obtaining a Permit-to-Install. In addition, AQD issued October 24, 2013, Violation Notice of Rule 336.1210 for operation of the plant without federal operating permit (ROP / Title V). Subsequently, Sterling obtained ROP and MACT synthetic minor permit (PTI No. 43-13 dated July 17, 2013; Permit Engineer: CJ). Furthermore, Sterling resolved these two violation notices via Consent Order AQD No. 38-2014 effective June 4, 2014

In the past, until January 2018, Sterling was not performing the permit required calculations every month. Carbon monoxide (CO) and benzene emissions calculations were not performed at all (Violation of PTI No. 43-13, EU-TESTCELL1, SC VI and PTI No. 43-13, FG-FACILITY, SC VI: records and calculations). During FY 2016 inspection, I asked the company to perform these calculations in a timely manner according to the permit. AQD did not issue Violation Notice because Sterling complied with gasoline usage limits (PTI No. 43-13, EU-TESTCELL1, SC II.2 limit: 34,500 total, 900 leaded, gallons per year); this compliance with gasoline usage limit was deemed to be compliance with emissions limits. For example, CY 2015 usage: 12,799 (Vs 27,235 in CY2014) gallons per year total, 880 gallons per year leaded (Pb), 8,929 (Vs 19,588 in CY2014) gallons per year unleaded, 2,996 (Vs 6,767 in CY 2014) gallons per year E-85 gasohol were used (PTI No. 43-13, EU-TESTCELL1, SC II.2 limit: 34,500 total, 900 leaded, gallons per year).

On August 30, 2017 (via letter to AQD Chief), Mr. D'Anniballe requested termination of Consent Order AQD No. 38-2014. Subsequently, AQD conducted October 18, 2017, records review inspection of Sterling Performance, Inc. According to PTI No. 43-13, EU-TESTCELL1, VI and FG-FACILITY, VI, AQD noted the following deficiencies:

1. EU-TESTCELL1, VI.1: the required calculations by the 15th day of the calendar month

2. EU-TESTCELL1, VI.2.f & g: carbon monoxide (CO) emissions calculations by the 15th day of the calendar month

3. EU-TESTCELL1, VI.2.p & q: benzene emissions calculations by the 15th day of the calendar month

4. EU-TESTCELL1, VI.3: lead content record using, for example, product spec sheet by the vendor. Mr. D'Anniballe stated that the lead (Pb) content was 2.3 grams per gallon.

5. FG-FACILITY, VI. HAPs records and calculations

As result of the above noted deficiencies, AQD Director Lynn Fiedler, on October 24, 2017, denied the request to terminate Consent Order AQD No. 38-2014. Again, on March 18, 2018, Mr. D'Anniballe requested termination of Consent Order AQD No. 38-2014.

Based upon ADQ's advice and help from Derenzo Environmental Services (Mr. Tyler Wilson; Phone: 734-464-3880) of Livonia, Sterling has developed (about January 2018) MS Excel spreadsheet for gasoline usage and emissions (CO and HAPs) calculations.

Sterling submitted MS Spreadsheet with the required calculations: AQD is satisfied with the usage records and calculations. It may be noted that, sometimes, Sterling messes up the spreadsheet formulae.

PTI No. 43-13 compliance

PTI No. 43-13, EUTESTCELL1, I. EMISSION LIMITS

Pollutant	Limit	CY2017	CY2016	CY2015	CY2014
1. CO	68.0 tpy	54.1	34	25	53.7
2. Benzene	0.25 tpy	0.20	0.13	0.09	0.20
Emission Factors: CO – 3,940 lb/1,000 gallons Benzene – 1.47E-2 lb/gallon No catalytic control at all for the dynamometer.					

Based upon MAERS-2014, 103,839 pounds per year ≈ 52 tpy carbon monoxide (CY 2014) were emitted (PTI No. 43-13, EU-TESTCELL1, SC I.1 limit: 68 tpy CO). Benzene emissions are not calculated (PTI No. 43-13, EU-TESTCELL1, SC I.2 limit: 0.25 tpy benzene).

Based upon MAERS-2015, 50,427 pounds per year ≈ 25 tpy carbon monoxide (CY 2015) were emitted (PTI No. 43-13, EU-TESTCELL1, SC I.1 limit: 68 tpy CO). Benzene emissions are not calculated (PTI No. 43-13, EU-TESTCELL1, SC I.2 limit: 0.25 tpy benzene).

Based upon MAERS-2016, 34 tpy carbon monoxide (CY 2016) were emitted (PTI No. 43-13, EU-TESTCELL1, SC I.1 limit: 68 tpy CO). Benzene emissions are not calculated (PTI No. 43-13, EU-TESTCELL1, SC I.2 limit: 0.25 tpy benzene).

Only leaded gasoline, unleaded gasoline, gasohol (gasoline and alcohol blends) are used (PTI No. 43-13, EU-TESTCELL1, SC II.1 limit: only those listed are allowed).

CY 2015: 12,799 (Vs 27,235 in CY2014) gallons per year total, 880 gallons per year leaded, 8,929 (Vs 19,588 in CY2014) gallons per year unleaded, 2,996 (Vs 6,767 in CY 2014) gallons per year gasohol were used (PTI No. 43-13, EU-TESTCELL1, SC II.2 limit: 34,500 total, 900 leaded, gallons per year). Obviously, gasoline usage is come down compared to the previous year (CY 2014 Vs. CY2015).

CY 2016: 17,450 (Vs 27,235 in CY2014) gallons per year total, NULL gallons per year leaded, 14,043 (Reg Unleaded) (Vs 19,588 in CY2014) gallons per year unleaded, 3,407 (Vs 6,767 in CY 2014) gallons per year gasohol (E-85 unleaded) were used (PTI No. 43-13, EU-TESTCELL1, SC II.2 limit: 34,500 total, 900 leaded, gallons per year). Obviously, gasoline usage is come down compared to the previous year (CY 2014 Vs. CY2016).

CY 2017: 27,457 (Vs 27,235 in CY2014) gallons per year total, 772 gallons per year leaded, 24,709 (Reg Unleaded) (Vs 19,588 in CY2014) gallons per year unleaded, 4,218 (Vs 6,767 in CY 2014) gallons per year gasohol (E-85 unleaded) were used (PTI No. 43-13, EU-TESTCELL1, SC II.2 limit: 34,500 total, 900 leaded, gallons per year).

In the past, proper records were not kept, and the calculations were not performed (PTI No. 43-13, EU-TESTCELL1, SC VI limit: 12-month rolling calculations by 15th of each month is required). The company is also required to keep lead (Pb) analysis for each fuel delivery. These were violations of both the permit and the consent order. The company was given an opportunity to fix this problem as soon as possible. However, the company has been submitting MAERS-2014 thru MAERS-2017.

Upon denying termination of the Consent Order, Sterling submitted MS Excel spreadsheet in March 2018 (PTI No. 43-13, EU-TESTCELL1, SC VI limit: 12-month rolling calculations by 15th of each month is required). Sterling now (March 2018) has

committed to keeping records and performing calculations promptly. AQD will terminate the Consent Order.

Lead (Pb) content record using, for example, product spec sheet by the vendor, will be kept (EU-TESTCELL1, VI.3). Mr. D'Anniballe stated that the lead (Pb) content was 2.3 grams per gallon. Spec sheet for lead is required by the customers as well. Mr. D'Anniballe agreed to keep copies of lead spec sheets in the office.

Exhaust gases are now (since CY 2014) discharged vertically upwards. Pursuant to my advice, 90 ° L-shaped elbow was removed about June 2014, from about 30-ft stack (PTI No. 43-13, EU-TESTCELL1, SC VIII.1, SV-TESTCELL1).

PTI No. 43-13, FG-FACILITY

Based upon the spreadsheet calculations, HAP emissions are as follows:

Pollutant	Limit	CY2017	CY2016	CY2015	CY2014
1. Each Individual HAP	Less than 9 tpy				
Individual HAP is not necessary because Aggregate HAPs << 10 tpy					
2. Aggregate HAPs	Less than 22.5 tpy	2.69	1.71	1.26	

EGR Cooler testing

Two EGR Cooler test stands are present. The test stands replaced one of two dynamometers; they occupy the same space. EGR cooler is thermo-cycled during the testing. Propane is used as fuel to generate heat. 200 gallons (liquid) propane is used per week. As of February 2018, EGR cooler is idled for past couple of years.

Rule 287(2)(b) Paint Spray Booth

One paint spray booth (16 ft. x 6 ft.) with a back-draft dry filter system is present. Only spray cans (10 cans / month) are used; no paint spray gun.

I asked Mr. D'Anniballe to install and inspect the filters such that they fit, at all times, snugly without gaps and holes. Particulate and VOC are discharged to outside ambient air with a rain-cap on the tip of the stack. Any rain-cap (except no-pressure-loss [a.k.a. no-energy-loss] rain protection) is not allowed by AQD. However, due to negligible emissions from spray cans (10 cans / month), no action is necessary at this time pending odor nuisance complaints.

The booth is exempt from Rule 336.1201 (Permit-to-Install) pursuant to Rule 336.1287(2)(b) as only aerosol spray cans are used.

Machine shop

Honing, surface cutter, rod-hone, valve-seal cutter machines are present. The emissions are discharged to in-plant ambient air.

The machines are exempt from Rule 336.1201 (Permit-to-Install) pursuant to Rule 336.1285(2)(l).

Engine assembly area

Engines are assembled.

Building #3: 54380 Pontiac Trail

Building #3 is located across the street (Technical Drive).

Testing

Vibration, helium leak and salt fog tests are performed. Evaporative emission tests are performed. Evaporation from automotive parts is measured using instruments capable of detecting 0.5 ppm gasoline. The test may involve collecting sample in Tetlar plastic bag. Two sheds for evaporative testing are present.

Fuel pumps are tested for evaporative losses. The pumps are tested in a closed loop system with practically no gasoline vapor emissions.

On-board vehicle vapor recovery canisters are tested for gasoline load or capacity of carbon to hold gasoline vapors via carbon adsorption. The test is performed by determining initial weight of empty canister and final weight of saturated (of gasoline vapor) canister. On a vehicle, canister desorption is via vacuum as gasoline tank empties creating partial vacuum.

During the above testing all emissions are released into in-plant ambient air. The testing processes are exempt from Rule 336.1201 (Permit-to-Install) pursuant to either Rule 336.1285 or Rule 336.1290 because gasoline vapor emissions are practically zero.

Consent Order AQD No. 38-2014: February 13, 2013, and October 24, 2013 VN

On February 21, 2013, AQD received a VN response letter dated February 19, 2013. The letter stated that Sterling would comply with Cold-cleaner work-practice rule. The letter included a copy of Rule 201 permit application. AQD never received VN response for October 2013 Violation Notice.

These violations were resolved with Consent Order AQD No. 38-2014 effective June 4, 2014, executed by Mr. G. Vinson Hellwig, AQD Chief. $10,000 is a settlement amount.

FG-FACILITY

FG-FACILITY restricts HAP emissions to NESHAP / MACT Synthetic Minor levels (PTI No. 43-13, I.1: 9 tpy single HAP & I.2: 22.5 tpy Aggregate HAPs). Sterling was not performing monthly HAPs calculations. Upon denying consent order termination, Sterling started performing the required HAP calculations; see above.

Mr. Michael J. D'Anniballe has agreed to perform all calculations promptly. However, gasoline usage (total, leaded, regular unleaded, gasohol) always showed compliance with indirect compliance with the emission limits.

Conclusion

AQD issued February 13 and October 24, 2013, Violation Notices of Rules 336.1201 These violations were resolved with Consent Order ($10,000 settlement). Sterling is in compliance with PTI No. 43-13 (calculations and recordkeeping and emissions limits (CO, Benzene HAPs)). AQD will terminate Consent Order.

VNs: February 13 and October 24, 2013,

NAME J Ellen Mahall DATE 04/02/2018 SUPERVISOR Joyce