

N5747

DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: Scheduled Inspection

FY 2015 Sched. Insp.

N574731296

FACILITY: PIONEER METAL FINISHING INDUSTRIAL HWY		SRN / ID: N5747
LOCATION: 24600 INDUSTRIAL HWY, WARREN		DISTRICT: Southeast Michigan
CITY: WARREN		COUNTY: MACOMB
CONTACT: Eric Rosenberg, Plant Manager		ACTIVITY DATE: 09/18/2015
STAFF: Iranna Konanahalli	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MAJOR
SUBJECT: FY 2015 level-2 scheduled annual inspection of Pioneer Metal Finishing Industrial Hwy.		
RESOLVED COMPLAINTS:		

N5747_SAR_2015_09_08

Pioneer Metal Finishing Industrial Hwy. (N5747)
fka Hi-Tech Coatings, Inc. (N5747)
24600 Industrial Highway
Warren, Michigan 48089-4346

To be voided: MI-ROP-N5747-2011 per AQD and Pioneer agreement and PTI No. 2-03M (Appendix B)

Permit-to-Install No. 2-03M dated February 6, 2015 (ROP, VOC and HAP synthetic minor)

PTI Mod (PTI No. 2-03L → PTI No. 2-03M) removed a minimum ΔP requirement of -0.007 inches of water for Model 10. i.e., Model 10 does not meet US EPA requirements for Permanent Total Enclosure (PTE) and but meets the requirements of Natural Draft Openings (NDO) via either smoke or ΔP tests. Also, this modification added Appendix B for ROP-like certifications.

Subject to: Rule 702 BACT for VOC (PTE, NDO, RTO control)

Consent Order AQD No. 02-1998 executed by Dennis Drake, AQD Chief, on March 06, 2001

Consent Order AQD No. 15-2006 executed by Vinson Hellwig, AQD Chief, on May 19, 2006

Consent Order No. 19-2010 executed by Vinson Hellwig, AQD Chief, on August 17, 2010.

Consent Order No. AQD No. 22-2015 executed by Lynn Fiedler, AQD Chief, on July 31, 2015; settlement amount of \$30,303.00.

Criminal Case No.: 06-030 Hi-Tech Coating with referral date of January 5, 2006 (Ms. Joyce Zhu). Criminal Investigator: D/Sgt. Verne Koester Badge No. 919. Suspects prosecuted and the case closed: January 11, 2010. Co-defendants: Robert Michael Barach and Bliplab Roy each paid \$10,000.00 criminal fines.

Not subject to (due to insufficiently documented agreements during criminal case closure): NESHAP / MACT 4M, 40 CFR, Part 63, Subpart M, Misc. Metal Parts Coating Operations. The violation of the ROP / MACT Synthetic Minor permit may make

this facility subject to MACT 4M

Not subject to NSPS based upon the PTI review

Subject to Area Source NESHAP / MACT 6W, 40 CFR Part 63, Subpart WWWW (6W) National Emission Standards for Hazardous Air Pollutants: Area Source Standards for Plating and Polishing Operations; Final Rule, Page 37728, Federal Register / Vol. 73, No. 127 / Tuesday, July 1, 2008 / Rules and Regulations; nonchromium electroplating; electropolishing; electroforming; electroless plating. As AQD refused to take delegation for Area Source MACT standards, Pioneer's compliance is not evaluated.

On June 24 (ΔP for PTE and smoke for NDO stack test), August 05 and September 18, 2015, I conducted a level-2 **scheduled** annual inspection of Pioneer Metal Finishing Industrial Hwy. ("Pioneer" or "the company"), located 24600 Industrial Highway Warren, Michigan 48089-4346. The inspection was conducted to determine compliance with the Federal Clean Air Act (CAA); Article II, Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 (PA 451); Michigan Department of Environmental Quality, Air Quality Division (MDEQ-AQD) administrative rules; and the permit (PTI No. 2-03M).

During the inspection, Mr. Jay Cronin (Phone: 586-480-1718; Fax: 586-759-4429; Cell: 586-634-1384), Mr. Eric Rosenberg (Phone: 586-480-1720; Fax: 586-755-6929; Cell: 313-236-4251; Emergency Cell: 586-202-3767; E-mail: Eric Rosenberg), Mr. Dave Corey (Phone: 586-292-2585-Cell; Fax: 586-759-4429), Maintenance Manager, assisted me.

Mr. Mark Bennett (Phone: 586-480-1703; Fax: 586-759-4429; Cell: 734-770-6537), VP, was not present.

Pioneer applies adhesives and coatings to metal parts using dip-spin and spray coating lines. The coating lines are equipped with capture systems to capture volatile organic compounds (VOC) and Hazardous Air Pollutants (HAP) emissions. Captured VOC laden exhaust gases are delivered to a Regenerative Thermal Oxidizer (RTO) for destruction via combustion with heat recovery.

Rule 702 – BACT for VOC

FGLINES is subject to Rule 702 (VOC BACT). The existing (PTI # 2-03M → PTI # 2-03M) allowed limit was reviewed as BACT and approved during the new source review.

Rule 702(a) – Application of the coatings is done using a dip-coating process with 100% transfer efficiency which is Rule 702(a) BACT. The maximum VOC content as applied is better than the coating category limits in Part 6 with control. Since the process is doing better than RACT, this was a Rule 702(a) BACT due to control using a good capture system (90% - 100%) and a regenerative thermal oxidizer (RTO) with 95% of destruction efficiency.

EMISSION UNIT SUMMARY

Emission Unit ID	Emission Unit Description (Process Equipment &	Installation Date / Modification	Flexible Group ID
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	Control Devices)	Date	
EU-LINE1-MODEL24	<p>One Dip Spin Machine Model #24 with an in-line Natural Gas Fired Curing Oven all connected to and exhausted through a regenerative thermal oxidizer. Note: Including purge and cleanup solvents usage associated with the line.</p> <p>Only adhesive applications. One mesh basket and one tank. Once loaded with parts, the basket is submerged into the coating vat. The basket is raised and excess coating is spun out.</p>	09-23-1997 / 01-31-2014	FGLINES, FGFACILITY
EU-LINE3-COE1 COE1 does NOT exist anymore	<p>Two Chain on Edge Spray Booths each equipped with a permanent total enclosure and One Natural Gas Fired Curing Oven connected to and exhausted through a regenerative thermal oxidizer. Note: Including purge and cleanup solvents usage associated with the line.</p> <p>Two booths and one oven. COE1 and COE2 are identical. COE1 is used to apply adhesive coatings. The booths are equipped with filters. In one booth primer is applied and the parts are cured in the oven. In second booth, topcoat coating is applied and the parts cured again in in the same oven. The filters are changed once per 8-hour shift and disposed of in dumpster.</p> <p>COE1 moved to Mexico about April 2015</p>	09-23-1997	FGLINES, FGFACILITY
EU-LINE4-COE2	<p>Two Chain on Edge Spray Booths each equipped with a permanent total enclosure, One Natural Gas Fired Curing Oven connected to and exhausted through a regenerative thermal oxidizer. Note: Including purge and cleanup solvents usage associated with the line.</p> <p>Two booths and one oven. COE1 (relocated to Mexico) and COE2 were identical. COE2 is used to apply adhesive coatings. The booths are equipped with filters. In one booth primer is applied and the parts are cured in the oven. In second booth, topcoat coating is applied and the parts cured again in in the same oven. The filters are changed once per 8-hour shift and disposed of in dumpster.</p> <p>In summary, two booths (one primer and one topcoat) and one oven. COE1 and COE2 were identical. However COE1 is relocated to Mexico about April 2015</p>	07-01-1999	FGLINES, FGFACILITY

<p>EU-LINE5-COE3 aka Sprimag</p>	<p>One Enclosed Sprimag Chain on Edge Spray Booth with an electric oven equipped with a common permanent total enclosure connected to and exhausted through a regenerative thermal oxidizer. Note: Including purge and cleanup solvents usage associated with the line.</p> <p>This line is also known as Sprimag. The booth is used to apply adhesive coatings. The booth is equipped with back-draft filters. The filters are changed once per 8-hour shift as needed and disposed of in dumpster. Spent filters are handled as non-hazardous RCRA waste.</p>	<p>06-14-2004</p>	<p>FGLINES, FGFACILITY</p>
<p>EU-LINE6-MODEL10</p>	<p>One Dip Spin Machine Model #10 equipped with a permanent total enclosure with parts routed to EU-BATCHOVEN, both connected to and exhausted through a regenerative thermal oxidizer. Note: Including purge and cleanup solvents usage associated with the line.</p> <p>Model 10 is small machine used for touch up and testing. The machine is manually loaded and operated. The Model 10 did not meet minimum ΔP of -0.007 inches of water for PTE during the June 2014 test ($\Delta P = -0.0018$ inch H₂O). PTI Mod PTI No. 2-03L → PTI No.2-03M removed this requirement. Hence, this machine as an NDO may use either ΔP or smoke tubes to demonstrate capture of VOC.</p>	<p>10-15-2008</p>	<p>FGLINES, FGFACILITY</p>
<p>EU-LINE7-MODEL25</p>	<p>One Dip Spin Machine Model #25 with an in-line Natural Gas Fired Curing Oven all connected to and exhausted through a regenerative thermal oxidizer. Note: Including purge and cleanup solvents usage associated with the line.</p> <p>Two mesh baskets and one tank are present. One basket is loaded while other basket is active in coating parts as is dipped in coating liquid. Mostly Teflon coating is used. The two coating baskets allow this line to operate up to twice as fast. Primer and specialty coatings are applied. One curing oven.</p>	<p>09-23-1997 / 01-31-2014</p>	<p>FGLINES, FGFACILITY</p>
<p>EU-LINE8-TUMBLE1</p>	<p>One Tumble Spray Unit connected to and exhausted through a regenerative thermal oxidizer. Note: Including purge and cleanup solvents usage associated with the line.</p>	<p>05-01-2009</p>	<p>FGLINES, FGFACILITY</p>
	<p>One Tumble Spray Unit connected to and</p>		

EU-LINE9-TUMBLE2	exhausted through a regenerative thermal oxidizer. Note: Including purge and cleanup solvents usage associated with the line.	05-01-2009	FGLINES, FG FACILITY
EU-LINE10-TUMBLE3	One Tumble Spray Unit connected to and exhausted through a regenerative thermal oxidizer. Note: Including purge and cleanup solvents usage associated with the line.	05-01-2009	FGLINES, FG FACILITY
EU-LINE12-TUMBLE4	One Tumble Spray Unit connected to and exhausted through a regenerative thermal oxidizer. Note: Including purge and cleanup solvents usage associated with the line.	11-03-2011	FGLINES, FG FACILITY
EU-LINE13-MODEL26	<p>One Dip Spin Machine Model #26 with two dip spin booths and an in-line Natural Gas Fired Curing Oven, all connected to and exhausted through a regenerative thermal oxidizer. Note: Including purge and cleanup solvents usage associated with the line.</p> <p>Two booths (dip tanks or vats or baskets) side-by-side. Line 13 is similar (except two tanks) in configuration and operation to Line 7. One curing oven</p>	07-20-2012 / 01-31-2014	FG-LINES, FG-FACILITY
EU-BATCH-OVEN	<p>One Natural Gas Fired Batch Oven connected to and exhausted through a regenerative thermal oxidizer.</p> <p>Model 10 uses this oven.</p>	10-27-2005	FGLINES, FG FACILITY
EUPARTS-WASHLINE1	<p>A multi-stage surface preparation line consisting of cleaning, rinsing, pickling and phosphate treatment. Emissions are controlled by a packed bed wet scrubber.</p> <p>Pre-treatment phosphate line with a scrubber. Zinc or Manganese Phosphate. Sulfuric acid (H₂SO₄)</p>	10-22-1997	FGPARTS-WASHLINES, FG FACILITY
EUPARTS-WASHLINE2	<p>A multi-stage surface preparation line consisting of cleaning, rinsing, pickling and phosphate treatment. Emissions are controlled by a packed bed wet scrubber.</p> <p>Zinc phosphate. Hydrochloric Acid (HCl)</p> <p>Pre-treatment phosphate line with a scrubber</p> <p>Line Nos. 1 & 2 use one common scrubber with horizontal air flow and vertical water using gravity. The scrubber may have some packing. In both lines tanks are heated (160-189 °F). Two wash lines use one common scrubber which is equipped with a rotameter for flow measurement.</p>	10-22-1997	FGPARTS-WASHLINES, FG FACILITY

Line Nos. 2 and 11 (Round Table which operated few years ago) do not exist. All coating process / lines including the batch oven exhaust via RTO, where VOC and HAP are destroyed by thermal oxidation. The emissions from parts washer (phosphate pretreatment) lines are controlled by a packed bed wet scrubber. All tumblers are equipped with two HVLP spray nozzles (primer and topcoat), vacuum systems, interlock systems to ensure operation under vacuum only. Exhaust from vacuum systems is ducted to RTO. All spray booths use HVLP guns / applicators. All spray lines, except Line 5, use BINKS Air Nozzles Model 97P. EU-LINE5-COE3 (Sprimag) is equipped with Turbo Spray. HVLP spray caps are kept on site.

In addition, it may be noted that COE1 is relocated to Mexico about April 2015.

Video cameras are installed to observe inside the booths and ovens (Models 24-26)

FLEXIBLE GROUP SUMMARY TABLE

Flexible Group ID	Flexible Group Description	Associated Emission Unit IDs
FGLINES	<p>Facility coating operations including purge and cleanup solvent usage with regenerative thermal oxidizer control system.</p> <p>All lines use one common RTO for VOC control</p>	<p>EU-LINE1-MODEL24, EU-LINE3-COE1 (Moved to Mexico), EU-LINE4-COE2, EU-LINE5-COE3, EU-LINE6-MODEL10, EU-LINE7-MODEL25, EU-LINE8-TUMBLE1, EU-LINE9-TUMBLE2, EU-LINE10-TUMBLE3, EU-LINE12-TUMBLE4, EU-LINE13-MODEL26, EU-BATCHOVEN</p>
FGPARTSWASHLINES	<p>Each parts washer line is a multi-stage surface preparation line consisting of cleaning, rinsing, pickling and phosphate treatment. Emissions are controlled by a packed bed wet scrubber.</p> <p>Two wash lines with a pack bed scrubber. One common packed bed with horizontal air flow and vertical water flow using gravity.</p>	<p>EU-PARTS-WASHLINE1 EU-PARTS-WASHLINE2</p>
FGFACILITY	<p>All process equipment source-wide including equipment covered by other permits, grandfathered equipment and exempt equipment.</p>	<p>EU-LINE1-MODEL24, EU-LINE3-COE1, EU-LINE4-COE2, EU-LINE5-COE3, EU-LINE6-MODEL10, EU-LINE7-MODEL25, EU-LINE8-TUMBLE1, EU-LINE9-TUMBLE2, EU-LINE10-TUMBLE3, EU-LINE12-TUMBLE4, EU-LINE13-MODEL26, EUBATCHOVEN, EUPARTSWASHLINE1, EUPARTSWASHLINE2</p>

Pioneer metal operates several spray and dip coating process:

- Three large dip-spin coating lines (Lines 1, 7, 13)
- Small dip-spin coating line (line6 – Model 10)
- Two chain-on-edge coating lines (Lines 3, 4: COE1 & COE2. COE1 moved to Mexico about Apr 2015.)
- One Sprimag COE coating line (Line 5: COE3)
- One stand-alone natural gas fired batch oven (EU-BATCH-OVEN). The oven is sealed while parts are baked and cured.
- Four tumbler spray coating lines (Tumblers 1-4) are present (Lines 8, 9, 10 & 12; Line11 [HVLP round table] is removed). The parts are tumbled in a sealed tumbler. The process cycle is automatic: seal under vacuum, spray coatings (primer and topcoat) and bake. The tumblers are primarily used for adhesive coatings; occasionally specialty coatings are applied. The parts are loaded into the tumbler. Coatings are applied using HVLP spray nozzles (one primer and one topcoat). The sealed tumbler under vacuum is run 15-minute cycle. An interlock system ensures that tumblers are operated at least 25 Pascal (Pa) pressure differential with surroundings (ΔP), which is monitored. RTO destroys VOCs from the application of vacuum on the tumblers.

PTI No. 2-03M, FG-LINES, I. EMISSION LIMITS

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. VOCs	35.31 tpy	12-month rolling time period as determined at the end of each calendar month	FGLINES	SC VI.6	R 336.1205, R 336.1702(a)
2. Xylene (CAS #1330-20-7)	384 lb/day	Calendar Day	FGLINES	SC VI.7	R 336.1225
3. Ethylbenzene (CAS # 100-41-4)	Less than 18,000 lb/yr	12-month rolling time period as determined at the end of each calendar month	FGLINES	SC VI.8	R 336.1225
4. Formaldehyde	560 lbs/yr	12-month rolling	FGLINES	SC VI.8	R 336.1225

(CAS # 50-00-0)	time period as determined at the end of each calendar month			
<p>During the permit mod PTI No. 2-03L → PTI No. 2-03M many emissions limits were removed to simplify.</p> <p>CY 2014 VOC emissions are less than 10 tpy CY 2014 HAPs (Aggregate from FG-LINES only) emissions are less than 5 tpy CY 2014 Xylene emissions are less than 5,900 pounds per year CY 2014 Ethylbenzene emissions are less than 1,500 pounds per year CY 2014 Formaldehyde emissions are less than 5 pounds per year</p> <p>All required VOC and HAP calculations are performed. Annual and monthly emissions summary is prepared as well.</p>				

Regenerative Thermal Oxidizer (RTO)

Regenerative Thermal Oxidizer (RTO) consists of three (3) ceramic packed columns for heat exchange and recovery. Ceramic packing materials act as heat exchange media and facilitate heat recovery. Natural gas fired burners are present to augment (provide additional fuel if necessary) VOC in exhaust gases from coating lines. Due to heat recovery, most heat to sustain the required minimum temperature is from combustion of VOC laded exhaust gases.

According to October 16, 2012, stack test, the minimum RTO temperature required for destruction efficiency of 95 percent is 1,371 °F (PTI No. 2-03M, SC FG-LINES, IV.3 limit: DE > 95%, CE > 90% for NDO & CE = 100% for PTE) (October 16, 2012, DE = 98.5 at 1,371 °F).

During June 2015 smoke / pressure differential tests the following was observed:

1. Average fan speed = 66.5 Hertz (Hz)
2. Average RTO inlet vacuum = -1.2 inches water
3. Average RTO inlet flow rate = 20,849 acfm = 18,227 scfm
4. Chamber temperature set point = 1,500 °F
5. Chamber temperature minimum = 1,500 °F
6. Chamber temperature maximum = 1,520 °F

PTI No. 2-03M, FG-LINES

PTI No. 2-03M, SC FG-LINES, III Process / Operational Restrictions

The materials are stored in closed containers (PTI No. 2-03M, SC FG-LINES, III.1 & 3). Spent filters are disposed of properly as non-hazardous RCRA waste (PTI No. 2-03M, SC FG-LINES, III.2). Spent filters are stored in 55-gallon drums until disposed of as non-hazardous RCRA waste. June 24, 2015, AQD observations of smoke and ΔP indicate 100% capture of VOC and HAP emissions. In June 2014 test EU-LINE6-Model-10 did not meet the minimum pressure differential of -0.007 inches of water but it met the spec in June 2015 test (PTI No. 2-03M, SC FG-LINES, III. 4). Malfunction Abatement Plan (MAP) is present (PTI No. 2-03M, SC FG-LINES, III. 5).

PTI No. 2-03M, SC FG-LINES, IV Design / Equipment Parameters

On August 05, 2015, exhaust filters were installed properly on (COE1 moved to Mexico and does NOT exist anymore) COE 2 (2 booths and 1 NG oven), COE3 (Sprimag: one booth and one electric oven) (PTI No. 2-03M, SC FG-LINES, IV.1). I asked Mr. Dave Corey to install the filters such that they fit, at all times, snugly without gaps and holes. HVLP guns are used in spray booths (COEs and Tumblers) (PTI No. 2-03M, SC FG-LINES, IV.2). HVLP guns are tested once in six months. Based upon October 16, 2012 DE tests and June 2014 and June 24, 2015, ΔP & smoke tests, 100 percent capture efficiency is provided by the capture systems and VOC destruction efficiency of 98.5 percent is accomplished by RTO (October 16, 2012, DE = 98.5 at 1,371 °F) (PTI No. 2-03M, SC FG-LINES, IV.3: minimum CE 90 percent for NDO & 100 percent for PTE and minimum DE 95% for RTO). RTO combustion temperature is NOT monitored using circular paper charts anymore and data acquisition system has been installed about February 2015 and data is downloaded to Excel file; in addition, electronic charts are present. (PTI No. 2-03M, SC FG-LINES, IV.4: temperature monitoring). Permanent Total Enclosure (PTE) based upon June 2015 pressure differential ($|\Delta P| = |-0.007|$ [absolute values] inches water) tests and Natural Draft Openings (NDOs) based upon June 2015 smoke direction observation are operating properly (PTI No. 2-03M, SC FG-LINES, IV. 5 & 6). Pressure gauge is present to monitor pressure differential for PTE and it is calibrated about September 30, 2014 (PTI No. 2-03M, SC FG-LINES, IV. 6 & 7). Each of four tumble spray units is equipped with an inter-lock system such that the units do not operate without proper seal (minimum $\Delta P = 25$ Pascals) (PTI No. 2-03M, SC FG-LINES, IV. 8).

Permanent Total Enclosures (PTE: $\Delta P =$ minimum -0.007 inches of water):

- EU-LINE3-COE1 - booths (2) only (not one NG fired oven)
- EU-LINE4-COE2 - booths (2) only (not one NG fired oven)
- EU-LINE5-COE3 (Sprimag) - one booth and one electric oven
- EU-LINE6-MODEL10 - one booth (does not have its own oven, uses EU-BATCH-OVEN).

Natural draft openings (NDO: smoke test).

- EU-LINE1-MODEL24 - one booth and one NG fired oven
- EU-LINE3-COE1 - one NG fired oven
- EU-LINE4-COE2 - one NG fired oven
- EU-LINE7-MODEL25 – one booth & one NG fired oven
- EU-LINE13-MODEL26 – two booths & one NG fired oven
- EU-BATCH-OVEN - NG fired oven

PTI No. 2-03M, SC FG-LINES, V Testing / Sampling

Vendor data is used and AQD has not approved alternative methods (PTI No. 2-03M, SC FG-LINES, V. 1). On June 24, 2015, pressure differential (ΔP) and smoke tests were done. On October 16, 2012 destruction efficiency (DE) tests (October 16, 2012, DE = 98.5 at 1,371 °F) were done and such DE tests are required once every five years (PTI No. 2-03M, SC FG-LINES, V. 2).

PTI No. 2-03M, SC FG-LINES, VI Monitoring / Recordkeeping

The required calculations are performed in a timely manner and August 27, 2014, Violation Notice for not performing calculations is resolved. Ms. Debbie Hilliard enters data and Rob Harvey of Derezo & Assoc. reviews the data every month (PTI No. 2-03M, SC FG-LINES, VI. 1: calculations). Current listing and chemical composition is maintained on file (PTI No. 2-03M, SC FG-LINES, VI. 2: material listing with composition). RTO temperature is monitored and recorded using a data acquisition system, which has electronic charts and electronic data. The data is transferred to an Excel file (PTI No. 2-03M, SC FG-LINES, VI. 3 & 4). The data acquisition system was installed about February 2015 (PTI No. 2-03M, SC FG-LINES, VI. 4). VOC and HAP records are up-to-date and AQD resolved August 27, 2014 Violation Notice with consent order AQD No. 22-2015 (PTI No. 2-03M, SC FG-LINES, VI. 6, 7,8). Pyro Services Company (248-547-2552) of Madison Heights performed calibration – November 26, 2013 (PTI No. 2-03M, SC FG-LINES, VI. 5). Weekly ΔP for PTE (COE1- removed and relocated to Mexico), COE 2 booth (2) only, COE3 (Sprimag booth and oven) and Model10 logs are kept (PTI No. 2-03M, SC FG-LINES, VI. 9). According to October 16, 2012, stack test, the minimum RTO temperature required for destruction efficiency of 95 percent is 1,371 °F (PTI No. 2-03L, SC FG-LINES, VI. 9). $\Delta P = 25$ Pascal (Pa) is maintained via an interlock system for tumblers and ΔP is monitored (PTI No. 2-0310, SC FG-LINES, VI. 10)

June 24, 2014, ΔP and smoke stack test – MI-ROP- N5747-20111a and PTI No. 2-03L (SC FG-LINES, V.2)

Derenzo and Associates, Inc. (Project No.1404004A; Robert Harvey, Tylor Wilson, Anthony Brogowski; Phone (734) 464-3880) of Livonia, Michigan, conducted the tests using smoke tubes and pressure differential methods. AQD received the May 21, 2014 test protocol. Mr. Mark Dziadosz approved the test plan on June 16, 2014, via the letter to Mark Bennett of Pioneer Metal dated June 16, 2014. Mr. Mark Dziadosz, Sam Liveson and I observed the smoke being drawn into the capture systems and pressure differentials (ΔP). On August 22, 2014, AQD received the test report. These observations of smoke and ΔP indicate 100% capture of VOC and HAP emissions.

Smoke tube testing was done concerning EU-LINE1-MODEL24, EU-LINE7-MODEL25, EU-LINE13-MODEL26, EU-BATCHOVEN and COE ovens corresponding to EU-LINE3-COE1 & EU-LINE4-COE2. Pressure differential (ΔP) testing to verify capture efficiency of permanent total enclosure (PTE) was done concerning each COE spray booths corresponding to EU-LINE3-COE1 & EU-LINE4-COE2, sprimag booth and oven of EU-LINE5-COE3 and Model 10 dip-spin machine of EU-LINE6-Model-10.

EU-LINE6-Model-10 did not meet the minimum pressure differential of -0.007 inches of water. Model 10 machine is a small machine and is mostly used for testing. Model 10 machine does not have its own oven. Model 10 sometimes is used for touch-up parts. Mark Dziadosz and I observed proper smoke direction into the capture devices. All pressure differentials (ΔP) were acceptable except Model 10 ΔP .

Permanent Total Enclosures (PTE: $\Delta P =$ minimum -0.007 inches of water):

- EU-LINE3-COE1 - booths (2) only (not one NG fired oven)
- EU-LINE4-COE2 - booths (2) only (not one NG fired oven)
- EU-LINE5-COE3 (Sprimag) - one booth and one electric oven
- EU-LINE6-MODEL10 - one booth (does not have its own oven, uses EU-BATCHOVEN).

Natural draft openings (NDO: smoke test).

- EU-LINE1-MODEL24 - one booth and one NG fired oven
- EU-LINE3-COE1 - one NG fired oven
- EU-LINE4-COE2 - one NG fired oven
- EU-LINE7-MODEL25 – one booth & one NG fired oven
- EU-LINE13-MODEL26 – two booths & one NG fired oven
- EU-BATCH-OVEN - NG fired oven

June 24, 2015, ΔP and smoke stack test –PTI No. 2-03M (SC FG-LINES, V.2: semi-annual testing)

Derenzo and Associates, Inc. (Project Nos.1404004A for June 2014 test and 1501104 for June 2015 tests; Robert Harvey (not present in June 2015), Tylor J. Wilson, Anthony Brogowski; Phone (734) 464-3880) of Livonia, Michigan, conducted the tests using smoke tubes and pressure differential methods. AQD received the May 21, 2014 test protocol. Mr. Mark Dziadosz approved the test plan on June 16, 2014, via the letter to Mark Bennett of Pioneer Metal dated June 16, 2014. The same test plan / protocol was used during June 2015 tests. I observed the smoke being drawn into the capture systems and pressure differentials (ΔP). On July 27, 2015, AQD received the test report for June 24 2015 smoke / pressure differential tests. These observations of smoke and ΔP indicate 100% capture of VOC and HAP emissions.

Smoke tube testing was done concerning EU-LINE1-MODEL24, EU-LINE7-MODEL25, EU-LINE13-MODEL26, EU-BATCHOVEN and COE ovens corresponding to EU-LINE4-COE2 (EU-LINE3-COE1 – relocated to Mexico about April 2015). Pressure differential (ΔP) testing to verify capture efficiency of permanent total enclosure (PTE) was done concerning each COE spray booths corresponding to EU-LINE4-COE2, sprimag booth and oven of EU-LINE5-COE3 and Model 10 dip-spin machine of EU-LINE6-Model-10 (EU-LINE3-COE1 – relocated to Mexico about April 2015).

During June 2014 tests EU-LINE6-Model-10 did not meet the minimum pressure differential of -0.007 inches of water but in June 2015, $\Delta P = -0.009$ inches of water was observed. Model 10 machine is a small machine and is mostly used for testing. Model 10 machine does not have its own oven. Model 10 sometimes is used for touch-up of parts. All pressure differentials (ΔP) were acceptable. Per the permit modification (PTI No. 2-03L → PTI No. 2-03M), Model is not required to meet minimum ΔP of -0.007 but needs to meet "lower pressure w.r.t. surroundings is requirement. Hence, Model 10 may use either smoke test or ΔP test. During June 2015 test ΔP (-0.009 inches water) was determined.

Permanent Total Enclosures (PTE: $\Delta P =$ minimum -0.007 inches of water):

- EU-LINE3-COE1 (relocated to Mexico about April 2015) - booths (2) only (not one NG fired oven)
- EU-LINE4-COE2 - booths (2) only (not one NG fired oven)
- EU-LINE5-COE3 (Sprimag) - one booth and one electric oven
- EU-LINE6-MODEL10 - one booth (does not have its own oven, uses EU-BATCH-OVEN).

Natural draft openings (NDO: smoke test).

- EU-LINE1-MODEL24 - one booth and one NG fired oven
- EU-LINE3-COE1 (relocated to Mexico about April 2015) - one NG fired oven
- EU-LINE4-COE2 - one NG fired oven
- EU-LINE7-MODEL25 -- one booth & one NG fired oven
- EU-LINE13-MODEL26 -- two booths & one NG fired oven
- EU-BATCH-OVEN - NG fired oven

PTI No. 2-03M, FG-PARTS-WASH-LINES

Emissions (particulates and acids) from the surface preparation lines are controlled by a packed bed wet scrubber. Horizontal air flow and vertical water flow into the scrubber.

The tanks (not all) are heated to 160-180 °F. The tanks are cooled when scrubber is maintained (PTI No. 2-03M, SC FG-PARTS-WASH-LINES, III. 1)

Subject to Area Source NESHAP / MACT 6W, 40 CFR Part 63, Subpart WWWWWWW (6W) National Emission Standards for Hazardous Air Pollutants: Area Source Standards for Plating and Polishing Operations; Final Rule, Page 37728, Federal Register / Vol. 73, No. 127 / Tuesday, July 1, 2008 / Rules and Regulations; nonchromium electroplating; electropolishing; electroforming; electroless plating. AQD has decided not to take delegation of these standards and therefore no attempt has been made evaluate Pioneer’s compliance with NESHAP / MACT 6W (PTI No. 2-03M, SC FG-PARTS-WASH-LINES, III. 3).

AQD issued August 27, 2014 Violation Notice for not having properly operating flow meter and the violation is resolved with consent order AQD No. 22-2015. During FY 2015 inspection, rotameter was operating properly (PTI No. 2-03M, SC FG-PARTS-WASH-LINES, IV. 2).

FG-FACILITY

AQD issued August 27, 2014 Violation Notice for failure to perform VOC & HAP calculations. During FY 2015 all calculations are performed and HAP emissions (Aggregate) are less than 6 tpy for CY2014 (PTI No. 2-03M, SC FG-FACILITY: 9 tpy single HAP and 22.5 tpy aggregate HAPs).

PARTS DESCRIPTION TABLE

Emission Unit ID	Emission Unit Description	Booth / Oven	Perm. Total Encl. (Y/N)	Capture Efficiency (%)	Destruct Efficiency (%)	Capture Efficiency Verification Method*
EU-LINE1-MODEL24	One Dip Spin Machine Model #24 with an in-line Natural Gas Fired Curing Oven.	Booth & Oven	N	90	RTO = 95	Smoke Tube Test
	Two Chain on Edge					Water

EU-LINE3-COE1	Spray Booths each equipped with a permanent total enclosure and One Natural Gas Fired Curing.	Booths	Y	100	RTO = 95	Pressure Differential
		Oven	N			Smoke Tube Test
EU-LINE4-COE2	Two Chain on Edge Spray Booths each equipped with a permanent total enclosure, One Natural Gas Fired Curing.	Booths	Y	100	RTO = 95	Water Pressure Differential
		Oven	N			Smoke Tube Test
EU-LINE5-COE3	One Enclosed Sprimag Chain on Edge Spray Booth with an electric oven each equipped with a common permanent total enclosure.	Booth & Oven	Y	100	RTO = 95	Water Pressure Differential
EU-LINE6-MODEL10	One Dip Spin Machine Model #10 equipped with an enclosure with parts routed to EUBATCHOVEN.	Booth	N	90	RTO = 95	Smoke Tube Test
EU-LINE7-MODEL25	One Dip Spin Machine Model #25 with an in-line Natural Gas Fired Curing Oven.	Booth & Oven	N	90	RTO = 95	Smoke Tube Test
EU-LINE8-TUMBLE1	One Tumble Spray.	Booth	N	100	RTO = 95	N/A
EU-LINE9-TUMBLE2	One Tumble Spray Unit.	Booth	N	100	RTO = 95	N/A
EU-LINE10-TUMBLE3	One Tumble Spray.	Booth	N	100	RTO = 95	N/A
EU-LINE12-TUMBLE4	One Tumble Spray.	Booth	N	100	RTO = 95	N/A
EU-LINE13-MODEL26	One Dip Spin Machine Model #26 with two dip-spin booths and an in-line Natural Gas Fired Curing Oven.	Booth & Oven	N	90	RTO = 95	Smoke Tube Test
EUBATCHOVEN	One Natural Gas Fired Batch.	Oven	N	100	RTO = 95	Smoke Tube Test
*Destruction Efficiency verified through temperature monitoring and stack testing.						

August 27, 2014 Violation Notice

AQD issued August 27, 2014 Violation Notice for failure to perform VOC & HAP calculations (PTI No. 2-03L). On September 18, 2014, AQD received the VN response letter dated September 17, 2014, from Mr. Eric Rosenberg, Warren Campus Manager. The letter admitted that the PTI No. 2-03L required calculations were not performed after May 2014 due to

personnel changes. Concerning the scrubber, a flow meter has been ordered and was expected to be installed by September 19, 2014; the flow meter was NOT installed on September 17, 2014, when I visited the site. This violation is resolved with consent order AQD No. 22-2015. Based upon FY 2015 inspection, rotameter is installed and the required calculations are performed.

Conclusion

AQD issued August 27, 2014 Violation Notice for failure to perform VOC & HAP calculations (PTI No. 2-03L). August 27, 2014, VN is resolved with Consent Order AQD NO. 22-2015. During FY 2015 inspection, all calculations were performed.

NAME J. S. Levanahall DATE 09/21/2015 SUPERVISOR CJE