

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

N174937801

FACILITY: PLASTATECH ENGINEERING LTD		SRN / ID: N1749
LOCATION: 725 MORLEY DR, SAGINAW		DISTRICT: Saginaw Bay
CITY: SAGINAW		COUNTY: SAGINAW
CONTACT: Keith Goodale , Safety & Environmental Manager		ACTIVITY DATE: 12/05/2016
STAFF: Gina McCann	COMPLIANCE STATUS: Non Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT:		
RESOLVED COMPLAINTS:		

I (glm) conducted a scheduled inspection to determine compliance with PTI 336-97C and air regulations. I met with Mr. Mike Matthews, Corporate Safety Director. Mr. Keith Goodale is the Environmental Manager and was on sick leave during the inspection, but was contacted during records review. The inspection included a tour of the production facility, air pollution control equipment, and a review of electronic records for processes and emission control devices.

Plastatech Engineering manufactures vinyl and PVC film material. These films are produced in a calendaring process and undergo additional steps to produce the finished products, primarily commercial roofing membranes. On December 16, 2014, the facility was issued PTI 336-97C which is a facility wide opt-out permit for hazardous air pollutants (HAPs). This permit covers a calendar line (EUCALENDERLN), two laminator lines (FGLAMINATORLNS) and an extruder line (EUEXTRUDERLN) added to the 2014 permit to install (PTI). FGLAMINATORLNS is controlled by Smog-Hog ESPs for volatile organic compounds (VOC)/condensable PM emissions and EUEXTRUDERLN is controlled by a cyclone and cartridge-type dust collector system.

EU-CALENDERLN: Compliant

The calendar process extrudes a measured amount of thermoplastic PVC material between successive pairs of co-rotating, parallel rolls, to form a PVC film 3 to 40 mills in thickness. The process consists of three 90,000 pound storage tanks (two for plasticizer and one for ESO), three 1500 pound totes, three 170,000 pound PVC resin silos, four 2,200 pound super sacks a five story mixing towe, a planetary extruder, a strainer extruder, a 14 foot conveyor, calendar rolls, and cooling rolls. The calendar line is an extrusion process that produces the initial product used for all finished goods at the facility. Raw materials consisting of PVC resin, plasticizers, heat stabilizers, biocides and colors are combined by gravity loading into a weigh hopper and loaded into the planetary extruder followed by a screw extruder.

The extruders are heated by a hot oil bath jacket on the extruders. This process generates a semi-viscous thermoplastic that is pressed into a thin film using a series of high temperature, high pressure rollers. This film is then cooled by an additional series of rollers, trimmed to width and wound into rolls. These rolls then go to other operations or are shipped off-site.

Emissions generated in the calendar process are captured by hoods and vented outside through one stack.

VOC emissions are limited to 16.3 ton per year (TPY) for this line. I reviewed records from January 2009 through November 2016. Emissions were below permitted levels. See attached.

FG-LAMINATORLNS (EULAMINATORLN1, EULAMINATORLN2): Compliant

Plastatech operates two laminator lines for producing a roofing membrane. The lamination process thermally bonds two vinyl films to a reinforcing mesh (scrim) to produce the roofing membrane. A plasticizer is used as the laminating adhesive that bonds the two vinyl films to the scrim substrate. Each line is controlled by a Smog-Hog electrostatic precipitator (ESP) at the facility. The lamination process involves bonding two layers of the vinyl film over a reinforcing mesh (scrim) using a plasticizer as an adhesive and heat to activate. Each laminator line utilizes a separate Smog Hog ESP to control emissions from the process, (No. 2 for line 1 and No. 3 for line 2). The emissions are generated from the curing of the adhesive and captured by hoods over the heated portion of the process.

The Smog-Hogs utilize a closed loop chilled water system for temperature control in the units. The PTI requires continuous monitoring of the temperature of the SmogHog exhaust and limits the temperature to less than 130°F. Each process has an individual data logger for the continuous monitoring of the exhaust

temperatures. The ESPs are interlocked with the processes such that production cannot begin, or continue, without the ESPs operating at the correct chiller temperature and exhaust gas temperature. Processes will automatically shut down if the ESPs begin operating out of range. I reviewed records for April 2015 through December 2016. The operating temperatures ranged from 89 F to 99 F. See attached records.

This FG is limited to no more than 7,000 hours and 3.8 tpy VOCs per 12 month rolling time period. VOC emissions are based on the yardage of each item. I reviewed usage records from January 2009 through November 2016. VOC emissions were below the permitted limit. For the 12-month rolling period ending in November 2016, records show EULAMINATORLN1 ran 2,142 hours and EULAMINATORLN2 ran 3,886 hours. See attached.

EU-EXTRUDER: Compliant

This emission unit is a vinyl film extruder process to produce reinforced vinyl film up to 12 feet in width. The extruders will mix the raw materials to make a vinyl fluid, calender the filmsheets in one process. The dry raw material handling will be controlled by a cyclone and cartridge-type dust collector system. This unit was installed in 2014 and triggered the PTI revision for 336-97C.

The facility is required to maintain a malfunction abatement plan (MAP) for the pollution control equipment. A copy was received via email on December 16, 2016. The pressure drop across the filter is recorded on a weekly basis, however the current MAP does not include the proper operating range which is required by the permit. The facility is working on updating to include.

The facility is required to comply with VOC emission limits of 66.2 tpy. I reviewed records from January 2015 through current. VOC emissions range from 17.9 tpy in January 2016 to 23.3 tpy in December 2016. PTI 336-97C limits the use of plasticizer, epoxidized soybean oil (ESO) and heat stabilizer to 16,000,000 pounds (lbs)/yr, 1,000,000 lbs/yr, and 1,125,000 lbs/yr based on a 12-month rolling time period as determined at the end of each calendar month. The facility maintains material usage records and reported material usage for all three well under the allowable limits. See attached.

FG-FACILITY: In Compliance

FG-Facility establishes minor HAP limits for the facility. This FG consists of all equipment at the stationary source including equipment covered by other permits, grandfathered equipment and exempt equipment. This FG establishes the opt-out limits for HAPs to ensure this as a minor source.

Known HAPs are present in the heat stabilizer, Galata Mark 4783. The SDS indicates the material contains 2-(2-butoxyethoxy) ethanol (or buyl carbitol), which meets the glycol ether definition for the HAP listing, and phenol. Phenol emissions range from 1.4 tpy in January 2015 to 2.0 tpy in December 2016. Buyl Carbitol is present at 3-5% content by weight and therefore has higher emissions. Buyl Carbitol emissions ranged from 4.1 tpy in January 2015 to 6.2 in July 2016. Aggregate emissions ranged from 5.5 tpy in January 2015 to 8.4 tpy in July 2016. All emissions were below permitted levels. See attached records.

At the time of the inspection the facility was in compliance with PTI 336-97C.

NAME *Lina R. McCann*

DATE *1/18/2017*

SUPERVISOR *C. Kere*