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

N059833042

FACILITY: PADDLE WHEELER DIV. OF OWOSSO COMPOSITE LLC		**SRN / ID:** N0598
LOCATION: 403 S STATE ST, OWOSSO		**DISTRICT:** Lansing
CITY: OWOSSO		**COUNTY:** SHIAWASSEE
CONTACT: Diane Gagnier , Operations Manager		**ACTIVITY DATE:** 01/20/2016
STAFF: Daniel McGeen	**COMPLIANCE STATUS:** Compliance	**SOURCE CLASS:** SM OPT OUT
SUBJECT: Scheduled inspection of facility, conducted at the same time as a meeting to discuss pending permit to install application.		
RESOLVED COMPLAINTS:		

On 1/20/2016, the Department of Environmental Quality (DEQ), Air Quality Division (AQD) conducted a scheduled inspection of the Paddle Wheeler Division of Owosso Composites, and met with the company to discuss potential relocation of existing permitted equipment. After the inspection, recordkeeping was reviewed by AQD. The inspection and review of recordkeeping are Partial Compliance Evaluation (PCE) activities, part of a Full Compliance Evaluation (FCE). AQD's Compliance Monitoring Strategy is to inspect synthetic minor, or opt-out, sources at least once every 5 years.

Environmental contact:

Diane Gagnier, Operations Manager; 800-367-3057 or 989-723-8997; dianeg@paddlewheeler.com

Facility description:

This facility manufactures fiberglass paddle boats, and fiberglass parts which are used by other manufacturers in their pontoon boats. The facility has a gel-coat booth, a light resin transfer molding process, and an open molding process.

Emission units:

Emission unit	Description	Controls, if any	Permit No., or exemption rule	Compliance status
EUGELCOAT	One dry filter spray booth and non-atomized applicator for the application of gelcoat materials to make fiberglass boat parts and small components for boats. Includes gelcoat use in the RTM activities. Catalysts materials used with gelcoat.	Particulate filters	55-07A	Compliance
EURTM	Resin transfer molding (RTM) operation to manufacture boat(s) and boat parts. Catalyst materials used with RTM resin materials.	Closed molds	55-07A	Compliance
EUOPENMOLDING	One dry filter spray booth and a non-atomized applicator for application of resin to make fiberglass boat parts and small components for boats. Catalyst materials used with open modling resin materials.	Particulate filters	55-07A	Compliance
Trim booth	Booth in building where 90% of grinding, cutting, and drilling is performed on resin parts, exhausted outdoors	Pending	Rule 285(l)(vi)(C)	Pending
Grinding, cutting, drilling, and finishing of resin parts	Large open area where various finishing activities are conducted, exhausts to in-plant environment	None	Rule 285(l(vi)(C)	Compliance
Adhesive use	Application of adhesive to adhere metal parts to resin parts	None	Rules 287(a) and/or (c)	Compliance

Regulatory overview:

This facility is considered to be an opt-out/synthetic minor source, because it has an opt-out permit, Permit to Install (PTI) No. 55-07A, which limits its Potential to Emit. This prevents the facility from becoming a major source, which would require a Renewable Operating Permit. The opt-out permit is Permit to Install (PTI) No. 55-07. The facility is not subject to either the NESHAP for Boat Manufacturing (Subpart VVVV) nor Reinforced Plastic Parts Production (Subpart WWWW) because the facility is not a major source of HAPs.

Fee status:

This facility is not considered fee-subject, for the following reasons. Because it is not a major source for criteria pollutants, it is not classified as Category I. Additionally, because it is not a major source for Hazardous Air Pollutants (HAPs), and is not subject to federal New Source Performance Standards, it is not classified as Category II. Finally, because it is not subject to federal Maximum Achievable Control Technology standards, it is not classified as Category III. The facility is required to submit an annual air emissions report via the Michigan Air Emissions Reporting System (MAERS).

Location:

This facility is located near residential and commercial properties, within Owosso. Based on satellite images, the nearest residences are located approximately 150 to the west of the facility, and about 400 feet to the northeast. Commercial properties are located due north and east of the facility. To the south is a commercial or industrial structure, but there are no residences for at least 500 feet.

Recent history:

No air pollution complaints have been received regarding this facility, since 1999. PTI No. 55-07 was revised, in 2014, to PTI No. 55-07A, which allowed for changes in VOC content of some raw materials. In recent months, Ms. Diane Gagnier of Paddle Wheeler has let AQD know that might wish to relocate some of their existing process equipment. On 1/13/2016, Ms. Sarah Coleman, Associate, Industrial Compliance Group, of ASTI Environmental, had contacted AQD, to discuss a permit application for the proposed relocation of already permitted equipment. A meeting at the site between Paddle Wheeler, ASTI Environmental, and AQD Permits and Lansing District staff was arranged, for today, 1/7/2016.

Arrival:

AQD Permit Engineers Daniel Schwanik and Dave Thompson, along with myself, drove downwind of Paddle Wheeler, upon arrival in Owosso. No odor were detected on Cedar Street, east of the facility, at 1:51 PM. Weather conditions were overcast, and about 20 degrees F, with winds out of the west at 0-5 miles per hour.

We arrived at the site at 1:54 PM. No visible emissions could be seen from the two stall stacks at the facility. The north stack serves the gelcoat booth, while the south one serves the chop room. There were no signs of particulate material being deposited onto the stacks. No odors could be detected in the facility parking lot.

We met Mr. Bruce Bawkon, P.E., Director, Industrial Compliance, and Ms. Sarah Coleman, Associate, Industrial Compliance Group, both of ASTI Environmental (810-225-2800). Ms. Coleman had recently been discussing details of the proposed permit application to relocate process equipment, with D. Schwanik. We then went inside, and met with Ms. Diane Gagnier, Operations Manager for Paddle Wheeler. She had been the president and owner of the company, but she explained that Crest Marine has bought Paddle Wheeler. Crest Marine is a pontoon boat manufacturing firm located just south of Owosso, on the west side of M-52. Later during the meeting and inspection, we were joined by Crest Marine representatives, Mr. Mike Petrucci, Director of Mechanical Engineering (989-725-5188, ext. 299), and Mr. Dylan Kachur, Director of C.A.D. and Process Engineer (989-725-5188).

I provided Ms. Gagnier with a copy of the DEQ brochure *Environmental Inspections: Rights and Responsibilities*, per AQD procedure. I also provided a copy of the Boiler NESHAP information card, per DEQ procedure. A natural gas-fired boiler at an area source of HAPs would not be subject to 40 CFR Part 63, Subpart JJJJJ, under Section 63.11195(e), while a hot water heater at an area source would not be subject, under Section 63.11195(f). To meet the definition of a hot water heater in this area source Generally Achievable Control Technology (GACT) standard, the unit must be no more than 120 gallons in capacity. AQD has not been delegated authority to enforce Subpart JJJJJJ.

I was informed that boat production is about the same as in past years, but because Paddle Wheeler is making a number of non-boat-related parts for Crest Marine, business is doing well. We were informed

that a number of the processes existing at Paddle Wheeler might be relocated to Wausaukee Composites, about one mile to the west of Paddle Wheeler. D. Schwanik and D. Thompson described what would be necessary, in order to submit a complete permit application for proposed changes at this site, and for proposed changes at Wausaukee Composites.

Note: Wausaukee Composites is a synthetic minor source, with an existing PTI, and a State Registration Number, N2430.

Inspection:

Gelcoat spray booth with panel filter, PTI No. 55-07:

The gelcoat spray booth was operating, during the inspection. From the booth ceiling was suspended a bank of particulate filters, described as having four panels on each side. On the side of the filter bank visible to us, all four panels were in place. A non-atomized, external mix spray gun was being used in the spray booth. The gel was being mixed in a "color cup," and we observed a metallic color being mixed. The spray gun may sometimes be referred to as a "cup gun."

The first coat sprayed into the mold is the layer that the public will actually see, on the upper surface of the boat. For solid colors, it is simply a color coat. For metallic colors, they first begin with a clear coat, and then, while the clear coat is still wet, apply a color that has been mixed with polyflake. After the metallic coating has dried, black is applied, in case there are any thin spots in the color/polyflake layer. For black metallic coats only, they apply a barrier coat behind them.

Note: When we had arrived at the site, earlier, I saw that there were no visible emissions from the booth's exhaust stack, nor were there signs of particulate matter being deposited on the exhaust stack. We had not smelled any odors while driving downwind of the site, earlier, nor upon arrival in the parking lot.

We observed a drying area not far from the gelcoat booth and pumps, where warm air was being directed at curing parts. It was explained that they try to maintain air movement, and a temperature of 72-75 degrees F.

We were informed that they also use a tooling gel (orange or black) to make molds. D. Schwanik and Ms. Gagnier, agreed that this will probably will need to be entered into an updated PTI for the facility, as the tooling gels have a higher VOC content than other gels. Ms. Gagnier explained that it is only recently that they have begun using tooling gels more frequently.

Open molding, with chop gun spray equipment and panel filter, PTI No. 55-07:

The open molding equipment is in the chop room. In the overhead bank of particulate filters, all four of the mat/panel filters were in place. The open molding process was in use, during the inspection. From outside of the plant, upon arrival, I had not been able to see any visible emissions from the exhaust stack, nor any signs of particulate matter being deposited onto the stack itself. We did not detect any odors upon arrival, nor when we drove downwind, prior to arrival.

Resin transfer molding (RTM), PTI No. 55-07:

The light RTM process uses closed molds. It was not running, at the time of the inspection. This is a closed mold process that uses male and female molds and has lower emissions of styrene than the open molding process. This process uses mats of fiberglass inside the mold, to provide structural strength. The resin is pumped into the molds by the gel coat pumps which we had observed earlier. A vacuum pulls out resin during the process.

Ms. Gagnier showed us a slide mold, made of silicone, where color would be sprayed in, and then covered with the upper half of the mold. She explained that they are converting more of their small molds from open molds to RTM molds, as this wastes less resin, reduces eair missions, reduces labor,

and is less costly.

Trim booth; installation of control equipment pending; Rule 285(l)(vi)(C):

Rule 285(l)(vi)(C) exempts:

(l) The following equipment and any exhaust system or collector exclusively serving the equipment:
(vi) Equipment for carving, cutting, routing, turning, drilling, machining, sawing, surface grinding, sanding, planing, buffing, sand blast cleaning, shot blasting, shot peening, or polishing ceramic artwork, leather, metals, graphite, plastics, concrete, rubber, paper stock, wood, or wood products which meets any of the following:
(A) Equipment used on a nonproduction basis.
(B) Equipment has emissions that are released only into the general in-plant environment.
(C) Equipment has externally vented emissions controlled by an appropriately designed and operated fabric filter collector that, for all specified operations with metal, is preceded by a mechanical precleaner.

The trim booth, where 90% of the grinding and drilling take place on resin parts exhausted horizontally outside, at ground level. Either a permit to install would be needed, or " an appropriately designed fabric filter collector" would be needed, to meet the exemption criteria of Rule 285(l)(vi)(B).

I initially advised Ms. Gagnier that a mat or panel filter was needed, to meet the exemption criteria, and she agreed to install one. However, on a day following the inspection, I was advised by Permits staff that the intent of the exemption appeared to be that a full fledged industrial fabric filter, like a baghouse or cartridge filter, be installed. The week following the inspection, I called Ms. Gagnier to discuss this. She indicated that they had one or more air filtration devices stored onsite, possibly cartridge filters. She informed me that they would get a control device installed, and e-mail me a picture of the finished project, during the week of 2/1 to 2/5.

On 2/15, I was e-mailed photos of a completed installation of a pleated fabric filter. From speaking with Ms. Gagnier, it is my understanding that the unit was designed so that the pleated filter can easily be removed and replaced, by means of a latching mechanism. The e-mail and attached photos have been entered in the plant file in the AQD Lansing District Office. The pleated filter has collected a lot of material in a very short time, she advised.

Further research on this issue has indicated that the pleated fabric filter may be able to satisfy the exemption criteria for an appropriately designed and operated fabric filter collector, provided it can achieve a 99% collection efficiency, it has a maintenance plan, with records kept of maintenance performed, and if disposal of collected air contaminants can be performed in such a way as to minimize re-entrainment of particulate matter.

On 4/18/2016, Ms. Gagnier e-mailed documentation (please see attached), with a filter test report from the manufacturer, showing a tested removal efficiency for the test filter of 99.58%. Additionally, she indicated that at the end of every second day, the filter is cleaned with a vacuum. She indicated that a sheet with the cleaning schedule is posted, and must be signed by the operator who performs the cleaning each time. The filter appears to satisfy the exemption criteria, though AQD will observe the performance of the filter, during the next scheduled inspection of the plant.

Open room with minor grinding, cutting, drilling, and finishing, Rule 285(l)(vi)(B):

There was a large, open area, where minor grinding, cutting, drilling, and finishing activities occur. These would exhaust only into the general, in plant environment, and so qualify for the exemption criteria of Rule 285(l)(vi)(B). Sanding was taking place, with hand held powered sanders.

Adhesive use; Rules 287(a) and/or (c):

We were shown an assembly in area, in a large, open room, where metal parts were being affixed to resin parts with an adhesive. The metal parts are made offsite, we were informed. It is my understanding that the adhesive is not sprayed on, but applied by hand, and that adhesive use is both less than 2 gallons per day, and less than 200 gallons per month. Therefore, this adhesive application

process or activity could qualify for either Rule 287(a) or 287(c), which state:

Rule 287. The requirement of R 336.1201(1) to obtain a permit to install does not apply to any of the following:
(a) An adhesive coating line which has an application rate of less than 2 gallons per day and which has emissions that are released only into the general in-plant environment.
(b) A surface coating process that uses only hand-held aerosol spray cans, including the puncturing and disposing of the spray cans.
(c) A surface coating line if all of the following conditions are met:
(i) The coating use rate is not more than 200 gallons, as applied, minus water, per month.
(ii) Any exhaust system that serves only coating spray equipment is supplied with a properly installed and operating particulate control system.
(iii) Monthly coating use records are maintained on file for the most recent 2-year period and are made available to the air quality division upon request.

Note: because the adhesive application process only exhausts into the general, in-plant environment, it is not necessary that a particulate control system be installed for the adhesive application.

Review of recordkeeping:

I indicated that I would ask Mr. Ernie Campbell for examples of recent recordkeeping, so I could review them. Ms. Gagnier explained that Mr. Campbell is no longer with Paddle Wheeler, and she takes care of their recordkeeping now. She informed me that she would work on their MAERS report within the next couple weeks, as the means of providing their recordkeeping. I indicated that I would review their MAERS report, upon receipt.

On 3/8/2016, the facility's MAERS report was electronically received. The tables, which were part of the MAERS submittal, are attached to this activity report for reference, and show material throughput and emissions. The audit of the report was conducted in April 2016, and it appeared that the wrong numbers had inadvertently been transposed in the throughput for EU_CHOP_ROOM and EU_GELCOAT BOOTH. In each case, the number transposed as material throughput on an A-101 Activity Form was 4447.94 (the styrene emission value), in units of 1000 lbs. From the attached tables, the correct values were 136.390 units of 1000 lbs for EU_CHOP_ROOM, and 57.614 units of 1000 lbs for EU_GELCOAT_BOOTH. I called Ms. Gagnier to discuss this, and edited their MAERS report by entering the correct throughput value.

Methyl ethyl ketone peroxide (MEKP) was used in 2015, according to the tables, but is not one of the HAPs listed by U.S. Environmental Protection Agency.

For acetone, Ms. Gagnier and I discussed by e-mail how 29,113 lbs were purchased for the site, minus 6,205 lbs sent off site to be reclaimed. This resulted in an estimated use and emission of 22,908 lbs, or 11.45 tons, below the permitted limit of 20.0 TPY.

Actual 2015 emissions, from MAERS report, vs. permit limits in PTI 55-07:

Pollutant	2015 emissions from MAERS	PTI 55-07A limits	Compliance?
VOC	6.02 tons	8.9 TPY	Yes
Acetone (neither a VOC nor HAP)	11.45 tons	20.0 TPY	Yes
Methyl methacrylate*	To be determined	Individual HAP <9.0 TPY	To be determined
Styrene	2.22 tons	Individual HAP <9.0 TPY	Yes
Total HAPs*	To be determined	Total HAPs < 22.5 TPY	To be determined

***AQD has requested emissions information on methyl methacrylate (MMA), one of the HAPs listed by the U.S. Environmental Protection Agency. Once AQD has received this information, MMA emissions can be checked against the <9 TPY permit limit, and total HAPs can be checked against the <22.5 TPY permit limit. MMA is a VOC, however, and total VOCs for the source are 6.02 tons, so the MMA emissions should be less than 6.02 TPY. This is below the <9 TPY single HAP limit. MMA emissions combined with 2.22 TPY styrene should therefore be well below the <22.5 TPY HAP limit.**

Conclusion:

We left the site at 2:35 PM. Overall, Paddle Wheeler was in compliance with PTI No. 55-07, and with the Michigan Air Pollution Control Rules. The one compliance concern was the absence of a fabric filter dust collector for the trim booth, but the company has since installed a pleated fabric filter, to address this. The company has provided information documenting that the filter appears to satisfy the intent of the Rule 285(l)(vi)(B) permit exemption. AQD will visually observe the performance of the filter, during the next scheduled inspection of the facility.

NAME _____ DATE 5/16/2016 SUPERVISOR _____

manila
Shiawassee

DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: Telephone Notes

N059833642

FACILITY: PADDLE WHEELER DIV. OF OWOSSO COMPOSITE LLC		**SRN / ID:** N0598
LOCATION: 403 S STATE ST, OWOSSO		**DISTRICT:** Lansing
CITY: OWOSSO		**COUNTY:** SHIAWASSEE
CONTACT: Diane Gagnier , Operations Manager		**ACTIVITY DATE:** 03/10/2016
STAFF: Daniel McGeen	**COMPLIANCE STATUS:** Unknown	**SOURCE CLASS:** SM OPT OUT
SUBJECT: Discussion of pleated fabric filter panel for trim booth ,and Rule 285(l)(vi)(C) exemption.		
RESOLVED COMPLAINTS:		

On 3/10/2016, the Department of Environmental Quality (DEQ), Air Quality Division (AQD), contacted Ms. Diane Gagnier, operations manager of Paddle Wheeler. The purpose was to discuss their recently installed fabric filter panel for their trim booth, and whether that met the intent of the Rule 285(l)(vi)(C) permit exemption.

In February 2016, the trim booth had a pleated fabric filter panel installed in a horizontal exhaust outlet for their trim booth, to capture particulate emissions from grinding, drilling, and cutting of fiberglass parts. This was done with the intent of satisfying the exemption criteria.

Rule 285(l)(vi)(C) exempts from the requirement of Rule 201 to obtain a permit to install:

(l) The following equipment and any exhaust system or collector exclusively serving the equipment:
(vi) Equipment for carving, cutting, routing, turning, drilling, machining, sawing, surface grinding, sanding, planing, buffing, sand blast cleaning, shot blasting, shot peening, or polishing ceramic artwork, leather, metals, graphite, plastics, concrete, rubber, paper stock, wood, or wood products which meets any of the following:
(C) Equipment has externally vented emissions controlled by an appropriately designed and operated fabric filter collector that, for all specified operations with metal, is preceded by a mechanical precleaner.

I had recently sought clarification on what is intended by the phrase *an appropriately designed and operated fabric filter collector.* I explained to Ms. Gagnier today the items which I understood would be necessary in order for AQD to consider the fabric filter panel to be appropriately designed and operated:

- a determination that the control device would be 99% effective at controlling particulate;
- information on how often the control device is used;
- a maintenance plan, including schedule for cleaning or replacement of the filter;
- how collected air contaminants are disposed of, so as to minimize re-entrainment of particulate matter; and
- information to demonstrate that the unit is appropriately sized, and has appropriate air flow.

Ms. Gagnier indicated that she would follow up on this, and get back with me during the following week. AQD will evaluate information provided at that point, to see if the intent of the exemption has been met.

NAME [signature] DATE 5/16/2016 SUPERVISOR B. M.