

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

B189339738

FACILITY: ASPHALT PAVING, INC		SRN / ID: B1893
LOCATION: 1000 E SHERMAN BLVD, MUSKEGON		DISTRICT: Grand Rapids
CITY: MUSKEGON		COUNTY: MUSKEGON
CONTACT: Ryan Johnson , Plant manager		ACTIVITY DATE: 05/10/2017
STAFF: Chris Robinson	COMPLIANCE STATUS: Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT: FY 2017 inspection to determine compliance status with PTI No. 12-96 and any other applicable air quality rules and regulations.		
RESOLVED COMPLAINTS:		

AQD staff Chris Robinson (CR) was on-site on Wednesday May 10, 2017, to conduct a scheduled unannounced inspection of Asphalt Paving (SRN B1893) located at 1000 East Sherman Boulevard in Muskegon, MI. CR arrived at approximately 12:30 pm and met with Mr. Ryan Johnson, Plant Operator. CR presented Mr. Johnson with AQD Identification including a business card and informed him of AQD's intent to conduct an inspection of the facility to determine compliance status with respect to their permit (No. 12-96) and any other applicable air rules and regulations.

Although no odors were detected during this inspection, large amounts of fugitive dust was observed emanating from the paved lot where the facility stockpiles virgin material. The dust was caused by the movement of the frontend loader on the paved surface while loading the plant's material hoppers located on the west side of the site. This will be discussed further below.

Facility Description

Asphalt paving is a hot mix asphalt plant that typically operates one (1) shift from approximately March to November, 12-14 hours per day with a staff of approximately 16 workers. The facility is allowed up to 585,000 rolling tpy of asphalt production. This annual production limit, as demonstrated by the facility, allows the facility to opt out of the Title V Renewable Operating Permit program by maintaining criteria pollutant and HAP emissions less than Title V thresholds.

Prior to 1997 the facility was operated as a batch plant. Since then, the facility has operated as a modified continuous process system using dual drums. All processes are computer controlled and monitored. A Hot Mix Asphalt (HMA) blend is produced by mixing various components such as; aggregate, foundry sand, recycled asphalt paving (RAP). Seven hoppers are used to dispense the aggregate that is then weighed in accordance to the mix specifications in route to the reverse flow rotary dryer. A screen deck is used to prevent oversized objects from entering the dryer. Once the aggregate is at the proper temperature, it is transferred to the mixing drum (pug mill) where the RAP and liquid asphalt are added. The HMA is then transferred to one of three 150 ton capacity storage silos until unloaded into vehicles for transport. It takes approximately 3-5 hours to fill the storage silos. The moisture content of the aggregate entering the rotary kiln limits the facility's production. The kiln cannot dry faster, so residency time must increase to reach the proper temperature (450-500 degrees). The aggregate must be superheated due to the addition of ambient temperature RAP at the pug mill.

Particulate matter captured at the rotary kiln, mixing drum, elevators and other transfer points is ducted to a large, single fabric filter control system (baghouse). The rotary kiln represents the bottleneck of the process. The baghouse is monitored by use of a static pressure drop gauge with indicators set at 2.4 and 4 inches of water pressure. At 4 inches the bags are air-pulsed until the lower level is achieved. All captured particulate is then reintroduced to the process.

In 1996 the facility's permit was modified to include the use of foundry sand in the HMA mix. This allows the sand to be reused rather than placed in the landfill. Foundry sand taken from foundry operations is pre-qualified for low binder and hazardous material content. The sand is processed at the landfill by placing it into a rotary attrition lump crusher that operates at temperature of 250-300 degrees F. This removes most of the binder and metal pieces remaining in the sand. The sand is then trucked to Asphalt Paving Inc. and stored prior to use. HMA mixes are not to be greater than 40% foundry sand, and most are 10% to 15%. According to Mr. Johnson, most foundry sand recipes are still being used for the county road commission. The facility feels that the foundry sand may present an odor problem; therefore, the use of it has been greatly reduced to attempt to limit any potential complaints.

Compliance Evaluation

PTI No. 12-96: Special Conditions 13-20

Asphalt Paving is subject to a particulate emissions limit of 0.10lbs/1,000lbs exhaust gas (0.04gr/dscf per 40 CFR Part 60/Subpart I). The last Method 5 Particulate Emissions test was conducted on June 2, 1989 with no issues, therefore, compliance with this emission limit is determined by proper operation of the facility. There were no mechanical or operational issues noted during this inspection. Maintenance is conducted to keep the equipment in good working order. Maintenance records were provided and are included in **Attachment A**.

No visible emissions were observed from the process equipment. However, large amounts of fugitive dust (>20%) was

observed emanating from the surface of the paved lot where the facility stockpiles virgin material. The dust was stirred up by the sites frontend loader actively filling the material hoppers. CR spoke to Mr. Johnson regarding the situation and has requested that the facility prepare and submit to AQD a Fugitive Dust Plan, due by June 14, 2017. Per phone conversator with Mr. Johnson, the facility roadways were brined immediately following CR's departure and as needed since. For dus control the facility does utilize a power broom mounted on a truck, brine mixture and water spray. The conveyors are also covered where ever possible to limit fugitive dust.

Based on conversations with Mr. Johnson the baghouse is always in operation while the batch plant is operating and maintenance is conducted as required. Bags were replaced at the beginning of the 2016 season and are changed approximately every five (5) years. Per maintenance records, the baghouse bags and air valves were inspected on April 17 2017. The baghouse appeared to be operating properly during this inspection.

CR did not specifically measure the stack height of the batch plant. However, visual inspections appear to reflect the height measurement specified in their permit of 50 feet.

Per conversations with Mr. Johnson and a records review, HMA mixtures contain approximately 18% RAP, well below the permit limit of 40% and the facility does not use any asbestos containing material. Monthly records supporting this information was provided by the facility (**Attachment B**) and summarized in Table 1 below.

Table 1. Monthly RAP Consumption

Year	Month	% Rap Consumed
2016	June	18.17
	July	17.65
	Aug.	17.74
	Sept.	17.48
	Oct.	17.86
	Nov.	18.18
	Dec.	Did not operate
2017	Jan.	
	Feb.	
	March	
	April	
	May 1-12	18.73

PTI No. 12-96: General Permit Addendum for Hot Mix Asphalt Plants – Special Conditions

As required by PTI No. 12-96 special condition No. 20, Asphalt paving is subject to the General Permit Addendum for hot mix asphalt plants. This addendum contains special conditions for all hot mix asphalt plants and some of these conditions don't apply to Asphalt Paving. More Specifically, Asphalt Paving only operates a baghouse and burns natural gas for a fuel source. Therefore, the facility is not subject to any conditions that are intended for wet scrubbers (condition 8) and fuel types other than natural gas or multiple types of fuels (conditions 9.B, 10, 11, 14, 15, 16, 18.ii & 18.iv).

Asphalt Paving is subject to the emission limits specified in Table 2 below. According to this addendum, compliance with the criteria pollutant emission limits is determined by limiting the facility's production rate to 1,000,000 rolling tpy. However Special Condition one (1) of the General Permit Addendum states the following:

"In the event that the existing permit for the HMA facility contains more stringent requirements than the General Permi Addendum, then the applicant shall comply with the restrictions listed in the Special Conditions of the existing permit".

Although the facility's existing permit does not specify criteria pollutant/HAP emission limits or production rates, the facility operates under an approved Title V opt-out permit. The facility demonstrated that in order to maintain criteria pollutant and HAP emissions under Title V thresholds, the annual production rate could not exceed 585,000 rolling tpy. This is more restrictive than the 1,000,000 rolling tpy limit specified in the General Permit Addendum. Therefore, the maximum allowable HMA annual production rate for Asphalt Paving is 585,000 rolling tpy. Based on the rolling 12-month records for April 2017 (**Attachment B**), the facility's actual annual production rate was 127,479 tons of HMA.

Table 2. Emissions

Pollutant Type	Pollutant	Addendum Emission Limit	Calculated 12-month rolling emission rate (tons)

Criteria	PM10	99 tons / 12-month rolling time period	1.602
	CO		23.739
	SO2		0.273
	VOC		0.487
	NOx		1.484
	Pb		0.000
HAPs	Xylenes	10 tons individual HAP and 25 tons combined HAPs / rolling 12-month time period	0.160
	E-Benzene		0.131
	Toluene		0.059
	Formaldehyde		0.044

As discussed above in more detail (Compliance Evaluation for PTI No. 12-96) the facility owns, maintains and operates a baghouse. The batch plant never operates without the baghouse operating simultaneously. Gauges are installed on the baghouse to monitor differential pressure from the control room. Daily readings are monitored and recorded (**Attachment C**) and maintenance is conducted and recorded as required for both the control device and the process equipment (**Attachment A**). During this inspection, the observed pressure drop was 3.25 inches of water.

HMA Production, material consumption and fuel consumption are tracked daily (**Attachment C**) and on a 12-month rolling basis (**Attachment B**). Daily reports are maintain as required for two years and include proportions of virgin aggregate and RAP utilized for all mixtures. The amount of RAP consumed is also calculated on a 12-month rolling basis (**Attachment B**)

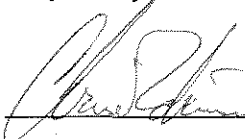
Condition 21 states that the facility shall report annual emissions to AQD. Asphalt Paving submitted their emissions to MAERS on time and as required. CR reviewed the submission and added a baghouse control efficiency of 99.4% for PM2.5 and 97% for PM10, as AQD has done in the past. CR also notified Mr. Johnson of this addition during the site inspection.

Compliance Determination

Based on the observations made during this inspection and a subsequent records review, Asphalt Paving, Inc. appears to be in compliance with permit 12-96 and any other applicable air rules and regulations.

Attachments

- A - 2017 Maintenance Records
- B - 12-Month Rolling Records of Operation & Emission Calculations
- C - Monthly & Daily Records

NAME 

DATE 6/2/2017

SUPERVISOR 