

**DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: On-site Inspection**

P120973784

FACILITY: Asphalt Paving, Inc.	SRN / ID: P1209
LOCATION: 45 South Getty Street, MUSKEGON	DISTRICT: Grand Rapids
CITY: MUSKEGON	COUNTY: MUSKEGON
CONTACT: Ryan Johnson , Plant Manager	ACTIVITY DATE: 08/01/2024
STAFF: Scott Evans	COMPLIANCE STATUS: Compliance
SUBJECT: On-site inspection for FY24	SOURCE CLASS: SM OPT OUT
RESOLVED COMPLAINTS:	

Introduction

On August 1, 2024, State of Michigan Department of Environment, Great Lakes, and Energy Air Quality Division (AQD) staff member Scott Evans (SE) conducted an on-site inspection of the new Asphalt Paving facility located at 45 S Getty St. in Muskegon, Michigan, to assess compliance with the requirements of Permit to Install (PTI) No. 75-22 as well as all other applicable air quality rules and regulations. Stack testing was conducted in June 2023 and results of this testing were submitted as hard copies to the AQD on August 23, 2023. The results indicated compliance with permitted requirements and other applicable rules and regulations.

Asphalt Paving is a Hot Mix Asphalt (HMA) manufacturing facility that was newly constructed in 2022 and 2023. It utilizes a counterflow drum system along with multiple storage components and emissions control equipment to produce asphalt. PTI No. 75-22 was issued on June 13, 2022, and, in addition, the facility is subject to the conditions of New Source Performance Standards (NSPS) 40 CFR Part 60 Subpart I. On the day of the inspection, there were no visible emissions seen on site and only minor odors of asphalt while within the boundaries of the facility property. SE was greeted by site manager Ryan Johnson. After a conversation to discuss the intent of the inspection, an on-site inspection was conducted. Records were provided for January 2023 – August 2024. The facility operated from April to December in 2023 and began 2024 operations on April 22.

PTI No. 75-22

This PTI contains requirements for four emissions units (EUs):

- EUHMAPLANT
- EUYARD
- EUACTANKS
- EUSILOS

EUHMAPLANT

This EU consists of HMA manufacturing equipment including aggregate conveyors, cold feed aggregate bins, and a 310 tph counter-flow drum with a 75 MMBtu/hr heat input burner. Emissions from this EU are controlled by a 55,407 cfm baghouse.

This EU has the following emission limits:

Pollutant	Limit	Time Period / Operating Scenario	Highest Recorded Value (Sept'23 – Aug'23)
1. PM	0.04 gr/dscf	Hourly	0.0010 gr/dscf
2. PM	0.03 lb per ton ^b	Hourly	5.4 x 10 ⁻⁴ lb per ton

Pollutant	Limit	Time Period / Operating Scenario	Highest Recorded Value (Sept'23 – Aug'23)
3. PM	4.5 tpy ^a	12-month rolling time period as determined at the end of each calendar month	1.802 tpy
4. PM10	0.03 lb per ton ^b	Hourly	1.9×10^{-3} lb per ton
5. PM10	4.5 tpy ^a	12-month rolling time period as determined at the end of each calendar month	0.166 tpy
6. PM2.5	0.03 lb per ton ^b	Hourly	1.9×10^{-3} lb per ton
7. PM2.5	4.5 tpy ^a	12-month rolling time period as determined at the end of each calendar month	1.636 tpy
8. CO	0.2 lb per ton ^b	Hourly	1.9×10^{-2} lb per ton
9. CO	30.0 tpy ^a	12-month rolling time period as determined at the end of each calendar month	1.636 tpy
10. SO ₂	0.004 lb per ton ^b	Hourly	NA
11. SO ₂	0.6 tpy ^a	12-month rolling time period as determined at the end of each calendar month	0.293 tpy
12. NO _x	0.07 lb per ton ^b	Hourly	0.0099 lb per ton
13. NO _x	10.5 tpy ^a	12-month rolling time period as determined at the end of each calendar month	0.852 tpy
14. Lead	1.5×10^{-5} lb per ton ^{b,1}	Hourly	NA
15. Benzene	7.5×10^{-4} lb per ton ^{b,1}	Hourly	NA
16. Toluene	3.0×10^{-3} lb per ton ^{b,1}	Hourly	NA
17. Ethylbenzene	1.0×10^{-3} lb per ton ^{b,1}	Hourly	NA
18. Xylene	1.0×10^{-3} lb per ton ^{b,1}	Hourly	NA
19. Naphthalene	7.8×10^{-4} lb per ton ^{b,1}	Hourly	NA
20. Formaldehyde	5.4×10^{-3} lb per ton ^{b,1}	Hourly	NA
21. Arsenic	2.0×10^{-6} lb per ton ^{b,1}	Hourly	NA
22. Nickel	7.6×10^{-5} lb per ton ^{b,1}	Hourly	3.3×10^{-6} lb per ton
23. Manganese	3.5×10^{-4} lb per ton ^{b,1}	Hourly	NA
24. Opacity	20%	6 minute average	0%

The compliance determinations in the table above were determined using the records provided per the recordkeeping requirements for this EU within the permit, as discussed further below, as well as the results of stack testing where applicable. Compliance determination for emission rate limits regarding PM, PM10, PM2.5, NO_x, CO, formaldehyde, and nickel are dependent upon the results of the stack testing conducted last year. For this inspection and report, annual emissions for those pollutants were calculated using stack test emission rate results. Though records through August of 2024 were provided, emission rates were highest during the calendar year of 2023 due to the nature of seasonal operation of the facility resulting in the highest operational months of 2024 not yet being concluded. As discussed in the testing section of this report, the facility may be required to test emission rates for other pollutants. At this time, it is not felt that further testing is required as the newly installed equipment was properly installed and stack test results for criteria pollutants were low..

This EU has the following material limits:

- Only natural gas may be used as fuel at the facility.
- No asbestos containing materials may be used in the manufacturing process.
- No more than 50% RAP material may be used for asphalt manufacturing.
- No more than 300,000 tons of HMA may be produced per 12-month rolling period.
- No more than 310 tons of HMA may be produced per hour (daily average).

During the inspection it was discussed that the facility only uses natural gas for fuel and that no asbestos containing materials are used in manufacturing. Batch records are maintained by the facility and were provided upon request. Review of these records confirmed compliance with RAP limitations for product batches. These records are discussed later in this report.

This EU has the following process restrictions:

- The facility must adhere to the fugitive dust control plan listed as Appendix A.
- The facility must adhere to the preventative maintenance plan listed as Appendix B.
- The facility must adhere to the Emission Abatement Plan for Startup, Shutdown, and malfunctions listed as Appendix C.
- The facility must fine tune burners to control CO emissions during startup for each production season and every 500 hours of operation.
- The facility must be installed and operated in accordance with the submitted permit application.

During the inspection, Appendix A was assessed, and it was determined that all necessary dust control measures were properly implemented including vehicle and road dust control and cleaning, load coverings on vehicles, minimized drop distances, contained loading and storage locations, and baghouse operation. Appendix B was assessed, and it was determined that the baghouse was installed and operated appropriately, as discussed later in this report. It was discussed that the facility follows Appendix C procedures for startup and shutdown. Appendix C contains parameters for what to do in the event of malfunctions which, though they have not been used by the facility, are in place and appear sufficient for proper handling of such events. It was discussed that the facility did tune the burners upon startup and that maintenance tuning is conducted appropriately.

Records of these operations are included with this report. Through inspection of all equipment throughout the facility, it appears that the facility has appropriately followed the application for installation of all equipment.

This EU is required to have an installed baghouse with appropriate monitoring equipment including a pressure drop monitor to ensure proper function and an alarm system to alert staff to malfunctions, and monitoring equipment to track virgin aggregate and RAP feed rates in manufacturing. As discussed below, records regarding feed rates were provided that demonstrated installation and use of feed rate monitors. When inspecting the baghouse, a pressure drop monitor was observed and had a reading of 2.8 inH₂O. This is within the permitted range of 2-10 inH₂O. Review of recorded pressure drop readings showed an approximate range of readings from 1-4 inH₂O. Any reading less than 2 inH₂O would be considered out of compliance of this requirement. However, it is worth noting that the average reading has risen in 2024 from where it was during the operating season of 2023. In combination with review of equipment maintenance documents, it is believed that this is the result of brand-new equipment and new bags in the baghouse. Baghouse pressure drop is often related to how much dust is caked on the filter bags, with thicker layers of dust causing higher pressure drop readings. Given the size of this baghouse, the newness of it, and the relatively low rate of throughput, it is likely that it is taking longer for the dust buildup to occur than might happen in other operational scenarios. The result is more free flowing air through the filter bags and a lower pressure drop reading. As time continues, which is already seen between the 2023 and 2024 operational seasons, the dust will continue to cake on the bags and the pressure drop will rise. This along with the lack of visible emissions discussed further below, it appears likely that the baghouse is operating properly, and that pressure drop readings will continue to rise to acceptable levels over time. At this time, no violation will be issued, but the readings and baghouse operation will continue to be monitored closely to ensure proper pollution control.

This EU has multiple testing requirements. The facility may be required to verify odor emissions if requested by the AQD. At the time of inspection there was no observed cause to require odor testing at this time. The facility may be required to verify any emission rate as outlined in the above emission limit table if requested by the AQD. During the inspection, no cause was observed to require stack testing beyond what was being actively conducted during the inspection. The facility is required, after initial startup, to conduct stack testing to verify PM, PM₁₀, PM_{2.5}, NO_x, CO, VOCs, formaldehyde, and nickel. This testing was conducted during the last inspection and the results have been entered into the emission limits table above and were used for the calculation of annual emissions. The facility is also required to observe the equipment for presence of visible emissions (VEs) on a weekly basis. This is a reduction from the original frequency of daily as requested by the facility in April of 2024 and approved by the AQD. The facility maintains records of these observations, which are discussed further below.

This EU has the following recordkeeping requirements as outlined below:

- Virgin aggregate and RAP feed rates.
- Handheld CO monitor records during startup, malfunction, and every 500 hours of operation to verify emission of less than 500 ppmv.
- Maintenance procedures for burners and baghouses.
- Tons of hot mix asphalt containing RAP produced, including the average percent of RAP per ton of hot mix asphalt produced containing RAP records for each calendar month.

- Daily records of the following production information:
 - Virgin Aggregate feed rate
 - RAP feed rate.
 - Material Product Temp.
 - Identification of all ingredients.
- Monthly and 12-month rolling time period emission calculation records of all criteria pollutants listed in the Emission Limit Table above.
- Daily, monthly, and 12- month rolling time period records of the amount of HMA paving materials produced.
- Daily records of the hours of operation of EUHMAPLANT.
- The pressure drop for the fabric filter controlling EUHMAPLANT emissions once per day.
- Parameter alarm instances for the EUHMAPLANT fabric filter system including the reason the alarm was activated and the actions taken.
- Monthly records of the average percent of RAP per ton of hot mix asphalt containing RAP produced.
- The following daily records:
 - Hours of operation.
 - Total tons produced.
 - Average ton/hour production rate for based on the total throughput for the day and hours of operation.

All records were provided, and analysis yielded the following compliance determinations:

- RAP feed rates were appropriately recorded and provided.
- CO monitoring results were provided with all recordings reading at or below 305 ppmv.
- Maintenance logs were maintained on site and provided for review.
- RAP production rates were recorded and provided, as discussed above.
- Feed rates, temperatures, and batch recipes for all produced batches were recorded and provided.
- Monthly and 12-month rolling emissions data was provided, as discussed above.
- Daily, monthly, and 12-month rolling HMA production rates were recorded and provided.
- Operational hours were provided and used to calculate daily and hourly average production values as discussed above.
- Daily pressure drop readings were observed on site and records were maintained and provided.
- Alarm system was observed on site and all recorded instances were maintained.
- %RAP data was provided along with other required batch data as discussed above.
- Daily operations and production records were provided as discussed above.

The facility is required to have reported to the AQD within 30 days after the completion of the installation of all permitted equipment. Though no unique communication was sent regarding solely the completion of construction, the facility did appropriately submit an acceptable stack test procedure that complied with startup requirements as discussed above. This can be considered sufficient notification that installation of the facility was completed.

This EU has one stack requirement. During the inspection the stack was not directly measured for safety reasons, but appeared unchanged from previous measurements that demonstrated compliance with the permitted dimensions.

EUYARD

This EU consists of all fugitive dust sources at the facility including roadways, plant yard, storage piles, and material handling operations.

This EU is limited to only allowing 5% opacity of VEs. During the inspection it was observed that any VEs present were intermittent and within the 5% opacity limit. The facility could also provide record of VE observations conducted by staff that demonstrated compliance with the limit as well as VE observations being conducted during the inspection. All VE readings were submitted and demonstrated compliance with opacity limits.

This EU is restricted to only being used while the fugitive dust plan labeled Appendix A is being adhered to. As discussed above, the facility appeared to be following all parameters outlined in Appendix A and could provide any necessary documentation.

The facility is required to calculate fugitive dust emissions and include those emissions with their annual emissions inventory report. These emissions were appropriately reported with their inventory reports, as required.

EUACTANKS

This EU consists of two 20,000 gallon liquid asphalt cement storage tanks and one 3 MMBtu/hr hot oil heater. This EU has a vapor condensation and recovery system installed for pollution control.

The facility may only operate this EU if the pollution control equipment is installed and operational. During the inspection it could be seen that the equipment was installed and operational. Proper operation was demonstrated through the facility's adherence to manufacturer requirements as well as provided records of emissions.

EUSILOS

This EU consists of three 200-ton HMA storage silos and the associated emissions and loadout controls.

This EU may not be operated unless the emissions and loadout controls are properly installed. The emissions controls could be seen as installed at the top of each silo, as required in the permit. Loadout controls and enclosures with sides greater than 5 feet in height and with installed roofs could be observed as properly controlling fugitive emissions during the dispensing of product into trucks. The facility is required to have an appropriate preventative maintenance plan submitted. An appropriate plan was submitted and appears to appropriately address necessary protocols.

Conclusion

At this time, the facility appears to be in compliance with permit requirements as well as all applicable air quality rules and regulations.

NAME Scott Evans

DATE 9/25/2024

SUPERVISOR HH