

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

B413470160

FACILITY: Cadillac Asphalt, LLC, Troy		SRN / ID: B4134
LOCATION: 2040 BARRETT RD, TROY		DISTRICT: Warren
CITY: TROY		COUNTY: OAKLAND
CONTACT: Susanne Hanf , Environmental Engineer		ACTIVITY DATE: 11/28/2023
STAFF: Marie Reid	COMPLIANCE STATUS: Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT: FY24 Scheduled On-site Inspection		
RESOLVED COMPLAINTS:		

On November 28, 2023, I (Marie Reid, EGLE-AQD) conducted a schedule inspection of Cadillac Asphalt, Troy SRN (B4134) located at 2040 Barrett Rd, Troy, Michigan. The purpose of this inspection was to evaluate the facility's compliance with the requirements of the Federal Clean Air Act; Article II, Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451); Michigan Administrative Rules; 40 CFR 60, Subpart I, Standards of Performance for Hot Mix Asphalt Facilities; and PTI No. 126-20.

Facility Description

Cadillac Asphalt is located in Oakland County. The area surrounding Cadillac Asphalt is densely populated with industrial and residential properties. The nearest residential properties are around a quarter mile North of Cadillac Asphalt. The facility is a minor source for hazardous air pollutants (HAPs) and a synthetic minor for particulate matter (PM).

Cadillac Asphalt is a hot-mix asphalt facility that produces asphalt products used for road construction. The operating schedule is driven by the demand for asphalt products. The facility typically operates March through December. Cadillac Asphalt is permitted to operate a Hot Mix Asphalt (HMA) plant, which includes aggregate conveyors, a 500 TPH counterflow drum, and a fabric filter dust collector (EUHMAPLANT). The facility is permitted to operate fugitive dust sources, including the plant yard, roadways, material storage piles, and material handling operations (EUYARD). The facility also permitted three (3) 35,000-gallon horizontal liquid asphalt cement (AC) storage tanks (EUACTANKS) and four (4) 300-ton HMA product storage silos (EUSILOS).

The process produces HMA material by combining aggregate and liquid asphalt cement in a horizontal, rotating counter flow drum. The aggregate moves through the drum in the opposite direction from the fuel combustion products. The drum is inclined with the aggregate feed chute located at the top and the burner (flame) located at the bottom. AC is introduced at the lower end of the drum, where the rotation of the drum coats the aggregates with AC. The AC mixing zone is located behind the burner flame zone to prevent direct contact with the flame zone. The finished HMA material exits the drum through the discharge chute and is conveyed to a surge bin and then to storage silos, where it is loaded into customer haul trucks. The exhaust gases exit the drum and are directed to the baghouse particulate control system.

Inspection

I arrived at Cadillac Asphalt at 9:45 AM on November 28, 2023, and was greeted by Megan Szymanowski, Environmental Tech. Megan called me the morning of the inspection to notify me that the site was not operating because all jobs have been canceled for the day. I did observe a tuck dumping aggregate into stockpiles as I arrived on site. I did not observe any

fugitive emissions from this process. Megan escorted me to the office where we met with Kevin Cece, Lead Operator. Paige W., Front End Loader Operator and Dave, Plant Manager briefly met with us during this inspection. I showed my photo ID and explained the purpose of my visit. The group answered questions about facility processes and changes. Kevin informed me that their permit was modified in 2021 because they rebuilt the plant. The facility replaced the existing 300 TPH HMA drum with a 500 TPH HMA counterflow drum which also included replacing the baghouse, drum, burner with a 137.5 MMBtu/hr burner, four new 300-ton silos, and three new 35,000-gal AC tanks. Sue Hanf emailed me all requested records required by PTI No. 126-20.

EUHMAPLANT

Emission Limits

Cadillac Asphalt has an emission limit of 80.4 tons/year of CO and 80 tons/year of SO₂, per 12-month rolling period (SC I.5 and I.7 respectively). Sue provided monthly and 12-month rolling emission calculations for all criteria pollutants and TACs listed in the permit and for all HAPs, as required in SC VI.9 from January 2022 through November 2023. The emissions calculations indicate that the highest 12-month rolling CO emissions during this period was 11.49 tons, the highest emissions for SO₂ was 0.390 tons, and the highest emissions for aggregate HAPs were 0.487 tons, all at the end of November 2023.

Cadillac Asphalt also has permit limits on pounds of pollutant per ton of HMA produced for benzene, toluene, ethylbenzene, xylene, naphthalene, formaldehyde, acrolein, arsenic, nickel, H₂SO₄, manganese, manganese, hydrogen chloride, and all criteria pollutants in the emission limit table (SC 1.2 – 1.4, 1.6, and 1.8 – 1.22). The AQD can request the facility to verify and quantify these emission rates (SC V.2). The last stack test for most of these pollutants was in the early 2000s, assuming the facility was burning fuel oils. According to Kevin and the provided fuel records, the facility only burns natural gas and no longer uses fuel oils. Based on this information, it is assumed that emissions of many of these pollutants is likely to be much lower when running on natural gas than on fuel oils. An emission test to verify compliance with the emissions limits in SC 1 has not been requested by the AQD.

The AQD may also request the facility to verify and quantify odor emissions (SC V.1). This facility does not have any registered odor complaints since the site was reconstructed in 2020, therefore, the AQD is not requesting the facility to verify or quantify odor emissions at this time.

Cadillac Asphalt has an emission limit of PM for 0.04 gr/dscf on an hourly basis (SC I.1), which must be verified via emissions testing within 60 days after achieving the maximum production rate, but no later than 180 days after the commencement of trial operation (SC V.3). Emissions testing occurred on July 20-21, 2021, by Impact Compliance & Testing. During compliance testing, the exhaust gas exiting the baghouse to the asphalt mixer/dryer drum was sampled to verify filterable PM emission rates. According to the stack test results, PM emissions in EUHMAPLANT was 0.002 gr/dscf, which is within the permit limit of 0.04 gr/dscf of PM.

Material Usage Limits

The facility is restricted from burning any fuel other than natural gas or fuel oil No.2 (SC II.1). I was provided the daily and monthly fuel logs that include fuel type and usage. The records provided are from January 2022 through November 2023. The fuel records indicate that only natural gas was burned, and no fuel oils were used in the 2022 and 2023 seasons. The highest monthly natural gas usage during this period was 9,886 MCF in August 2023.

I asked Megan if the facility uses any asbestos tailing or waste materials containing asbestos. She informed me that the quarry they receive their materials from regularly tests for asbestos to ensure that no asbestos containing materials are used in the process (SC II.3).

The facility has a material limit of the asphalt mixture processed in EUHMAPLANT to a maximum of 50% RAP material based on a monthly average (SC II.4). Records of daily average RAP % content were provided in the Daily Production log. Records of monthly totals of HMA containing RAP produced and monthly average RAP % content were provided in the Monthly Summaries log. These records were from January 2022 through November 2023, as required by SC VI.6 and VI.7.c. The daily values ranged from 14% to 49% average RAP. Records indicate that October 2023 had an average RAP of 29%. The highest average RAP was 42% in December 2022 and 37% in June 2023.

The facility has a material limit of 800,000 tons of HMA produced per 12-month period (SC II.5). The facility provided daily, monthly, and 12-month period records of the amount of HMA paving materials produced from January 2022 through November 2023, as required by SC VI.11. The highest daily production of HMA during this period was 3,990 tons on May 23, 2022. The highest monthly production of HMA was 38,681 tons in August 2023. In October 2023, 30,026 tons of HMA was produced. The highest production of HMA per 12-month rolling period was 209,673 tons in October 2023.

The facility has a material limit of 500 tons of HMA produced per hour based on a 24-hour rolling time period, which is determined by dividing the daily HMA production by the daily operating hours (SC II.6). These records were provided in the Daily Production log from January 2022 through November 2023, as required by SC VI.11. Based on these records, in 2022, hourly HMA produced ranged from 84 to 313 TPH and in 2023, the hourly HMA produced ranged from 84 to 449 TPH.

When I first reviewed the production records, there appeared to be an exceedance of the daily HMA production limit on July 14 & 15, 2023. According to the spreadsheet, the hourly production rate on July 14 was 669 tons/hour (669 tons & one operating hour) and the hourly production rate on July 15 was 539 tons/hour (539 tons & one operating hour). I asked Sue if these values were correct and she informed me that Kevin, who usually enters data into the spreadsheet, was off work on these dates and the daily operating hours for both days were entered incorrectly. Sue and Kevin checked the on-site logs and corrected the spreadsheet. The corrected values are as follows: July 14 had a production rate of 216 tons/hour (669 tons & 3.1 operating hours) and July 15 had a production rate of 449 tons/hour (539 tons & 1.2 operating hours). Based on this information, the facility has not exceeded the daily HMA production limit listed in SC II.6.

Process and Operational Limits

Cadillac Asphalt operates a counterflow mixing drum. Efficiency of the drum mix burners, to control CO emissions, must be maintained by fine tuning the burners at the start of each paving season or upon malfunction (SC III.4). According to the Baghouse & Plant Maintenance log, during the 2022 and 2023 paving seasons, the burners were tuned May 24, 2022, and May 16, 2023.

The efficiency of the counterflow drum is also monitored by its CO emissions, which should be less than 500 ppm to ensure proper operation. Cadillac Asphalt is required to record CO

emissions for each of the following occurrences: a) upon start-up of each paving season b) upon a malfunction, and c) after every 500 hours (SC VI.3). The facility provided records of CO concentrations recorded during handheld CO monitor measurements from 2019-2023 in the CO Monitoring Data log (SC VI.10). The provided records did not have CO monitoring data for 2020 or 2021. I asked Sue about these records, and she sent me an updated spreadsheet with the 2020 and 2021 CO monitoring records. Sue informed me that the required records were complete and on-site, they were just missing from the original spreadsheet she had sent. The newly provided records indicate that handheld CO emissions monitoring was done on April 20 and September 12 for the 2023 paving season with CO concentrations ranging from 63 ppm to 117 ppm. The highest CO concentration recorded was 326 ppm on June 2, 2021.

Cadillac Asphalt is required to continuously monitor and maintain records of the virgin aggregate and RAP feed rate (SC VI.2 & VI.8). Kevin showed me the computer used to monitor feed rate and stated that feed rates are set until there is a mix change (SC IV.2). Sue emailed me intermittent daily records downloaded from the plant's computer that list both the virgin aggregate and RAP feed rate, asphalt product temperature, and the components of the asphalt mixture. These records are recorded in 5-minute intervals, with breaks when there is a mix change.

EUACTANKS

The facility has three 35,000-gallon horizontal asphalt cement storage tanks which have a vapor condensation and recovery system installed to control opacity and odor. Kevin stated that they have not had any issues with opacity or odor and I did not observe either while I was on site. I reviewed the Daily Production log from January 2022 through November 2023 and confirmed that the vapor condensation and recovery system was inspected every day the plant was operating (SC III.1).

EUSILOS

HMA paving materials are transferred from the counterflow drum to product storage silos before it is loaded in a truck to be exported from site. The silos have an emission capture system at the top of the silos and load-out control at the bottom of the silos. I confirmed that the emission capture system is properly operated and maintained by reviewing the daily blue smoke unit inspections (SC III.1). I observed that the load-out area was enclosed (SC III.2). I did not observe any trucks at the load-out area during my inspection.

Appendix A: Fugitive Dust Control Plan

Cadillac Asphalt is not allowed to operate EUHMAPLANT or EUYARD unless their Fugitive Dust Control Plan is implemented and maintained (EUHMPLANT SC III.1 & EUYARD III.1). I discussed the Fugitive Dust Plan and what the site does to control dust with Kevin.

Kevin told me they sweep the yard on a weekly basis in the mornings and that they do not use a chloride application on-site. Kevin also stated that the speed limit is 5mph and all incoming and outgoing trucks must have their loads covered. I observed multiple speed limit signs on site. Sue provided the records of all dust control activities from January 2022 through November 2023. The log listed date and type of control application used. Most entries did not include a time of application or reason for application, however, based on the frequency of the applications, it seemed that all of the control applications were the weekly yard sweep. I asked Sue about the dust control log, and she confirmed with Kevin that all of the dust control application records were for the weekly yard sweep in the mornings. Sue sent me a corrected dust log with the required information and stated that she will make

sure the site completely fills out the dust control logs in the future. Since all dust control applications were routine and the records were corrected immediately, there will not be a violation notice issued, however, if it is discovered in future inspections that dust control records are not properly maintained, a violation notice may be issued.

Appendix B – Preventative Maintenance Program for the Fabric Filter Dust Collector

Cadillac Asphalt is not allowed to operate EUHMAPLANT unless their Preventative Maintenance Program is implemented and maintained (EUHMAPLANT SC III.2). The facility is required to continuously monitor the pressure drop across the fabric filter dust collector (baghouse) and record the pressure drop once per day, which should range between 2 and 8 inches of water column (App B & SC IV.1). Daily baghouse pressure drop readings were provided in the facility's Daily Production log and were consistently recorded at 2 inches of water column. The pressure drop reading was zero inches of h₂o during the inspection since the plant was not operating. The baghouse is equipped with an alarm system that is triggered if the temperature of the baghouse exceeds 375 degrees Fahrenheit and begins a sequential automatic shut-down of the plant. The facility re-introduces accumulated baghouse dust into the virgin mix.

During the inspection, Megan stated that she was Method 9 certified and is able to conduct visible emissions readings, if needed.

Sue provided records of all baghouse and maintenance activities for the previous five years, as required by EUHMAPLANT, SC VI.5 and Appendix B. Based on the records, the annual blacklight inspections and annual plant inspections for the past three years took place May 2, 2021, April 19, 2022, and April 13, 2023. Kevin told me that zero bags have been replaced since the plant was re-constructed, which I verified in the inspection records. The records showed that the baghouse is inspected on a regular basis, to ensure proper control of the counterflow drum.

Appendix C – Emission Abatement Plan for Startup, Shutdown, and Malfunctions

Sue provided an Identification of Supervisory and Maintenance Personnel with the responsibilities of each individual for operation of the plant during startups, shutdowns, or malfunctions, as well as inspections and repairs (Appendix C).

Sue also provided a list of the description of all items that are visually inspected each morning while the plant is warming up and a list of the frequency of other inspections at the plant. After startup, observations are made of the baghouse stack for opacity. These observations are carried out continuously while the plant is operating. I verified that the daily visual inspections were completed with the Daily Production log.

Conclusion

Based on my on-site inspection and review of the records, Cadillac Asphalt (SRN: B4134) is in compliance with the conditions of PTI No. 126-20, as well as all applicable air quality rules and regulations.

NAME Mae Reid

DATE 1/2/2024

SUPERVISOR K. Kelly