

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

B416760262

FACILITY: ELMER'S CRANE AND DOZER, INC.		SRN / ID: B4167
LOCATION: 3638 RENNIE SCHOOL RD, TRAVERSE CITY		DISTRICT: Cadillac
CITY: TRAVERSE CITY		COUNTY: GRAND TRAVERSE
CONTACT: Tom Wolf ,		ACTIVITY DATE: 08/31/2021
STAFF: Caryn Owens	COMPLIANCE STATUS: Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT: On-site inspection and Records Review		
RESOLVED COMPLAINTS:		

On Tuesday, August 31, 2021 Caryn Owens of the Department of Environment, Great Lakes, and Energy (EGLE) – Air Quality Division (AQD) conducted a scheduled field inspection and records review of Elmer's Crane and Dozer, Inc. (SRN: B4167) located at 3638 Rennie School Road in Traverse City, Grand Traverse County, Michigan. The field inspection and records review were conducted to determine compliance with permit to install (PTI) No. 7-00E. The facility has opted out of major source applicability by limiting operational and production potential to emit (PTE) below major source thresholds for hazardous air pollutants (HAPs), carbon monoxide (CO), and sulfur dioxide (SO₂). The facility is subject to New Source Performance Standards (NSPS) for Hot Mix Asphalt Facilities under 40 CFR, Part 60, Subpart I. AQD was accompanied by Tom Wolf, the Compliance Manager, during the inspection.

Summary:

The activities covered during the field inspection and records review for the facility indicate the facility is in compliance with PTI 7-00E. Specific permit conditions that were reviewed are discussed below.

On-site Inspection:

During the field inspection the weather conditions were partly sunny, with wind from the southwest about 5 to 10 miles per hour, and approximately 80 degrees Fahrenheit. The facility is not in operation all year long and shuts down during the winter months. The asphalt drum and tanks associated with the plant were installed and began operation April 15, 2021, which replaced the old counter-flow drum at the plant. Stack testing was being completed on the baghouse of the plant during the inspection. I have a separate report for my stack testing observations. AQD could see a detached steam plume which quickly dissipated from the stack the entire time the plant was operating. According to Mr. Wolf there is a lot of moisture in the stack.

The facility is a hot mix asphalt (HMA) batch plant using a counter-flow drum mixer that produces approximately 400 tons of asphalt per hour. In a counter-flow drum mixer, the aggregates are moved through a rotating 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 dryer burner located at the bottom. Reclaimed asphalt pavement (RAP) materials are added at the approximate midpoint of the dryer drum and asphalt cement is introduced in the lower end of the drum, where rotation of the drum coats the aggregate with asphalt cement. The asphalt cement mixing zone is located behind the burner flame zone to prevent direct contact with the flame zone.

A discharge chute for the finished product is at the lower end of the inclined drum. HMA is conveyed to surge bin silos where it is loaded into transportation trucks. Exhaust gases from the dryer/mixer, including the products of combustion, exit the end of the drum and are controlled by the baghouse. The facility uses at least 6 different aggregate bins and 2 RAP material bins and were making 4 different asphalt mix designs the day of the inspection and stack test, which is stored in 9 HMA silos. According to Mr. Wolf, the facility uses an emission capture system that collects emissions from the HMA processes and feeds them to the baghouse. The solids collected from the baghouse are re-introduced to the process back to the rotating drum before the liquid asphalt cement enters the drum. According to Mr. Wolf, fuel oil and used oil are not currently used, but the plant is considering using used oil in the future. Additionally, Mr. Wolf stated recycled asphalt shingles (RAS) are not used at this plant, and the plant does not accept asbestos containing materials (ACMs). During the inspection, AQD observed the baghouse pressure drops at 2.4 and 2.5 inches of water column (" wc). The drum exhaust temperature was 235 degrees Fahrenheit. Additionally, AQD observed a tack storage tank on the northwest side of the plant.

PTI Records Review

EU002: This Emission Unit is for a HMA plant consisting of a 600 tons per hour aggregate conveyors and 600 tons per hour counterflow drum mixer with 140,000 actual cubic feet per minute baghouse used for control.

- **Emission Limits:** The emissions limits for the plant were 19.4 tons of PM per year, 32.5 tons PM10 per year, 87.9 tons CO per year, 86.5 tons SO₂ per year, and 52.5 tons NO_x per year. Based on the records reviewed, the PM and PM 10 emissions were reported as 0.65 tons per year, 19.7 tons CO per year, 0.18 tons SO₂ per year, and 9.1 tons NO_x per year. The emissions reported were cumulative from April through August 30, 2021. Additionally, the facility has emission limits based on emission factors determined by the amount of asphalt produced. Based on the records reviewed, the cumulative amount of asphalt produced was 282,795 tons per year from April through August 30, 2021. Since the highest amount of asphalt produced was less than 500,000 tons per year, the facility was within the permitted emission factors.
- **Material Limits:** The plant currently burns only natural gas. According to the PTI, the facility is approved to use fuel oil and recycled used oil (RUO), however, this facility does not burn any oil at this time. The facility is allowed to use a maximum of 50 percent RAP. According to the records and operational data during the inspection, the plant uses around 18 percent RAP in the HMA. The facility produces between 180 to 5,130 tons of HMA per day and has produced a total of 276,539 tons per year from April 1, 2021 through August 30, 2021, which is within permitted limits of the 894,500 tons of HMA paving materials per 12-month time period. During the inspection, the facility produces approximately 400 to 445 tons per hour based on 24-hr rolling time period, which is within the permitted limits of 600 tons of HMA produced per hour. Additionally, the facility does not use any asbestos tailings or waste materials containing asbestos, including recycled asphalt shingles. The facility is in compliance with the material limits of the PTI.
- **Process/Operational Parameters:** The plant performed tuning of the drum mix burners to control CO emissions and determine proper burner operation and performance at the beginning of the paving season and upon start-up of the plant. All necessary maintenance conducted at the facility is logged on daily log sheets once performed. No maintenance concerns were observed during the field inspection, and the maintenance records were properly maintained. The facility follows a Fugitive Dust Control Plan, and a Preventative Maintenance Program, and an Emission Abatement Plan for Startup, Shutdown and Malfunctions to maintain proper operation at the facility. Proper operation of the baghouse requires a pressure drop range between 2 and 10 inches. Based on the onsite inspection the baghouse pressure drop was recorded at 2.4 and 2.5 "wc.

- **Design/Equipment Parameters:** The plant uses scales to monitor the virgin aggregate feed rate and RAP feed rate, which are monitored and displayed on computers in the operations tower.
- **Testing Sampling Equipment:** Performance testing was in process during the inspection for PM. The plant has not used RUO since the start-up of the new plant, and therefore, additional testing for toxic air contaminants (TACs), CO, PM10, NOx, and SO2 have not been completed. Through discussions with Mr. Wolf, testing will be planned when they decide to begin using RUO at the plant. Additionally, there have been no odor complaints for the new plant, and therefore, odor emissions testing has not been requested for the facility.
- **Monitoring/Recordkeeping:** Based on the records reviewed, the facility monitors and records the virgin aggregate feed rate and the RAP feed rate on a continuous basis. The records indicated that CO emissions were evaluated on May 4, 2021 and August 5, 2021 which indicated CO emissions were between 233 and 271 ppmv which were below the permitted 500 ppmv. The facility records the type and amount of fuel used, currently it is only natural gas, and the amount of HMA containing RAP, the percentage of RAP, the virgin aggregate feed rate, and the asphalt paving material temperature. During the inspection, the facility was making 4 different mix designs. The facility calculates PM, PM10, NOx, SO2, and CO emissions compiled on a monthly basis, using the specified emission factors in the PTI. The emissions are already discussed above. Fugitive dust emissions are calculated using EPA emission factors and are included in the PM emissions already discussed above. Additionally, the facility logs daily activities of the baghouse. The dust from the baghouse is rerouted back into the drum to mix with the aggregate prior to introducing the asphalt cement mixture. During the inspection, I didn't observe any pipes or seals that needed to be replaced. And the facility completed blacklight inspections on the baghouse in April 2021, upon start-up of the plant.
- **Reporting:** The facility reports annual emissions to AQD. Based on the most recent Michigan Air Emissions Reporting System (MAERS), the facility was in compliance.
- **Stack/Vent Restrictions:** Based on visible observations during the field inspection, the stack appeared to be in compliance with permitted limits.
- **Other Requirements:** The facility shall comply with all applicable provisions of the NSPS, Standards of Performance for Hot Mix Asphalt Facilities, as specified in 40 CFR Part 60, Subpart A and Subpart I, as they apply to EU002. Based on records reviewed, it appears the facility is in compliance with 40 CFR Part 60, Subpart A and Subpart I.

EUYARD: This Emission Unit is for the fugitive dust sources associated with the HMA facility, consisting of all plant roadways, the plant yard, all material storage piles, and all material handling operations except cold feed aggregate bins.

- **Emission Limits:** There are no applicable emission limits for EUYARD.
- **Materials Limits:** There are no applicable material limits for EUYARD.
- **Process/Operational Parameters:** All necessary maintenance conducted at the facility is logged on daily log sheets once performed. Based on the records reviewed, fugitive dust is monitored and recorded on a daily basis when the plant is operating.
- **Design/Equipment Parameters:** There are no applicable design/equipment parameters for EUYARD.
- **Testing/Sampling:** There are no applicable testing/sampling requirements for EUYARD.
- **Monitoring/Recordkeeping:** Based on the records reviewed, the facility calculates the particulate fugitive dust emissions which are reported in the annual MAERS report.
- **Reporting:** As previously stated, the facility reports annual emissions to AQD. Based on the most recent MAERS, the facility was in compliance.
- **Stack/Vent Restrictions:** There are no applicable stack/vent restrictions for EUYARD.
- **Other Requirements:** There are no applicable "Other Requirements" required for EUYARD.

EUACTANKS: This Emission Unit is for the three liquid asphalt cement storage tanks with two natural gas fueled tank heaters with a total heat capacity of 4 MMBtu/hr. These tanks include one with a 40,000 gallon capacity and two with a 1,500,000 gallon capacity, which are controlled by a vapor condensation and recovery system.

- **Emission Limits:** There are no applicable emission limits for EUACTANKS.

- **Material Limits:** There are no applicable material limits for EUACTANKS.
- **Process/Operational Parameters:** According to Mr. Wolf, a vapor condensation and recovery system is installed, operated, and maintained on the liquid asphalt storage tank systems.
- **Design/Equipment Parameters:** There are no applicable design/equipment parameters for EUACTANKS.
- **Testing/Sampling:** There are no applicable testing/sampling requirements for EUACTANKS.
- **Monitoring/Recordkeeping:** There are no applicable monitoring/recordkeeping requirements for EUACTANKS.
- **Reporting:** There are no applicable reporting requirements for EUACTANKS.
- **Stack/Vent Restrictions:** There are no applicable stack/vent restrictions for EUACTANKS.
- **Other Requirements:** The three horizontal AC tanks are still located at the site, but have been disconnected and are no longer used at the plant.

EUSILOS: This Emission Unit is for the nine HMA paving material product storage silos, which are controlled by an emission capture system for the top of each storage silo and load-out areas.

- **Emission Limits:** There are no applicable emission limits for EUSILOS.
- **Materials Limits:** There are no applicable material limits for EUSILOS.
- **Process/Operational Parameters:** According to Mr. Wolf, the emission capture system at the top of each storage silo and load-out area is installed, operated, and maintained properly. All the silo load-out activities are in a permanently enclosed area. The emissions are captured and routed back to the burn zone of the asphalt drum.
- **Design/Equipment Parameters:** There are no applicable design/equipment parameters for EUSILOS.
- **Testing/Sampling:** There are no applicable testing/sampling requirements for EUSILOS.
- **Monitoring/Recordkeeping:** There are no applicable monitoring/recordkeeping requirements for EUSILOS.
- **Reporting:** There are no applicable reporting requirements for EUSILOS.
- **Stack/Vent Restrictions:** There are no applicable stack/vent restrictions for EUSILOS.
- **Other Requirements:** There are no applicable "Other Requirements" required for EUSILOS.

FGFACILITY: This Flexible Group applies source-wide to all process equipment including equipment covered by other permits, grand-fathered equipment, and exempt equipment.

- **Emission Limits:** The emissions of HAPs are limited below 9.0 tons per year based on a 12-month rolling time period for individual HAPs, and 22.5 tons per 12-month rolling time period for all HAPs combined. Based on the records reviewed, the cumulative HAP emissions combined were 0.29 tons per year. Additionally, the CO and SO₂ emissions for the entire facility are each limited to 89.9 tons per year. Based on the records reviewed, the CO emissions were 20 tons per year and SO₂ emissions were reported at 0.18 tons per year. The CO, SO₂ and HAP emissions were cumulative from April through August 2021 and were within the permitted limits.
- **Material Limits:** There are no applicable material limits for FGFACILITY.
- **Process/Operational Parameters:** There are no applicable process/operational parameters for FGFACILITY.
- **Design/Equipment Parameters:** There are no applicable design/equipment parameters for FGFACILITY.
- **Testing/Sampling:** There are no applicable testing/sampling requirements for FGFACILITY.
- **Monitoring/Recordkeeping:** The facility calculates CO, SO₂, Individual HAPs, and Aggregate HAPs emissions which are compiled on a monthly basis. The emissions are calculated in an acceptable manner and discussed above.
- **Reporting:** There are no applicable reporting requirements for FGFACILITY.
- **Stack/Vent Restrictions:** There are no applicable stack/vent restrictions for FGFACILITY.

- **Other Requirements:** There are no applicable “Other Requirements” required for FGFACILITY.

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DATE _____

SUPERVISOR _____