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

N262630784

FACILITY: ACE ASPHALT & PAVING CO INC PLANT 4		SRN / ID: N2626
LOCATION: 1750 RANGE RD, PORT HURON		DISTRICT: Southeast Michigan
CITY: PORT HURON		COUNTY: SAINT CLAIR
CONTACT: Tom Green , Environmental Manager		ACTIVITY DATE: 08/14/2015
STAFF: Francis Lim	COMPLIANCE STATUS: Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT:		
RESOLVED COMPLAINTS:		

On August 14, 2015, AQD staff conducted an inspection at Ace Asphalt Plant 4 located at 1750 Range Road, Port Huron. The purpose of the inspection was to determine compliance with the Federal Clean Air Act; Article II, Part 55, Air Pollution Control of Natural Resources and Environmental Protection Act, 1994 Public Act 451; Michigan Department of Environmental Quality, Air Quality Division (MDEQ-AQD) Administrative Rules; and the conditions of Permit-To-Install (PTI) No. 153-86F. Plant operator for this plant is Jeff Nurenberg (810) 982-8290. This facility has an ROP opt-out limits.

The basic manufacturing process of hot mix asphalt consists of removing the moisture from the aggregates, heating the aggregates and coating the aggregates with hot asphalt cement. This asphalt plant is a 450 tons/hr (originally reported to be 500 tons per hour) counter flow rotary dryer/drum mixer plant. Average production is approximately 230 tons/hr. Counterflow means hot mix asphalt flows countercurrent to hot exhaust gases. Counter flow drum mixers have less VOC and HAPs emissions than parallel flow drum mixers. Mixing of liquid asphalt cement and aggregates occur behind the burner flame zone, and therefore the mixture is not in direct contact with the hot exhaust gases. Fuel tube extends about 20 ft into the mid section of the drum. Bush-type flame actually starts about 10 feet from the tip of the burner, further away from the mixing zone. Burner damper position is manually adjusted, and air damper position can either be manually or automatically adjusted based on burner position. Typically, combustion air position is set at 20%, burner position at 30%. NOTE: Damper position means % open

Average stack temperature is 265 °F; average asphalt cement temperature is 308 °F; average mix temperature is 315 °F. At temperatures above critical temperature, stripping of light hydrocarbons in the asphalt cement occurs. Ideally, operating below 300 °F will minimize release of hydrocarbons. However, end users of the hot mix asphalt want hot mix temperature above 300 °F.

There are four hot mix asphalt (HMA) storage silos with a capacity of 300 tons each. Unlike other newer asphalt plants, this facility is not equipped to capture emissions from the load out silos and send back the emissions to the burner. Recycled used oil (RUO) was the primary fuel for the drum burner. RUO deliveries to the plant stopped in 2010. Since natural gas is cheaper, it is now the only fuel for the drum burner. Natural gas is also used for other fuel burning equipment like liquid asphalt heaters.

Production this year started May 6, 2015. As of August, 13, 2015, year-to-date production is 65,596 tons. This is 26% lower than last year's year-to-date production. At the time of inspection, facility has produced only 160 tons of hot mix asphalt (HMA) for that day.

This location does more state jobs than commercial jobs.

At the end of each operating day, dried aggregates and RAP not processed and not mixed with liquid asphalt cement remaining in the drum mixer is removed and recycled. The dried aggregates/RAP is dumped through a chute and collected in a truck for recycling. During this dumping process, I saw a huge cloud of visible emissions from the dumping of dried aggregates/RAP. This will be followed up with Mr. Tom Green, Environmental Manager.

PTI No. 153-86F

A permit modification (PTI 153-86F) was issued on August 9, 2006 because the plant requested a change in the compliance monitoring for the recycled used oil. New limit for halogen content is 4,000 ppm. On a conversation

with Dave Riddle on 08-05-08, he said that the permit did not specify that the plant still needs to "rebut" the assumption that used oil containing more than 1,000 ppm is hazardous. However, it is implied with the citation of 40 CFR 279.11 (Standards for the Management of Used Oil) that a rebuttal is still necessary. Special Cond. 1.3 specifies that permittee shall not burn any hazardous waste (as defined in state or federal law). In addition to the new limit for halogen, the permit modification also contained less frequent recycled used oil sampling/lab analysis frequency. NOTE: This facility has not been using recycled used oil as fuel.

Special Conditions:
1.1 PM and CO pounds/ton emissions were verified through a stack test conducted September 6, 2002. NOx, VOC, lead, benzene, toluene, ethylbenzene, xylene, naphthalene, formaldehyde, acrolein, arsenic, nickel, manganese, sulfuric acid and hydrogen chloride emissions testing was not required by AQD. In 2002, when Angelos still owned the asphalt plants, they negotiated with AQD that testing for all their asphalt plants was not necessary since their plants were similar. This Port Huron asphalt plant was not required to do a complete emissions test. SO_2 pounds/ton emissions were verified through fuel oil sampling done on September 6, 2002. This facility has not been using recycled used oil.

12-month rolling emissions for criteria pollutants are attached to this report. Only SO_2 and CO emissions are required by permit. SO_2 emissions at the end of July 2015 are 20.0 tons/year and CO emissions are 15.3 tons/year. SO_2 emissions at the end of April 2014 are 21.8 tons/year and CO emissions are 16.6 tons/year. These are below the limits.

1.2 The plant now only burns natural gas as fuel in the drum mixer.

1.3 There are no recycled used oil delivery since 2010.

1.4 The plant does not use any asbestos containing material as raw material.

1.5 Average recycled asphalt pavement (RAP) content of hot mix asphalt is 25.4%, which is less than the limit of 50%. Staff reviewed daily production logs.

1.6 Liquid asphalt cement does not contain activated tire rubber.

1.7 Permittee does not process more than 600,000 tons of hot mix asphalt paving materials per 12-month rolling time period. In 2014, facility produced 165,736 tons of hot mix asphalt product. As of July 2015, 12-month rolling production is 152,178 tons.

1.8 Permittee does not process more than 500 tons of hot mix asphalt paving materials. Maximum design capacity of drum mixer is only 450 tons per hour.

1.9 Facility has not been using recycled used oil.

1.10 Based on plant records, facility only has watered the site on June 8, 2015 and June 30, 2015. This will be followed up with Mr. Tom Green, Environmental Manager.

1.11 On July 15, 2015 Heat Inc. conducted CO readings and tuned up the burners. Attached is a record of some of the CO readout. Tune up of the boiler by a contractor is done at least annually, and whenever any portable CO readings indicate a high CO reading (about 1000 ppm).

1.12 The plant has an acceptable plan to minimize emissions during startup, shutdown, and malfunctions.

1.13 Fabric filter dust collector is maintained properly. This is a one compartment baghouse with 32 rows. A blacklight inspection was conducted preseason. No bags were replaced at that time since the blacklight inspection showed there was no need to replace any bags. On July 25, 2015, five bags were replaced. Magnehelic pressure gage is monitored and pressure is maintained between 2 to 6 inches of water. NOTE: There is a photohelic which measure the negative pressure in the burner. Meter range is from 0 to 1 inches of water.

1.14 Verification and quantification of odor emission rates were conducted on September 11, 2002. Modified permit did not require new odor testing.

1.15 Verification and quantification of toxic air contaminants was not required in the permit modification.

1.16 Carbon monoxide emission rate was verified through a stack test on September 6, 2002. Sulfur dioxide emission rate was verified through a fuel oil sampling done on September 6, 2002. Modified permit did not require new testing.

1.17 Permittee monitors virgin aggregate feed rate and RAP feed rate. At the end of the day, amount is totaled and recorded in the daily log.

1.18 Permittee conducts portable CO readings as required by permit. CO emissions are verified with a hand held monitor, every month, more than what the permit requires. Jeff has conducted the following CO readings: 1) May 6, 2015: 179 ppm, 175 ppm, 180 ppm, 181 ppm, 178, ppm, 177 ppm, 181 ppm, 180 ppm with production rate of 240 tons per hour production and 1784 mix; 2) June 18, 2015: 210 ppm, 220 ppm, 215 ppm, 212 ppm, 209 ppm, 211 ppm, 216 ppm, 212 ppm with 230 tons per hour production and 16867mix; 3) June 30, 2015: 245 ppm, 230 ppm, 242 ppm, 249 ppm, 251 ppm, 255 ppm, 254 ppm, 235 ppm with 230 tons per hour production and 1694 mix. On July 15, 2015, Heat Inc. conducted CO readings and tuned up the burner.

Eight separate CO readings taken over a period of 30 minutes or longer, per data set. Readings are taken from a sampling port at the exhaust stack, at ground level.

1.19 Records of emissions are kept in the front office. Records of operating information are kept through the daily operating log.

1.20 Drum mixer and burner are maintained properly through regular CO readings and fine tuning. 5 dust collector bags were replaced on July 25, 2015. The dust collector bags are cleaned using a pulse jet. The pulse interval is adjusted based on magnehelic reading and type of mix and production rate. Pulses are done for each row of bags. Pulse pressure is about 90 psia.

1.21 Permittee keeps a record of tons of hot mix asphalt containing RAP produced. Facility has not been using recycled used oil.

1.22 Permittee records the virgin aggregate feed rate, RAP feed rate and asphalt paving material temperature in the daily log. The usage of the following components are also recorded in the daily log: liquid asphalt cement, RAP, asphalt sand, slag sand, 5/8 x 3/8 (course, bigger stone), 31A (course sand), dockscreen (fine sand), manufactured sand (washed sand), ¼ sand (washed fine sand), 3/8 x 1/8 (course sand), 1/8 x 0 slag, 5/8 clear (limestone), 31 ALS (limestone), 7/8 clear (limestone).

1.23 There has been no delivery of recycled used oil since 2010.

1.24 Facility keeps emissions records of criteria pollutants and toxic air contaminants and is available for staff review. Since there is no stack test data for the toxic air contaminants, the emission factor used is the emission limit specified in the Emission Limit table for PTI153-86F.

1.25 Facility keeps a record of CO mass emissions and records of portable CO readings, including related production data, dates and time CO emissions were monitored.

1.26 Facility keeps a record of average daily, monthly and yearly amount of hot mix asphalt paving materials produced. As of July 2015, 12-month rolling production is 152,178 tons. Limit is 600,000 tons per 12-month rolling time period.

1.27 Exhaust stack dimensions appear to be as stated in permit condition.

2.1 Based on plant records, facility only has watered the site on June 8, 2015 and June 30, 2015. Company owns a sweeper truck and water truck. These are used mainly at the job site. This will be followed up with Mr. Tom Green, Environmental Manager.

2.2 Annual fugitive dust emissions are calculated using emission factors. For 2014, permittee calculated 4366 pounds of PM-10 as fugitive emissions resulting from truck traffic.

3.1 The vapor condensation and recovery system is installed for the liquid asphalt cement tank.

4.1 Each individual HAPs is less than 8.9 tons per year, based on a rolling 12-month rolling period. At the end of July 2015, aggregate HAPs are 1.8 tons/year, less than the limit of 22.4 tons/year, based on a rolling 12-month period. Emission limits in the Emission Limit Table are used as emission factors for HAPs. Please see attached records.

4.2 Emission limits in the Emission Limit Table are used as emission factors for calculating HAPs. Emissions records are calculated in their spreadsheet timely and are available for staff review.

NAME [illegible] DATE 8-25-15 SUPERVISOR CJE