

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

N629760708

FACILITY: PAYNE & DOLAN INC C25		SRN / ID: N6297
LOCATION: C25 PORTABLE ASPHALT PLANT #218-97C, GLADSTONE		DISTRICT: Marquette
CITY: GLADSTONE		COUNTY: DELTA
CONTACT: JAMES MERTES , ENVIRONMENTAL MANAGER		ACTIVITY DATE: 10/07/2021
STAFF: Michael Conklin	COMPLIANCE STATUS: Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT: Targeted inspection for FY 22.		
RESOLVED COMPLAINTS:		

Facility: Payne & Dolan Inc. C25 (SRN: N6297)

Location: PO Box 781, N3W23650 Badinger Rd, Waukesha, WI 53187

Contact: Zach Leitner, Environmental Coordinator, 262-468-1573

Regulatory Authority

Under the Authority of Section 5526 of Part 55 of NREPA, the Department of Environment, Great Lakes, and Energy may upon the presentation of their card, and stating the authority and purpose of the investigation, enter and inspect any property at reasonable times for the purpose of investigating either an actual or suspected source of air pollution or ascertaining compliance or noncompliance with NREPA, Rules promulgated thereunder, and the federal Clean Air Act.

Facility Description

Payne & Dolan, Inc. (P&D) is an asphalt material producer and pavement contractor based out of Waukesha, WI. P&D is one of several companies that make up the Walbec Group, which is a collection of companies that provides construction and engineering services. The company owns and operates several portable and stationary asphalt plants in Wisconsin and Michigan. P&D C25 is a portable HMA plant with a production capacity of 275 ton/hr operating under Permit to Install (PTI) No. 218-97C. The HMA plant consists of aggregate and reclaimed asphalt pavement (RAP) storage piles, cold feed bins, conveyors, screens, drum dryer, fabric filter, asphalt cement storage tanks, silos, loaders, and haul trucks.

Process Description

HMA is produced by the drying and mixing of aggregate, RAP, and liquid asphalt cement. HMA plants can be categorized as either batch or continuous mix. Continuous mix plants are further subdivided based on the type of dryer, which can be either a parallel-flow drum or counter-flow drum.

The HMA process begins with the transfer of aggregate, consisting of sand and crushed rock, from storage piles into cold aggregate feed bins. From the bins, material is dispensed onto conveyors that transport the material into screens and then into the drum dryer. The quantities of the type and size of aggregate are determined from the control room. The virgin aggregate is heated by a recycled used oil (RUO)-fired burner to remove moisture. Once the virgin aggregate reaches a certain length of the dryer, RAP is dispensed from a separate bin and added to the dryer. The RAP and aggregate continue to be heated and are then mixed with asphalt cement prior to exiting the dryer. After exiting the dryer, HMA is conveyed to storage silos where it is loaded into trucks to be hauled off-site.

Emissions

The primary source of emissions from all three types of plants is the dryer. Air contaminants emitted include PM from aggregate drying and gaseous pollutants from the combustion process of the dryer. The gaseous pollutants consist of sulfur dioxide (SO₂), nitrogen oxides (NO_x), carbon monoxide (CO), and volatile organic compounds (VOC). The quantities of gaseous pollutants emitted varies based on the type of fuel being burned and operating parameters. A fabric filter collector is primarily used as PM control for the dryer. Other sources of emissions at HMA plants include fugitive emissions of PM and VOCs from storage silos, truck load-out operations, liquid asphalt cement storage tanks, aggregate storage and handling, and vehicle traffic. Dust suppressants, such as water or calcium chloride, can be used to control fugitive PM emissions.

Emissions Reporting

P&D C25 is a synthetic minor source and is subject to the New Source Performance Standards (NSPS), Subpart I – Standards of Performance for Hot Mix Asphalt Facilities. This facility is required to report its annual emissions to the Michigan Air Emissions Reporting System (MAERS). For 2020, the plant reported no operation in Michigan.

Compliance History

The source was last inspected in 2019 and found to be in compliance with PTI No. 218-97C.

Regulatory Analysis

P&D C25 is subject to PTI No. 218-97C, issued on September 25, 2009, for a portable HMA plant. The facility is considered a synthetic minor for HAPs and criteria pollutants because the source took emission limits to restrict its potential-to-emit (PTE) to below major source thresholds of 10 tpy for individual HAPs and 25 tpy for combined HAP emissions. The facility also took limits to restrict its PTE to 89.9 tpy for each criteria pollutant to stay below major source thresholds of 100 tpy. The source is subject to NSPS Subpart I, because the source is defined as a hot mix asphalt facility that commenced construction after June 11, 1973.

Inspection

P&D C25 is a targeted inspection source for fiscal year 2022. The purpose of the inspection is to determine compliance with PTI No. 218-97C. Mr. Leitner provided notice, on 09/15/2021, of P&D C25 scheduled to operate at the Sturris Agg Site from 09/30/2021 to 10/15/2021. The Sturris Agg site is located near 17725 Co Rd 551, Wilson, MI 49896.

An on-site inspection was performed on 10/07/2021 at the Sturris Agg site. Weather conditions at the time were mostly cloudy with calm wind and temperatures of 60 degrees Fahrenheit. Upon arrival, observations of the plant and yard were taken to inspect for fugitive emissions and opacity limits. No visible emissions were detected, and the plant roadways were well saturated. The entrance into the pit was paved and swept. The plant was not operating upon arrival. I met with the plant operator and stated the purpose of the inspection.

While the plant was not operating, a walk-around inspection of all the plant equipment was performed to check for necessary installations and condition of air pollution control equipment. The baghouse was installed and connected to the drum dryer. The baghouse appeared to be in good condition with no holes or gaps in the structure. The main exhaust duct from the dryer to the baghouse also appeared to be in good condition with no gaps in the structure. The stack to the baghouse was checked with a Rangefinder to verify the minimum stack height requirement of 26 ft. The stack height measured during the inspection was 32 ft. No excess material was observed around transfer points of the collected material from the baghouse. The collection system appeared to be well sealed. Areas around the feed bins were inspected for excess spillage of aggregate material. No excess spillage was detected and drop distances from the loader appeared to be kept to a minimum and in control. After performing a visual walk-around of the plant, it was started back up for production.

While the plant was producing HMA, visible emission checks were performed. The fabric filter collector was connected to the drum mixer/dryer and exhausting out the stack. No visible emissions were observed, only steam from aggregate drying. Fugitive dust from loader operations were below 5 percent opacity and drop distances were kept to a minimum into the feed bins. There were no visible fugitive emissions from process equipment as all doors and seals appeared to be maintained and operating properly. Operations data was gathered from the plant operator while on-site. The plant was producing on average 235 ton/hr, the percent RAP in the mix was 25%, and the baghouse pressure drop was reading 4.2 in WC.

Pollutant Emission Restrictions

Plant C25 contains emission limits for PM, SO₂, NO_x, CO, VOC, and lead as lb/ton of asphalt produced, lb/hr, and tpy limits. The facility also contains hazardous air pollutant (HAPs) emission

limits as micrograms per cubic meter of exhaust gas, along with HCl emission limits in pounds per hour and tons per year.

Production/Process Restrictions

The facility is restricted to not process more than 500,000 tons of asphalt per 12-month rolling time period. Records were provided for 2021 total amounts of asphalt processed at the plant. Plant C25 has not operated in Michigan since 2016. For 2016, the total throughput was 34,221 tons and for the period January 2021 through October 2021, the total was 14,368 tons. The facility is also restricted to not process more than 275 tons per hour based on a 24-hr rolling average time period and the maximum RAP content cannot exceed 30% of the asphalt mixture. No asbestos containing waste materials are used at the plant.

The plant is required to maintain the efficiency of the drum burner to control CO emissions by performing burner tune ups at the start of the paving season and every 500 hours of operation. Records were provided of a burner tune-up conducted on 10/6/2021. The analyzer calibration date for this report was 4/2/2021. The burner tune-up is considered a season initial with the plant operating in Michigan for the first time since 2016. The table below outlines the burner tune up report reviewed.

	2021	
	Before	After
O2%	13.7	13.6
CO ppm	447	442
CO2%	4.9	4.7
Excess Air %	142	136
Production Rate (TPH)	254	254
Burner Firing Rate (%)	50	50

Agg Moisture (%)	4.3	4.3
Mix Temp (deg F)	312	312
Ambient Temp (deg F)	67	67
Stack Temp (deg F)	278	278
Baghouse d.p (in WC)	4.1	4.1
Percent RAP in mix	25	25

The report describes the fuel pressure was adjusted to 85 psi. Eight points of data were collected over a half hour period during the 2021 burner tune up. The final CO concentration after adjustments were made was 442 ppm. Having a CO concentration below 500 ppm indicates proper burner performance.

Special Condition 12 of PTI No. 218-97C requires the production data associated with the burner tune ups to be collected so the pounds of CO emitted per ton of HMA produced can be determined. In a discussion with the company on 10/28/2021, Payne & Dolan stated they would be submitting a PTI application to amend the HAP testing condition and the CO monitoring condition for calculating the CO emission factor.

Baghouse maintenance records were provided that note each of the bags in the bays of the baghouse were replaced in winter/spring of 2021. During the fall inspection in Michigan, no replacements or maintenance was necessary. A record was provided that the bags were checked on 10/06/2021.

Operating Restrictions

P&D C25 is portable asphalt plant and has not remained in a geographical location longer than 12 consecutive months during 2019 and 2020. Payne & Dolan provides relocation notices 21 days prior to the scheduled relocation.

Particulate Control and Stack Parameters

P&D C25 is equipped with a pulse jet baghouse for particulate control from the dryer. The pressure drop is continuously monitored and recorded from the control room. Environmental

tracking records were provided for the dates 10/03/2021 through 10/09/2021 as examples of data being monitored and recorded. The records show the baghouse differential pressure is recorded every 8 hours, the baghouse was in operation during HMA production, and the differential pressure stayed within range. From records reviewed and from observation during the inspection, the differential pressure of the baghouse stays consistent at 4.2 inches WC during operation. During the inspection, the stack height was measured at 32 feet. This height is in compliance with the minimum stack height of 26 ft.

Recycled Used Oil Restrictions & Specifications

Plant C25 uses recycled used oil (RUO) as fuel in the drum dryer. The RUO specification is not allowed to exceed the maximum concentration of the contaminants listed in Special Condition 20. Plant C25 keeps records of delivery receipts and fuel oil analysis certifications. An example record was provided that notes a used oil tank was delivered to the plant on 10/5/2021. The delivery receipt states the tank number (#16) and the amount delivered. A fuel oil analysis certification of the tank was supplied with the delivery. The samples of the tank were taken on 04/14/2021 and analyzed by Summit Environmental Technologies. The results of the analysis show the RUO to be within specification of the parameters outlined in Special Condition 20.

Recordkeeping and Reporting

Plant C25 utilizes a control system to continuously monitor the virgin aggregate feed rate, the RAP feed rate, information to identify all components of the asphalt paving material mixture. The plant maintains a daily environmental tracking form that records the baghouse differential pressure, drum differential pressure, RAP content, virgin aggregate content, HMA produced, and hours of production for a given date. The pressure drop recordings are performed every 8 hours. The environmental tracking forms also provide the daily fuel data that note the amount of fuel used, specific gravity of the fuel, BTU content, if specification sheet was provided with delivery, if the specifications are okay, and percent sulfur by weight. Example records of these environmental tracking forms were provided for the dates 10/04/2021 through 10/09/2021. The records reviewed show the % RAP in the mix to be 25%, the sulfur content of the fuel oil was less than 0.5%, and the differential pressure of the baghouse indicates proper operation. The daily environmental tracking form contains a checklist of items to inspect and maintain such as fuel pump, door and drum seals, gauge and line checks, baghouse checks, ductwork integrity, and damper operations.

Testing and Notification

Odor testing has not been requested for P&D C25. There have been no complaints received on the plant.

Special Condition 29 requires testing for the HAPs listed in the table of the condition for continued operation. According to the company, the plant has not verified HAP emission rates to-date. This issue was also discussed on 10/28/2021. The company agreed to test for HAPs from either C28 or C25. The following testing condition will be added to C28 and a similar condition will be added C25 (when an application is submitted). The intent of adding the condition is to require one of the plants to test for HAPs and once a plant completes the test, the company can submit a PTI application to remove the required testing from the plant that wasn't tested. Based on the discussion with the company and permits, only one plant is required to be tested for HAPs but it will be added to both locations.

“Within 60 days after commencement of initial startup in Michigan but before relocating EU001 to any new geographical site or removal of EU001 from Michigan, whichever occurs first, the permittee shall verify and quantify emission rates of the toxic air contaminants (TACs) listed below from EU001, by testing at owner's expense, in accordance with Department requirements, in order to continue operation. No less than 60 days prior to testing, the permittee shall submit to the AQD Technical Programs Unit and District Office, a complete test plan which shall include an averaging time for each TAC and a provision for monitoring CO emissions. The AQD must approve the final plan prior to testing. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. TACs: acrolein, arsenic, benzene, ethylbenzene, formaldehyde, lead, manganese, naphthalene, nickel, toluene, and xylene. (R 336.1225, R 336.2001, R 336.2003, R 336.2004)”.

The company is going to submit PTI application for several of their portable plants to remove the required TACs test and a “upon the request of the District Supervisor” testing condition will be added as well as updating the CO condition to the updated template language.

EUYARD

The environmental tracking form notes if fugitive dust was checked for and if roads were swept or watered. The environmental tracking form reviewed states areas were checked for fugitive dust and watered during days of operation.

Compliance

Based on this inspection and records reviewed, Payne & Dolan C25 is in compliance with all conditions of PTI No. 218-97C, except for SC 29. The source is currently in the process of coming back into compliance with all applicable requirements.

NAME

Michael Kubi

DATE

11-18-21

SUPERVISOR

EDL