

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

N265759519

FACILITY: NORTHEAST ASPHALT C28		SRN / ID: N2657
LOCATION: C28 PORTABLE ASPHALT PLANT #894-90K, GLADSTONE		DISTRICT: Marquette
CITY: GLADSTONE		COUNTY: DELTA
CONTACT: JAMES MERTES, ENVIRONMENTAL MANAGER		ACTIVITY DATE: 08/16/2021
STAFF: Michael Conklin	COMPLIANCE STATUS: Non Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT: Targeted inspection for FY 21.		
RESOLVED COMPLAINTS:		

Facility: Payne & Dolan Inc. C28 (N2657)

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 producer and pavement contractor based out of Waukesha, WI. P&D is one of several companies that make up the Walbec Group, a collection of companies that provides construction and engineering services. The company owns and operates several portable and stationary asphalt plants, along with non-metallic crushing plants in Wisconsin and Michigan. P&D C28 is a portable hot mix asphalt (HMA) plant that operates under Permit to Install (PTI) No. 894-90M. 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 natural gas-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 (SO<sub>2</sub>), nitrogen oxides (NO<sub>x</sub>), 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 C28 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 producing 42,086 tons of asphalt in Michigan. The table below summarizes the facility's 2020 MAERS submittal.

Pollutant	Pounds per Year (PPY)
CO	5471.18
NO <sub>x</sub>	2314.73
PM <sub>10</sub>	1285.66
PM <sub>2.5</sub>	126.26

SO2	462.95
VOC	1346.75

### Compliance History

The facility has not received any violation notices in the past five years. The facility was last inspected in 2018 and was found to be in compliance with all applicable air pollution control rules and federal regulations at that time.

### Regulatory Analysis

P&D C28 is subject to PTI No. 894-90M for a portable HMA plant. The facility is considered a synthetic minor source for hazardous air pollutants (HAPs), along with NOx and CO. The source took emission limits to restrict its potential-to-emit (PTE) to below major source thresholds of 8.9 tpy for individual HAPS and 22.49 tpy for combined HAPs. The source also contains a 89.9 tons per 12-month rolling time period limit for each criteria pollutant. The source is subject to 40 CFR Part 60 Subpart I, NSPS for Hot Mix Asphalt Facilities, because the source is defined as a hot mix asphalt facility that commenced construction after June 11, 1973.

### Inspection

P&D C28 is a targeted inspection source for fiscal year 2021. An email was sent to Mr. Leitner on 8/2/2021, to schedule an inspection on C28 and request records that are required to be maintained in PTI No. 894-90M. The purpose of the inspection is to determine compliance with PTI No. 894-90M. Mr. Leitner responded on 8/2/2021, stating the plant is currently not operating in Michigan and there are no plans for it to operate the rest of the year in Michigan. Records were provided by Mr. Leitner, via email, on 8/16/2021.

### FGPLANT

A review of the 2019 and 2020 MAERS reports show the plant is staying under the 89.9 tons per 12-month rolling emission rate for all criteria pollutants. The facility also contains HAPs and HCl limits. For 2019, the facility produced a total of 42,290 tons of HMA and 41,165 tons in 2020.

Source-wide HAP emission calculation records were provided for 2019 and 2020. The source-wide HAP emission rates stay below 300 lbs/year. The facility is using AP-42, Section 11.1 emission factors to calculate HAP emission rates from the plant, silo filling, and load out.

### EU001

***Pollutant Emission Restrictions***

Plant C28 contains emission limits for PM, SO<sub>2</sub>, NO<sub>x</sub>, CO, VOC, and lead as lb/ton of asphalt produced, lb/hr, and tpy limits.

***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 2019 and 2020 total amounts of asphalt processed at the plant. For 2019, the total was 42,291.75 tons and for 2020, the total was 41,167.20 tons. The facility is also restricted to not processing more than 350 tons per hour based on a 24-hr rolling 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 mix 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 burner tune up reports for the dates 09/19/2019 and 6/25/2020. Both of these tune ups were considered initial season checks. The analyzer calibration dates for each of these reports were 05/1/2019 and 4/20/2020. The HMA production YTD for the 2019 check was 846 tons and 766 tons for the 2020 check. The table below outlines the burner tune up reports reviewed.

	2019		2020	
	Before	After	Before	After
O <sub>2</sub> %	10.6	11	12.7	12.7
CO ppm	2271	372	208	208
CO <sub>2</sub> %	7.74	6.8	6.4	6.4
Excess Air %	101	118	140	144
Production Rate (TPH)	200	200	200	200
	44	44	40	40

Burner Firing Rate (%)				
Agg Moisture (%)	4.2	4.2	4.4	4.4
Mix Temp (deg F)	311	311	305	305
Ambient Temp (deg F)	68	68	72	72
Stack Temp (deg F)	264	264	284	284
Baghouse d.p (in WC)	2.1	2.1	3	3
Percent RAP in mix	20	20	24	24

The 2019 report shows a high initial CO concentration of 2271 ppm. The report describes the fuel pressure was lowered and the air to fuel mixture was increased to bring down the CO concentration. Eight points of data were collected over a half hour period during the 2019 burner tune up. The final CO concentration after adjustments were made was 372 ppm. Having a CO concentration below 500 ppm indicates proper burner performance. The 2020 report notes no adjustments were needed due to the initial and final CO concentration being 208 ppm.

Special Condition 12 of PTI No. 894-90M 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. From the records reviewed, the source collects the production data during the tests but does not calculate the lb/ton CO emission rates. The gas flow rate (dscfm) during the test is needed and does not appear to be a parameter collected. The source will need to start collecting this parameter during the tests so the lb/ton CO emission rate can be calculated and compared to the emission limit. A follow up discussion was had with Jim Mertes and Zach Leitner regarding this issue on 08/27/2021. Mr. Mertes stated its difficult for the plant to measure the gas flow rate every time a burner tune up is performed. P&D can either measure the gas flow rate during the tune ups or submit a PTI application to amend the current permit language and have it updated with "CO emissions should be less than 500 ppmv to ensure EU001 is operating properly". This language is used in current asphalt plant PTIs. Mr. Mertes stated they would like to amend the permit.

According to Mr. Leitner, no major maintenance was performed on the plant during 2019 or 2020. Baghouse check reports were provided that note if a blacklight inspection was performed and if any other repair items were needed. The report, dated 05/24/2019, notes a blacklight inspection was performed and 30 bags had to be changed. Another report was provided, dated 07/19/2019, that notes a blacklight inspection was performed and one bag was changed. The same type of reports were also provided for the 2020 season.

#### *Operating Restrictions*

P&D C28 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 C28 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 6/1/2019 and 7/25/2020 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.

#### *Recycled Used Oil Restrictions & Specifications*

Plant C28 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 C28 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 06/16/2020. The delivery receipt states the tank number (#15) 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 04/27/2020 and analyzed by Summit Environmental Technologies. The results of the analysis show the used oil is within spec. A sample of the oil upon delivery was also taken on 6/16/2020 and analyzed on 08/12/2020 and 08/13/2020. The analysis includes the RUO's content of arsenic, cadmium, chromium, lead, PCBs, (all in units of parts per million by weight), sulfur (percent by weight), and higher heating value (Btu/pound). The analysis also provides the detection limit for each component analyzed. The results of the analysis show the RUO to be within specification of the parameters outlined in Special Condition 20.

A 2019 example record was also provided. The record states a used oil tank was delivered to the plant on 05/31/2019. 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 04/26/2019 and analyzed by Summit Environmental technologies. The results of the analysis show the used oil is within specification. A sample of the oil upon delivery was also taken on 5/31/2019 and analyzed on 06/12/2019 and 06/13/2019. The analysis includes the RUO's content of arsenic, cadmium, chromium, lead, PCBs, (all in units of parts per million by weight), sulfur (percent by weight), total halogen, and higher heating value (Btu/pound). The analysis also provides the detection limit for each component analyzed. The results of the analysis show the RUO to be within specification of the parameters outlined in Special Condition 20.

### *Recordkeeping and Reporting*

Plant C28 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 06/1/2019 and 07/25/2020. The records reviewed show the % RAP in the mix to be less than 30%, the sulfur content of the fuel oil was less than 0.5%, and the differential pressure of the baghouse indicates proper operation.

The facility is required to calculate CO, SO<sub>2</sub>, NO<sub>x</sub>, VOC, PM, and lead emission rates for each calendar year of operation. Records were provided showing the annual NO<sub>x</sub>, SO<sub>2</sub>, VOC, CO, and PM emission rates. For both 2019 and 2020, the emission rates were well below the 89 ton per year limit.

### *Testing and Notification*

Odor testing has not been requested for P&D C28. 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. The condition was set forth in PTI No. 894-90K, and according to the company, the plant has not verified HAP emission rates to-date. This issue was also discussed on 08/27/2021. Mr. Mertes believes this is an old permit condition that is no longer used in the asphalt industry and stated the company is going to submit a PTI application to request this condition be removed.

**EUYARD**

The environmental tracking forms note if fugitive dust was checked for and if roads were swept or watered. The two environmental tracking forms reviewed state areas were checked for fugitive dust and watered during days of operation.

**Compliance**

Based on the records reviewed and discussions with Payne & Dolan, plant C28 is in non-compliance with SC 12.ii and SC 29. The source will either need to test for HAP emission rates and be able to calculate lb/ton CO emission factors during burner tune ups, or request a permit modification to amend these conditions in the permit. The source appears to be in compliance with all other conditions of PTI No. 894-90M.

NAME Michael Okelin

DATE 8/31/2021

SUPERVISOR Ed Lancaster