

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

B577760154

FACILITY: HarbisonWalker International, Inc.		SRN / ID: B5777
LOCATION: 1301 E 8TH ST, WHITE CLOUD		DISTRICT: Grand Rapids
CITY: WHITE CLOUD		COUNTY: NEWAYGO
CONTACT: Jerry Buffenbarger , Human Resource Representative/Safety Coordinator		ACTIVITY DATE: 09/02/2021
STAFF: Michael Cox	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MINOR
SUBJECT: Scheduled Unannounced Inspection		
RESOLVED COMPLAINTS:		

Air Quality Division AQD) staff Michael Cox (MTC) arrived at the HarbisonWalker International (HWI) facility located in White Cloud, MI at 9:00 am on September 2, 2021, to complete a scheduled unannounced inspection and observe Method 204 Testing. No visible emissions or odors were noted upon arrival. The site in the past has been identified as North American Refractories Company (which is listed on one active permit) but has since then changed its name.

Facility Description

Upon arrival, AQD staff MTC met with Mr. George Monasky and Mr. Jerry Buffenbarger, Plant Engineer, who provided a walkthrough of the facility and answered site specific questions. Records following the inspection were provided by Mr. Buffenbarger. Prior to entering the facility, a safety discussion was completed.

HarbisonWalker International is a refractories products and services manufacturing facility, the facility specifically produces bricks. During operations magnesite is brought on site where it undergoes various operations including grinding and mixing with other materials before it is pressed into bricks. Following this, the bricks are heat treated before being shipped off to customers.

The site is in operation with permit to install (PTI) No. 184-07A, which is for a silo and associated equipment for bulk magnesite storage, and various other equipment including conveyors, hoppers, and diverters, all of which is controlled by two dust collectors. Permit to Install PTI No. 24-10A was issued for the storage bins associated with storage of powdered pitch containing benzo(a)pyrene, three brick component mechanical mixers, and three natural gas fired ovens used to cure refractory bricks with emissions controlled by a catalytic oxidizer.

Compliance Evaluation:

PTI No. 184-07A

EU-G43B

This emission unit is for the silo and associated equipment for bulk magnesite storage. Particulate emissions are controlled by a dust collector (ID G43B).

At the time of the inspection, dust collector G43B was not in operation. During the inspection, HWI staff and AQD staff MTC discussed, the frequency of bag changes for the dust collector G43B and general operation of the process. Mr. Buffenbarger stated that dust collector G43B is interlocked with emission unit EU-G43B, which means that if the baghouse is shut down, then the process is shut down. Bag

changes for dust collector G43B were stated as being changed about once every two weeks.

EU-G43B is subject to a particulate matter (PM) limit of 0.018 lb / 1,000 lbs of exhaust gases, calculated on a dry gas basis and a PM10 limit of 0.28 pounds per hour (pph). Both are based on testing of the dust collector, which has not been required at this time. Visible emissions from EU-G43B are subject to a 5% opacity limit over a six-minute average time frame. EU-G43B was not in operation during the inspection.

To verify compliance for EU-G43B, HWI keeps track of pressure drop readings by recording values in 15-minute intervals and takes daily emission observations of the stack. Pressure Drop records were requested and reviewed from January 2020 through August 2021. Maintenance records were also requested for dust collector G43B for the time period of January 2020 through August 2021. Finally, daily visible emission observation records were requested and reviewed for the time period of January 2020 through August 2021. Based on the records reviewed it appears that HarbisonWalker International is operating dust collector G43B in a manner consistent with good air pollution control practices and no visible emissions were noted to be recorded in the logs.

One stack is listed in association with EU-G43B and was observed during the site inspection. The stack was observed venting vertically and appeared to be consistent with Permit to Install PTI No. 184-07A.

EU-G40

This emission unit is for various equipment on site including but not limited to various feeders, hoppers, belts, and conveyors.

EU-G40 is subject to a PM limit of 0.03 lb / 1,000 lbs of exhaust gases, calculated on a dry gas basis and a PM10 limit of 3.2 pph. Both limits are based on testing of the dust collector, which has not been required at this time. Visible emissions from EU-G40 are subject to a 5% opacity limit over a six-minute average time frame. Dust collector G40 was in operation during the inspection. No emissions were observed coming from the stack associated with this emission unit and the magnehelic gauge at the time had a reading of 6.5 inches of water.

To verify compliance for EU-G40, HarbisonWalker International keeps track of pressure drop readings by recording values in 15-minute intervals and takes daily emission observations of the stack. Pressure Drop records were requested and reviewed from January 2020 through August 2021. Maintenance records were also requested for dust collector G40 for the time period of January 2020 through August 2021. Finally, daily visible emission observation records were requested and reviewed for the time period of January 2020 through August 2021. Based on the records reviewed it appears that HarbisonWalker International is operating dust collector G40 in a manner consistent with good air pollution control practices and no visible emissions were noted to be recorded in the logs.

One stack is listed in association with EU-G40 and was observed during the site inspection. The stack appeared to be consistent with Permit to Install PTI No. 184-07A.

PTI No. 24-10A

Per PTI No. 24-10A, a Malfunction Abatement Plan (MAP) must be submitted, implemented, and maintained in order to operate EUSTORAGEBINS, EUMIXERS, and EUOVENS. A revised MAP was submitted and received on November 16, 2018. Specific information for each associated emission unit in the MAP is discussed further in this report.

EUSTORAGEBINS

This emission unit is for the storage bins associated with the storage of powdered pitch containing benzo(a)pyrene.

Powdered pitch containing benzo(a)pyrene is received on site in pure form in bulk bags. Once received, the bags are loaded into an enclosed station and opened inside the enclosure. The enclosure and transfer equipment used to transfer the benzo(a)pyrene were observed during the site inspection. HarbisonWalker International staff stated that the benzo(a)pyrene is then transferred as needed to the mixers. Filters were observed for this area of the process in use and appeared to be acceptable. Additionally, HarbisonWalker International staff stated that no portion of this area is vented externally. According to the submitted MAP, daily and quarterly inspections of applicable items are completed. Daily inspection and maintenance records were requested and reviewed for the time period of January 2020 through August 2021. Based on the records reviewed, it appears that HarbisonWalker International is adequately following the MAP.

EUMIXERS

This emission unit is for the three-brick component mechanical mixers. Here components that are used to create bricks are sent to be mixed. PM emissions from EUMIXERS are controlled by dust collector M71.

Daily inspections are completed for EUMIXER. Records were requested and reviewed for the time period of January 2020 through August 2021. Based on the records reviewed, it appears that HarbisonWalker International is adequately following the MAP. At the time of the inspection the pressure drop for dust collector M71 was noted to be 3.25 inches of water. To verify compliance with dust collector M71 for EUMIXERS, HarbisonWalker International keeps track of pressure drop readings by recording values in 15-minute intervals and takes daily emission observations of the stack. Pressure Drop records were requested and reviewed from January 2020 through August 2021. Maintenance records were also requested for dust collector M71 for the time period of January 2020 through August 2021. Finally, daily visible emission observation records were requested and reviewed for the time period of January 2020 through August 2021. Based on the records reviewed it appears that HarbisonWalker International is operating dust collector G43B in a manner consistent with good air pollution control practices and no visible emissions were noted to be recorded in the logs.

One stack is listed in association with this emission unit and was observed during the inspection. The stack appeared to be consistent with Permit to Install PTI No. 24-10A. Additionally, no emissions were observed coming from this stack during observations on site.

EUBRICKOVENS

This emission unit is for three natural gas-fired ovens used to cure refractory bricks. The ovens are referred to as Oven No. 1, Oven No. 2, and the Dryer. The volatile organic compounds (VOCs), formaldehyde, and benzo(a)pyrene emissions from the three ovens are controlled by a single catalytic oxidizer.

This emission unit is subject to the following emission limits.

Pollutant	Limit	Time Period / Operating Scenario
VOCs	0.87pph	Test Protocol*
VOCs	1.0 tpy	12-month rolling time period as determined at the end of each calendar month.
Formaldehyde	0.030 pph	Test Protocol*
Benzo(a)pyrene	0.00011pph	Test Protocol*

*Test Protocol shall specify averaging time.

Testing of the catalytic oxidizer to determine the destruction efficiency and compliance with VOCs and benzo(a)pyrene emission limits was completed on June 1, 2017. Test results indicated a destruction efficiency of at least 90% with VOC and benzo(a)pyrene pph emissions, which within permitted limits. At the time formaldehyde was decided to not be included in testing.

This emission unit is subject to a VOC emission limit of 1.0 tpy per a 12-month rolling time period. Emission records were requested and reviewed from January 2020 through August 2021. The highest 12-consecutive month VOC emission occurred during the 12-month period ending in July 2021 when 0.026 ton of VOC was emitted.

This emission unit is subject to a material limit of curing no more than 80,000 tons of refractory bricks per a 12-month rolling time period. Production records were requested and reviewed for the time period of January 2020 through August 2021.

The highest 12-consecutive month refractory brick curing occurred during the 12-month period ending in July 2021 when 57,821 tons of refractory bricks were cured.

This emission unit is also subject to a material limit of curing no more than 6,063 tons of refractory bricks that use the benzo(a)pyrene containing pitch per a 12-month rolling time period. Production records were requested and reviewed from January 2020 through August 2021. The highest 12-consecutive month benzo(a)pyrene containing pitch refractory brick cured occurred during the 12-month period ending in July 2021, when 4,262 tons of benzo(a)pyrene containing pitch refractory brick was cured.

The most recent MAP on file was received from HarbisonWalker International on November 16, 2018. Per the MAP, daily inspection of various items such as incinerator temperatures and visual observations of the incinerator discharge stack are to be completed. Daily inspection reports were requested and reviewed for the time period of January 2020 through August 2021. Based on the records reviewed, it appears that HarbisonWalker International is following the MAP.

The two ovens, a dryer, and catalytic oxidizer were observed in operation during the inspection. HarbisonWalker International staff stated that only natural gas is used for EUBRICKOVENS. An LCD control panel was noted with readings of incinerator/oven temperatures was observed. At the time of the inspection the inlet temperature of the catalytic oxidizer was 748°F which is over the minimum permit limit of 700°F. The pressure drop across the catalyst was at 2.03" w.c. which is below the 6" w.c. limit indicating the unit was operating properly. HarbisonWalker International keeps track of inlet incinerator temperatures, outlet incinerator temperatures and pressure drop across the catalyst by recording readings every 15 minutes. Due to the large data set these records were requested and reviewed for select months. Instances of potential issues regarding temperatures were observed however it was noted to be for period of shut-down, maintenance, or power loss. A review of the pressure drop readings determined that no instances were recorded where the pressure drop exceeded the 6 inches of water. Records reviewed for the time period of January 2020 through August 2021 of visible emission observations determined that no visible emissions were noted by the facility. Overall, it was concluded that the catalytic oxidizer appears to be operating satisfactorily.

Based on the records received and reviewed by HarbisonWalker International, it appears the facility is keeping track of the records as required.

The one stack associated with EUBRICKOVENS was observed during the site inspection. The stack appeared to be consistent with Permit to Install PTI No. 24-10A.

Additional Observations

- The metal fabrication area was observed during the site inspection. Equipment here appeared to be exempt per Rule 285(2)(l)(vi)(B). Additionally, welding was observed that appears to be exempt per Rule 285(2)(i).
- Two parts washers were observed in the maintenance area. The air/vapor interface for both washers was less than 10 square feet. Additionally, one of the parts washers was heated and making sure it was properly closed while not in use was discussed with HWI staff. Both parts washers appear to be exempt per Rule 281(2)(h).

- Several dust collectors were observed for various operations onsite that are not permitted and HWI previously utilized the Rule 290(2)(a)(iii) exemption. Pressure drop readings taken at the time of the inspection for each dust collector as well as associated setpoints are listed below.

Dust Collector	Pressure Drop (mm Hg)	
G45	1.5"	
M50	Not in use	
D31	0.5	
L9	Not in use	
G28A	Not in use	HWI believes the processes and associated dust collectors are exempt per Rule 290(2)(a)(iii). The Rule 290(2)(a)(iii) exemption appears to be applicable.
G60	Not in use	
G61	Not in use	A 40,000 square foot warehouse added to the eastern portions of the facility. Housed in this area is additional storage of final products. One additional hydraulic press was added as well for brick production. A total of six hydraulic presses for brick production were observed during the inspection. Each press produces 80-100 metric tons of bricks per day.
G62	3"	
G66	3.5"	
M71	3.25"	
G41	0.5"	One boiler that is 985,000 btu/hr in size and was installed in 1998 was observed. The boiler appeared to only use natural gas and appears to be exempt per Rule 282(2)(b)(i). Based on the size of the boiler, it is not subject to federal new source performance standards.
D32	No longer in operation	
G43	Not in use	

- Dust from truck traffic was noted during the site visit. MTC questioned Mr. Buffenbarger about wet suppression. Mr. Buffenbarger stated that the facility has an outside contractor that applies brine periodically.
- A hopper from the load out tower was observed with a torn cover. MTC advised Mr. Buffenbarger to keep the hopper enclosed in the future. No fugitive dust was noted

coming from the hopper.

Conclusion

Based on the observations made during the site inspection and records reviewed, it appears that HarbisonWalker International is in compliance with Permit to Install PTI No. 184-07A, Permit to Install PTI No. 24-10A, and applicable air pollution control rules.

NAME Michael T. Cox

DATE 9/28/2021

SUPERVISOR HH