

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

A023371771

FACILITY: BAY CAST INC		SRN / ID: A0233
LOCATION: 400 WEBSTER, BAY CITY		DISTRICT: Bay City
CITY: BAY CITY		COUNTY: BAY
CONTACT: Max Holman , President -General Manager		ACTIVITY DATE: 05/01/2024
STAFF: Adam Shaffer	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MINOR
SUBJECT: Self-initiated inspection		
RESOLVED COMPLAINTS:		

A compliance evaluation consisting of an onsite inspection and records review was conducted by Air Quality Division (AQD) staff Adam Shaffer (AS) of the Bay Cast Inc. (Bay Cast) site specifically at the Webster Street location. Applicable records were requested on April 30, 2024, for Permit to Install (PTI) No's 1083-89A, 1084-89 and 1085-89. An in-person inspection to verify onsite compliance was later completed on May 1, 2024.

Facility Description

Bay Cast is a foundry with two locations in Bay City, MI. The Webster Street location is where pouring and casts are made while the Center Street location is primarily where finishing of casted products is completed. Only the Webster Street location was reviewed during this inspection and will be referred to site in the rest of this inspection report. The site is a true minor source of criteria pollutants. Additionally, the site is subject to the National Emission Standards for Hazardous Air Pollutants for Iron and Steel Foundries Area Sources (NESHAP Subpart ZZZZZ).

Offsite Compliance Review

Bay Cast is required to submit semi-annual compliance reports per the NESHAP Subpart ZZZZZ. Previous reports were reviewed for select time periods. Upon review of the reports received, the site is an existing source and identified as a small foundry (less than 20,000 tons of metal melt production per year). The site does not use scrap that contains motor vehicle scrap and does not operate under a site-specific plan for mercury switches. After further review, no issues were noted in the reports reviewed.

Compliance Evaluation

A request was sent to Mr. Max Holman, President – General Manager, of Bay Cast on April 30, 2024, for records pertaining to PTI No's. 1083-89A, 1084-89 and 1085-89. The onsite inspection was completed on May 1, 2024. AQD staff AS arrived in the area at 8:48am. Weather conditions at the time were cloudy skies with brief rain showers, temperatures in the mid 50's degrees Fahrenheit and winds to the north at 10-15mph. AQD staff had recently received several complaints regarding odors, and / or fallout. AQD staff AS proceeded around the area and identified several sites that could be the cause of the recent odor complaints. During the course of the offsite observations, no emissions / opacity was identified coming from the Bay Cast site. Directly to the north of the Bay Cast site, a chemical pool like odor was noted. However, the odor is not similar to the odor complaints previously received. Additional complaints will need to be received to gather additional information to attempt to identify the source of the issues at this time.

Upon arriving onsite AQD staff AS met with Mr. Holman, and other Bay Cast staff who provided a tour of the facility and answered sites specific questions. Requested records were provided following the site inspection.

As mentioned above, Bay Cast is a foundry. During the inspection, site operations and various components pertaining to the three active permits were reviewed and discussed at length with company staff.

PTI No. 1083-89A

This permit is for the seven (7) electric induction furnaces with a melt capacity for each unit ranging from 3,500 lbs to 5 tons. All seven furnaces are included in flexible group (FG) INDFURNACES.

FGINDFURNACES

It was noted prior to the onsite walk through that there are currently only six induction furnaces. The six induction furnaces were observed during the course of the site inspection, however, were not in operation at the time.

Per Special Condition (SC) 1.1, the permittee shall not melt more than 70 tons of very clean scrap in FGINDFURNACE per day. Very clean scrap is defined as steel or pig iron that is free of paint, coatings, oil, grease, lubricants, or foreign materials. Records were requested and provided for select time periods. Upon review of the records provided, the highest daily amount melted was approximately 80,186 lbs or about 40 tons of material which is well within the permitted limit. Based upon the records reviewed, Bay Cast appears to be meeting this limit for melting material.

Per SC 1.2, the permittee shall keep, in a satisfactory manner, monthly melt for FGINDFURNACES, as required by SC 1.1. The permittee shall keep all records on file at the facility for a period of at least five years and make them available to the Department upon request. Records were requested and provided for select time periods. Based on the records provided, Bay Cast appears to be keeping track of applicable records.

FGFACILITY

This flexible group is for all process equipment at the facility including equipment covered by other permits, grandfathered equipment, and exempt equipment.

Per SC 2.1, the permittee shall implement and maintain an approved plan to address the pollution prevention management practices for metallic scrap as specified in 40 CFR 63.10885. The plan shall include the following:

- By January 2, 2009, a metallic scrap management program. 40 CFR 63.10885(a)
- By January 4, 2010, mercury requirements. 40 CFR 63.10885(b)

It was verified by Bay Cast staff that the January 2009 Metallic Scrap Management Plan is the most recent plan. One minor change was noted and shall be addressed which is one of the current suppliers has been replaced. An updated Metallic Scrap Management Plan shall be resubmitted with the correct suppliers that provide certifications for scrap provided.

Per SC 2.2, the permittee shall keep compliance records to comply with the National Emission Standards for Hazardous Air Pollutants as specified in 40 CFR Part 63 Subpart

ZZZZZ. The permittee shall keep the records on file at the facility for a period of a least five years and make them available to the Department upon request. Per SC 2.3, the permittee shall submit applicable notifications specified in 40 CFR 63.9, in initial notification and a notification of compliance status as specified in 40 CFR 63.10890. Per SC 2.4, the permittee shall comply with all applicable provisions of the NESHAP Subpart ZZZZZ.

Certificates from all suppliers of material to Bay Cast verifying that material provided does not contain undesirable material such as oil filters, post-consumer automotive body scrap, plastic, and organic fluids were provided. Based on the records provided and compliance reports reviewed, it appears that Bay Cast is in compliance with applicable items of the NESHAP Subpart ZZZZZ.

PTI No. 1085-89

This permit is part of the applications previously received for seven induction furnaces, an 18-ton arc furnace with two baghouses, sand blending equipment and two liquid storage tanks.

Per SC 14 the particulate emissions from the sand blending and ribbon mixer operations (hereinafter "equipment") shall not exceed 0.10 pounds per 1,000 pounds of exhaust gases, calculated on a dry gas basis. The sand blending and ribbon mixer operations were observed during the course of the site inspection. Associated with the sand blending and ribbon mixer operations is one baghouse. The baghouse appears to be a shaker style baghouse that vents internally and was stated by company staff to be emptied twice a year. A magnehelic gauge was noted on the baghouse, however, values are not required to be recorded. At the time of the inspection, part of the operations were operating, however, the baghouse was not operating. Based on the onsite observations, the baghouse appeared to be being operated in a satisfactory manner.

Per SC 15 visible emissions from the equipment shall not exceed a 6-minute average of 20% opacity, except as specified in Rule 301(1)(a). As mentioned above, part of the process was operating, however, the baghouse was not in operation.

Per SC 16 verification of particulate emission rates from the equipment by testing at the owner's expense may be required. Based on the observations made at the time of the inspection, no testing will be required at this time.

Per SC 17, the applicant shall not operate the equipment unless the filter system is installed and operating properly. Bay Cast stated that the internal baghouse for the sand system had last been opened in the third quarter of 2023 to be inspected. The last bag replacement appears to have likely been in 2017. Based on the observations made at the time of the inspection, there appeared to be no issues, however, due to the difficulty in verifying satisfactory operation, outside onsite observations for the baghouse, the AQD will be requesting a Malfunction Abatement Plan per Rule 911 be created and implemented.

Per SC 18, the disposal of collected air contaminants shall be performed in a manner which minimizes the introduction of air contaminants to the outside air. Speaking with company staff, collected material from the baghouse appears to be disposed of to an appropriate landfill.

Per SC 19, the exhaust gases from the equipment shall be discharged unobstructed vertically upwards to the ambient air from stack(s) as indicated in the permit. As stated

above, the stack for the baghouse associated with the sand blending and ribbon mixer operations is vented internally. After further review, no action is necessary at this time.

Per SC 20, the applicant shall not substitute any raw materials for those described in this permit's application which would result in an appreciable change in the quality or any appreciable increase in the quantity of the emission of an air contaminant without prior notification to and approval by the AQD. It was verified by company staff that since the last inspection in 2016, there have been no changes to the type of binder or sand being used. Company staff mentioned that prior to this, Bay Cast had stopped using internal liquid storage tanks and used standard size totes. This appears acceptable at this time.

Per SC 21, there shall be no visible emissions from the linocure operation. Company staff stated they no longer use the linocure operations.

Per SC 22, records of the monthly alkyd oil, isocyanate catalyst mix and sand usage in the equipment shall be kept on file for a period of at least two years and made available to the AQD upon request. Based on the records reviewed, Bay Cast appears to be keeping track of applicable items.

PTI No. 1084-89

This permit is part of the applications previously received for seven induction furnaces, an 18-ton arc furnace with two baghouses, sand blending equipment and two liquid storage tanks.

Per SC 14 the particulate emission from the 18-ton Swindell Dressler arc furnace (hereinafter "equipment") shall not exceed 0.01 pounds per 1,000 pounds of exhaust gases, corrected to 50 % excess air. The arc furnace was observed during the course of the inspection, however, was not in operation. Bay Cast staff had mentioned pouring operations had occurred the night before and several containers noted were still cooling. The two associated baghouses for the arc furnace were observed, however, were not operating. The larger of the baghouses for what appear the majority of the arc furnace emissions has a total of four pressure drop magnehelic gauges and the baghouse on the top of the arc furnace has one pressure drop magnehelic gauge. Pressure drop readings are being kept for each magnehelic gauge for the larger baghouse. Pressure drop readings are only visually reviewed and not recorded for the smaller baghouse (they are not required to be recorded). Pressure drop readings were provided for the four magnehelic gauges for the larger baghouse for select time periods. The pressure drop range that Bay Cast likes to maintain during operation is -1.0" to -6.0" of water column. Initially, concerns were raised on a negative reading for pressure drop readings and satisfactory operation. After further review and speaking with company staff, this appears to be due to how the company is recording the values and possibly the configuration of the equipment. At this time this appears acceptable. Upon review of the records provided, there were consistently instances when the readings recorded were outside the provided satisfactory range of operation. This was brought to the attention of company staff with responses received on the reasoning. Based on the responses received, it was determined that beyond onsite observations, it was difficult in determining if the two baghouses are being operated in a satisfactory manner. The AQD will be requesting a Malfunction Abatement Plan per Rule 911 be created and implemented in order to help verify the baghouses are being operated satisfactorily.

Per SC 15, visible emissions from the equipment shall not exceed 0% opacity. As mentioned above, the two baghouses were not in operation at the time of the inspection. Additionally, there appeared to be no significant amount of dust accumulation around the area of the baghouses. This appears acceptable.

Per SC 16, verification of particulate emission rates from the equipment by testing at owner's expense may be required. Based on the observations made at the time of the inspection, no testing will be required at this time.

Per SC 17, the applicant shall not operate the equipment unless the baghouses are installed and operating properly. The last full bag replacement was in the third quarter of 2016 for the larger baghouse and the fourth quarter of 2016 for the smaller baghouse. The last internal inspection was in the third quarter of 2023 and again in April 2024. The onsite observations appear to indicate the baghouse is being operated properly, however, per Rule 911 a Malfunction Abatement Plan shall be requested created in order to help demonstrate compliance during other time periods.

Per SC 18, the applicant shall equip and maintain each baghouse with a magnehelic or equivalent. As mentioned above, magnehelic gauges were noted for both baghouses. This appears acceptable.

Per SC 19, the disposal of collected air contaminants shall be performed in a manner which minimizes the introduction of air contaminants to the outer air. As mentioned above, collected air contaminants are disposed of at a landfill.

Per SC 20, the exhaust gases from the equivalent shall be discharged unobstructed vertically upwards to the ambient air from two stacks with an exit point not less than 34 feet above ground level. The exhaust stacks for the two baghouses were observed during the course of the site inspection and appear acceptable.

Per SC 21, the applicant shall not substitute any raw materials, fluxes, or fuels for those described in this permit application which would result in an appreciable change in the quality or any appreciable increase in the quantity of the emission of an air contaminant without prior notification to and approval by the AQD. It was verified that products being melted and refractories used in the process have had no significant changes since 2016.

Additional Observations

A parts washer was observed during the course of the site inspection that uses mineral spirits. The air vapor interface appears to be less than ten square feet and the parts washer appears to be exempt per Rule 281(2)(h).

The loading area where sand is brought onsite via truck loads was observed during the course of the site inspection. Minor amounts of sand were noted in the immediate area of the loading site and were determined to not be an issue at this time.

During the course of the inspection, previous odor complaints received with the suspected facility being Bay Cast were discussed at length and what was operating at the time was verified. Additional information is listed below.

April 27th Odor Complaint – It was verified by Bay Cast staff that the company was open and were painting molds and the sand mixer was operating.

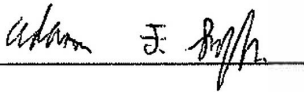
April 29th Odor / Fallout Complaint – It was verified by Bay Cast staff that the arc furnace wasn't on, and they had had one small induction heat run. Additionally, the company staff stated they had not had any leaks for it was assumed both baghouses in quite some time.

At the time of the inspection, no further action was necessary with regards to the past complaints. Additional complaints would need to be received to gather further information on the possible source of the issues.

Conclusion

Based on the observations made and records reviewed, Bay Cast appears to be in compliance with PTI No's 1083-89A, 1084-89, 1085-89, NESHAP Subpart ZZZZZ and other applicable air pollution control rules.

NAME



DATE

07/15/24

SUPERVISOR

