

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

N713171176

FACILITY: Arenac Casting, Inc.		SRN / ID: N7131
LOCATION: 4397 Air Park Drive, STANDISH		DISTRICT: Bay City
CITY: STANDISH		COUNTY: ARENAC
CONTACT: Justin Mulders , Maintenance Supervisor		ACTIVITY DATE: 03/14/2024
STAFF: Nathanael Gentle	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MINOR
SUBJECT: Scheduled Onsite Inspection FY24		
RESOLVED COMPLAINTS:		

On March 14, 2024, AQD staff conducted a scheduled onsite inspection at Arenac Castings, SRN M7131. 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 Environment Great Lakes and Energy, Air Quality Division (AQD) Administrative Rules. EGLE AQD staff included Dillon King and Nathanael Gentle. EGLE staff were assisted onsite by Justin Mulders, Maintenance Supervisor. At the time of inspection, the facility was found to be in compliance.

Facility Description and History

Arenac Castings is located within the Standish Industrial Park at 4397 Airpark Dr Standish, MI 48658. The facility specializes in the finishing of steel castings produced by Huron Casting Inc. Activities conducted onsite include grinding, welding, and surface inspection.

Arenac Castings is minor source of all air pollutants. The facility operates utilizing AQD Permit to Install (PTI) exemptions. One PTI application is on record for the facility. PTI APP 89-02 was submitted for six shell core machines. The application was voided as the shell core machines were determined to be exempt from needing a PTI under exemption Rule 290. The shell core machines were removed from the facility in 2009. As part of the onsite inspection, the shell core machines were verified to not be onsite.

No complaints are on file for the facility. Arenac Castings was last inspected in August 2014. At the time of the 2014 inspection, the facility was found to be in compliance.

Compliance Evaluation

Metal Grinding

Surface grinding is performed to remove excess material from steel castings. Grinding is accomplished using a variety of grinders including hand grinders and grinding machines. The facility consists of several grinding booths where grinding activities are conducted. Each booth is controlled by the facility's dust collection system. The dust collection system consists of five cyclone bag filter collectors, with a select number of grinding booths controlled by each. Staff report each collector is equipped with several hundred 4.85" diameter by 121" long filter bags made from a TETRATEX ePTFE membrane on a fiber supported polyester felt. Staff explained as the air stream enters the control device, it passes through a cyclone portion to knock out the larger particles. The air stream is then passed through the filters to capture the smaller particles

remaining in the air stream. A pulse of air is periodically sent through the bags to knock down built-up material. Staff monitor the differential pressure on the baghouses to ensure the devices are working properly. Additionally, staff report bags are visually inspected periodically as part of preventative maintenance procedures. Particulate matter is collected into large bags at the bottom of the control devices. When the bags are full, they are tied off and sent to landfill. At the time of inspection, the facility was operating. No visible emissions were observed from any of the control device stacks. Additionally visible material build up was not observed in the areas surrounding. Staff report visual and audio inspections are completed on the dust collectors daily, each shift, to ensure the control equipment is operating properly.

PTI Exemption Rule 285(2)(l)(vi) states the requirement to obtain a PTI does not apply to equipment and any exhaust system or collector exclusively serving the equipment for equipment for carving, cutting, routing, turning, drilling, machining, sawing, surface grinding, sanding, planing, buffing, sand blast cleaning, shot blasting, shot peening, or polishing ceramic artwork, leather, metals, graphite, plastics, concrete, rubber, paper board, wood, wood products, stone, glass, fiberglass, or fabric. As part of the requirements of the exemption, equipment that has externally vented emissions must be controlled by an appropriately designed and operated fabric filter collector that, for all specified operations with metal, is preceded by a mechanical precleaner. The grinding processes onsite and associated control system appear to meet the exemption requirements of R. 285(2)(l)(vi).

Welding

Welding is conducted onsite for surface repair of castings. Welding is conducted in one of several welding booths located in the west half of the facility. Staff report the west half of the facility and associated welding booths were constructed and installed in 2018 to increase the welding capabilities of the facility. The welding booths are tied into the facility's air collection system. PTI exemption 285(2)(i) states the requirement to obtain a PTI does not apply to brazing, soldering, welding, or plasma coating equipment. The welding operations onsite appear to meet the PTI exemption requirements of Rule 285(2)(i).

Surface Inspection

Castings are inspected for cracks and imperfections in one of two inspection booths. The facility sprays castings with a fluorescent solution and then inspect parts under a black light. Any imperfections glow under the black light. Emissions from the process are vented into the in-plant environment. The facility sprays the surface of castings with a solution of water and MI-Glow 778. A copy of the SDS for MI-Glow 778 was provided. The product consists of <35% Boric acid, <5% Iron Oxide and <3% Butendioic acid. Staff report the MI-Glow 778 is diluted with water and added to a 30-gallon tank which serves both inspection booths. The maximum throughput of the diluted solution was reported to be approximately 60 gallons per month. The surface inspection process appears to meet the PTI exemption requirements of R283(2)(d) which states the requirement to obtain a PTI does not apply to equipment used for the inspection of metal, wood, or plastic products.

Emergency Generators

Arenac Castings is equipped with two emergency generators. Staff report the generators are used to power facility processes during periods in which energy from the grid is unavailable. Both generators were reported to be installed in the summer of 2023. The units include a Kohler 600 and a Generac 900A powered by a Doosan P180FE engine. Both units are diesel fueled. Exemption R285(2)(g) states the requirement to obtain a PTI does not apply to internal combustion engines that have less than 10,000,000 Btu/hour maximum heat input. Manufacturer specification data was reviewed onsite for both engines. Both were verified to have a heat input below 10,000,000 Btu/hour. Based on the information reviewed, the two emergency generators appear to meet the exemption requirements of R285(2)(g).

The two generators may be subject to the requirements of federal regulations 40 CFR Part 60 Subpart JJJJ and/or 40 CFR Part 63 Subpart ZZZZ. At this time, the AQD is not delegated authority of these regulations for area sources. As Arenac Castings is an area source, AQD staff did not take time to review the facilities subjectivity to these regulations. Facility personnel are encouraged to determine subjectivity and ensure compliance.

Summary

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Nathanael Dente
NAME

DATE 3/27/2024

SUPERVISOR Chris Hare