

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

A399960762

FACILITY: L E JONES CO	SRN / ID: A3999
LOCATION: 1200 34TH AVENUE, MENOMINEE	DISTRICT: Marquette
CITY: MENOMINEE	COUNTY: MENOMINEE
CONTACT: PATRICK MELLINGER , Environmental Management Representative	ACTIVITY DATE: 10/25/2021
STAFF: Michael Conklin	COMPLIANCE STATUS: Compliance
	SOURCE CLASS: MINOR
SUBJECT: Targeted inspection for FY 22.	
RESOLVED COMPLAINTS:	

Facility: L. E. Jones Company (A3999)

Location: 1200 34th Avenue, Menominee, MI 49858

Contact(s): Patrick Mellinger, Quality / Environmental Manager, 906-863-4645

Facility Description

L. E. Jones Company (LEJC) is a foundry that manufactures iron, nickel, and cobalt alloy based valve seat inserts for diesel engines. The facility is located in Menominee, MI, and employs 480 people, with shifts operating 24/7. The valve seat inserts are produced for the diesel engine manufacturing industry with primary customers being Caterpillar, Cummins, and Detroit Diesel.

Process Description

Production operations include raw material handling and preparation, mold and core production, metal melting, pouring, cooling, and casting finishing. Melting operations consist of three electric induction furnaces that vent emissions to the atmosphere uncontrolled. The three furnaces each have a melt capacity of 750 lbs. Only two of three furnaces are able to operate at the same time due to electrical and crucible flip constraints. The facility utilizes 10 sand mold machines and 1 isocure mold machine for mold production. Rough finishing operations consist of three shotblast units and grinding and sanding operations that are uncontrolled by three dust collectors and various manual grinding/sanding/cutoff stations that vent internally. The facility also has two separate buildings dedicated to finishing operations, consisting of milling, polishing, etc., that do not vent externally.

Compliance History

The facility was last inspected in September of 2019 and found to be in compliance with all applicable rules and regulations.

Regulatory Analysis

The facility is subject to Permit to Install (PTI) No. 759-80 for three baghouses associated with grinding and sanding operations, and PTI No. 1102-92C for the ten mold machines, one isocure mold machine, and casting cooling operations. LEJC is also subject to 40 CFR Part 63, Subpart ZZZZZ (5Z) Iron and Steel Foundry Area Source MACT and 40 CFR Part 63, Subpart ZZZZZZ (6Z) Aluminum, Copper, and Other Nonferrous Foundries MACT. Based on the facility's annual metal melt production, they are considered an existing "small" foundry under Subpart 5Z.

Inspection

The inspection consisted of a joint evaluation of the facility with EPA Region 5 inspectors. The EPA's primary reason for an inspection at LEJC was due to the facility reporting higher levels of metal emissions. The inspection began with a preliminary meeting with Pat Mellinger, Quality/Environmental Manager for LEJC. During the meeting, a process overview of the facility was provided with noting portions associated with air emissions and controls. After the meeting, a walkthrough of the facility was entailed.

Melting Operations

The melting operations are not covered under any of the associated PTI's. The three electric induction furnaces have side hood capture that vent emissions to the atmosphere uncontrolled. No lids are equipped on any of the furnaces. The three furnaces appear to be exempt under Rule 282(2)(a)(iv). No visible emisisions were observed from the stacks for the furnaces.

EUSANDMOLD (PTI No. 1102-92C)

This emission unit includes 10 sand mold machines with 5 stacks. One stack vents two mold machines with emisisions uncontrolled. Resin coated sand is heated in the mold machine and cures in the desired form.

Emission Limits

EUSANDMOLD contains PM and PM-10 limits that are practically enforceable through a "may" test condition. To-date, AQD has not requested testing for EUSANDMOLD.

Stack/Vent Restrictions

The five stacks for EUSANDMOLD have restrictions of maximum diameter being 24 inches and minimum height being 40 feet. The five stacks for the sand mold machines appeared to be at least 40 feet in height and maximum diameter of no more than 24 inches.

FGSCRUBBERS (PTI No. 1102-92C)

This flexible group includes the casting cooling wet scrubber that is externally vented and the isocure acid scrubber that is internally vented.

Emission Limits

The flexible group contains a VOC emission limit that is practically enforceable through maintaining SDS sheets of materials and VOC mass emission calculations.

Equipment

At the time of the inspection, the isocure acid scrubber and cooling wet scrubber were in operation and appeared to be operating properly with no visible emissions observed.

Recordkeeping / Reporting / Notification

LEJC is required to track the amount of each VOC containing material used, VOC content in each material, VOC mass emission calculations determining the monthly emission rate in tons per calendar month, and VOC emissions on a 12-month rolling time period basis.

A spreadsheet was provided that notes the VOC contents of the binders and catalyst (TEA) used in the isocure process, along with release agents used. The spreadsheet also notes the amount of material used monthly in pounds. Using the amount of material used monthly and the VOC emission factor for each material, the facility calculates a monthly total of VOC emissions. These monthly totals are then summed together for a calendar year basis. From records reviewed for 2019 through 2021 to-date, the facility is staying below the 3.5 tpy VOC limit.

Stack/Vent Restrictions

Observations of the wet scrubber stack were taken during the inspection. The stack appeared to be at least 12 feet tall and a maximum diameter of 35 x 57 inches.

Finishing Operations (PTI No.759-80)

PTI No. 759-80 covers grinding and sanding operations with 3 fabric filter collectors. There is a requirement for visible emissions to be less than 20% opacity. During the inspection, no visible emissions were observed from the 3 fabric filter collectors for finishing operations.

40 CFR Part 63, Subpart ZZZZ

The facility is considered an area source, existing small foundry with an annual metal melt production below 20,000 tons. For 2020, the total metal melt from the facility was 2,419.8 tons. As an existing small foundry, the facility is subject to the pollution prevention management practices regarding metallic scrap and mercury switches, as well as notifications and semi-annual certification reporting requirements.

The facility has submitted an initial notification report and continues to submit semi-annual certification reports for MACT ZZZZ. The facility uses very clean scrap and has a scrap management plan that has been conveyed to their scrap providers. The facility does not melt any shredded auto scrap or any mercury switches. This was confirmed and observed during the inspection.

Compliance

Based on the inspection performed and records reviewed, L. E. Jones Company appears to be compliance with PTI No. 759-80, PTI 1102-90C, and all other applicable air pollution control rules and regulations.

NAME *Richard Tepplin*

DATE *11-18-21*

SUPERVISOR *ELJ*