DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: Scheduled Inspection

A399946373

FACILITY: L E JONES CO		**SRN / ID:** A3999
LOCATION: 1200 34TH AVENUE, MENOMINEE		**DISTRICT:** Upper Peninsula
CITY: MENOMINEE		**COUNTY:** MENOMINEE
CONTACT: PATRICK MELLINGER , Environmental Management Representative		**ACTIVITY DATE:** 09/19/2018
STAFF: Eric Grinstern	**COMPLIANCE STATUS:** Compliance	**SOURCE CLASS:** MINOR
SUBJECT: Unannounced Inspection		
RESOLVED COMPLAINTS:		

L.E. JONES COMPANY

FACILITY DESCRIPTION

L.E. Jones is located in the City of Menominee in Menominee County. The facility is a foundry that manufactures iron, nickel, chromium and cobalt alloy based engine valve seat inserts. The major production operations are raw material handling, mold production, metal melting, pouring and cooling, and cast finishing.

Melting operations consist of three electric induction furnaces, emissions from which are uncontrolled. The facility utilizes shell sand molds and isocure base plate distribution molds. Rough finishing operations consist of three shotblast units and grinding and sanding operations that are controlled by three dust collectors and various manual grinding/sanding/cutoff stations that vent internally. Additionally, the facility has two separate buildings dedicated to finishing operations, consisting of milling, polishing, etc. that do not vent externally.

REGULATORY OVERVIEW

The facility is an area source subject to the federal Iron and Steel Foundry Area Source National Emission Standard for Hazardous Air Pollutants (NESHAP), 40 CFR Part 63, Subpart ZZZZZ (5Z) under the Clean Air Act. Based on the facility's annual metal melt production, they are considered an existing "small" foundry under the Subpart 5Z.
The facility is also subject to the federal Aluminum, Copper, and Other Nonferrous Foundries National Emission Standard for Hazardous Air Pollutants (NESHAP), 40 CFR Part 63, Subpart ZZZZZZ (6Z) under the Clean Air Act. The facility's processes that are covered by new source review (NSR) permits that include the grinding and sanding operations (759-80) and the shell mold machines, isocure machine and mold pouring and cooling (1102-92C).

COMPLIANCE EVALUATION

Prior to entering the facility, a slight resin odor was noted.

At the facility, AQD Staff, Eric Grinstern (EG), met with Patrick Mellinger, Quality/Purchasing Manager/Environmental Management Representative.

Production at the facility has increased since the last inspection. The facility currently employs 440 workers and operates three shifts – 24 hours a day.

Mr. Mellinger stated that they have not received any odor or other environmental complaints from the neighbors.

SCRAP/CHARGE MATERIAL

The facility's charge materials consist of spec. metal, 1010 scrap, and revert. Due to the type of castings they manufacture, the facility uses very clean charge material. The facility does not melt any shredded auto scrap. The charge material is subject to pollution prevention management requirements under Subpart 5Z. Staff previously verified that the facility has written scrap specifications that have been conveyed to their scrap providers, as is required by Subpart ZZZZZ. During the inspection, observation of the charge material showed that it complies with the restricted metallic scrap option in Subpart ZZZZZ.

SAND OPERATIONS

The facility manufactures shell molds from pre-coated sand on ten (10) mold machines. The molds machines vent to the outside atmosphere uncontrolled though five stacks. Bottom distribution molds for the shell mold stacks are made on one isocure cold box machine that utilizes TEA as a catalyst. Emissions from the isocure machine are controlled by an acid scrubber that is vented internally. The acid scrubber pH level is monitored and recorded to assure proper operation.

At the time of the inspection, several of the shell sand molding machines were in operation, however the cold box molding machine was not operating.

MELTING OPERATIONS

Metal melting operations are conducted in three (3) electric induction furnaces. The furnaces each have a capacity of 750 pounds. The last inspection is was documented that one of the furnaces has a capacity of 1,000 pounds. The facility only operates two (2) of the furnaces at one time. None of the furnaces are equipped with a lid. The furnaces have side hood capture that vents furnaces emissions to the outside atmosphere uncontrolled. The facility does not conduct any ductile inoculation. The furnaces are exempt from permitting under Rule 282(2)(a)(iv).

FINISHING OPERATIONS

Cast finishing operations consist of three shot blast units that are controlled by three baghouses that are equipped with pre-cyclone units. The shotblasters are possibly covered under PTI No 759-80, but also meet the exemption of Rule 285(2)(l)(vi). The baghouses are equipped with magnehelic gauges which the facility has calibrated on a regular basis. The facility discussed the possibility of replacing the baghouse for one of the shotblast units. Replacing/changing the location of baghouse control for one of the shotblast units would be exempt from permitting under Rule 285(2)(l)(vi). The facility has a hardening furnace, tempering furnace and a stress furnace. Each of the furnaces is below 10 million Btu and therefore exempt under Rule 282(2)(a). The facility has numerous milling, cleaning, polishing operations that are exempt from air permitting requirements.

PTI No. 1102-92C

EUSANDMOLD

Includes the 10-shell sand mold making machines.

Emission Limits

EUSANDMOLD limits the emission of PM to 0.1 lbs. per 1,000 lbs. of exhaust gases and PM10 to 0.675 pounds per hour from each individual stack. Compliance with emission limits can be demonstrated by requiring the facility to conduct stack testing, if requested. No stack testing has been requested.

Stack Restrictions

Requires each of the five (5) stacks to have a maximum diameter of 24 inches and a minimum height of 40 feet. Visual observation of the stacks showed that they appear to meet the dimension requirements.

FGSCRUBBERS

Flex group includes the isocure cold box machine, EUISOCURE, and EUCOOLING. EUCOOLING covers the pouring and cooling. Pouring is uncontrolled; while the cooling room is controlled by a wet scrubber.

Emission Limits

Restricts the emission of VOC to 3.5 tpy based on a 12-month rolling average.

Since FGSCRUBBERS includes EUISOCURE and EUCOOLING, the facility calculates VOCs from both emission units. Compliance is based upon the monthly emission calculations using emission factors.

The facility provided records (attached), which based upon the supplied assumed emission factors, demonstrate compliance with the emission limit. Staff reviewed records for 2007 until current. Reported emissions never exceeded 1.1 tons per year based on a 12-month rolling average.

Recordkeeping/Reporting

Requires the facility to keep monthly records of gallons of material used, VOC content of each material, VOC emission calculations on a monthly and 12-month rolling time period.

The facility provided records (attached) as required by the permit that demonstrate compliance with the recordkeeping requirement and emission limit.

Stack Restrictions

Requires SVSCRUBBERS to have a stack with a maximum diameter of 35x57 inches and a minimum height of 12 feet. This appears to address the stack associate with the scrubber controlling emissions from the cooling room, since the isocure process vents internally. Visual observation of the stack showed that it appeared to meet the dimension requirements.

Note: The facility monitors the pH and pressure drop on the isocure acid scrubber. The facility has the gauges calibrated and certified on a regular basis. During the inspection the pressure drop was 0.0 inches (isocure machine not operating) and the pH was 1.69.

The mold cooling room is controlled by a wet scrubber to address odors. Observation of the cooling room and wet scrubber showed good capture. No emissions were noted from the wet scrubber.

AREA SOURCE IRON AND STEEL FOUNDRY NESHAP
SUBPART ZZZZZ

The facility is considered an existing small area source since their metal melt production is below 20,000 tons on an annual basis. As an existing small area source the facility is subject to the pollution prevention management practices regarding metallic scrap and mercury switches, as well as notification and semi-annual certification reporting requirements. As detailed above, the facility is in compliance with the scrap pollution prevention requirements.

The facility has submitted the required initial notification and notification of compliance status reports. The facility has also submittal all required semi-annual certification reports.

AREA SOURCE Aluminum, Copper, and Other Nonferrous Foundries NESHAP Subpart ZZZZZZ

The facility has determined that they are subject to Subpart ZZZZZZ. The facility has submitted the required initial notification as required by the standard. The facility has not submitted any semi-annual certifications since Subpart ZZZZZZ only requires them to be submitted when a deviation from the standard occurs.

All sources subject to the standard are required to comply with the following management practices.

1. **Cover or enclose each melting furnace that is equipped with a cover or enclosure during the melting operations to the extent practicable.**

2. **Purchase only metal scrap that has been depleted to the extent practicable of the specified foundry HAPs.**

3. **Prepare and operate according to a written management practices plan to minimize emissions from melting furnaces.**

    - **Must include management practices for Number 1. and Number 2. above.**

The facility's furnaces are not equipped with a cover or enclosure and the facility has specifications regarding scrap requirements. The facility's management practices are in part the scrap/material charge specifications.

MISCELLANEOUS

The finishing operations include a zyglo process and well as an N-propyl bromide washer that do not vent to the outside atmosphere. Staff recommended that the facility evaluate whether emissions from the zyglo process meet Rule 290 exemption. The degreaser was previously evaluated by the District. The process was previously subject to Subpart T, prior to switching to N-propyl bromide. The process is possibly exempt from permitting under Rule 285(2)(r) or Rule 281(2)(h).

CONCLUSION

Based on the information and observations made during this inspection, the facility is in compliance with applicable air quality rules and regulations.

NAME _____ DATE 9/28/18 SUPERVISOR _____