

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

N586627007

FACILITY: METAL TECHNOLOGIES, INC., RAVENNA DUCTILE IRON		SRN / ID: N5866
LOCATION: 3800 Adams Road, RAVENNA		DISTRICT: Grand Rapids
CITY: RAVENNA		COUNTY: MUSKEGON
CONTACT: Dann Hollenbeck, Env. Eng. Manager		ACTIVITY DATE: 09/15/2014
STAFF: Eric Grinstern	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MAJOR
SUBJECT: Compliance inspection		
RESOLVED COMPLAINTS:		

METAL TECHNOLOGIES, INC. - RAVENNA DUCTILE IRON (N5866)

FACILITY DESCRIPTION

The facility is a ductile iron foundry that primarily casts automotive and small engine parts. Melting is performed in three electric induction furnaces with charge material that has been preheated. The molten metal is poured into green sand molds. The facility uses shell sand cores that are purchased.

Emissions from the melting, pouring, cooling, finishing and sand handling operations are controlled by baghouses.

REGULATORY ANALYSIS

The facility is a Title V subject source (ROP No. MI-ROP-N5866-2014) because it is a major source of CO emissions and because of it's PTE for HAPs. The facility is subject to the Iron and Steel Foundry NESHAP, Subpart EEEEE. NESHAP subject emission units are EU-PREHEATERS, EU-MELTING, and EU-POURING. The facility is also subject to PSD based on CO emissions. The emission units EU-CLEAN, EU-MELTING, EU-POURING, EU-COOLING, EU-SHAKEOUT and EU-SANDSYSTEM are subject to CAM requirements.

COMPLIANCE EVALUATION

EU-CLEAN

Emission units includes cast finishing operations, including (4) shotblasters, (1) tumblaster, (16) grinders and miscellaneous inspection/cleaning stations. All processes are captured and ducted to the West Blast Baghouse (SV-CLEAN-03).

This unit is subject to CAM for particulate matter.

Emission/Material Limits

Compliance with the emission limits are demonstrated through baghouse monitoring and compliance testing. Compliance is also demonstrated via monthly emission records that are calculated utilizing emission factors from testing and material usage/production rates. Based on this inspection, baghouse monitoring, compliance testing and emission records demonstrate compliance with the emissions limits.

The last compliance test was conducted on October 21, 2009, at which time compliance with the particulate and opacity limits were demonstrated.

Baghouse monitoring is accomplished via the following permit requirements: daily VE observations, semi-annual Method 9 readings, operation of the baghouse within PM plan specified pressure drop range, operating in accordance with a PM plan for the baghouse. Review of facility records showed compliance with the above requirements.

Process/Operational Restrictions/Design Parameters/Records

The permit requires instrumentation to continuously measure the pressure drop across the baghouse and to record the reading once per day. The facility is in compliance with this condition.

The baghouse (West Blast) has a pressure drop operating range of 3 to 15 inches specified in the PM plan. Review of the daily records of pressure drop showed them to be within the 3 to 15 inch range. Observation of the magnehelic gauge during the inspection showed 5.0 inches.

Testing/Sampling

Testing required within 180 days of ROP issuance (testing deadline: November 1, 2009) Testing was conducted on October 21, 2009, for particulate matter and opacity. Test results showed compliance with the ROP emission limits. The facility is in the processes of scheduling testing to meet the retesting deadline.

Monitoring/Recordkeeping

Records of the hours of operation and calculated particulate emission rates were supplied by the facility (attached) Review of the previous 12-months of records shows compliance with the pound per hour and ton per year emission limits.

Reporting

Review of the most recent annual and semiannual ROP certification reports as well as CAM certification, showed that they were submitted by the deadline and that no deviations were reported.

Stack/Vent Restrictions

The stack associated with the West Blast is required to be a maximum of 60 inches in diameter and have a minimum height of 65 feet. Visual evaluation of the stack showed that it appeared to meet the required dimensions.

FG-MELTING

Flexible group that consists of metal processing operations that have combined emission limits. Includes: EU-PREHEATERS, EU-METING, EU-INOCULATION, and EU-POURING.

Since the last inspection the facility has installed a second baghouse that is dedicated to controlling emission from EU-INOCULATION. This baghouse was installed under the exemption of Rule 285(f). The new baghouse will be rolled in via a permit application the facility will be submitting to realign EU-POURING with FG-SAND.

The new baghouse appears to have greatly reduced fugitive emission within the plant.

Emission/Material Limits

Compliance with the emission limits are demonstrated through baghouse monitoring and compliance testing. Compliance is also demonstrated via monthly emission records that are calculated utilizing emission factors from testing and material usage/production rates.

Based on this inspection, baghouse monitoring, compliance testing and emission records demonstrate compliance with the emissions limits.

The last compliance test was conducted on December 2-3, 2009 and March 9, 2010, at which time compliance with the emission limits was demonstrated.

Review of the previous 12-months of records showed compliance with the lb. /hr. and ton per year limit for the eleven pollutants with emission limits for the flexible group.

Baghouse monitoring is accomplished via the following permit requirements: daily VE observations, semi-annual Method 9 readings, operation of the baghouse within PM plan specified pressure drop range, operation of a bag leak detection system, operating in accordance with a PM plan for the baghouse. Review of facility records showed compliance with the above requirements.

Records of the hours of operation, material charge rates to the furnace were supplied by the facility (attached). Review of the facility records shows compliance with the charge limits. The previous five years of data showed compliance with the 27 ton per hour and 132,000 ton per year furnace charge limit.

Process/Operational Restrictions/Design Parameters/Records

As part of demonstrating proper operation of the baghouse, the O&M plan requires monitoring and recording of the pressure drop. The pressure drops observed through the computer system during the inspection for the baghouse controlling EU-MELTING was: East Side: 3.7 inches, West Side: 7.14 inches. These readings are within the established operating ranges.

Testing/Sampling

The last compliance test was conducted on December 2-3, 2009 and March 9, 2010, at which time compliance with the emission limits was demonstrated. The facility is in the processes of scheduling testing to meet the retesting deadline.

Reporting

Review of the most recent annual and semiannual ROP certification reports as well as CAM certification, showed that they were submitted by the deadline and that no deviations were reported.

Stack/Vent Restrictions

Visual evaluation of the stacks (SV-MELT-01 and SV-SAND-02) showed that they appeared to meet the required dimensions.

FG-SAND

Flexible group that consists of sand related processes, including EU-COOLING, EU-SHAKEOUT and EU-SANDSYSTEM.

Emission/Material Limits/Records

Compliance with the emission limits are demonstrated through baghouse monitoring and compliance testing. Compliance is also demonstrated via monthly emission records that are calculated utilizing emission factors from testing and material usage/production rates. Based on this inspection, baghouse monitoring, compliance testing and emission records demonstrate compliance with the emissions limits.

The last compliance test was conducted on December 2-3, 2009 and March 9, 2010, at which time

compliance with the emission limits was demonstrated.

Review of the previous 12-months of records showed compliance with the lb. /hr. and ton per year limit for the eight pollutants with emission limits for the flexible group.

Baghouse monitoring is accomplished via the following permit requirements: daily VE observations, semi-annual Method 9 readings, operation of the baghouse within PM plan specified pressure drop range, operating in accordance with a PM plan for the baghouse
Review of facility records showed compliance with the above requirements.

Review of the previous 12-months of data showed compliance with the 500,000 ton per year sand limit.

Process/Operational Restrictions/Design Parameters/Records

As part of demonstrating proper operation of the baghouse, the O&M plan requires monitoring and recording of the pressure drop. The pressure drops observed through the computer system during the inspection for the baghouse controlling EU-POURING, EU-COOLING, EU-SHAKEOUT and EU-SANDSYSTEM was: East Side: 5.29 inches, West Side: 6.42 inches. These readings are within the established operating ranges.

Testing/Sampling

The last compliance test was conducted on December 2-3, 2009 and March 9, 2010, at which time compliance with the emission limits was demonstrated. The facility is in the processes of scheduling testing to meet the retesting deadline.

Reporting

Review of the most recent annual and semiannual ROP certification reports as well as CAM certification, showed that they were submitted by the deadline and that no deviations were reported.

Stack/Vent Restrictions

Visual evaluation of the stack (SV-SAND-02) showed that they appeared to meet the required dimensions.

FG-CAMUNITS

Flexible group consisting of the emission units subject to CAM requirements. Emission units include: EU-CLEAN, EU-MELTING, EU-POURING, EU-COOLING, EU-SHAKEOUT and EU-SANDSYSTEM are subject to CAM requirements.

Process/Operational Restrictions/Design Parameters/Records

For EU-CLEAN, requires instrumentation to continuously measure the pressure drop across the baghouse and to record the reading once per day. The facility is in compliance with this condition.

For EU-MELTING, EU-POURING, EU-COOLING, EU-SHAKEOUT and EU-SANDSYSTEM, requires the operation and maintenance of bag leak detection systems.
The facility has installed and is operating bag leak detection systems.

Testing/Sampling

For all CAM subject emission units, requires semi-annual Method 9 readings to demonstrate compliance with the opacity limit. Review of the Method 9 readings for the past year showed no exceedances of the opacity limit.

Monitoring/Recordkeeping

For all CAM subject emission units, requires daily non-certified visual inspections for opacity. Review of

the daily records for visual opacity inspection showed that no opacity issues were noted.

NESHAP REQUIREMENTS – SUBPART EEEEE

FG-MACT EEEEE

Flex group covers the Iron and Steel Foundry NESHAP requirements.

EU-PREHEATER - Scrap Preheater
EU-MELTING – Melting Furnaces
EU-POURING – Metal Pouring

Emission/Material Limits

Compliance with the particulate matter limit is primarily demonstrated through compliance testing every 5 years and proper operation of the capture and control systems. Testing was performed in 2009, at which time compliance with the emission limits was demonstrated.

Design/Equipment Parameters

The NESHAP requires the capture and control system to be installed, operated and maintained in accordance with an approved O&M plan. The facility has an approved O&M plan that addresses capture and control O&M.

Testing/Sampling

Testing was performed in 2009/2010 and 2013 (Preheater/Melting). Test results showed compliance for applicable limits.

Monitoring/Recordkeeping

The facility is using a bag leak detection system to monitor the relative change in PM loading.

Reporting

Review of the most recent NESHAP certification report showed that it was submitted by the deadline and that no deviations were reported.


FG-IC RICE MACT EXEMPT

This flex group was added as part of the last renewal of the ROP, however it was determined during the inspection that they do not have an emergency generator at the facility.

Miscellaneous

During the inspection the new sand silo was observed being filled. A small amount of opacity was noted from the top of the silo. It was determined that the emissions were coming from a relieve valve. While onsite, Ken Carrier showed staff the seals that were just received to fix the relieve valve emissions.

Review of the facility's Semi-annual Method 9 readings showed that there was not a record of readings for the first half of 2013. Upon review Dann Hollenbeck discovered documentation that they conducted the readings on April 2, 2013, but have not located the readings. The facility has requested more time to locate the readings. If they cannot locate the record they will need to submit a revised semi-annual certification as well as CAM report.

NAME 

DATE 9/22/14

SUPERVISOR 