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

N625824222

FACILITY: Gestamp Mason		SRN / ID: N6258
LOCATION: 200 KIPP RD, MASON		DISTRICT: Lansing
CITY: MASON		COUNTY: INGHAM
CONTACT: Brian Rush , Environmental, Health, & Safety		ACTIVITY DATE: 01/30/2014
STAFF: Brian Culham	COMPLIANCE STATUS: Compliance	
SUBJECT: Meet Brian Rush for the first time. Follow up on EPA action.		SOURCE CLASS: Minor
RESOLVED COMPLAINTS:		

Brian Rush - brush@us.gestamp.com - Environmental, Health, and Safety Coordinator

This was an unannounced scheduled inspection. The plant environmental contact Phil Preston has retired. I met with Brian Rush for the first time.

Gestamp Mason is located on the south side of the town of Mason. The immediate area surrounding the plant is commercial and light industrial. To the north is the residential area of Mason, including a High School about ½ miles to the northeast, airport ½ miles east, and a Meijer's immediately to the west. The remaining out-lying areas are agricultural.

Gestamp manufactures impact structures for constructing vehicle bodies used by the automotive industry. Processes include; cutting steel blanks, stamping, blast cleaning, welding, and heat treating them for hardness.

Gestamp has had several names in our files including US Hardtech, SSAB Hardtech and Plannja Hardtech.

Gestamp completed a facility wide Potential to Emit (PTE) in 2002 to verify that they were not a Major Source as defined by the Clean Air Act (CAA) of 1995. The PTE include Hazardous Pollutants (HAP) as well as Criteria Pollutants. Because Gestamp is not a Major Source of HAP they are considered an Area Source. Changes at the plant since 2002 should not impact the source status.

Gestamp does not report to the Michigan Air Emission Reporting System, nor do they pay an air use fee.

During February 2009, I completed a joint inspection with Manoj Patel of USEPA Air Enforcement and Compliance Assurance Branch out of Chicago, Illinois. His purpose for a compliance investigation was to determine if US Hardtech was a major source of HAP (Hazardous Air Pollutants). Based on TRI (Toxic Release Inventory) data submitted by US Hardtech, methanol emissions had exceeded 10 tons per year. The report was inaccurate in it reported all methanol purchased by the company, not what was actually released to air. I did not hear~~x~~ from EPA, nor was I sent a copy of their inspection report indicating their findings of this inspection.

I arrived at Gestamp at 1:30 pm. I entered the plant and introduced myself. I was met by Brian Rush. I showed my credentials stating that I was there to complete an air compliance inspection. I was required to watch a safety video prior to plant entry.

I met with B. Rush and explained DEQ's entry authority and handed him the entry brochure. This is B. Rush's first year in the environmental capacity. I briefly explained basic Air Quality regulations with him focusing on those regulations that might affect Gestamp.

I explained that Rule 201 requires a person to obtain a permit prior to the installation of any process that might emit air contaminants to the air. I than discussed the use of exemptions.

I suggested that Gestamp Mason consider updating their PTE. A hyperlink was e-mailed to B. Rush for a site that contained information on Potential to Emit.

I discussed the possibility of Gestamp being subject to 40 CFR 63 subpart XXXXXX, Nine Metal Fabrication and Finishing Area Source Categories. I explained that the NAICS or SIC code used by the company is what is

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used to determine applicability. I do not expect that they are subject, but B. Rush should verify. Michigan has not presently accepted the compliance authority for Area Source MACT requirements.

No.	Emission Unit or Flexible Group	Description	Permit Number or Exemption	Comp. Status
1	Metal Cutting	Stamping dies and Laser cutters	Rule 285(l)(vi)	C
2	Heat Treat Furnaces	Electric and Natural Gas Furnaces	Rule 282(a)(i)	C
3	Metal Stamping/Forging	Hot Metal Presses	Rule 285 (l)(i)	C
4	Methanol Tank	Methanol Storage Tank	Rule 284(n)	C
5	Spot Welding	Spot Welding Stations	Rule 285(i)	C
6	Blast Cleaning	Shot blasting machines with two baghouses.	Rule 285(l)(vi)	C
7	Adhesive Line	Adhesive/sealant application	Rule 287(a)	C
8	Emergency Generator	No. 2 diesel fuel fired, emergency use compression ignition engine	Rule 285(g) 40 CFR 63 subpart ZZZZ	C C

Metal Cutting

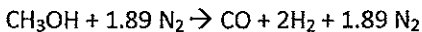
Metal is unrolled and fed into a die press that cuts out blanks used for forming parts. The shapes are loaded into one end of the furnace, heated, and stamped into the desired form. Lasers are used to cut holes or other shapes out of the metal form as required by the manufacture. All cutting processes vent into the in plant environment. Cutting metal is exempt from the Rule 201 permit requirements by Rule 285 (l)(vi) when it vents into the in plant environment.

Heat Treat Furnaces

Gestamp has six metal heat treat furnaces. The furnaces are tunnel like and include two 65 foot natural gas fired (2.5 mmBTU), two 90 foot gas fired (4.3 mmBTU), and a 200 foot electric furnace. A second electric furnace has been added since the last inspection and is larger than 200 feet. Electric furnaces, and sweet gas furnaces less than 10.0 mmBTU, that are used for heat treating metal are exempt from the Rule 201 requirements by Rule 282 (a)(i).

The heat treat furnaces reach a temperature of 1700 °F and require an oxygen free atmosphere. In the gas furnaces, natural gas is combusted in tubes and heats a separated "tunnel" where methanol and nitrogen are injected at a temperature above 1350 °F (combustion gases are not mixed with the furnace environment). At this temperature methanol cracks in the presence of nitrogen to form hydrogen and carbon monoxide gas. The reaction is endothermic. It is my understanding that oxygen present in the oven will then join in an exothermic reaction with the free hydrogen at about 1085 °F creating water molecules and heat, leaving the metal treatment area free of oxygen.

I researched the operational parameters of a methanol/nitrogen based heat treat environment. From a book called "Surface Hardening of Steels" by Joseph R. Davis, the formula for cracking methanol in a heat treat oven in the presence of nitrogen is usually:



At 1700 °F the furnace temperature is above the auto ignition point for both hydrogen (1085 °F) and methanol (867 °F). All the methanol and hydrogen are combusted.

The above metal treatment helps give the part its desired strength.

Metal Stamping/Forging

When the metal exits the furnace it is red hot and immediately stamped in to the desired form. Equipment used for stamping or forging cold or hot metal is exempt from the Rule 201 permit requirements by Rule 285 (l)(i).

Methanol Storage Tank

Methanol is delivered to the furnace from a 4000 gallon methanol storage tank. The tank contains a nitrogen blanket over the top of the methanol. The purpose of the blanket is so that breathing and working losses from the tank will be nitrogen and not methanol. The nitrogen is supplied from a tank filled by an on site generator. Breathing and working losses from the methanol tank were included in the 2002 PTE demonstration.

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Storage of methanol in a vessel with capacity less than 30,000 gallons is exempt from the Rule 201 permit requirements by Rule 284(n)

Spot Welding

Spot welding is used to join certain metal forms. Welding is exempt from the Rule 201 permit requirements by Rule 285(i).

Shot Blasting

Parts are shot blasted following the heat treat process. The machines use rotating wheels to propel the shot. Two cartridge type baghouse controls are used to remove particulate. The removed particulate is collected in drums on the plant floor where they can be inspected frequently. The exhaust goes to ambient air.

B. Rush stated that these units are old and have been requiring considerable maintenance. He has increased the number of system checks in the preventative maintenance plan. He hopes being proactive will minimize failures and reduce any impact if failure occurs. Internal discussions are ongoing for updating this process.

There was no indication of visible emissions from the roof area where these stacks exhaust to ambient air either on entry or departure from the inspection.

Adhesive Line

An application of adhesive/sealant is applied to some of the parts. Flow of the material is data logged and recorded by B. Rush. He stated that maximum production uses approximately 0.2 gallons per day. Adhesive processes applying less than 2 gallons per day and exhausting into the in-plant environment are exempt from the Rule 201 permit requirements by Rule 287(a).

Emergency Generator

Internal combustion engines with a heat input capacity less than 10.0 mMBTU/hr are exempt from the Rule 201 permit requirements by Rule 285(g).

The generator is only large enough to operate fire suppression equipment. I did not inspect the generator, but did discuss Subpart ZZZZ compliance requirements with B. Rush. He stated that the unit was installed with a non-resettable hour meter and that they were tracking the hours of emergency and non-emergency use. He was aware of the subpart and showed me documentation which appeared to be a procedure for maintaining compliance with the subpart.

I did not identify any violations during my inspection.

I left the area at 3:30.

NAME

[Handwritten Signature]

DATE

02.06.2014

SUPERVISOR

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