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

B886641220

FACILITY: S & S Die Company		SRN / ID: B8866
LOCATION: 2727 Lyons Avenue, LANSING		DISTRICT: Lansing
CITY: LANSING		COUNTY: INGHAM
CONTACT: Diana Hurst , Vice-president		ACTIVITY DATE: 08/25/2017
STAFF: Daniel McGeen	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MINOR
SUBJECT: Inspection combined with complaint investigation.		
RESOLVED COMPLAINTS:		

On 8/25/2017, the Michigan (Department of Environmental Quality (DEQ), Air Quality Division (AQD) conducted an unannounced , scheduled inspection of S & S Die Company, while following up on a complaint of fallout which had been attributed to the company by the complainant.

Facility environmental contact:

Diana G. Hurst, Vice-President; 800-784-8144; [Diana@ssdie.com](mailto:Diana@ssdie.com)

Facility description:

The company's website indicates that they do CNC machining, CAD/CAM design, turning, welding, sawing, surface grinding, wire EDM, gun drilling, and CMM inspection.

Emission units :

1. CNC machines; Rule 285(2)(l)(vi)(B)
2. Metal machining processes; Rule 285(2)(l)(vi)(B)
3. Welding; Rule 285(2)(i)
4. Two paint booths, and a burring station with exhaust system, removed; Permit to Install (PTI) and Permit to Operate (PTO) No. 641-81

Regulatory overview:

This facility is considered to be a true minor source, rather than a major source of air emissions. A *major source* has the potential to emit (PTE) of 100 tons per year (TPY) or more, of one of the criteria pollutants. *Criteria pollutants* are those for which a National Ambient Air Quality Standard exists, and include carbon monoxide, nitrogen oxides, sulfur dioxide, volatile organic compounds (VOCs), lead, particulate matter smaller than 10 microns, and particulate matter smaller than 2.5 microns.

It is also considered a minor, or *area source*, for Hazardous Air Pollutants (HAPs), because it is not known to have a PTE of 10 TPY or more for a single HAP, nor to have a PTE of 25 TPY or more for combined HAPs.

It is my understanding that the only hot water heaters onsite are residential in size. 40 CFR Part 63, Subpart JJJJJJ, is the *National Emissions Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources*. Any hot water heaters, such as those used for a restroom or cafeteria, at an area source of HAPS would not be subject, under Section 63.11195(f). To meet the definition of a hot water heater in this area source Generally Achievable Control Technology (GACT) standard, the unit must be no more than 120 gallons in capacity. The units at this facility are not expected to be 120 gallons or larger in capacity. AQD has not been delegated authority to enforce Subpart JJJJJJ.

Fee status:

This facility is not a Category I fee subject source, because it is not a major source for criteria pollutants. It is not a Category II fee-subject source because it is not a major source for Hazardous Air

Pollutants (HAPs), nor is it subject to federal New Source Performance Standards. Additionally, it is not Category III fee-subject, because it is not subject to federal Maximum Achievable Control Technology standards. The facility is not required to submit an annual air emissions report via the Michigan Air Emissions Reporting System (MAERS).

#### Location:

The facility is located in a residential area, with houses to the immediate west and north, a school to the immediate south, and Lyons Park to the immediate southeast. S. Pennsylvania Avenue is to the east. The closest residences appear to be 100 feet west of the factory building itself.

#### History:

This plant was previously The Olofsson Corporation, and received PTI and PTO No. 641-81 for two dry filter-equipped paint booths and a burring station with an exhaust system, on 12/14/1981. It is my understanding that in 2008, this facility was purchased by S & S Die Company, and they moved their offices here, with their manufacturing operations moving here between 2009 and 2010, from a smaller industrial site.

On 8/23/2017, AQD received a complaint (please see Complaint Report form) in which the complainant reported fallout of clear, oily droplets landing on their car's windshield and windows overnight, not far from the plant. They noted that the clear droplets smeared, producing an oily film on the auto glass when touched. They showed AQD video footage which they had recorded of the droplets, and of their smearing tendency. They also showed AQD video footage from the night before, 8/22, when their car's windshield and windows were all freshly cleaned.

AQD provided the complainant with 6 petri dishes, which they set outdoors, overnight, on 8/24/2017, closing them up the following morning, and delivering them to AQD. The petri dishes contained clear, water-like droplets. AQD subsequently decided to collect a sample of any metal working fluids used at the plant, for comparison with the material in the petri dishes.

#### Arrival:

AQD checked for odors on Lyons Avenue, at 1:09 PM. None were detected. I also checked for odors on residential streets which branched off of Lyons Avenue, and went west. No odors were detected. No visible emissions were seen from the plant. Weather conditions were sunny and clear, and 70 degrees F, with winds out of the north northeast, at 0-5 miles per hour. I noted that there were tall trees where the complainant's vehicle had been parked in their video footage, and it is possible that the fallout was biological in origin.

At 1:15 PM, I arrived in the facility parking lot., on the north side of the plant. No odors and no visible emissions were detected from the plant. I entered the plant lobby, and provided my identification/credentials, per AQD procedure. I explained that I would like to conduct an unannounced inspection, and to follow up on a recent complaint of fallout which the complainant suspected to be from the facility.

I was introduced to Ms. Diana G. Hurst, Vice President of the company. I explained the reason for my visit. Ms. Hurst was not aware of any fallout issues with their facility, but indicated I was welcome to walk through the plant. When I explained the fallout was believed to have happened at night, she explained that the plant does not operate overnight, as operations cease at 5 PM, unless they have a single employee working at night, occasionally.

She explained that most of their machines are Computer Numerical Controlled (CNC) machines, which are enclosed, and so do not exhaust to the surrounding air. For their few metal working processes which are not enclosed, she explained that they exhaust into the general in-plant environment, and not directly to the outside air. Ms. Hurst indicated that I would be welcome to collect a sample of their cooling fluid that they use for their metal cutting processes, to compare with the liquid in the petri dishes which were in AQD's offices.

**Inspection:**

We walked through the plant, and I saw that the facility was clean and neat. There was no sign of an oil mist, or of a mist of water droplets, in the air. No visible emissions were seen from any processes inside the plant.

**1. Computer Numerical Controlled (CNC) machines; Rule 285(2)(I)(vi)(B):**

There were numerous CNC machines, and some of them were in operation. There were no visible emissions.

**2. Metal machining operations; Rule 285(2)9I)(vi)(B):**

There were a small number of vintage metal working machines which were not operating, at this time. They clearly would exhaust into the general, in-plant environment, and therefore satisfy the exemption criteria.

There were also two large, modern metal machining processes, which exhaust to the general, in-plant atmosphere, also satisfying the exemption criteria. One of them was not operating. It was a large, open milling machine. I was shown the metal chips which it creates, and they appeared to be too large and heavy to become airborne. The other unit, a Fermat machine, was operating right now, and produced no airborne particulate emissions. The metal chips that it produced also appeared to me to be too large and heavy to become entrained in the air.

About 10% of their jobs involve grinding, I was told.

Their metal working machines which use coolant utilize a water-based fluid, I was informed (please refer to "Sample collection" later in this report. The only lubricant their metal working machines use is way oil, I was told, and this is contained inside the nits.

They do not do any "EDMing" here, I was advised, as they have no EDM machines. Thereference on their website to wire EDM may therefore be out of date.

**3. Welding; Rule 285(2)(i):**

Welding processes are considered exempt.

**4. Two (2) dry filter-equipped paint spray booths, and burring station with exhaust system; PTI and PTO No. 641-81:**

I was advised that the two permitted paint booths were removed when they bought this building, and that they conduct no painting operations here. Plus, they are not aware of a burring station still being onsite. Therefore, the PTI can be voided.

**Sample collection:**

An employee of S & S took one of the 4 ounce glass sample jars which I brought with me and brought back a sample of their metal cooling fluid, directly from one of their machines, he indicated. It was an opaque, whitish liquid, and I was informed it is water-based. It did not appear to have any visible oily characteristics, and in no way resembled the unknown fallout which the complainant had found on their car windshield and windows.

The S & S employee indicated that about this time of year, he gets clear droplets of liquid on his pickup truck, which he parks under a tree in the parking lot nearby. His description of the fallout bore a strong resemblance to the complainant's description of their fallout experience.

Because the water-based metal cooling fluid is a milky white liquid, and is non-oily, it does not appear to be related to the clear, oily droplets which the complainant found on their windshield. I advised Ms. Hurst of this, and said that I would share any lab results from a comparison of the cooling fluid and the unknown fallout. I advised her that I found no instances of noncompliance today, nor any areas of concern.

In the days following the inspection, I noted that the clear watery droplets in the Petri dishes on my desk evaporated, leaving no trace behind. This suggested that naturally occurring moisture had been in the petri dishes. The petri dishes do not appear to have captured any of the oily droplets like those which the complainant had found on their vehicle the morning of 8/23. It therefore seems likely that the fallout is biological in origin.

Conclusion:

No instances of noncompliance were found, and there were no areas of concern. The facility appeared clean and neat, and there was no sign of an oil mist or water-based mist either inside the plant or outside. PTI and PTO No. 641-81 can now be voided by AQD, because the two paint booths and burring station are gone. I will e-mail a permit void request to the AQD Permit Section. A permit void letter will be sent to the company, for their records.

The facility did not appear to be a source of fallout. It is likely that the clear oily droplets which the complainant found on their car windshield and windows were biological in origin, and the complainant subsequently agreed that this seemed likely. I will advise the company of this.

NAME 

DATE 10/10/2017 SUPERVISOR 