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

N306040421

FACILITY: SIMONDS INTERNATIONAL		**SRN / ID:** N3060
LOCATION: 120 E PERE MARQUETTE ST, BIG RAPIDS		**DISTRICT:** Grand Rapids
CITY: BIG RAPIDS		**COUNTY:** MECOSTA
CONTACT: Dave Campbell , Plant Manager		**ACTIVITY DATE:** 06/21/2017
STAFF: Tyler Salamasick	**COMPLIANCE STATUS:** Non Compliance	**SOURCE CLASS:** MINOR
SUBJECT: Compliance determination. FY 2017.		
RESOLVED COMPLAINTS:		

Background

Simonds International (Simonds) is a cutting tool manufacturer located at 120 E Pere Marquette Street, Big Rapids, Michigan. Simonds is located in a primarily residential area with the nearest residential structures approximately 300 to 400 feet to both the east and west of the facility. The facility was inspected on June 21, 2017 by Tyler Salamasick, Environmental Quality Analyst of the Michigan Department of Environmental Quality, Air Quality Division. The intent of the inspection was to determine the facility's compliance with the Federal Clean Air Act Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act of 1994, PA 451, as amended, and Michigan's Air Pollution Control Rules. Simonds does not currently hold any Permits to Install (PTIs) with the MDEQ Air Quality Division. The facility was last inspected by Tracey McDonald on January 16, 2009. At the time of Tracey's inspection, based upon the available information and the facility's very low material usage (~1 gallon), Tracey determined that Simonds was exempt from Rule 201. Since the facility was exempt from Rule 201 they were not required to obtain a permit to install at that time.

Inspection

Site arrival was at 11:50am on Wednesday morning. Upon entry I presented my State of Michigan identification card, informed the facility representative of the intent of my inspection and was permitted onto the site. I met with Tyler Roak, Engineering Manager and Scott Sprenger, Accounting Manager. They showed me the facility and its processes as well as described how each process operated. The facility contact is David Campbell, Plant Manager. Dave was not on site when I first arrived, but join us later as I inspected the facility. Simonds specializes in cutting tools for the lumber and paper industries. Their products include large cutting tools for sawmills, paper mills and chippers. The tools are either large circular saw blades, or machining knives/straight flat blades. The blades and knives are manufactured completely separate and do not appear utilized any of the same production equipment. The facility currently employs approximately 75 personnel. The facility operates 24 hours per day Monday through Friday with some work performed Saturday and Sunday. Last year the facility had a steel throughput of approximately 5.8 million pounds.

Process description- Knives

Raw material is delivered to the east side of the facility. This steel enters the facility as blank plates of varying thickness. This steel is used for manufacturing the knives. The raw material for the large saw blades is shipped in from a different area on the southern end of the building. The steel for the blades comes in large square sheets and also varies is size and thickness.

The knife blanks are then sent to the CNC area where they are cut to shape. This area has five CNC machines, one punch press, three cut to length saws and four laser cutters. These process are vented to the general in plant environment and do not appear to directly vent to the outdoor air through general building ventilation. This process appears to meet the permit exemption **R.336.1285(2)(l)(vi)(B)** which in part states:

...(2) The requirement of R 336.1201(1) to obtain a permit to install does not apply to any of the following:...
...(l) The following equipment and any exhaust system or collector exclusively serving the equipment: ...
...(vi) Equipment for carving, cutting, routing, turning, drilling, machining, sawing, surface grinding, sanding, planning, buffing, sand blast cleaning, shot blasting, shot peening, or polishing ceramic artwork, leather, metals, graphite,
plastics, concrete, rubber, paper board, wood, wood products, stone, glass, fiberglass, or fabric which meets any of the following:...
...(B) Equipment that has emissions that are released only into the general in-plant environment. ...

Once the knife shape is cut, the steel is sent to be heat treated. The heat treating station has a hardening oven with oil quenching. They informed me that approximately 80% of their product is air quenched, and does not utilize quench oil. While inspecting the hardening oven, I observed what appeared to be a significant amount of oil/grease on the outside sections of the exhaust stack. The oil residue may have been historic, but it may be as sign of oil particulate emissions from the facility. Tracey McDonalds report from 1/16/2009 indicated that this process may be permit exempt under Rule 290. The facility was required to maintain records demonstrating that the process was able to meet the exemption. I was informed that the previous staff that maintained these records had left the facility a few years ago, due to health issues and would not be returning. The facility did not have the records at the time of the inspection, which could show the requirements of Rule 290. I informed Simonds that they would likely be required to obtain a permit due to the increased oil use in the quench oil operations. Not having a permit without meeting an exemption from permitting is a violation of Rule 201. The facility will be required to have this process reviewed and permitted.

After the parts are hardened, they are next tempered. The tempering stations utilize either natural gas ovens, or electric induction ovens. The facility has two small natural gas ovens and four electric ovens. Tyler informed me that the natural gas ovens were relatively new, and were both cheaper and better to operate than the electric ovens. The natural gas ovens were able to reach the required temperature for tempering significantly faster that the induction ovens were able to. The tempering ovens normally operate between 1000 degrees Fahrenheit and 1300 degrees. The natural gas ovens were vented with stacks to the outside air. The tempering process will likely have to be permitted with the oil quenching permit. Due to the oil quenching, not all of the parts produced in the tempering stage appear to meet the exemption Rule 282 which in part states:

Rule 282. ... (2) The requirement of R 336.1201(1) to obtain a permit to install does not apply to any of the following:
(a) Any of the following processes or process equipment which are electrically heated or which fire sweet gas
fuel or no. 1 or no. 2 fuel oil at a maximum total heat input rate of not more than 10,000,000 Btu per hour:
(i) Furnaces for heat treating or forging glass or metals, the use of that does not involve ammonia, molten materials,
oil-coated parts, or oil quenching.

After the knives are tempered they go to grinding and sharpening. The grinding and sharpening stations generate a significant amount of heat, and require a cooling fluid. Mr. Campbell provided me with a copy of the SDS for the cooling liquid. The liquid consists of 10-25% 2-Aminoethanol CAS 141-43-5, 2.5-10% Neutralized boric acid CAS 10043-35-3, 2.5-10% 2,2,2 Nitrotriethanol CAS 102-71-6 and 2.5-10% Neutralized 2-Aminoethanol CAS 141-43-5. None of these chemicals are considered

hazardous air pollutants (HAPs) by the US EPA. After my inspection Mr. Campbell emailed me a usage rate for the coolant. The facility used 5280 gallons of the coolant over the last 12 months. The worst case emissions from this process calculate to approximately 12.95 tons of the volatile organic compounds (VOCs). The 12.95 tons of VOC emissions does not account for the material that is captured in the waste metal and hauled off as solid waste. The actual emissions may actually be slightly lower than the estimated 12.95 tons. This is below the major source threshold for criteria pollutants. The grinding and sharpening process appears to be exempt from permitting pursuant to **R.336.1285(2)(l)(vi)(B).** This process should be evaluated during the permit application.

Process description- Circular blade

The large circular blade production utilizes similar steps as the knives, except they are processed as a separate line. The biggest difference is that every saw blade produced is quenched in oil after being hardened. Once quenched the blade is washed and tempered. The emissions from the quench oil are vented through an oil separator and back into the general in plant environment. The parts did not appear to have all of the oils fully removed prior to tempering, which is externally vented. This may exclude the facility from using the Rule 282 exemption. This process should be evaluated during the permit application.

Conclusion

It appears that Simonds is not in compliance with the Federal Clean Air Act Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act of 1994, PA 451, as amended, Michigan's Air Pollution Control Rules. Simonds is in violation of Rule 201. Simonds will need to apply for a permit for the quench oil and tempering processes conducted for both the blades and the knife manufacturing at the facility. Simonds should have the circular blade process evaluated by permit section during the permitting of the knife manufacturing.

NAME _____ DATE 7/7/17 SUPERVISOR _____