

DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: On-site Inspection

A009962571

FACILITY: Besser Company		SRN / ID: A0099
LOCATION: 801 Johnson St, ALPENA		DISTRICT: Gaylord
CITY: ALPENA		COUNTY: ALPENA
CONTACT: Adam szydlowski ,		ACTIVITY DATE: 02/24/2022
STAFF: Sharon LeBlanc	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MINOR
SUBJECT: supplemental site visit - and evaluation of onsite EUs. Note hours of operation not accurately reflecting paint booth use, company to make further recordkeeping corrections. sgl		
RESOLVED COMPLAINTS:		

On Thursday, February 24, 2022, AQD District Staff conducted a site visit of Besser Co. (A0099) located at 801 Johnson Street, Alpena, Michigan, Alpena County. The referenced Facility is a worldwide manufacturer of equipment for concrete production and concrete molds.

The Facility was issued two Permit to Install (PTIs 172-84 and 176-00) for paint lines. The purpose of the site inspection is as follow up to the September 24, 2021, site inspection to determine if the Facility is operating in general compliance with existing PTIs.

Weather conditions at the time of the inspection was partly cloudy, light snow showers, and temperatures below 10 degrees.

Facility –

The Besser Co. per readily available internet articles and the company website indicated that the company entered the concrete product and product systems industry with the development of one of the first hand-tamp block machine in 1904. The company has since expanded and includes the production of systems for masonry, hard scape, pipe and precast molds.

The Johnson Street Facility between 1910 – 1914 housed the Alpena Car Company, manufacturer of 13 different models and total production of approximately 480 cars. Today the location manufacturers equipment used to produce concrete pavers.

In addition to the 801 Johnson Street location, the Besser Co. also operates at or has aquired:

- The former Baker Enterprise (1976),

- The former International Pipe Machinery Corporation and Boone Foundry of Boone, Iowa (1998),
- Proneq of Montreal, Canada (1995), and
- CMC of Compton, California (2000)

The company has also formed partnerships with a number of companies to expand their business opportunities.

Equipment –

Permitted Equipment associated with the Besser Corporation includes a total of three dry filter paint booths and can be summarized below:

Paint Booth	Installation/modification date	Permit or exemption	In Operation
#50	1957/1984	Rule 287(c)	NO
#90 AKA EUDEPT90SPRAYBOOTH	1957/1984/2000	176-00	YES
#50 newer	2000	Rule 287(c)	YES

At the time of initial permitting, two dry filter paint booths (#90 and #50) and associated curing ovens were identified in the application for PTI 172-84. The permit application indicated that the two booths were installed in apx. 1957 and converted in March 19, 1984 to meet RACT II . The units would have been considered grandfathered units and exempt from permitting until modified.

Both of the above referenced lines were modified and a third line (#50 newer) installed in 2000 under PTI 176-00. A review of the engineer eval form for PTI 176-00 indicated that the added coating line and modified line identified as being located in department 50 were identified as being exempt per Rule 287(c).

At the time of the February 24, 2022, site inspection the Facility confirmed operation of #50 and #50 newer would be under exemption by Rule 287(c) and the PTI 172-84 could be voided.

Special Conditions for the modified coating line #90 (PTI 176-00) were assigned to EU -DEPT90SPRAYBOOTH.

Facility Staff report that unlike other facilities that produce single products on a large scale, Besser Co. produces on a per order basis. As a result usage of the booths reflect product orders, with separate booths for larger components and for smaller parts. The usages vary widely between the booths and over time.

Other Equipment associated with the Facility are primarily those of metal fabrication. Pollution control devices (dust collectors) may be located on/near the unit or may be located outside, with an air return for treated emissions back into the general work environment. Exemptions that may apply to one or more pieces of metal fabrication equipment onsite are presented below. Documentation that the equipment emissions does not exceed Rule 278 thresholds have yet to be determined by the Facility.

Many of the metal fabrication units appear to fall under:

- *Rule 285(2)(l) The following equipment and any exhaust system or collector exclusively serving the equipment.*
 - (i) equipment used exclusively for bending, forming, expanding, rolling, forging, pressing, drawing, stamping, spinning or extruding either hot or cold metals*
 - (ii) die casting machines.*
 - (iii) equipment for surface prep of metals by use of aqueous solutions except for acid solutions.*
 - (iv) atmospheric generators used in connection with metal heat treating processes.*
 - (v) Equipment used exclusively for sintering of glass or metals, but not exempting equipment used for sintering metal-bearing ores, metal scale, clay, fly ash or metal compounds.*
 - (vi) equipment for carving cutting, routing, turning, drilling, machining, sawing, surface grinding, sanding, planing, buffing, sand blast cleaning, shot blasting, shot peening, or polishing*

ceramic artwork, leather, metals, graphite, plastics, stone, glass fiberglass or fabric which meets any of the following:

(A) equipment used on a non production basis.

(B) equipment that has emissions that are released only into the general in-plant environment.

(C) equipment that has external vented emission controlled by an appropriately designed and operated fabric filter collector that for all specified operations with metal is preceded by a mechanical precleaner.

Other exemptions of interest may include:

- *Rule 281(2)(h) Cold Cleaners that have an air/vapor interface of not more than 10 square feet.*
- *Rule 282(2)(k) Aqueous based parts washers*
- *Rule 285 (hh) a process that uses only handheld aerosol spray cans, including the puncturing and disposing of the cans.*

Specific Metal Fabrication Equipment identified during the February 24, 2022 site inspection included the following:

- **Dept. 70 Grindbooth Rotoclones and Down Draft Tables**

Department 70 contains multiple pieces of equipment used for surface grinding. The downdraft table vent are reported to vent outside to a cyclone. As described, it appears that the units may be exempt under Rule 285(l)(vi) below:

Rule 285(2)(l) The following equipment and any exhaust system or collector exclusively serving the equipment..... (vi) equipment for...surface grinding, ... metals, ... which meets any of the following: (A) equipment used on a non production basis. (B) equipment that has emissions that are released only into the general in-plant environment. (C) equipment that has external vented emission controlled by an appropriately designed and operated fabric filter collector that for all specified operations with metal is preceded by a mechanical precleaner.

- **Dept. 20 Welding Equipment**

Department 20 welding equipment is located below a very large hood, which draws emissions outside to a cartage filter, and recirculates back into the general work environment. At the time of the inspection, the equipment included 6 MIG welders and one Lincoln TIG welder. Based on the limited information available, it appears that the following may be applicable:

Rule 285(2)(i) Brazing, soldering, welding, or plasma coating equipment.

- **Shot Blasting/Peening (Heat Treat)**

Two units are reported to exist onsite, and are used to remove scale, etc. from metal components. These include:

- Wheelabrator Model 112-AC with baghouse, located in Heat Treat and installed in 1972.
- Wheelabrator 96-inch Wheelabrator swing table with baghouse, located in Dept. 90 and installed in 1960.

Based on an installation date prior to 1967, the 96-inch wheelabrator swing table located in Dept. 90 would be considered grandfathered and not subject to Rule 201 permitting.

Based on the limited information, it appears that Rule 285(2)(I) may be applicable to the equipment observed.

Rule 285(2)(I) The following equipment and any exhaust system or collector exclusively serving the equipment...(vi) equipment for.... shot blasting, shot peening... metals, ...which meets any of the following: (A) equipment used on a non production basis. (B) equipment that has emissions that are released only into the general in-plant environment. (C) equipment that has external vented emission controlled by an appropriately designed and operated fabric filter collector that for all specified operations with metal is preceded by a mechanical precleaner.

- **Stress Relief Furnaces**

Two Stress Relief Furnaces (Furnace1 and Furnace2 aka machine 749) are used to relieve stress on metals. The referenced units consist of the following:

- Furnace1, JL Becker, Model J-8031-ER, 1.2 MMBTU/Hr capacity, rebuilt in 2017
- Furnace2, Surface Combustion Uni-Draw Furnace, 15KW max.power required, Max Fuel Demand of 910 SCFH, Fuel BTU per unit of 1000 BTU/cubic ft, Fuel Pressure of 10 PSIG, Input Power of 460V-3PH-60 HZ, installed in 1986.

Based on the limited information available, and an assumption that the units are NG fired, it appears that both have maximum total heat input rates of well below 10 MMBTU/Hr and may be exempt from Rule 201 permitting under the following exemption:

Rule 282(2)(a)(i) 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 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.

- **Dept. 230 Forge Furnace**

Located outside the Dept. 230 Tool Room, and equipped with a hood, the forge furnace is reported to probably be over 50 years old and may be as old as the company. If such is the case, the equipment may be grandfathered. Onsite staff report that the unit has had brick work replaced and is used only a few times a month.

The unit is relatively small (less than apx. 3 ft x 3 ft exterior) and it appears to be similar to units on the internet being sold as “blacksmith forges” and may fall under ***Rule 282(2)(f) Blacksmith Forges.***

- **Messer Burntable**

The facility operates a Messer Model Tital III Burntable, installed in 2018. Utilizing a plasma torch and oxyfuel, emissions from the burntable are drawn to a czrtage filter located outside the building, then is returned to the general work environment after treatment. Based on the limited information Rule 285(2)(I) may be applicable:

Rule 285(2)(I) The following equipment and any exhaust system or collector exclusively serving the equipment....(vi) equipment for ... cutting, ... metals...which meets any of the following: ...(C) equipment that has external vented emission controlled by an appropriately designed and operated fabric filter collector that for all specified operations with metal is preceded by a mechanical precleaner.

It is important to note that due to the nature of the emissions (vaporized or condensable metals) that special attention needs to be given to the type of control device to capture the emissions. Proof of applicability being the Facilities.

- **Rx Gas Generator**

The facility reports operating a Surface Combustion RX Generator (aka Machine 784). Installed in 1986, the unit is reported to have a maximum fuel demand of 6000 cubic ft/hour, with Fuel BTU per unit of 1000 BTU/cubic feet.

Also known as an endothermic generator, this emission unit creates an atmosphere to provide positive pressure in heat treating processes such as carburizing, hardening and annealing. An applicable exemption may be Rule 285(2)(I) Which reads as follows:

Rule 285(2)(I) The following equipment and any exhaust system or collector exclusively serving the equipment. ...(iv) atmospheric generators used in connection with metal heat treating processes.

- **Annealing/Carburizing Furnaces**

Two annealing/carburizing furnaces exist onsite and include the following:

- Carburizing Furnace 1 (aka machine 748), Surface Combustion Super allcase furnace. Maximum power required equals 170KW, Max fuel demand is 370 CFH, fuel BTU is 1000 BTU/cubic feet, Fuel Pressure 2 PSI, Input Power 460 V - 3 PH – 60HZ. Installation date 1986.
- Carburizing Furnace 2 (aka New Furnace), Surface combustion Allcase Furnace V54-72-36. Max Power required equals 70 KW, Maximum fuel demand 5090 CFH, Fuel BTU per unit equals 1000 BTU/cubic foot, fuel pressure 2-10 PSIG, Input Power 460 V – 3PH – 60 Hz. Installed 2020.

Readily available information on the internet indicated that carburizing is a common heat treatment process in which iron or steel absorbs carbon while the metal is heated, resulting in a harder surface. Based on the information provided, it appears that both units operate with Max heat inputs of less than 10 million BTUs/Hr and may be exempt from Rule 201 permitting under the following exemption:

Rule 282(2)(a)(i) 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 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.

The following pieces of equipment reflect emission units that reflect combustion sources located at the Facility, and that are not directly involved in the production process.

- Two Cleaver Brooks 300 HP, 12.240 MMBTU, NG-fired Boilers (SN 01099064 and 01099064)

Installed in 1999, the referenced units are operated alternate years, with the other operating as a back up. Based on information provided, it appears that the units may be exempt from permitting under Rule 282(2)(b)(i), which exempts as follows:

(b)Fuel-burning equipment which is used for space heating, service water heating, electric power generation, oil and gas production or processing, or indirect heating and which burns only the following fuels: (i)Sweet natural gas, synthetic natural gas, liquified petroleum gas or a combination there of and the equipment has a rated heat input capacity of not more than 50.000.000 BTU/Hr.

- Generators and Emergency Generators

The Facility reports having multiple generators onsite to meet with power needs. These include the following:

- Heat Treat Generator (Machine 799), Waukeshaw Enginater, Model H844-EU2, 125 KW, 170 Hp, NG-fired. Installed 1986

Note that this unit is reported to be broken, and no longer in use with no plans to repair and return to operation.

- IT Backup Generator, Genset Model GGHE, 60 KW, 81Hp, Max heat input of 802,200 BTU/Hr, NG-fired. Installation date 2004
- Dept. 50 Generator (Machine 584), Generac Model 94A 013444 S. diesel fired, 200 KW, 271 Hp, 1.254 MMBTU/Hr maximum heat input. Installation date 1994.

Based on the information provided it appears that the generators and emergency generators onsite may be exempt from Rule 201 permitting under Rule 285 (g), which exempts internal combustion engines that have less than 10 MMBTU/Hr maximum heat input.

Federal Requirements-

Federal requirements which may be applicable to the Facility include:

Federal Part	Subpart	
40 CFR Part 60	Subpart IIII	Stationary SI Internal Combustion Engines
40 CFR Part 60	Subpart JJJJ	Stationary CI Internal Combustion Engines
40 CFR Part 63	Subpart ZZZZ	Stationary Reciprocating Internal Combustion Engines (RICE)
40 CFR Part 63	Subpart JJJJJJ	Industrial, Commercial and Institutional Boilers at area sources

Industrial, Commercial and Institutional Boilers at Area Sources, 40 CFR Part 63, Subpart JJJJJJ

Known as the Boiler MACT, regulations differ for Major and Area Sources of HAPs. In the case of Major Sources of HAPs Boiler MACT regulations apply to boilers and process heaters. However in the above referenced regulations, the referenced subpart excludes process heaters at area sources. 40 CFR 63.11195 also excludes NG-fired boilers as well as hot water heaters of less than or equal to 120 U.S. gallons from the referenced subpart.

40 CFR Part 63, Subpart ZZZZ, NESHAP for Stationary Reciprocating Internal Combustion Engines (RICE)(AKA RICE MACT) .

With few exceptions all RICE are subject to requirements under the subpart. 40 CFR 63.6585 identifies all stationary RICE at major or area sources being subject to the subpart. Exemption to the RICE MACT may be found in 63.6590(c) for certain new or reconstructed RICE.

40 CFR Part 60, Subpart JJJJ, NSPS for Stationary Spark Ignition (SI) Internal Combustion Engines

40 CFR 60.4230 identifies manufacturers, owners and operators of SI Internal Combustion Engines that commence construction or reconstruction after June 12, 2006. Based on the information provided, it appears that the three generators identified onsite were constructed/installed prior to the referenced date and would not be subject to the subpart.

40 CFR Part 60, Subpart IIII, NSPS for Compression Ignition (CI) Internal Combustion Engines

40 CFR 60.4200 identifies owners and operators of CI Internal Combustion Engines that commence construction after July 11, 2005. Based on the information provided, it appears that the three generators identified onsite were constructed/installed prior to the referenced date and would not be subject to the subpart.

Permits -

A review of AQD Permit Cards database indicated a total of seven permits/permit applications for the Besser Facility. They are summarized below:

PTI/Application No.	Approved	Voided	Comment
72-70	7/16/1970	Requested electronically by District Staff 9/27/2021	Two electric coreless induction furnaces 2000 lb capacity each, made by Sola Basic Industries (removed)
44-80I	1/20/1981	5/13/2010	Wasteco CAK-100 100# Incinerator
401-82	Application voided	4/3/1984	Glecko Static Paint Spray Equipment (electrostatic paint equipment)
172-84	4/3/1984	Requested electronically	Conversion to Water Based Paints
172-84A	Application voided	8/3/1994	Paint Spray Guns
172-84B	Application voided	8/3/1994	Spray Guns Dept-90
176-00	8/8/2000		Add spraybooth and modify two existing.

Copies of available permit files were provided electronically to the Facility prior to the September 24, 2021, site inspection. As a result of discussions during the February 24, 2022, site inspection, A request for voidance of PTI 172-84 will be made as #50 is in place but not operable, and the company has no plans to operate the unit. Should the Facility determine to return the unit to operation, they understand they will have to meet either an appropriate exemption, or will have to be permitted.

Compliance History –

The Facility is not required to report emissions annually under the MAERS system. In addition, no complaints are of record for the Facility in the MACES database nor are there any records of letters of violation for the Facility.

Compliance Evaluation –

The compliance determination for the referenced Facility is based on compliance with existing PTI conditions or exemption requirements.

During discussions with Facility representatives at the time of the September 24, 2021, site inspection it was indicated that through retirements and general employee attrition that knowledge of any AQD permits was not passed on to remaining staff, and any recordkeeping that had been kept to meet permit conditions had been destroyed following key staff leaving the Facility.

Facility staff were previously able to provide purchase records for coatings and solvents for the 12-month period ending August 30, 2021, as well as VOC content.

The VOC content and other applicable information for each is provided below:

Coating	Weight (lb/gallon)	VOC Content (lb/gallon)	Organic Solvents (lb/gallon)	Water Content (lb/gallon)
Quick Dry Primer - White	12.876	3.502 (27.2%)	3.502 (27.2%)	Not Reported
Besser Yellow	9.091	1.400 (15.4%)	1.402 (15.4%)	4.181 (46.0%)
Besser Blue	9.063	1.323 (14.6%)	1.323 (14.6%)	4.449 (49.1%)

172-84 –

Void requested. Conditions under the referenced PTI are applicable to two dry filter paint booths identified as #90 and #50. It should be noted that #90 (aka EU-DEPT90SPRAYBOOTH) was modified under PTI 176-00. The issuance of 176-00 would appear to negate/supersede SC under 172-84.

PTI 176-00 –

Conditions under the referenced PTI are applicable only to EU-DEPT90SPRAYBOOTH (Dept. 90 Spray booth). The referenced EU is identified in the PTI as consisting of the miscellaneous metal parts coating line, consisting of one spray booth, one infrared oven, one curing oven and a cooling tunnel.

No VOC content restrictions for coatings exist under PTI 176-00 for EU-DEPT90SPRAYBOOTH. Emissions for the referenced spray booth (SC 1) are limited to a not to exceed rate of:

Parameter	Lb/hr	TPY *
Total VOCs	1.35	5.9

*based on a 12-month rolling total, determined at the end of each calendar month.

Records provided by the Facility as previously noted did not include hours of operation for the EU-DEPT90SPRAYBOOTH, as part of the records request for the most recent records request the Facility indicated that the “spray booths” operate 12 hours a day. But records of actual periods of operation do not appear to have been implemented. The reason for the requirement has been discussed with Facility staff. therefore compliance with the lb/hr VOC limit was not able to be determined. District Staff will follow up with the Facility and request records verifying operations in the coming months.

The facility had previously been provided with the link for the Clean Air Assistance Program webpage and location of a coating line spreadsheet to evaluate for their use and the Facility has committed to including hours of operation in the recordkeeping.

Records provided for emissions and usage were maintained on the referenced spreadsheet and are summarized for the first quarter of 2022 below:

Month	Gallons Used	Total VOC emissions (lbs)
January 2022	25	43
February 2022	100	164
March 2022	60	60

In lieu of 12-months worth of data, District staff using the above data estimate annual emissions of approximately 0.5 tons (based on first quarter average) to approximately 2 tons of Total VOC emissions (based on emissions for February 2022) which would indicate that the Facility has been operating in compliance with the TPY limits.

Operational limits associated with EU-DEPT90SPRAYBOOTH limit operation of the spray booth portion of the coating line to only when the filters are in place and operating properly (SC.2) The Facility reports compliance with this condition, and permits were in place at the time of the February 24, 2022, site inspection.

In addition, the disposal of waste coatings, solvents, and exhaust filters shall be performed in a manner which minimizes the introduction of air contaminants to the outer air (SC.5). The Facility reports compliance with this condition.

Recordkeeping requirements for the EU include the following monthly records to be kept on file for a period of at least 5-years and made available upon request to the department:

- Hours of operation for the coating line (SC 3.a),

- For each coating and reducer used in EU-DEPT90SPRAYBOOTH: the amount in gallons used (with water) and total VOC content in pounds per gallon (with water) as applied, (SC 3.b)
- For purge and clean-up solvents used in EU-DEPT90SPRAYBOOTH: the amount in gallons used, total VOC content in pounds per gallon (with water), and the amount in gallons of solvents reclaimed, (SC 3.c) and
- VOC emission calculations determining the total mass emissions from EU-DEPT90SPRAYBOOTH in tons per month; and a 12-month rolling time period mass emission at the end of each calendar month in tons per year (SC 3.d).

The Facility has implemented log sheets to document gallons of coating used and hours of operation. VOC emissions are determined using a MDEQ coating spreadsheet available for use.

Under SC.4, the exhaust gases from EU-DEPT90SPRAYBOOTH shall be discharged unobstructed vertically upwards to the ambient air from stacks with the following construction requirements:

Stack No.	Description	Maximum Diameter (inches)	Minimum Exit Point above Ground Level (feet)
SV00001	Spray Booth Exhaust	42	45
SV00002	Infrared Oven Exhaust	12	45
SV00003	Cure Oven Exhaust	18	45
SV00004	Cool Down Tunnel Exhaust	12	20

The Facility reports that the referenced stacks were permitted at the existing construction, and that no modifications have occurred since the 2000 permit issuance.

176-00 Exempt Equipment-

It should be noted that the modifications to #50 and a proposed additional spray booth proposed in 176-00 application were noted in the engineer's eval to be exempt from permitting under Rule 287(c), which reads as follows:

(c) a surface coating line if all of the following are met:

- i. *The coating rate is not more than 200 gallons, as applied, minus water, per month.*
- ii. *Any exhaust system that serves only coating spray equipment is supplied with a dry filter control or water wash control which is installed, maintained, and operated in accordance with the manufacturer's specifications, or the owner or operator develops a plan which provides to the extent practicable for the maintenance and operation of the equipment in a manner consistent with good air pollution control practices for minimizing emissions.*
- iii. *Monthly coating use records are maintained on file for the most recent 2-year period and are made available to the department upon request.*

During the February 24, 2022, site visit, it was noted that spray booth #50 is inoperable, and though the unit was still in place, it is being used for storage space. Coating operations have shifted to the proposed new booth in the department 50 area. Records provided indicate that the present coating rate is well in compliance with the exemption requirements presented above.

Summary –

On Thursday, February 24, 2022, AQD District Staff conducted a site visit of Besser Co. (A0099) located at 801 Johnson Street, Alpena, Michigan, Alpena County. The referenced Facility is a worldwide manufacturer of equipment for concrete production and concrete molds.

The Facility was issued two Permit to Install (PTIs 172-84 and 176-00) for paint lines. The purpose of the site inspection is as follow up to the September 24, 2021, site inspection to determine if the Facility is operating in general compliance with

existing PTIs. Discussions with onsite personnel indicated that permitting for EU-DEPT90SPRAYBOOTH (Dept. 90 spray booth) under PTI 176-00 is the only applicable PTI. As previously documented, the Facility is in the process of bringing their recordkeeping up to the level required to show compliance with the referenced permit. At the time of the February 24, 2022, site inspection further accuracy in operation time for the above referenced spray booth was requested of the Facility.

Emissions reported were less than half the ton per year limit. District Staff will be following up with the Facility later in the year to get a better idea of the facilities operating time and lb/hour total VOC emissions. As a determination of compliance could not be made at this time.

The Besser Co. per readily available internet articles and the company website indicated that the company entered the concrete product and product systems industry with the development of one of the first hand-tamp block machine in 1904. The company presently manufacturers equipment which makes concrete paving stones. A number of pieces of equipment other than coating lines are required to manufacture their products. As part of the February 24, 2022, site inspection, District Staff has done an initial identification of Rule 201 permitting exemptions for the Facility to evaluate. No Rule 278 evaluation has been completed for the additional production equipment summarized in this document.

NAME _____

DATE _____

SUPERVISOR _____