May 23, 2023

Mr. Daniel McGeen
Air Quality Division
Michigan Department of Environment, Great Lakes, and Energy
Constitution Hall – First Floor Southwest
P.O. Box 30242
Lansing, MI 48909

Response to the Violation Notice Dated April 10, 2023
Fritz Enterprise (SRN N6823)
Flint, Michigan

On April 10, 2023, the Michigan Department of Environment, Great Lakes, and Energy, Air Quality Division (EGLE-AQD) issued a Violation Notice (VN) to Fritz Enterprises of Flint, LLC (Fritz-Flint) alleging a violation of Rules 911(2) and 910. The specific allegations cited in the VN are as follows.

Process Description	Rule/Permit Condition Violated	Comments
FG-SHREDDEROP	PTI 92-00B, FG-SHREDDEROP, SC III.9; Rule 911	Facility malfunction abatement plan (MAP) has not been updated since 2002.
EU-ZBOX	PTI No. 92-00B, EU-ZBOX Special Condition (SC) IV.1, and VI. 1; Rule 91	Wet scrubber does not have a pressure drop gauge.

As requested, this letter provides information regarding the referenced citation, including: the date the alleged violation occurred; an explanation of the cause(s) and duration of the alleged violation; whether the violation is ongoing; a summary of the action(s) that have been taken and are proposed to be taken to correct the violation; the date(s) by which these action(s) will take place; and what steps are being taken to prevent a reoccurrence.

Plant Mitigation Measures

Fritz -Flint is a true minor source operating under Air Use Permit to Install (PTI) 92-00B, issued February 15, 2011. From the time that Fritz – Flint took over the location on November 15, 2006, through the initial inspection on April 20, 2022, Fritz-Flint had no violation notices from EGLE-AQD. Fritz-Flint has a history of compliant inspections on: November 17, 2009, June 13, 2013, July 16, 2015, July 8, 2020, and August 30, 2021.

On April 20, 2022, as part of the U.S. Environmental Protection Agency (USEPA) initiative to inspect facilities in the community of Flint the USEPA Region 5 Air Enforcement and Compliance Assurance Branch and EGLE-AQD conducted an unannounced inspection of Fritz -Flint. Per the inspection report, EGLE-AQD has not received any complaints during the time that FEI has owned and operated the facility. Fritz –Flint strives to be a good neighbor to the Flint community.

Daniel McGeen
May 23, 2023

During the most recent inspection on March 27, 2023, EGLE noted that the MAP needed to be updated and followed up with the VN. Measures have been taken to address concerns raised by this inspection. These measures include:

- Contracting an environmental consultant to visit FEI-Flint and author an updated MAP which will include details regarding:
  - Maintaining the control equipment, including the Smart Water Injection System
  - Preventative maintenance program for cleaning the duct system every other day
  - Clarification of daily recording of readings from pressure drop gauges and water flow

- A Magnehelic gauge to monitor the scrubber pressure has been installed. We are in the process of calibrating it to insure proper operation. See Att A

The revised MAP is attached.

Fritz -Flint is proud to be part of the circular economy helping to reduce the consumption of natural resources through recycling. Fritz -Flint has and will continue to work cooperatively with EGLE to address any concerns.

If you have any questions, please contact me at amers@fritzinc.com(734.362.3228) or our environmental consultant, Lillian Woolley, of Fishbeck, at llwoolley@fishbeck.com (586.489.6876).

Sincerely,

Sam Amer
Corporate Environmental Manager
Fritz Enterprises, Inc.
1650 West Jefferson. Trenton, MI 48183
Office: 734.362.3228

Attachments
By email
Copy: Jenine Camilleri – EGLE-AQD (Lansing)
Lillian L. Woolley, PE – Fishbeck

Malfunction Abatement Plan
Metal Shredder and Z-Box

Fritz Enterprises of Flint, LLC

Project No. 230866
May 3, 2023

fishbeck
Engineers | Architects | Scientists | Constructors

fishbeck
Engineers | Architects | Scientists | Constructors

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Novi, Michigan 48377

248.324.2090 | fishbeck.com

Malfunction Abatement Plan
Metal Shredder and Z Box

Fritz Enterprises of Flint LLC

Prepared For:
Fritz Enterprises of Flint, LLC
Flint, Michigan

May 3, 2023
Project No. 230866

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List of Abbreviations/Acronyms

°F	degrees Fahrenheit
EGLE	Michigan Department of the Environment, Great Lakes, and Energy
FEI-Flint	Fritz Enterprises of Flint, LLC.
gpm	gallons per minute
HAP	hazardous air pollutant
lb	pound(s)
MAP	Malfunction Abatement Plan
PM	particulate matter
PTI	Permit to Install
TAC	toxic air contaminant
tpy	tons per year
VE	visible emissions
VOC	volatile organic compound

1.0 Introduction

This Malfunction Abatement Plan (MAP) has been prepared to comply with the Fritz Enterprises of Flint, LLC (Fritz-Flint) Air Use Permit to Install (PTI) 92-00B. This MAP is based on Michigan Air Pollution Rule 911 and includes the requirements of PTI 92-00B. A copy of PTI 92-00B is provided in Appendix 1.

As required by PTI 92-00B, the purpose of this MAP is to describe actions that will be taken at Fritz-Flint in the event of a malfunction of the air pollution control equipment for the shredder, causing excess emissions. The PTI specifies, at minimum, the MAP shall include the following:

1. A complete Preventive Maintenance Program, including identification of the supervisory personnel responsible for overseeing the inspection, maintenance, and repair of air-cleaning devices; a description of the items or conditions that shall be inspected; the frequency of the inspections or repairs; and an identification of the major replacement parts that shall be maintained in inventory for quick replacement.
2. An identification of the source and air-cleaning device operating variables that shall be monitored to detect a malfunction or failure, the normal operating range of these variables, and a description of the method of monitoring or surveillance procedures.
3. A description of the corrective procedures or operational changes that shall be taken in the event of a malfunction or failure to achieve compliance with the applicable emission limits.

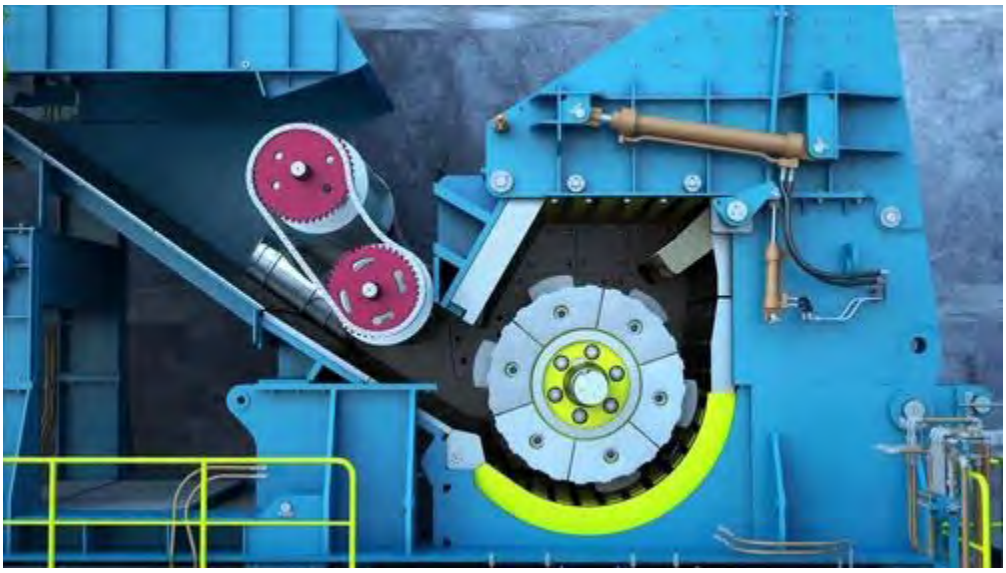
2.0 Source Description

Fritz-Flint processes ferrous and non-ferrous scrap metal and ferrous and non-ferrous metal bearing material. The main method of scrap metal processing onsite is a metal shredder used to process scrap automobiles and other metal-containing items. As material that will become shredder feedstock is delivered to the facility, it is off-loaded and sorted based on scrap type for processing. Radioactive materials, asbestos, compressed gas cylinders/propane tanks, are prohibited materials, which are not knowingly accepted at Fritz-Flint. Whole automobiles and appliances with refrigerants are sequestered for processing. All suppliers are notified of requirements for acceptable materials prior to shipment. A large sign on the fence further emphasizes materials accepted for recycling at the facility. Fritz-Flint retains the right to reject any load for processing if it is determined that the materials were not properly prepared for shredding.

Certain hazardous substances that are still present in items delivered to the facility are removed from the input materials in a process commonly referred to as *de-pollution*. Best industry practices include removal and recovery for proper disposal of fluids and certain other materials prior to shredding. These materials include, but may not be limited to, gasoline, diesel, oil, antifreeze, brake fluid, transmission fluid, etc.; lead-acid batteries; switches and light ballasts containing mercury; and refrigerants contained in appliances, such as air conditioners, dehumidifiers, and refrigerators, as required by the Clean Air Act. De-pollution reduces emissions of volatile organic compounds (VOCs) and toxic air contaminants (TACs). Fritz-Flint requires any previously crushed automobiles, which are brought on site, have been properly processed by the vendor.

The shredder feedstock is loaded into the infeed container, where it is fed onto a conveyor belt. The shredder is a heavy-duty, single shaft shredder. It employs 4 rows of hammers to impact and shred the material inside the shredder box to below a set grate size.

Graphic 1- Example Hammermill Style Shredder.



During the shredding process, any dirt and dust contained within the feed material can be liberated and carried into the air; additional dust is also created as the material is pulverized. This dust and other materials are controlled by a Smart Water Injection System. Smart Water Injection Systems are designed to assist in controlling dust emissions by injecting water into the shredder box during operation. Some of the injected water turns into steam when it contacts the hot shredded fragments inside the shredder chamber. Particulate dust is reduced as airborne steam droplets capture the dust particles.

The shredded material exits the shredder and is conveyed through a vibratory feeder with magnetic separation – the Z-Box – and is ultimately conveyed and stored in large stockpiles. The Z-Box separation process is controlled with a cyclone and wet scrubber. The control system discharges through a single exhaust stack. Entrapped waste and magnetic dirt carried by the conveyor can be separated by the Z-Box. The shredded material falls from the conveyor into a Z-shaped duct; while descending, the shredded material hits the inner steps and fragments inside the duct. Counter flowing air is used to cause light materials to be separated from the metal scrap as it falls. These light particles are pulled into the cyclone. Ferrous scrap metal is separated from Zorba. Zorba is *a mix of nonferrous shredded metals such as wrought and cast aluminum*, which is stored in a stockpile to be transferred by equipment (i.e., bucket loader) to the eddy current separator to separate usable metal from *fluff.* This ensures there is little to no recoverable materials left in the final fluff pile. Each different type of material is stored in separate piles for transport offsite for additional processing.

3.0 Emission Control Systems

The emission sources onsite are the scrap metal shredder equipment, the Z-Box separator, and conveying equipment.

3.1 Water Injection Systems

A Smart Water Injection System is located inside the shredder box. The system sprays water onto the hot shredded metal fragments, some of which turns into steam. The water and steam help to reduce particulate matter and dust emitted from the shredder. Explosions are mitigated by using this type of system; however, unlike older systems that fully wetted the material, there is no free water to be collected or cleaned. The system

automatically adjusts the water used based on the current of the shredder. The Smart Water Injection System has a winter mode that uses air to purge the lines thereby allowing year-round operation.

3.2 Cyclone

Particulate matter (PM), dust, steam, and shredded metal fragments from the shredder and conveyors travel to the cyclone to remove PM. A primary cyclone separates larger particles from the exhaust stream to allow the venturi scrubber to operate efficiently. The cyclone has an inlet for unfiltered gasses and an outlet for filtered air. Cyclones can be very efficient with large particle sizes.

3.3 Wet Venturi Scrubber

In the summer a venturi wet scrubber can be used for additional PM filtration from the Z-Box. Venturi scrubbers use mechanical forces to remove PM. Particles are captured through a process of impaction between particles in the air and water droplets in the venturi throat. A high differential velocity is created between particles and droplets by accelerating the air in the throat. A pressure drop in the throat provides energy to capture the particles. The waste air temperature and humidity also impact the venturi design. When air passes through a wet scrubber, water evaporates, which increases humidity and cools the air stream. The amount of evaporation is determined by the inlet temperature and humidity. For PM applications, venturi wet scrubbers are typically limited to a temperature range of 50°F to 700°F. In certain climates, like Flint, Michigan, it is impractical to use a wet scrubber in the winter.

4.0 Material and Emission Limits

During metal shredding operations, PM is emitted. Opacity from all emission points is limited to 10% (based on a 6-minute average) except uncombined water vapor while particulate emissions are limited to 0.05 lb/1,000 lb of exhaust.[1] The shredder is limited to 195, 000 tons of material shredded per 12-month rolling time period; records demonstrating compliance with this limit must be maintained.

5.0 Defining Malfunctions

Rule 113(a) defines a malfunction as:

> *Malfunction means any sudden, infrequent, and not reasonably preventable failure of a source, process, process equipment, or air pollution control equipment to operate in a normal or usual manner. Failures that are caused in part by poor maintenance or careless operation are not malfunctions.*

A *true malfunction* must have a reasonable potential to cause an exceedance of emissions. Following is a list of events that may be due to a malfunction and which would be expected to cause an emission exceedance.

- Malfunction of air pollution control equipment (e.g., broken filter media, electrical failure, etc.). This would be verified through visible emissions (VE or opacity) readings.
- Malfunction of the water injection system, which would be indicated by loss of flow of water. This would be verified through VE readings.
- It should be noted that, under Rule 912, a malfunction causing excess emissions lasting more than two hours must be reported to Michigan Department of Environment, Great Lakes, and Energy (EGLE). Appendix 2 includes an example notification and information on reporting the malfunction.

[1] lb pound(s)

During shredder operation, the operators have been instructed to pay attention to indications of problems in the system including:

- Leakage
- Smoke
- Excessive vibration
- Abnormal sounds or odors

6.0 Responsible Personnel

The personnel responsible for this MAP are as follows:

Table 1 – Responsible Personnel

Position	Responsibility
Facility Operations and Maintenance Staff	Overall operations, repairs, corrective actions, malfunction response, routine inspections, pollution control equipment monitoring and maintenance
Facility Manager	Oversight of system operations, management of change
Environmental Manager	Periodic checks for compliance with PTI and associated plans (i.e., review of compliance records)
Outside Contractors	Calibration, large scale repairs, and maintenance of emission control instrumentation

7.0 Air Pollution Control Equipment Inspection, Operation and Corrective Action Procedures

Fritz-Flint has a comprehensive maintenance program, including equipment inspections and scheduled maintenance. Maintenance and repairs required as part of the MAP are based on a system of inspections and corrective actions and are typically performed primarily by Fritz-Flint personnel; however, outside contractors may also be utilized onsite as deemed necessary. Prior to starting the shredder and associated equipment, a startup checklist is reviewed.

Table 2 provides general information on daily inspections performed by the FEI Flint personnel each day the facility is operating:

Table 2 – Daily Inspections

Description of Observation	Method of Observation	Normal Operation	Frequency of Observation
Pressure Drop from Scrubber	Pressure drop gauge located on the scrubber	0.5 to 1.5-inch w.c.	Recorded daily when scrubber is in use
Pressure Drop from Cyclone	Pressure drop gauge located on the cyclone	2 to 4-inch w.c.	Recorded daily on Cyclone Pressure Log
Liquid Flow from Scrubber	Liquid Flow Indicator	2-20 gpm	Recorded daily on the Water Flow Log
Water Injection Rate	Information on daily water usage	Varies	Each day the water injection system must be operating properly, and water usage must be recorded.
Shredder Temperator	Temperature is continuously monitored and recorded periodically during the day	50°F – 250°F	Recorded every hour on mill motors A, B &C
Shredder Motor Current	Information on motor current from Smart Water Injection System	100 – 500 amps	Each day of operation the water injection system must be operating properly, and motor current must be recorded.
Throughput	Daily records of shredder throughput must be documented	Less than 195, 000 tpy (tracked monthly)	Tracked daily, compiled monthly
Fluff Storage	Daily records of the fluff onsite must be documented	Less than 3,300 yd^3 at one time	Tracked daily

wc water column
gpm gallons per minute
tpy tons per year
yd^3 cubic yard(s)

Daily inspections are conducted on operating days and any repairs and/or maintenance performed as a result of these inspections will be documented. Appendix 3 includes an example daily inspection sheet.

7.1 Corrective Action

Operators load material to ensure the equipment is not overloaded which could cause excessive visible emissions. Water is used to ensure dust is controlled and material does not become overheated. In the event control equipment is not operating properly because it is operating out of the acceptable operating ranges, it is inspected, cleaned, or repaired to return it to the acceptable operating ranges as soon as possible.

If excess emissions last more than two hours, Rule 912 notification and reporting is required. The example Abnormal Conditions/Malfunction Follow-Up Report in Appendix 2 provides information that can be used to notify EGLE under Rule 912 and is for internal use only.

7.2 Preventive Maintenance Schedule

Preventive maintenance will include equipment inspections, repair, and replacement of parts as needed on a regular schedule. Information regarding equipment inspections and maintenance is maintained in an electronic tracking system. Equipment inspections generally fall under two categories: inspections that take place while the facility is operating and less frequent inspections that take place while the facility is not operating. The inspections that take place during facility operation typically occur on a weekly, monthly, quarterly, semiannual, or annual basis. The frequency and scope of these inspections depend on manufacturer recommendations and operator experience. In addition, inspections or maintenance could be delayed because the equipment is not operating or because outages have to be scheduled.

7.2.1 Cyclone

- Inspected weekly and build-up in cyclone removed
- Blow-offs and rubber flaps are inspected weekly and cleaned/repaired as necessary.

7.2.2 Air Ducts

- The air ducts are inspected and cleaned every other day to remove any build-up
- Blow-offs and rubber flaps are inspected daily and cleaned/repaired as necessary.

7.2.3 Water Tank

- The water level in the tank is inspected daily
- The water tank is cleaned every 6 to 8 months
- The sludge build-up is checked monthly and removed if necessary
- The water pump, fans, and airlocks are cleaned, greased, and have fasteners checked weekly
- The belts on the water pump, fans, and air locks are inspected daily
- The electric motors and bearings on the water pump, fans, and air locks are inspected weekly

7.2.4 Wet Scrubber

- The wet scrubber is inspected weekly and build-up is removed
- The nozzles are inspected weekly to ensure they flow freely

8.0 Reporting Malfunctions and Abnormal Conditions

Michigan Rules 912(2)-(5) require facilities to report certain abnormal conditions, start-up, shutdown, or malfunctions associated with process, and/or emission control systems subject to air quality requirements.

Michigan Rule 912(2) addresses reporting requirements for sources releasing emissions of hazardous air pollutants (HAPs) and/or TACs in excess of applicable limitations for one hour or more. The requirement reads:

> *The owner or operator of a source, process, or process equipment shall provide notice of an abnormal condition, start-up, shutdown, or a malfunction that results in emissions of a hazardous air pollutant which continue for more than 1 hour in excess of any applicable standard or limitation established by the clean air act or the emissions of a toxic air contaminant which continue for more than 1 hour in excess of an emission standard established by a rule promulgated under the air pollution act or an emission limitation specified in a permit issued or order entered under the air pollution act.*

Michigan Rule 912(3) addresses reporting requirements for sources releasing emissions of any air contaminant in excess of allowable emission rates for two hours or more. The rule reads:

> *The owner or operator of a source, process, or process equipment shall provide notice and a written report of an abnormal condition, start-up, shutdown, or a malfunction that results in emissions of any air contaminant continuing for more than 2 hours in excess of a standard or limitation established by any applicable requirement.*

Rule 912(4) establishes the reporting timelines. The rule reads:

> *The notices required by this rule shall be provided to the department as soon as reasonably possible, but not later than 2 business days after the start-up or shutdown or after discovery of the abnormal conditions or malfunction. Notice shall be by any reasonable means, including electronic, telephonic, or oral communication.*

The content requirements for reports submitted under Rule 912 are specified in Rule 912(5). The rule reads:

> *The written reports required under this rule shall be submitted within 10 days after the start-up or shutdown occurred, within 10 days after the abnormal conditions or malfunction has been corrected, or within 30 days of discovery of the abnormal conditions or malfunction, whichever is first. The written reports shall include all of the following information:*
> *(a) The time and date, the probable causes or reasons for, and the duration of the abnormal conditions, start-up, shutdown, or malfunction.*
> *(b) An identification of the source, process, or process equipment that experienced abnormal conditions, was started up or shut down, or which malfunctioned and all other affected process or process equipment that have emissions in excess of an applicable requirement, including a description of the type and, where known or where it is reasonably possible to estimate, the quantity or magnitude of emissions in excess of applicable requirements.*
> *(c) Information describing the measures taken and air pollution control practices followed to minimize emissions.*
> *(d) For abnormal conditions and malfunctions, the report shall also include a summary of the actions taken to correct and to prevent a reoccurrence of the abnormal conditions or malfunction and the time taken to correct the malfunction.*

Fritz-Flint will report abnormal conditions or malfunctions associated with process and/or emission control systems in accordance with the requirements of Rule 912.

Appendix 1

MICHIGAN DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENT
AIR QUALITY DIVISION

February 15, 2011

PERMIT TO INSTALL
92-00B

ISSUED TO
Spooner Metals, LLC

LOCATED AT
5032 North Dort Highway
Flint, Michigan

IN THE COUNTY OF
Genesee

STATE REGISTRATION NUMBER
N6823

The Air Quality Division has approved this Permit to Install, pursuant to the delegation of authority from the Michigan Department of Natural Resources and Environment. This permit is hereby issued in accordance with and subject to Section 5505(1) of Article II, Chapter I, Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended. Pursuant to Air Pollution Control Rule 336.1201(1), this permit constitutes the permittee's authority to install the identified emission unit(s) in accordance with all administrative rules of the Department and the attached conditions. Operation of the emission unit(s) identified in this Permit to Install is allowed pursuant to Rule 336.1201(6).

DATE OF RECEIPT OF ALL INFORMATION REQUIRED BY RULE 203: **December 14, 2010**	
DATE PERMIT TO INSTALL APPROVED: **February 15, 2011**	SIGNATURE:
DATE PERMIT VOIDED:	SIGNATURE:
DATE PERMIT REVOKED:	SIGNATURE:

Spooner Metals, LLC February 15, 2011

Permit No. 92-00B
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PERMIT TO

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Common Abbreviations / Acronyms

Common Acronyms		Pollutant/Measurement Abbreviations	
AQD	Air Quality Division	BTU	British Thermal Unit
ANSI	American National Standards Institute	°C	Degrees Celsius
BACT	Best Available Control Technology	CO	Carbon Monoxide
CAA	Clean Air Act	dscf	Dry standard cubic foot
CEM	Continuous Emission Monitoring	dscm	Dry standard cubic meter
CFR	Code of Federal Regulations	°F	Degrees Fahrenheit
COM	Continuous Opacity Monitoring	gr	Grains
EPA	Environmental Protection Agency	Hg	Mercury
EU	Emission Unit	hr	Hour
FG	Flexible Group	H_2S	Hydrogen Sulfide
GACS	Gallon of Applied Coating Solids	hp	Horsepower
GC	General Condition	lb	Pound
HAP	Hazardous Air Pollutant	m	Meter
HVLP	High Volume Low Pressure *	mg	Milligram
ID	Identification	mm	Millimeter
LAER	Lowest Achievable Emission Rate	MM	Million
MACT	Maximum Achievable Control Technology	MW	Megawatts
MAERS	Michigan Air Emissions Reporting System	ng	Nanogram
MAP	Malfunction Abatement Plan	NO_X	Oxides of Nitrogen
MDNRE	Michigan Department of Natural Resources and Environment (Department)	PM	Particulate Matter
MIOSHA	Michigan Occupational Safety & Health Administration	PM10	PM less than or equal to 10 microns diameter
MSDS	Material Safety Data Sheet	PM2.5	PM less than or equal 2.5 microns diameter
NESHAP	National Emission Standard for Hazardous Air Pollutants	pph	Pound per hour
NSPS	New Source Performance Standards	ppm	Parts per million
NSR	New Source Review	ppmv	Parts per million by volume
PS	Performance Specification	ppmw	Parts per million by weight
PSD	Prevention of Significant Deterioration	psia	Pounds per square inch absolute
PTE	Permanent Total Enclosure	psig	Pounds per square inch gauge
PTI	Permit to Install	scf	Standard cubic feet
RACT	Reasonably Available Control Technology	sec	Seconds
ROP	Renewable Operating Permit	SO_2	Sulfur Dioxide
SC	Special Condition	THC	Total Hydrocarbons
SCR	Selective Catalytic Reduction		

* For High Volume Low Pressure (HVLP) applicators, the pressure measured at the HVLP gun air cap shall not

exceed ten (10) pounds per square inch gauge (psig).

GENERAL CONDITIONS

1. The process or process equipment covered by this permit shall not be reconstructed, relocated, or modified, unless a Permit to Install authorizing such action is issued by the Department, except to the extent such action is exempt from the Permit to Install requirements by any applicable rule. **(R 336.1201(1))**

2. If the installation, construction, reconstruction, relocation, or modification of the equipment for which this permit has been approved has not commenced within 18 months, or has been interrupted for 18 months, this permit shall become void unless otherwise authorized by the Department. Furthermore, the permittee or the designated authorized agent shall notify the Department via the Supervisor, Permit Section, Air Quality Division, Michigan Department of Natural Resources and Environment, P.O. Box 30260, Lansing, Michigan 48909, if it is decided not to pursue the installation, construction, reconstruction, relocation, or modification of the equipment allowed by this Permit to Install. **(R 336.1201(4))**

3. If this Permit to Install is issued for a process or process equipment located at a stationary source that is not subject to the Renewable Operating Permit program requirements pursuant to R 336.1210, operation of the process or process equipment is allowed by this permit if the equipment performs in accordance with the terms and conditions of this Permit to Install. **(R 336.1201(6)(b))**

4. The Department may, after notice and opportunity for a hearing, revoke this Permit to Install if evidence indicates the process or process equipment is not performing in accordance with the terms and conditions of this permit or is violating the Department's rules or the Clean Air Act. **(R 336.1201(8), Section 5510 of Act 451, PA 1994)**

5. The terms and conditions of this Permit to Install shall apply to any person or legal entity that now or hereafter owns or operates the process or process equipment at the location authorized by this Permit to Install. If the new owner or operator submits a written request to the Department pursuant to R 336.1219 and the Department approves the request, this permit will be amended to reflect the change of ownership or operational control. The request must include all of the information required by subrules (1)(a), (b), and (c) of R 336.1219 and shall be sent to the District Supervisor, Air Quality Division, Michigan Department of Natural Resources and Environment. **(R 336.1219)**

6. Operation of this equipment shall not result in the emission of an air contaminant which causes injurious effects to human health or safety, animal life, plant life of significant economic value, or property, or which causes unreasonable interference with the comfortable enjoyment of life and property. **(R 336.1901)**

7. The permittee shall provide notice of an abnormal condition, start-up, shutdown, or malfunction that results in emissions of a hazardous or toxic air pollutant which continue for more than one hour in excess of any applicable standard or limitation, or emissions of any air contaminant continuing for more than two hours in excess of an applicable standard or limitation, as required in Rule 912, to the Department. The notice shall be provided not later than two business days after start-up, shutdown, or discovery of the abnormal condition or malfunction. Written reports, if required, must be filed with the Department within

   10 days after the start-up or shutdown occurred, within 10 days after the abnormal conditions or malfunction has been corrected, or within 30 days of discovery of the abnormal condition or malfunction, whichever is first. The written reports shall include all of the information required in Rule 912(5). **(R 336.1912)**

8. Approval of this permit does not exempt the permittee from complying with any future applicable requirements which may be promulgated under Part 55 of 1994 PA 451, as amended or the Federal Clean Air Act.

9. Approval of this permit does not obviate the necessity of obtaining such permits or approvals from other units of government as required by law.

10. Operation of this equipment may be subject to other requirements of Part 55 of 1994 PA 451, as amended and the rules promulgated thereunder.

11. Except as provided in subrules (2) and (3) or unless the special conditions of the Permit to Install include an alternate opacity limit established pursuant to subrule (4) of R 336.1301, the permittee shall not cause or permit to be discharged into the outer air from a process or process equipment a visible emission of density greater than the most stringent of the following. The grading of visible emissions shall be determined in accordance with R 336.1303. **(R 336.1301)**

    a) A six-minute average of 20 percent opacity, except for one six-minute average per hour of not more than 27 percent opacity.

    b) A visible emission limit specified by an applicable federal new source performance standard. c) A visible emission limit specified as a condition of this Permit to Install.

12. Collected air contaminants shall be removed as necessary to maintain the equipment at the required operating efficiency. The collection and disposal of air contaminants shall be performed in a manner so as to minimize the introduction of contaminants to the outer air. Transport of collected air contaminants in Priority I and II areas requires the use of material handling methods specified in R 336.1370(2). **(R 336.1370)**

13. The Department may require the permittee to conduct acceptable performance tests, at the permittee's expense, in accordance with R 336.2001 and R 336.2003, under any of the conditions listed in R 336.2001. **(R 336.2001)**

Spooner Metals, LLC
February 15, 2011

Permit No. 92-00B
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SPECIAL CONDITIONS

EMISSION UNIT SUMMARY TABLE

The descriptions provided below are for informational purposes and do not constitute enforceable conditions.

Emission Unit ID	Emission Unit Description	Flexible Group ID
EU-SHREDDER	A scrap metal shredder equipped with a Smart	FG-SHREDDEROP
EU-ZBOX	A z-box separation process with a cyclone and wet scrubber for control. The control system discharges through a single	FG-SHREDDEROP
Changes to the equipment described in this table are subject to the requirements of R 336.1201, except as allowed by R 336.1278 to R 336.1290.		

Spooner Metals, LLC
February 15, 2011

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The following conditions apply to: EU-SHREDDER

DESCRIPTION: A scrap metal shredder equipped with a Smart Water Injection System.

Flexible Group ID: FG-SHREDDEROP

POLLUTION CONTROL EQUIPMENT: Smart Water Injection System

I. EMISSION LIMITS

Pollutant	Limit	Time Period / Operating Scenari	Equipment	Testing / Monitoring	Underlying
1. PM	0.05 lb / 1000 lb exhaust gases calculated on a dry	Test protocol will specify	EU-SHREDDER	GC 13 SC V.1	R 336.1331(1)(c)
2. PM10	4.5 pph	Test protocol will specify averaging time.	EU-SHREDDER	GC 13 SC V.1	R 336.1205, R 336.2803,
3. Mercury	0.0022 pph	Test protocol will specify averaging	EU-SHREDDER	GC 13 SC V.1	R 336.1224, R
4. Chromium VI	0.00029 pph	Test protocol will specify averaging	EU-SHREDDER	GC 13 SC V.1	R 336.1224, R
5. Cadmium	0.0005 pph	Test protocol will	EU-SHREDDER	GC 13	R 336.1224, R 336.1225
6. Copper	0.03 pph	Test protocol will	EU-SHREDDER	GC 13	R 336.1224, R 336.1225
7. Lead	0.003 pph	Test protocol will specify averaging	EU-SHREDDER	GC 13 SC V.1	R 336.1901, R
8. Manganese	0.0023 pph	Test protocol will	EU-SHREDDER	GC 13 SC V.1	R 336.1224, R 336.1225
9. Nickel	0.006 pph	Test protocol will	EU-SHREDDER	GC 13	R 336.1224, R 336.1225

10. Visible emissions from EU-SHREDDER shall not exceed a six-minute average of 10 percent opacity except for uncombined water vapor. **(R 336.1224, R 336.1301, R 336.1901)**

II. MATERIAL LIMITS

1. The permittee shall not process more than 60 tons per hour, 750 tons per day, and 195,000 tons per

12-month rolling time period as determined at the end of each calendar month of material through

EU-SHREDDER. **(R 336.1205, R 336.1224, R 336.1225, R 336.1901, R 336.2803, R 336.2804,**

40 CFR 52.21(c) and (d))

III. PROCESS/OPERATIONAL RESTRICTIONS

NA

IV. DESIGN/EQUIPMENT PARAMETERS

1. The permittee shall not operate EU-SHREDDER unless the Smart Water Injection System is installed, maintained, and operated in a satisfactory manner. **(R 336.1224, R 336.1225, R 336.1301, R 336.1331, R 336.1901, R 336.1910, R 336.2803, R 336.2804, 40 CFR 52.21(c) and (d))**

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. Within 180 days of permit issuance, verification of PM, PM10, chromium VI, lead, manganese, and mercury emission rates at maximum operating conditions from EU-SHREDDER, by testing at owner's expense, in accordance with Department requirements, will be required. No less than 30 days prior to testing, a complete test plan shall be submitted to the AQD. The final plan must be approved by the AQD prior to testing. Verification of emission rates includes the submittal of a complete report of the test results to the AQD within 60 days following the last date of the test. **(R 336.1224, R 336.1225, R 336.1331, R 336.1901, R 336.2001, R 336.2003, R 336.2803, R 336.2804, 40 CFR 52.21(c) and (d))**

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall complete all required records in a format acceptable to the AQD District Supervisor and make them available by the 15th day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(R 336.1901, R 336.2803, R 336.2804, 40 CFR 52.21(c) and (d))**

2. The permittee shall install, calibrate, maintain and operate in a satisfactory manner devices to monitor the water injection rate and the shredder motor current on a continuous basis for the Smart Water Injection System on EU-SHREDDER. **(R 336.1910)**

3. The permittee shall record (when operating) and keep, in a satisfactory manner, records of the water injection rate and the shredder motor current from the Smart Water Injection System on EU-

SHREDDER. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1910)**

VII. REPORTING

1. Within 30 days after completion of the installation, construction, reconstruction, relocation, or modification of EU-SHREDDER authorized by this Permit to Install, the permittee or the authorized agent pursuant to Rule 204, shall notify the AQD District Supervisor, in writing, of the completion of the activity. Completion of the installation, construction, reconstruction, relocation, or modification is considered to occur not later than commencement of trial operation of EU-SHREDDER. **(R 336.1201(7)(a))**Spooner Metals, LLC February 15, 2011

VIII. STACK/VENT RESTRICTIONS

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Diameter/Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable
NA			

IX. OTHER REQUIREMENTS

NA

Footnotes:

[1]This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

Spooner Metals, LLC
February 15, 2011

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The following conditions apply to: EU-ZBOX

DESCRIPTION: A z-box separation process with a cyclone and wet scrubber for control. The control system discharges through a single exhaust stack.

Flexible Group ID: FG-SHREDDEROP

POLLUTION CONTROL EQUIPMENT: Cyclone and wet scrubber

I. EMISSION LIMITS

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring	Underlying Applicable Requirement
1. PM	0.05 lb / 1000 lb exhaust gases calculated on a dry	Test protocol will specify averaging	EU-SHREDDER	GC 13	R 336.1331(1)(c)
2. PM10	1.6 pph	Test protocol will specify averaging time.	EU-SHREDDER	GC 13	R 336.1205, R 336.2803,

3. Visible emissions from the EU-ZBOX exhaust shall not exceed a six-minute average of 10 percent opacity except for uncombined water vapor. **(R 336.1224, R 336.1301, R 336.1901)**

II. MATERIAL LIMITS

NA

III. PROCESS/OPERATIONAL RESTRICTIONS

NA

IV. DESIGN/EQUIPMENT PARAMETERS

1. The permittee shall not operate EU-ZBOX unless the cyclone and wet scrubber are installed, maintained, and operated in a satisfactory manner. **(R 336.1224, R 336.1225, R 336.1301, R 336.1331, R 336.1901, R 336.1910, R 336.2803, R 336.2804, 40 CFR 52.21(c) and (d))**

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

NA

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall install, calibrate, maintain and operate a pressure drop gauge and a liquid flow indicator on the wet scrubber portion of EU-ZBOX. **(R 336.1910)**

VII. REPORTING

NA

VIII. STACK/VENT RESTRICTIONS

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust	Minimum Height	Underlying Applicable
1. SV-ZBOX	53.3	70.5	R 336.1225, R 336.1901, R 336.2803, R 336.2804,

IX. OTHER REQUIREMENTS

NA

Footnotes:

[1]This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

FLEXIBLE GROUP SUMMARY TABLE

The descriptions provided below are for informational purposes and do not constitute enforceable conditions.

Flexible Group ID	Flexible Group Description	Associated
FG-SHREDDEROP	Shredding Operation - Scrap metal shredder to a feed shaker, discharge conveyor, magnetic drum separator, a material separation system with a z-box separation process controlled by a cyclone and wet scrubber system, associated conveyors, material storage, and all associated process activities including but not limited to management of materials from the shredding operations.	EU-SHREDDER, EU-ZBOX

The following conditions apply to: FG-SHREDDEROP

DESCRIPTION: Shredding Operation - Scrap metal shredder to a feed shaker, discharge conveyor, magnetic drum separator, a material separation system with a z-box separation process controlled by a cyclone and wet scrubber system, associated conveyors, material storage, and all associated process activities including but not limited to management of materials from the shredding operations.

Emission Units: EU-SHREDDER, EU-ZBOX

POLLUTION CONTROL EQUIPMENT: Smart Water Injection System, cyclone and wet scrubber.

I. EMISSION LIMITS

1. Visible emissions from the conveyors and transfer points of FG-SHREDDEROP shall not exceed a six-minute average of 10 percent opacity. **(R 336.1301, R 336.1901)**

II. MATERIAL LIMITS

NA

III. PROCESS/OPERATIONAL RESTRICTIONS

1. The permittee shall remove and properly dispose of fluids from materials to be shredded as specified in the plan in SC III.8. Materials include but are not limited to vehicles, appliances, and industrial machinery (or inspect and/or document that removal has been performed). Fluids shall include, at a minimum, gasoline, motor oil, antifreeze, transmission oil, brake oil, power steering fluid, hydraulic fluid, and differential fluid. **(R 336.1224, R 336.1702(a), R 336.1901)**

2. The permittee shall remove and properly dispose of freon or other chlorofluorocarbons/halogenated chlorofluorocarbons (CFCs/HCFCs) from materials to be shredded as specified in the plan in SC III.8. Materials include but are not limited to air conditioning units in vehicles, appliances, and industrial machinery (or inspect and/or document that removal has been performed).[1] **(R 336.1224, R 336.1901)**

3. The permittee shall remove and properly dispose of mercury-containing devices from materials to be shredded as specified in the plan in SC III.8. Materials include but are not limited to vehicles, appliances, and industrial machinery (or inspect and/or document that removal has been performed).[1] **(R 336.1224,**

   R 336.1225, R 336.1901)

4. The permittee shall not process any asbestos tailing or waste materials containing asbestos in

   FG-SHREDDEROP pursuant to the National Emission Standards for Hazardous Air Pollutants,

   40 CFR Part 61, Subpart M. **(R 336.1224, R 336.1225, R 336.1901, 40 CFR Part 61 Subpart M)**

5. The permittee shall not process batteries and gas tanks shall only be processed if they are flattened or punctured.[1] **(R 336.1224, R 336.1901)**

6. The permittee shall store all non-ferrous, non-metal, and waste materials (i.e., fluff) generated by FG-SHREDDEROP in 3-sided bunkers, the total volume of which shall not exceed 3,300 cubic yards. **(R 336.1301, R 336.1901)**

7. All fluids, non-metal, and waste materials generated by the FG-SHREDDEROP shall be contained and disposed of or recycled in an acceptable manner in compliance with all applicable state and federal rules and regulations. **(R 336.1224, R 336.1702(a), R 336.1901)**

8. Prior to commencement of operations, the permittee shall submit to the AQD District Supervisor an acceptable written plan demonstrating compliance with SCs III.1, III.2, III.3, III.4, and III.5. The permittee shall not operate FG-SHREDDEROP unless the plan, or an alternate plan is implemented and maintained. Any changes to the plan by the permittee or as reasonably requested by the AQD shall be submitted to the AQD District Supervisor within 30 days. **(R 336.1224, R 336.1702(a), R 336.1901)**

9. The permittee shall not operate FG-SHREDDEROP unless a malfunction abatement plan (MAP) as described in Rule 911(2), is implemented and maintained. The MAP shall, at a minimum, specify the following:

a. A complete preventative maintenance program including identification of the supervisory personnel responsible for overseeing the inspection, maintenance, and repair of air-cleaning devices, a description of the items or conditions that shall be inspected, the frequency of the inspections or repairs, and an identification of the major replacement parts that shall be maintained in inventory for quick replacement.

b. An identification of the source and air-cleaning device operating variables that shall be monitored to detect a malfunction or failure, the normal operating range of these variables, and a description of the method of monitoring or surveillance procedures.

c. A description of the corrective procedures or operational changes that shall be taken in the event of a malfunction or failure to achieve compliance with the applicable emission limits.

If at any time the MAP fails to address or inadequately addresses an event that meets the characteristics of a malfunction, the permittee shall amend the MAP within 45 days after such an event occurs. The permittee shall also amend the MAP within 45 days, if new equipment is installed or upon request from the District Supervisor. The permittee shall submit the MAP and any amendments to the MAP to the AQD District Supervisor for review and approval. If the AQD does not notify the permittee within 90 days of submittal, the MAP or amended MAP shall be considered approved. Until an amended plan is approved, the permittee shall implement corrective procedures or operational changes to achieve compliance with all applicable emission limits. **(R 336.1911)**

11. The permittee shall prevent fires from starting in the pile of non-metal and automotive shredder residue

(e.g., fluff) through regular and frequent applications of water as needed. **(R 336.1310, R 336.1901)**

12. The permittee shall not operate FG-SHREDDEROP unless the program for continuous fugitive emissions control for all plant roadways, the plant yard, all material storage piles, and all material

handling operations specified in APPENDIX A has been implemented and is maintained. **(R 336.1371, R 336.1372, R 336.1901)**

IV. DESIGN/EQUIPMENT PARAMETERS

1. The permittee shall not operate FG-SHREDDEROP unless the conveyor(s), which carries the dry non-metal and automotive shredder residue, is covered and a chute at the discharge end of the conveyor is in place. **(R 336.1301, R 336.1901)**

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

NA

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall complete all required records in a format acceptable to the AQD District Supervisor by the 15th day of the calendar month, for the previous calendar month, unless otherwise specified in any

recordkeeping, reporting or notification special condition. **(R 336.1205, R 336.1224, R 336.1225, R 336.1901)**

2. The permittee shall keep, in a satisfactory manner, records of material throughput on an hourly, daily, monthly, and 12-month rolling time period as determined at the end of each calendar month. All records shall be kept on file at the facility and made available to the Department upon request. **(R 336.1205, R 336.1224, R 336.1225, R 336.1901, R 336.2803, R 336.2804, 40 CFR 52.21(c) and (d))**

VII. REPORTING

NA

VIII. STACK/VENT RESTRICTIONS

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Diameter/Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable
NA			

IX. OTHER REQUIREMENTS

NA

Footnotes:

[1]This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

APPENDIX A Fugitive

Dust Control Plan

I. Plant

The drop distance at each transfer point throughout the plant shall be reduced to the minimum the equipment can achieve.

II. Truck Traffic

On-site vehicles shall be loaded to prevent their contents from dropping, leaking, blowing or otherwise escaping. This shall be accomplished by loading so that no part of the load shall come in contact within six inches of the top of any sideboard, side panel or tailgate, otherwise, the truck shall be tarped.

III. Site Roadways and the Plant Yard

a. The dust on the site roadways and the plant yard shall be controlled by applications of water, calcium chloride or other acceptable and approved fugitive dust control compounds. Applications of dust suppressants shall be done as often as necessary to meet an opacity limit of five percent as determined by reference test method 9D.

b. All paved roadways/plant yard shall be swept, as needed, between applications of dust suppressants.

c. A record of all applications of dust suppressants, and roadway and the plant yard sweepings shall be kept on file for the most recent five-year period and be made available to the AQD upon request.

IV. Storage Piles

a. Stockpiling of all nonmetallic materials shall be performed to minimize drop distance and control potential dust problems.

b. Stockpiles shall be watered on an as needed basis in order to meet an opacity limit of five percent as determined by reference test method 9D. Equipment to apply water or dust suppressant shall be available at the site, or on call for use at the site, within a given operating day.

c. A record of all watering shall be kept on file for the most recent five-year period and be made available to the AQD upon request.

V. AQD/MDEQ Inspection

The provisions and procedures of this plan are subject to adjustment by written notification from the AQD, if following an inspection, the AQD finds the fugitive dust requirements and/or the permitted opacity limits are not being met.


INCHES OF WATER
0
2
4
6
8
10
MAGNEHELIC
INDICATING TRANSMITTER
MAX. PRESSURE 2 PSIG
SPAN
ZERO
Dwyer
POINTER ZERO