

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

B414672915

FACILITY: Ferrous Processing & Trading Co. Pontiac, LLC	SRN / ID: B4146
LOCATION: 500 COLLIER RD, PONTIAC	DISTRICT: Warren
CITY: PONTIAC	COUNTY: OAKLAND
CONTACT:	ACTIVITY DATE: 07/02/2024
STAFF: Iranna Konanahalli	COMPLIANCE STATUS: Compliance
	SOURCE CLASS: MINOR
SUBJECT: FY 2024 scheduled inspection of Ferrous Processing and Trading Pontiac Division (legal name for Pontiac location: FPT-Pontiac Division, LLC) located at 500 Collier Road, City: Pontiac, Michigan & P.O.: Auburn Hills, MI 48326-1410.	
RESOLVED COMPLAINTS:	

Ferrous Processing and Trading Company (B4146)
Pontiac Division
FPT-Pontiac Division, LLC
500 Collier Road

City: Pontiac, Michigan
P.O.: Auburn Hills, MI 48326-1410

Contacts:

1. **Dee Simpson** (Phone: 248-335-8141-ext.229; Fax: 248-335-8714; Cell: 248-789-1818; E-mail: Dee.Simpson@fptScrap.com), Environmental Manager.
2. **Susan L. Johnson** (Phone: 248-258-1307; E-mail: JohnsonS@butzel.com), FPT's Attorney, Butzel-Long. Johnson is still representing FPT per US EPA CAFO (Consent Agreement and Final Order) CAA-05-2022-0026 (September 26, 2022; 40 C.F.R. § 22.13(b)).
3. **Bill Sulak** (Phone: NA; Fax: NA; Cell: NA; E-mail: **Bill.Sulak@fptScrap.com**), President
4. **Sarah Hoogterp** (Phone: 313-347-4700 ext. 237; Cell: 313-400-7708; Fax: 313-925-1331; E-mail: Sarah.Hoogterp@FPTscrap.com), Regulatory Coordinator & Purchasing Manager, Detroit

Name / ownership changes: Fragment Products 4 Sam Allen and Son 4 TBS Industrial Recycling, Inc. 4 FPT-Pontiac Division, LLC (owner: Ferrous Processing and Trading Company).

Active Permit-to-Install Number (PTI No.): Current active **PTI No. 120-80C** (increased exhaust flow rate up to 100,000 CFM from 50,000 CFM enhancing particulate matter (PM))

capture efficiency (CE)) dated August 24, 2023, and previous active PTI No. **120-80B** (EUOLDSHREDDER: Hammer Mill Fragmentizer Model 96104 (aka Shredder)) dated January 6, 2023. The purpose of PTI No. **120-80B** was to incorporate inadvertently voided original PTI No. **120-80** (Approved: 4/4/1980; & voided, inadvertently: 6/10/2022) as EUOLDSHREDDER. The purpose of PTI No. **120-80A** (APP-2021-0312) was to update the existing equipment (a scrap metal shredder), including a replacement of a control device. However, the improvements, covered by PTI No. 120-80A, would NEVER be implemented as FPT intended to further increase CFM and change the manufacturer, which proposed a different control system. New permit to cover the requested changes has been issued as PTI No. **120-80C** on August 24, 2023. Via the PTI Modification (PTI No. 120-80B è PTI No. 120-80C. PTI App No. APP-2022-0322), FPT proposed to upgrade the existing air pollution control equipment to modernize aging equipment, which would result in improved collection and control efficiency. Exhaust flow rate has been increased to 80,000 to 100,000 cubic feet per minute (CFM, variable rpm fan) from previous 50,000 CFM. It may be noted that the control equipment covered by PTI No. 120-80A were never installed. Besides, closed-loop Z-box cascade cleaning system equipped with one cyclone for non-metallic dirt have been removed about June 2024 upon installation of new control system under PTI No. 120-80C (May 2024). AQD has reviewed thoroughly the permit modification to ensure that the **foam** to be injected would not contain PFAS. The liquid foam substantially diluted by water is **PFAS-free foam**. The foam liquid flow rate into the Hammer Mill / Shredder is 160185 gallons per minute. The mixing ratio is 170 gallons of water to 12 gallons foam concentrate.

To be voided: PTI No. **120-80B** (EUOLDSHREDDER: Hammer Mill Fragmentizer Model 96104 (aka Shredder)) dated January 6, 2023. EUOLDSHREDDER has been superseded by EUSHREDDER with a brand-new improved control system according to PTI No. **120-80C**.

Adm. Consent Order: AQD No. 18-1996. \$50,000.00 is a settlement. Torch-cutting is prohibited. Torch-cutting (at multiple sites within the FTP- Pontiac's yard) was source of visible emissions (up to 80% opacity based upon both then MDEQ-AQD and US EPA Region V readings) at multiple locations concurrently, frequent fires (one 36-hour fire in July 1997) and complaints (MDEQ, US EPA, US Congress). Ms. Susan L. Johnson, Environmental Counsel, Butzel-Long, stated in her June 17, 1999, letter to Ms. Lynn Fiedler, that FPT-Pontiac Division, LLC assumed all responsibilities for the permit and the consent order.

The FPT has not operated torch-cutting since April 1997 as required by consent order AQD No. 18-1996. Discontinuing torch cutting has eliminated fire / spark and smoke sources and attendant visible emissions.

FPT quit processing municipal scrap, with substantial metallic content, which was a source of infamous July 1997 36-hour fire.

US EPA CAFO (Consent Agreement and Final Order): CAA-05-2022-0026 (September 26, 2022; 40 C.F.R. § 22.13(b)). The purpose of CAFO is to resolve US EPA (Region V) Notice of Violation (EPA-5-20-MI-01, PTI No. 120-80, broken capture system sheet metal, inadequate maintenance records) dated December 30, 2019.

PTIs voided: PTI Nos. 338-90A for Pyrolytic Recovery Unit with 1800 degrees Fahrenheit after-burner to reclaim metal from lead cables and copper wires (voided on 09/19/2005), **771-80** for aluminum crushing operation with dual cyclone, two cyclones in series (voided

on 09/19/2005), **120-80** (Approved: 4/4/1980 & voided, inadvertently: 6/10/2022) and **204-91** for fume / smoke collection system for torch-cutting operation (voided on 09/19/2005; a smoke and particulate capture dome with a baghouse was never installed; Consent Order prohibits torch-cutting). In addition, PTI No. **523-82** for Tire Pyrolyzer, which never operated and removed over a couple of decades ago, was voided on 6/7/2016 based on FY 2016 inspection.

PTI Applications voided: Nos. 476-81(04/26/1982) for wire reclaim incinerator, **517-80 (08/09/1989)** for aluminum crusher, **516-80** (03/06/1981) for motor crusher, and **80-79** (11/19/1984) for wire reclaim furnace with after burner.

MiEnviro Annual Air Emissions Reporting: Due to high VOC limit (PTI No. 120-80C, EUSHREDDER, 1.4 limit: 53.2 tpy VOC), FPT-Pontiac Division must be added to the list,

On **July 02, 2024**, I, accompanied by Dr. Jillian Cellini, a new AQD inspector, conducted a level 2 annual **FY 2024 scheduled inspection** of Ferrous Processing and Trading Pontiac Division (legal name for Pontiac location: FPT-Pontiac Division, LLC) located at 500 Collier Road, City: Pontiac, Michigan & P.O.: Auburn Hills, MI 48326-1410. The inspection was conducted to determine compliance with the Federal Clean Air Act; Article II, Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451; and Environment, Great Lakes & Energy, Air Quality Division (EGLE-AQD) rules and the latest iteration Permit to Install No. **120-80C**.

During the inspection **Dee Simpson**, Environmental Manager, assisted me and Jillian Cellini.

The company's scrap metal plant, or metal shredding facility, at Pontiac recycles ferrous and nonferrous scrap metal. It buys scrap metal, including end-of-life vehicles, appliances, and other forms of scrap metal which FPT subjects ferrous metals to various processes to facilitate re-melting in Electric Arc Furnace (EAF) at a steel mill. Non-ferrous metals such as copper (Cu), aluminum (Al), bronze are not processed at this site but sent to other sites (Warren and Detroit) for further processing. It buys metal clips from stamping plants and compresses them into cubes of 4,000 pounds. The compressed shredded clips are also sold. Cars / vehicles are crushed and shredded in Hammer Mill (Hammer Mill Fragmentizer Model 96104), aka Shredder, where fluff is separated. Fluff (non-metallic) is combustible material and hence causes fires. Currently (2024) fluff (ACR or Auto Shredder Residue or metal shredder residue (MSR)) is shipped out to landfills as soon as it is produced such that fluff storage at the site is minimized. FPT has minimized storage of fluff separated from shredded cars due to fires. Scrap sheet metal pieces are either sold as is or compressed into cubes depending upon customer specification. It ships the finished products to customers, steel mills, for re-melting in EAF by railroad cars or trucks. Fluff is shipped out to landfills almost daily.

On average, out of every 100 tons of material processed in a shredder:

1. 72 tons are recovered as ferrous, which is sold back to steel mills to be remelted.
2. 28 tons are shipped to the FTP non-ferrous recovery plant in Detroit, Michigan, where an additional 6.6 tons of material (mostly non-ferrous metals) are recovered, with

approximately 21.4 tons ending up in a landfill as automobile fluff, where it is used as daily cover (if approved by EGLE-MMD) as well as landfill road construction material.

FPT processes scrap metal from various sources in its metal shredder; its exhaust is, controlled by an air pollution control system consisting of a **drop box, or settling chamber, and new fabric filter dust collector**. This system is more effective than the previous system. The new fabric filter is roll identical to the previous one but housed in a separate room that is neat and clean. In addition, unlike before when the filter roll was rotated intermittently based upon pressure drop, the new fabric filter system roll rotates continuously so that there is continuous supply of clean filter. The new control system is approved by PTI No. 120-80C. The closed-loop **Z-box** cascade cleaning system equipped with one cyclone for non-metallic dirt has been removed upon installation of new control system.

Radioactive materials, **asbestos**, etc. are prohibited materials, which are not accepted at FPT. Furthermore, FPT removes liquids from any automobiles prior to crushing onsite and requires that any crushed automobiles that are brought to the site be similarly emptied of liquids (gasoline, diesel, oil, antifreeze, brake fluid, transmission fluid, etc.). In addition, solid materials (lead-acid batteries; capacitors and transformers, mercury-containing switches) and refrigerants (from e.g., AC, refrigerators, freezers, dehumidifiers, etc.) are removed prior to crushing. A contractor comes in and removes refrigerants. **Radio activity testing certificate** is required for all materials brought in lest the plant be shut down by US Nuclear Regulatory Commission (NRC).

The company has not operated **torch-cutting** since April 1997 as required by Administrative Consent Order (ACO) **AQD No. 18-1996**. Discontinuing torch cutting has eliminated fire / spark and smoke sources and attendant visible emissions (up to 80% opacity at multiple locations simultaneously).

PTI No. 120-80C Emission Units (EUs)

EU-OLDSHREDDER 1980

Scrap metal shredder capable of processing 60 gross tons of product per hour. Emissions from the shredder are controlled by a water injection system and a 50,000 CFM fabric filter system. The shredder and associated equipment run on electrical power. Emissions from the secondary and tertiary separation processes are each controlled by a 30,000 CFM cyclone system. The shredder also has a feed conveyor, ferrous separation process with a gravity separator, non-ferrous separation system, associated conveyors, material storage, and associated process activities including but not limited to management of materials from the shredding operations.

This emission unit will be superseded by EUSHREDDER, and all associated conditions will become void upon trial operation of the replacement fabric filter system.

EU-OLDSHREDDER Scrap metal shredder capable of processing 60 gross tons of product per hour is still present. Upgraded equipment has become **EUSHREDDER**. Only corresponding control system **Fabric Filter Dust Collector** (fabric roll), **Z-box**, cyclone, etc. have been removed upon installation of new control equipment according to **EU-SHREDDER**. **EU-OLDSHREDDER** does not exist anymore and has been superseded by **EUSHREDDER**. **EU-OLDSHREDDER** was temporary until **EUSHREDDER** was installed with new improved control system. **EU-OLDSHREDDER** was created to take care of inadvertent voiding / termination of the original permit (PTI No. 120-80) conditions

EU-SHREDDER 1980 Mod June 2024

Scrap metal shredder capable of processing 60 gross tons of product per hour. Emissions from the shredder are controlled by a water and foam injection system and a 50,000 CFM fabric filter system. The shredder and associated equipment run on electrical power. The shredder also has a feed conveyor, ferrous separation process with a gravity separator, non-ferrous separation system, associated conveyors, material storage, and associated process activities including but not limited to management of materials from the shredding operations

EU-SHREDDER: This process has been reviewed under PTI No. 120-80C. About June 2024, FPT removed the secondary and tertiary cyclones and Z-box referenced in the permit and installed a new high efficiency aerosol filtration system (HEAF). The new HEAF unit has an outlet mist eliminator resulting in total elimination steam visible emissions (VE) or steam opacity; the filter roll advances with a gear motor to constantly replace spent filter media unlike previous rotation of the filter only rolls intermittently based upon pressure drop. The continuous rolling of the filter fabric is obviously much more efficient. The closed-loop Z-box cascade cleaning system equipped with one cyclone has been removed about June 2024. The production capacity has increased from 60 to 100 tons of product per hour resulting in VOC PTE increase from 32 to 40 tons of VOC per year. Upon the trial operation of the replacement fabric filter system, all special conditions under EUSHREDDER shall become effective. Concurrently, EU-OLDSHREDDER special conditions became void upon installation of new control equipment.

VOC emission factor: 0.28 pound of VOC per ton of material processed. The factor may be revised based upon stack testing for VOC that AQD may require in future.

The outlet mist eliminator has thoroughly eliminated visible emissions due to steam. Continuous (unlike previous intermittent) rolling filter is likely to keep pressure droop constant and likely to be more efficient.

Diluted PFAS-free foam is sprayed for equipment protection from heat of friction and, in addition, to control dust. The diluted foam liquid flow rate into the Hammer Mill / Shredder is 160-185 gallons per minute. The mixing ratio is 170 gallons of water to 12 gallons foam concentrate

PTI No. 120-80C, EUSHREDDER.

EU-SHREDDER: Scrap metal shredder capable of processing 100 gross tons of product per hour. Emissions from the shredder are controlled by a water and foam injection system along with a particulate control system that operates with an air flow up to 100,000 CFM, consisting of a precipitator, followed by a cyclone, a high efficiency aerosol filtration(HEAF) system, and a mist eliminator, operated in series. The shredder and associated equipment run on electrical power. The shredder also has a feed conveyor, ferrous separation process with a high-speed magnetic separator, non-ferrous separation system, associated conveyors, material storage, and associated process activities including but not limited to management of materials from the shredding operations.

The same old shredder with new components. The motor has been upgraded and hood is new. Power is from electric grid. No Emergency Generator. Increase in air flow up to 100,000 CFM from 50,000 CFM has an effect of increasing PM Capture Efficiency (CE). In addition, the filter roll that rotates continuously, instead of intermittently as before, is in a neat separate room. The continuous filter roll rotation results in steady supply of clean filter.

EU-OLDSHREDDER emission unit has been superseded by EUSHREDDER. All special conditions (SC) of **EU-OLDSHREDDER** have been voided about June 2024 upon installation of new control equipment.

POLLUTION CONTROL EQUIPMENT

1. Water & PAFAS-free Foam Injection System
2. Particulate control system consisting of a precipitator, cyclone, aerosol filtration system, and mist eliminator, operated in series.

Water mixed with **PFAS-free foam** concentrate (mixing ratio: 170 gallons of water to 12 gallons foam concentrate) is sprayed for equipment cooling, dust & fire control.

PTI No. 120-80C, EUSHREDDER, I

PM (< 0.05 pounds of PM per 1000 pounds of dry exhaust gas), PM10 (< 25.7 pph), PM2.5 (< 25.7 pph) and VOC (< 53.2 tpy) stack test have not been performed to determine compliance with the emission limits. AQD may request a stack test in future when steady operation has been established.

Visible emissions (VE) or opacity were not present. Unlike before, even steam emission was not present due to mist-eliminator in the new control system.

PTI No. 120-80C, EUSHREDDER, II

CY 2023: 109,000 tons of metal processed for sale and 35,000 tons of fluff disposed into the landfill. Total material per year processed = 109,000 + 35,000 = 144,000 << 380,000 tpy. (PTI No. 120-80C, EUSHREDDER, II.1 limit: 380,000 tpy).

Based upon the emissions factor of 0.28 pound VOC per ton of material processed, FPT is deemed to in compliance with 53.2 tpy VOC limit if no more than 380,000 tons of material per year is processed.

Asbestos-containing materials are neither handled nor processed. (PTI No. 120-80C, EUSHREDDER, II.2: shall not process any asbestos).

FPT removes lead acid batteries from cars / trucks and recycles the batteries separately. (PTI No. 120-80C, EUSHREDDER, II.3: shall not process batteries)

All fluids are removed before shredding. Metal gas tanks have been phased out a couple decades ago in favor of polymer gas tanks by the automobile industry (PTI No. 120-80C, EUSHREDDER, II.4: shall not process any gas tanks)

Operational restrictions (PTI No. 120-80C, EUSHREDDER, III)

PFAS-free foam injection system is installed and operating properly. New hood has been installed. **PFAS-free foam** concentrate is substantially diluted with water (mixing ratio: 170 gallons of water to 12 gallons foam concentrate) is sprayed into the shredder to protect equipment from over heat and fire as well as to control dust. The **malfunction abatement plan (MAP)** is being amended to include control system upgrades and has not been submitted yet. New exhaust hood has been installed, maintained, and operated in a satisfactory manner. Fluids recovered are recycled using contractors. FPT hires contractor to remove freon (chlorofluorocarbons/halogenated chlorofluorocarbons (CFCs/HCFs)) mostly from air conditioning equipment, refrigerators, dehumidifiers, freezers, etc. Mercury

(Hg)-containing materials are not handled / processed. The compliance plan (CP), malfunction abatement plan (MAP) and nuisance minimization plan (NMP) have not been submitted yet. PFAS-free foam containing water flow rate and pressure differential are logged electronically. Rumble strips have not been installed yet (July 2024).

PTI No. 120-80C, EUSHREDDER, V, TESTING/SAMPLING

AQD has not requested emissions measurement stack tests.

Dee Simpson is a certified US EPA Method 9 opacity reader.

PTI No. 120-80C, EUSHREDDER, VI,

VOC calculations are based upon the emissions factor stated above and production. Records of tons of material processed per hour, hours of operations and idle times, motor amps, shredder temperatures, gallons of water minute (GPM), filter pressure differential, mist eliminator pressure, etc. information is electronically kept. Dee Simpson performs US EPA RM 9 visible emissions (VE) readings and logs them using AeroMet Engineering, Inc. VE Observation Forms. The forms show Opacity consistently has been zero same as I observed during the inspection.

The shredder dust capture systems were working properly.

PTI No. 120-80C, Appendix A Nuisance Minimization Plan for Fugitive Dust Control.

Dee Simpson is a certified US EPA Method 9 opacity reader and performs weekly dust control effectiveness visible emission. During the inspection of July 2024, I did not detect any visible emissions from either roadways or shredder.

All paved yard is wet swept using **Model 938 CAT** with metal brush attachment. Unpaved yard is sprayed with water using a water truck (10,000-gallon water tank CAT Truck with 2 pressurized water jets in the back). Same water truck is used to wet paved areas during sweeping as needed base. 5 mph speed limit signs are posted. The yard has substantially more paved area since FPT purchased the company. In addition, Pro-sweep Sweep Company, sweeps the yard twice per week (Tuesdays and Thursdays) as part of fugitive dust control program per the permit.

ProSweep (Redford Charter Township, MI 48239) sweeping logs are maintained using MS Excel.

Water spray (containing PFAS-free foam) is a requirement for cooling equipment to prevent damage to hammer mill.

Currently (2024) fluff (ASR or Auto Shredder Residue (ASR)) is shipped out to landfills as soon as it is produced (almost daily).

Water spray for dust control log has been maintained using MS Excel Spreadsheet.

Concrete rumble strips are yet to be installed. The current bump strips are not acceptable.

Conclusion

FPT appears to be in compliance with PTI No. 120-80C except the items noted that are still to be accomplished. No torch-cutting occurring. New permit (PTI No. **120-80C**) has been issued for brand new improved control system. The new improved control system has been installed already replacing the old control system. Since FPT has been operating new control system for less than a month, a repeat inspection is needed.

NAME *J. S. Marshall*

DATE 08/01/2024

SUPERVISOR *Joyce*