

DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: Self Initiated Inspection

B228130465

FACILITY: Omnisource Corporation		SRN / ID: B2281
LOCATION: 701 LEWIS ST, JACKSON		DISTRICT: Jackson
CITY: JACKSON		COUNTY: JACKSON
CONTACT: C. Kevin Gross , Safety/Environmental Manager		ACTIVITY DATE: 08/04/2015
STAFF: Michael Gabor	COMPLIANCE STATUS: Non Compliance	SOURCE CLASS: Minor
SUBJECT: Unannounced site-inspection, conducted jointly with Water Resources, and odor complaint investigation.		
RESOLVED COMPLAINTS:		

Purpose of the Inspection

On August 4, 2015, Michael Gabor (MG) and Scott Miller (SM) from the Air Quality Division (AQD), and Ken Mroczkowski (KM) from the Water Resources Division conducted a joint, self-initiated, unannounced inspection OmniSource. The main purpose for this activity was to conduct a site walk through, to gain familiarity with the facility, to evaluate compliance with State and Federal air pollution requirements and Permit to Install (PTI) number 93-04A, and to establish a working relationship with the facility managers. This site visit also allowed for the AQD to investigate an odor complaint received on June 26, 2015, which was documented separately from this report. On September 10, 2015, MG returned to the facility to evaluate its records and recordkeeping practices.

Facility Background and Regulatory Applicability

OmniSource (previously Jackson Iron and Metal until 2004) is a large metal recycler located within the city of Jackson. According to the U.S. Environmental Protection Agency (EPA), this facility is classified as a minor air pollution source. At this time, the facility is not subject to the Michigan Air Emissions Reporting System (MAERS) requirements. All processes are covered by New Source Review PTI number 93-04A, issued on January 6, 2005. The source is also subject to 40 CFR Part 61, Subpart M, which requires that the facility not process any asbestos tailing or waste materials containing asbestos. The facility is surrounded by commercial and industrial facilities on all sides, except for on the west and the southwest side, which consists of residential and church buildings. The last inspection of this facility took place on December 28, 2009, mainly to investigate the status of older permits.

Arrival and Facility Contacts

DEQ staff arrived at the facility at approximately 9:15 a.m. Upon entry into the visitor parking lot, several white/yellow-colored plumes with noticeable opacity were observed from the portable torch cutting area (northeast corner of facility area). Staff proceeded to the visitor check in area and requested access to the facility to conduct an inspection/site walk through. Douglas McDonald (DM), Plant Manager, and C. Kevin Gross (KG), Safety/Environmental Manager, represented the facility. KG led staff during the majority of the inspection. KG stated that Brian Winters is the corporate-level Environmental Manager.

Emission Unit / Flexible Group Details

Emission Unit ID	Emission Unit Description	Stack Identification
EU-SHREDDER	Scrap metal shredder with a cyclone and venturi scrubber air pollution control (APC) system, a magnetic (drum magnet) ferrous separation process, a closed-loop single air cascade system (z-box) with a cyclone, oscillators, eddy current separators, nonmagnetic materials separation, associated conveyors, material storage, and all associated process activities including but not limited to management of waste materials associated with the shredding operations.	SV-SHREDDER
Changes to the equipment described in this table are subject to the requirements of R336.1201, except as allowed by R336.1278 to R336.1290.		

Flexible Group ID	Emission Units Included in Flexible Group	Stack Identification
FG-SHREDDERAPC	Cyclone and venture scrubber in series to control emissions from the shredder portion of EU-SHREDDER.	SV-SHREDDER
FG-ZBOXAPC	A closed-loop cyclone to control emissions from the single air cascade system (z-box) portion of EU-SHREDDER.	N.A.

Inspection

The inspection began with the baler operations located on the west side of the facility. Various bushings, exhaust system piping, and miscellaneous recyclable metal scrap were stockpiled according to stainless steel grade. Metal scrap was loaded into the baler. Bales are sent offsite for further processing. DEQ staff observed the baler’s hydraulic system, which was housed in a building. The baler requires hydraulic fluid, mixed with water. Staff observed some hydraulic fluid residue on the floor, which was contained within a catch basin. Staff also observed the covered storage bins for the scrap metal immediately south of the baler operation.

Staff was then escorted to the scrap metal drop-off entrance, located at the northeast end of the facility grounds, and was shown the scrap metal shredding operation. PTI 93-04A requires that EU-SHREDDER include the following air pollution control equipment: a cyclone and a venturi scrubber in series. In addition, the permit requires a closed-loop cyclone to control emissions from the single air cascade system (z-box).

Scrap metal was accepted and scanned by radiation detectors at one of two ferrous material scales. One was used by members of the public, while the other was used by truck transporters. The radiation detectors sound an alarm above 4 to 6 microrads and

the facility follows a protocol when an alarm is activated.

Once customers checked in, they proceeded to the drop off area where each load was inspected for prohibited items. Before metal scrap was introduced into the shredder, it was further inspected and if required, was sent to the depolluting area. In the depolluting area, Freon, engine oil, gasoline, etc. were drained and captured, and mercury switches, batteries, etc. were removed, per various permit requirements, special conditions (SCs) 1.3, 1.4, 1.6, 1.7, and 1.8. Inspected and depolluted scrap metal was then placed in a stockpile (see Figure 1). Approximately 250 to 300 cars are processed per month, as this facility and the shredder can process a whole car.

DEQ staff observed the water collection / drainage ponds on the east property lines before observing the shredding operations. Scrap metal was deposited into the shredder input area (see Figure 2), which was equipped with large hammers that pulverized the material. Staff observed that the shredder portion of the EU-SHREDDER was equipped with a water spray system and that it was activated while the shredder was in operation, per SC 1.14.

Various conveyers then carried the material to a large drum magnet to separate ferrous and non-ferrous materials (referred to as "fluff"). The fluff is sent offsite for further processing or is used at landfills as ground cover. The fluff may contain plastic, which may melt due to the heat generated by the shredding processing. While observing the shredding operations, staff noticed fugitive emissions from the material storage / process area located near the southern facility property line. This area would benefit from additional watering applications, per Appendix A, as the ground/dirt appeared dry.

KG stated that the shredding operation begins sometime between 6 and 7 a.m. and concludes between 3 and 4 p.m. A production sheet is also used to track material usage.

AQD staff then requested to observe the air pollution control equipment, and initially observed the venturi scrubber and its control room (see Figures 3 through 5). The control room housed (1) the water injection system for the venturi scrubber, (2) a sump level gauge that indicated the pressure in inches of water (not currently used by the facility), (3) a water level gauge installed by the facility to indicate when the system requires addition of water, and (4) a collection area for the generated sludge. While in the control room, staff suspected that the venturi scrubber was not in operation. The facility confirmed that it was turned off because aluminum-based scrap was then being processed, which did not generate large levels of fugitive emissions. Per SC 2.4, the shredder may not be operated unless the cyclone and venture scrubber are installed, maintained, and operated in a satisfactory manner.

Once the venturi scrubber was activated, staff observed a high velocity exhaust exiting the stack with minimal opacity and the effluent appeared to be mostly water vapor. Staff then observed the Z-box or cascade box (see Figure 6), which removed larger items (e.g. rags, light plastics, etc.) from the shredded material by using an air knife, however, most separation occurred with magnets. The Z-box exhaust gases are not discharged to the ambient air, per SC 3.2.

Staff then requested to observe the portable torch cutting operations and was taken by

KG to the northeast corner of the facility's property (see Figures 7 through 12). KG stated that the portable torching operation does not take place all day, every day. Instead, an outside contractor is brought onsite to process the buildup of scrap material that contains pieces too large to send through the shredder. Torching occurs during regular hours and does not occur during afterhours. If it were to occur outside of the normal work schedule, a union facility worker must be onsite while the contractors conduct torching operations. The facility does not wish to incur additional labor expenses, so it requires contractors to work during business hours.

AQD staff observed torching emissions that may have been the potential source for the previous odor complaint. Torching was done on both rocks and on the ground, with the latter producing an orange / yellow-colored plume. Staff brought these observations to the attention of KG and DM, and stated that a recent complaint was received by AQD that alleged an afterhours odor originating from OmniSource. DM stated that additional rocks will be added to the torching area and KG, as noted above, confirmed that torching does not occur afterhours. Staff suggested that torching may be an activity that may need additional mitigation measures to reduce emissions. Facility staff was receptive to AQD staff's concerns and indicated that further work to minimize torching emissions may be required.

AQD staff also shared concerns regarding fugitive dust from the south side material processing area. DM responded that shortly the facility expected to apply calcium chloride to unpaved roadways and that it was typically applied a few times a year.

Staff departed the facility around 12 Noon.

On August 26, 2015, SM and MG contacted Chris Hare (CH), Saginaw Bay District Supervisor, to inquire about OmniSource's Bay City's (OSBC) portable torching operation. CH stated that their district received complaints regarding OSBC's torching operation and that OSBC took appropriate measures to ensure compliance with Rules 301 and 901. CH noted that conducting the torching operation on aggregate material, instead of directly on the ground, did not provide sufficient control of emissions. OSBC installed a rail-based, portable scrap cutting unit with a baghouse. The baghouse was equipped with high efficiency particle air (HEPA) level filtration. CH noted that the system greatly reduced torching emissions. He also noted past issues with maintaining the baghouse, due to the increased fan power required for HEPA filtration. CH also noted that OmniSource's upper management was very supportive of mitigating torching emissions. CH also provided the contact information for OSBC's plant manager and for Brian Winters, OmniSource's Environmental Manager, and Dave Centeno (DC), OmniSource's Environmental Compliance Manager.

Recordkeeping Review

On September 10, 2015, MG returned to the facility to evaluate its records and recordkeeping practices. I arrived at the facility at approximately 1:30 pm and did not observe any fugitive emissions or odors on my approach. The onsite portable torching operation appeared to not be active. I proceeded to the facility's main entrance and met with DC, KG, and DM.

I discussed the concerns from the August 4, 2015 inspection, which included operation of the shredder without the venturi scrubber activated, and observations of excessive

smoke generated by the torching operation and fugitive dust emissions from the south side of the facility.

DM confirmed that their portable torching operation contractor is RJ Industrial Torching (previously RJ Torching). DC inquired whether a visible emissions (VE) reading is to be conducted at the process or at the facility's property line. I informed him that Rule 301 stipulates opacity limits must be met at the point where the process VE are discharged at the outer air.

We then reviewed the permit's recordkeeping requirements. DC and KG presented examples of records for material rejections due to it containing asbestos, PCBs, fluorescent bulbs, and lead.

I inquired about the size of the covered non-metal and waste material (e.g. fluff) storage bunker, per SC 1.9, and KG confirmed that it is not larger than 1,500 cubic feet. DC added that there is limited fluff storage onsite, as most is directly loaded and transported to an Ohio facility for further processing. I then asked how the facility complies with SC 1.12, which requires the facility to prevent fires from starting on fluff piles through frequent watering. DC responded that the shredder's automatic water spray system sufficiently waters the fluff material and that it remains damp until it is transported offsite. If it remains onsite for an extended period of time, it is watered, as needed, to maintain compliance. DC added that Appendix A of the Waste Management Plan (WMP) has been updated to reflect fluff watering practices.

I then requested records maintained by the facility to demonstrate compliance with Appendix A, III of PTI No. 93-04A. The provided records suggest compliance with Appendix A, III of PTI No. 93-04A. The facility keeps hardcopy records and an electronic log to document all sweeping / water spraying of the site's roadways and yard. A screenshot of the electronic spreadsheet and hardcopies of four "Driver's Report of Shredder Plant and Roadway Sweeping" were provided, and are attached to this report. In addition, applications of calcium chloride (a dust suppressant) are documented by maintaining a copy of the invoice. On average, calcium chloride is applied two or three times a year, or as needed. A copy of the last invoice is attached to this report.

I requested that the following items, listed below, be provided to me by close-of-business (COB), September 17, 2015. DC provided items 1, 2, and 3, and indicated that items 4, 5, and 6 were not available.

1. The latest version of the WMP, per SC 1.11. Upon review, the WMP appears to be in compliance with SC 1.11.
2. The written records of the amount of material processed in EU-SHREDDER in tons per calendar day and tons per 12-month rolling time period for August 2014 through August 2015, per SC 1.17. Upon review of the submitted records, the facility appears to be in compliance with SC 1.2 (not processing more than 1,300 tons per calendar day and 312,000 tons per 12-month rolling time period, August 2014 through August 2015). These submitted records are attached to this report.
3. The written log of the daily hours of operation and total hours of operation per 12-month rolling time period for August 2014 through August 2015, per SC 1.18. Upon review of the submitted records, the facility appears to be in compliance

- with SC 1.5 (not operating the EU-SHREDDER for more than 13 hours per calendar day and 3,120 hours per 12-month rolling time period, August 2014 through August 2015). These submitted records are attached to this report.
4. The malfunction abatement plan (MAP) for FG-SHREDDERAPC, per SC 2.3. The facility could not provide the requested MAP and therefore is not in compliance with SC 2.3.
 5. Records of the pressure drop and liquid flow rate readings for the venturi scrubber, taken at least once per calendar day (when operating), per SC 2.7. The facility indicated that it did not keep records, per SC 2.7, for August 2014 through August 2015, and therefore it is not in compliance with SC 2.7.
 6. The MAP for FG-ZBOXAPC, per SC 3.1. The facility could not provide the requested MAP and therefore it is not in compliance with SC 3.1.

I departed the facility at approximately 2:30 pm, and thanked DM, DC, and KG for their cooperation and collaboration to operate in compliance with PTI No. 93-04A, and to resolve any identified issues.

Compliance Summary

Overall, the facility's operations were conducted in an orderly, organized, and well-managed manner. AQD appreciates the facility's efforts to comply with applicable air permit requirements and the accommodation the facility provided to AQD staff during the inspection.

AQD staff noted the following air quality violations and compliance concerns, listed below. A Violation Notice will be sent to the facility and it will also list staff's compliance concerns. AQD staff will collaborate with the facility to address the identified violations and compliance concerns. Upon review of the facility's response to the violation notice, the facility's compliance status will be re-evaluated.

List of Violations:

1. Failure to maintain and to provide a copy of the MAP for FG-SHREDDERAPC and FG-ZBOXAPC, per SCs 2.3 and 3.1, respectively.
2. Failure to operate the venturi scrubber while EU-SHREDDER was in operation, per SC 2.4.
3. Failure to maintain and to provide records of the pressure drop and liquid flow rate for the venturi scrubber from August 2014 through August 2015, per SC 2.7.

List of Compliance Concerns:

1. Excessive smoke generated by the onsite, portable torching operations.
2. Need for improved control of fugitive emissions from the south side storage / processing area, as required by Appendix A of the permit.



Image 1(Figure 1) : Shredder scrap pile (8/3/2015, 10:15 am).

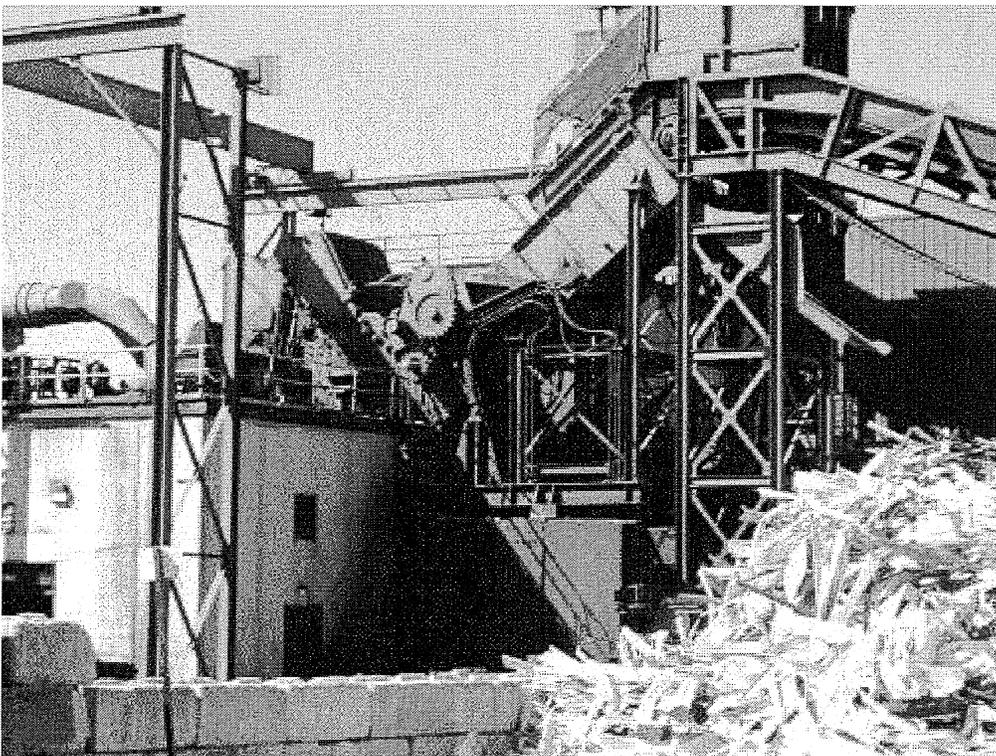


Image 2(Figure 2) : Shredder (8/3/2015, 10:18 am).



Image 3(Figure 3) : Venturi scrubber sump level gauge (8/3/2015, 10:36 am).



Image 4(Figure 4) : Venturi scrubber make and model plate. Thiel Air Technologies, Wet Dust Stop'er Venturi-Orifice Scrubber, Model WDS-0S22C-BL, Serial Number 1104-2366 (8/3/2015, 10:36 am).

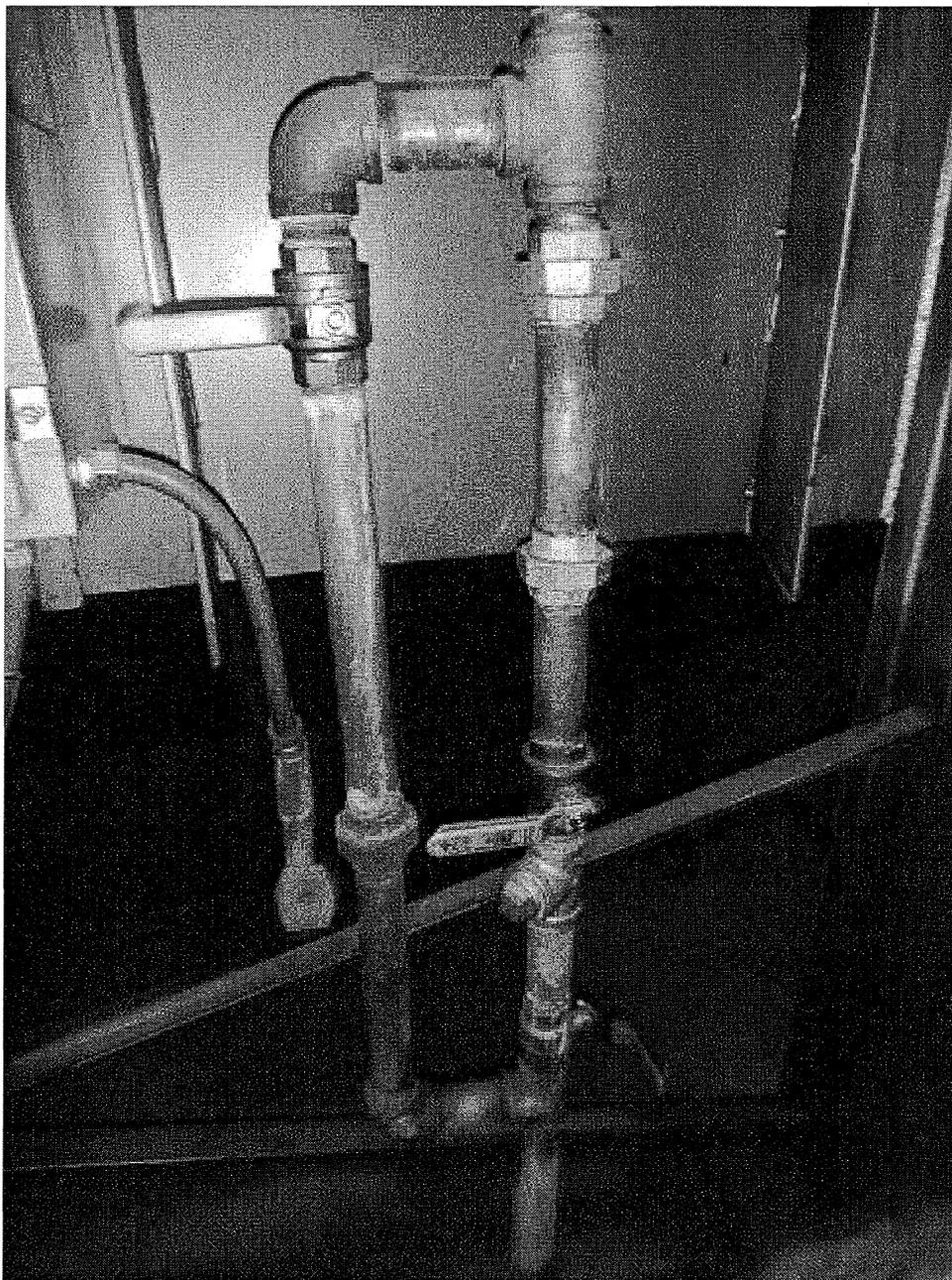


Image 5(Figure 5) : Venturi Scrubber water supply valves, in the "off" position. The facility confirmed that the water supply was turned off, as they add water manually, as needed (8/3/2015, 10:37 am).



Image 6(Figure 6) : Z-box/Cascade Box (8/3/2015, 10:36 am).



Image 7(Figure 7) : Torch-cutting area, northeast corner of facility's grounds (8/3/2015, 11:12 am). This is an example area where torch-cutting occurs directly on the ground.



Image 8(Figure 8) : Stockpile for torching activities (8/3/2015, 11:12 am).



Image 9(Figure 9) : This is an example of a typical torching workstation/work area (8/3/2015, 11:18 am). The

material to be cut appeared to be clean.



Image 10(Figure 10) : Torch-cutting operation (8/3/2015, 11:21 am). This is an example of the opacity observed during torch-cutting. An orange-colored plume was observed.



Image 11(Figure 11) : Torch-cutting operation (8/3/2015, 11:23 am).



Image 12(Figure 12) : Torch-cutting operation (8/3/2015, 11:26 am).

NAME Michael M. Baker

DATE 9/24/15

SUPERVISOR SW