

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

P141069614

<b>FACILITY:</b> Padnos Wyoming Recycling	<b>SRN / ID:</b> P1410
<b>LOCATION:</b> 500 44th Street SW, GRAND RAPIDS	<b>DISTRICT:</b> Grand Rapids
<b>CITY:</b> GRAND RAPIDS	<b>COUNTY:</b> KENT
<b>CONTACT:</b> Kyle Daneff, Environmental Manager	<b>ACTIVITY DATE:</b> 10/10/2023
<b>STAFF:</b> April Lazzaro	<b>COMPLIANCE STATUS:</b> Non Compliance
<b>SOURCE CLASS:</b>	
<b>SUBJECT:</b> Unannounced inspection in response to a complaint forwarded from EPA Region 5.	
<b>RESOLVED COMPLAINTS:</b> C-24-00104	

Staff of the Department of Environment, Great Lakes, and Energy Air Quality Division (AQD) and Water Resources Division (WRD) conducted a joint inspection in response to a complaint received from the United States Environmental Protection Agency regarding discharges to the air and water from the facility. The AQD inspector, April Lazzaro and WRD inspector Ryan Grant arrived at the facility at approximately 9:15 AM and were met by Bob Herweyer. The site contact Josh Anderson was off-site but arrived shortly thereafter. At 10:08 AM we were joined by Drew Chandonnett, and at 10:33 AM were joined by Chad Ignatowski. Chris Sledz and Jonathon P. also joined us near the end of the inspection. All listed names noted above are employees at Padnos. Observations were conducted from the perimeter of the facility prior to arrival onsite, and no odors or visible emissions were observed.

#### FACILITY DESCRIPTION

The Padnos 44<sup>th</sup> street facility conducts plastic, paper and metal recycling in a 500,000 square foot facility. Processing of each of the different media occurs in a different section of the facility. The plastic processing is in the northern end, the paper processing in the center and the metal processing in the southern end. They have roughly 150 semi-truck/trailers that come in and out of the facility daily to drop off or pick up material. Hi-lo traffic occurs inside the facility and is busiest in the paper recycling area. The WRD inspection of the exterior of the facility was conducted in its entirety, prior to entering the interior of the facility to complete the AQD inspection.

#### COMPLIANCE EVALUATION

Since the complaint was related to materials releases to the air and water near the storage silos, the inspection started there. There are approximately 15 plastic storage silos on the exterior of the eastern wall of the facility. There are also the material collection areas for particulate matter collected from the two plastic shredders. It is these two baghouses that appear to be the cause for concern and the reason for the complaint.

A visual inspection of both showed two different material collection techniques, neither of which were successfully capturing collected air contaminants.

Baghouse #1 was installed to control the plastic shredder installed in ~2010. This material collection area was a solid tube pointed down toward an open top plastic container. This area had a tarped shroud built around it (see photos below), with a fully open space on the eastern side away from the wall that was exposed to the elements. Not only was there a fairly large drop distance between the tube and the

collection container, but at the time of the inspection, the plastic dust was mounding above the height of the container. There was significant accumulation of plastic “dust” on the ground and floating in the air outside of the shroud, as it dropped from the discharge tube. This material in the air was a fine particulate and was pointed out to Mr. Ignatowski as we observed the unit. Padnos asked what an acceptable capture system might look like, and we talked about a tube connected to a sealed roll off type ‘box’ like what is used by wood dust collection systems.

Baghouse #2 which was installed to control the second plastic shredder installed in 2023. This baghouse discharge tube was not enclosed by a shroud of any kind, which is intended to deposit the collected plastic dust into an open top cardboard tote kept below. There was a large drop distance between the discharge tube and the top of the cardboard tote. (see photos below)

During the subsequent interior inspection of Shredder #1, I learned that it is a shredder that uses a rotor with 3” cutters for large manufacturing pieces of plastic, like shipping trays etc. There is also a granulator with 1/2” knife cutters to further reduce the size of the plastic. Additionally, the line also utilizes an elutriator. Elutriation is a process for separating particles in an air stream (in this application) based on their size, shape and density. There are several associated cyclones in the air stream for this line as well. Finally, there is a water density separation system for further plastic separation. This shredding line vents to baghouse #1.

Shredder #2 is of similar design to shredder #1, and exhausts to baghouse #2.

Neither system has a pressure drop or magnehelic gauge to help determine proper operation. I was informed that the bags in the baghouse are replaced annually. A Malfunction Abatement Plan will be requested pursuant to Rule 911 for both systems. The two plastic shredding emission units were not properly containing a collected air contaminant, which is required by Rule 370. As such, both emission units are in violation of Rule 370. Additionally, while this type of process could potentially utilize the Rule 285(2)(l)(vi) exemption, it does not meet the criteria because neither equipment had emissions being released only into the general in-plant environment, nor were they utilizing an appropriately designed and operated fabric filter collector. As such, both lines are also in violation of Rule 201 for failure to obtain a Permit to Install. A Violation Notice will be issued.

Following the plastic shredding and granulating activities, the plastic is further processed on one of three plastic extrusion lines. These lines may exempt from permitting pursuant to Rule 286(2)(a), however a determination pursuant to Rule 278 will be requested for the lines and the associated storage silos.

As the exterior WRD inspection continued, it was noted that progress toward characterizing the water collection system was ongoing. The majority of surface water drains collect water on-site and directs them to a type of underground separation system, prior to being contained in a surface water containment pond that is not connected to waters of the state. The access lid to the underground system was observed and was covered by dirt and debris. Padnos was unaware of how the system was designed or operated. The water in the containment pond was observed, and there was a large quantity of plastic debris floating on top, (see attached photo) although less than what WRD staff had observed during an inspection in December of 2022. It was noted that a family of ducks was on the pond and pecking at the

surface of the water, potentially consuming plastic debris. This is a concern that was discussed with Padnos staff at the conclusion of the inspection.

On the southeast side of the facility is a third baghouse that is used to control emissions from a copper grinding process. The pressure drop gauge read approximately 3.9" H<sub>2</sub>O at the time of the inspection. The low and high alarm setpoints were engaged at 3.5" and 4.8" H<sub>2</sub>O, however we identified that the wire that controlled this was not connected. It was unknown to Padnos staff how the baghouse operated and whether it was on automatic pulse to clear the bags. The baghouse fines collection was contained in a supersack, that was cinched around the discharge tube. The area was free of debris. Neither the baghouse or the collection system had been known to be inspected in at least three years. The baghouse exhaust is a return air configuration, where all exhaust air is directed back into the plant.

During the interior inspection of the metals processing area, we observed that a variety of places were hooded (at a baler and mini-baler) and routed to the baghouse in addition to the copper grinding process. We discussed the hoods, and the various different ductwork which were configured with bends and turns as it relates to air flow of the system. I learned that the internal ductwork had not been inspected in the past three years. While the system may be exempt from permitting pursuant to Rule 285(2)(l)(vi), a determination in accordance with Rule 278 will be requested, along with a Malfunction Abatement Plan pursuant to Rule 911.

As we continued around the exterior of the facility, the loading docks on the western side of the building were inspected by WRD and was determined that housekeeping needs improvement.

During the interior inspection, Padnos indicated that safety was a concern in the paper recycling portion of the facility, and as such we did not enter that area. We were told that the only process there is a paper baler. Upon closer inspection of the roof utilizing Google maps, a stack was identified in the central section of the facility where the paper recycling process is located. As such, an identification of the paper recycling process, and the permitting status of that process will be requested pursuant to Rule 278.

During the closing meeting, Padnos was informed that the plastic shredder baghouse collection systems were not meeting the requirements of Rule 370. We also discussed as a group, that when EGLE arrives for an inspection, while we understand they may want additional representation present, there is an expectation that site access will be provided in a timely manner. Padnos expressed an understanding of this expectation.

## **CONCLUSION**

Padnos 44<sup>th</sup> Street recycling facility was in non-compliance at the time of the inspection.



**Image 1(Shredder 1)** : Shredder 1 baghouse discharge. View photo one turn clockwise.



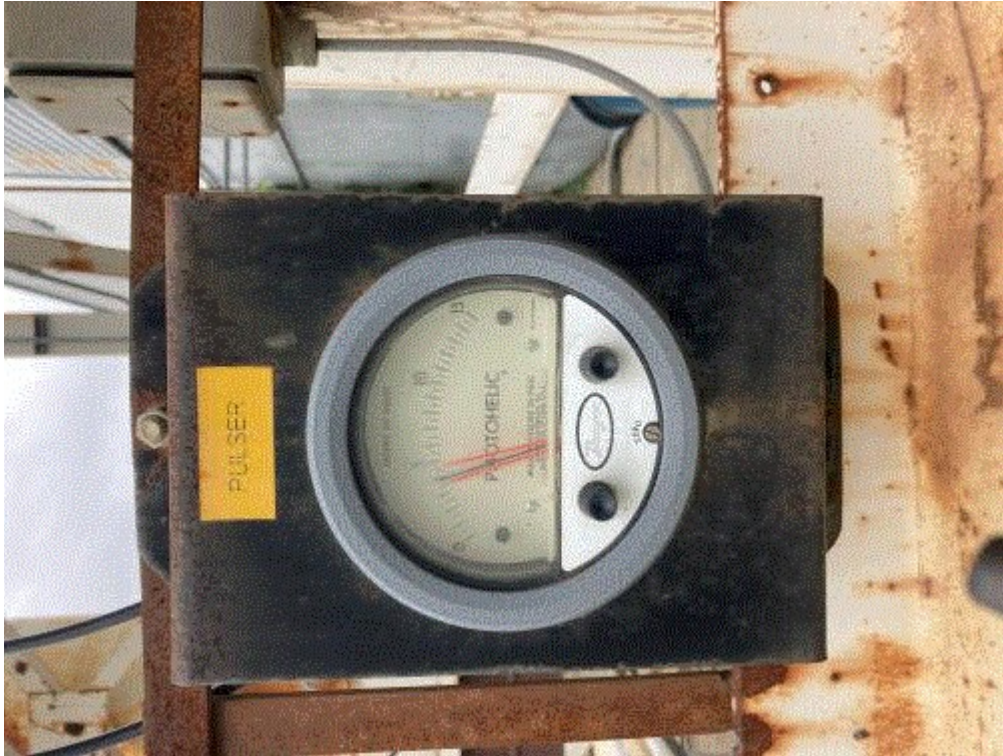
**Image 2(Shredder 2)** : Shredder 2 baghouse discharge. View photo one turn clockwise.



**Image 3(Shredder 2)** : Shredder 2 baghouse discharge material in open top box. View photo one turn clockwise.



**Image 4(Surface water pond)** : Surface water retention pond, plastic on surface.



**Image 5(Copper grinding)** : Copper grinding baghouse magnehelic gauge. View photo one turn clockwise.



**Image 6(Copper grinding)** : Copper grinding baghouse supersack. View photo one turn clockwise.

NAME April Lazzaro

DATE 10/18/2023

SUPERVISOR HH