

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

N739672272

<b>FACILITY:</b> WHITE PINE COPPER REFINERY INC		<b>SRN / ID:</b> N7396
<b>LOCATION:</b> 29784 WILLOW ROAD, WHITE PINE		<b>DISTRICT:</b> Marquette
<b>CITY:</b> WHITE PINE		<b>COUNTY:</b> ONTONAGON
<b>CONTACT:</b> JAMES R RICHARDSON , ENVIRONMENTAL MANAGER		<b>ACTIVITY DATE:</b> 04/09/2024
<b>STAFF:</b> Drew Yesmunt	<b>COMPLIANCE STATUS:</b> Compliance	<b>SOURCE CLASS:</b> MAJOR
<b>SUBJECT:</b> FY24 Targeted Inspection. Facility is in compliance.		
<b>RESOLVED COMPLAINTS:</b>		

**Facility:** White Pine Copper Refinery, Inc. (SRN: N7396)

**Location:** 29784 Willow Rd, White Pine, Ontonagon County, MI

**Contact(s):** JR Richardson, Vice President; Zachary Halkola, Chief Operating Officer; Ed Hocking, Process Engineer

### Regulatory Authority

*Under the Authority of Section 5526 of Part 55 of NREPA, the Department of Environment, Great Lakes, and Energy may upon the presentation of their card, and stating the authority and purpose of the investigation, enter and inspect any property at reasonable times for the purpose of investigating either an actual or suspected source of air pollution or ascertaining compliance or noncompliance with NREPA, Rules promulgated thereunder, and the federal Clean Air Act.*

### Facility Description

White Pine Copper Refinery is an electrolytic copper refinery located in White Pine, Ontonagon County, MI. The facility was originally associated with the underground White Pine Mine, which opened in 1955 and ceased operations in 1995. The refinery was constructed in 1982, utilizing copper bearing materials to produce copper cathode sheets. Currently, the facility is not operating.

-

### Process Description

EURF02R1 is an Electrometals Electrowinning System (EMEW). The process involves the electrolytic recovery of copper from an aqueous solution of sulfuric acid. Using titanium anodes with an iridium coating, the system makes copper cathodes ranging from 20-45 pounds and can produce up to 25,000 pounds of copper cathodes annually. The current EMEW is intended to be a pilot project for a much larger system which hypothetically would produce approximately 75,000 long tons of copper cathodes annually.

The current EMEW is comprised of 8 modules consisting of 90 cells each, and four sulfuric acid storage tanks. Emissions are controlled with an exhaust ventilation system, scrubber, and demister. Emissions control is monitored via a flow indicator and is equipped with a differential pressure gauge. Operating range is 2-8 psi. If pressure goes outside of the determined range the system is wired to automatically shut down. This unit was last run December 1, 2021.

EUSF02 includes a vertical shaft furnace fired with natural gas, an electric induction holding furnace, and copper casting equipment. The shaft furnace can melt approximately 22 tons per hour of electrolytically refined copper cathodes. The furnace last ran in the mid 1980's. In order to restart it, a significant investment would be required to meet emission limits for CO, NOx, and PM. The company wishes to maintain its major source status with an ROP even though this emission unit is not currently operating.

EURAO2 is the Nickel Sulfate Recovery System which includes an Electric Evaporator with ventilation system for collecting and conveying emissions through a demister. This emission unit has not operated since 1996.

EURF04 is the Anode Scrape and Cathode Washing machines which have an exhaust system controlling emissions with a mist eliminator. This emission unit has not operated since 1996.

EURF06 is for electrolytic copper refining operations in a tankhouse. Tankhouse ventilation is accomplished using air handlers to exhaust tankhouse air. This emission unit has not operated since 1996.

EURAO1 is the Slimes Treatment System containing a Wet Side using leaching towers exhausted to atmosphere through a filter pad demister, and a Dry Side containing a filter press followed by a steam heated dryer and solids handling and drumming operations controlled with a cartridge filter exhausted to atmosphere.

### Emissions Reporting

White Pine Copper Refinery is a major source due to its potential to emit more than 100 tpy of CO, thus the facility is required to report annual emissions to MiEnviro. The facility did not operate in 2023 and reported zero emissions for all pollutants.

### Compliance History

The facility has not received any violation notices in the past five years. The facility was last inspected in December 2021 and was found to be in compliance with all applicable air quality rules and regulations at that time.

-

### Inspection

On April 9, 2024, AQD staff (Drew Yesmunt and Michael Conklin) conducted a targeted inspection of White Pine Copper Refinery in White Pine, MI. AQD staff arrived at the facility and met with JR Richardson, Vice President of PM Power Group. It was explained that the purpose of the inspection was to ensure compliance with the facility's ROP (MI-ROP-N7396-2022) and all other applicable air pollution control rules and federal regulations. The inspection began by discussing the future plans for the facility. It was explained to AQD staff that the facility is currently on standby in anticipation of Highland Copper Company's proposed White Pine North and Copperwood projects. Due to the potential for future demand, the facility wishes to maintain its ROP. A tour of the facility was then provided. During the inspection, no equipment at the facility was operating. Since the previous inspection in 2021, the facility had added two natural gas-fired boilers to aid in generating electricity on-site. These units were shown to be exempt from Rule 201 PTI requirements under Rule 282(2)(b)(i) as the combined heat input capacity of the boilers is below 50,000,000 Btu/hr. During the inspection, it was also noted by AQD staff that the facility had an electrolytic circulation tank that was not included in the facility's ROP. Following the inspection, the facility provided documentation to AQD staff that at the time of installation, the tank was exempt from Rule 201 PTI requirements under Rule 290 as an emission unit with limited emissions.

### Compliance

Based on this inspection and records reviewed, White Pine Copper Refinery appears to be in compliance with MI-ROP-N7396-2022 and all other applicable air pollution control rules and federal regulations. It was conveyed to the facility that no violations were observed during the on-site inspection.

NAME 

DATE 6-17-2024

SUPERVISOR 