

DEPARTMENT OF ENVIRONMENTAL QUALITY  
 AIR QUALITY DIVISION  
 ACTIVITY REPORT: Scheduled Inspection

N219952127

FACILITY: FRANKLIN METALS TRADING CORPORATION		SRN / ID: N2199
LOCATION: 609 TUPPER LAKE ST, LAKE ODESSA		DISTRICT: Grand Rapids
CITY: LAKE ODESSA		COUNTY: IONIA
CONTACT: Mark Clark, President		ACTIVITY DATE: 01/15/2020
STAFF: Eric Grinstern	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MINOR
SUBJECT: Unannounced Inspection		
RESOLVED COMPLAINTS:		

Unannounced inspection of Franklin Metals Trading Corporation.

Prior to entering the facility, a survey of the parameter was made from the public roadway. No opacity or odors were noted.

### FACILITY BACKGROUND

The facility is a metal processing plant that handles ferrous and non-ferrous metals. The facility processes metals from commercial/industrial accounts as well as street trade. Aluminum scrap is processed through a sweat furnace and sold as refined sow.

### REGULATORY REVIEW

The facility holds one air use permit, PTI No. 447-89A, which covers the operation of a gas-fired aluminum sweat furnace. The aluminum sweat furnace is subject to Subpart RRR, Secondary Aluminum Production NESHAP. All other known activities at the facility are exempt from the requirements to obtain an air use permit.

### COMPLIANCE EVALUATION

At the facility, EG met with Laurie Martin, Controller. Ms. Martin accompanied staff on an inspection of the facility.

### Permit to Install 447-89A

#### EUFURNACE

EUFURNACE is an aluminum furnace used to sweat iron containing scrap as well as to melt aluminum scrap that does not contain iron. The furnace has a holding capacity of 32,000 pounds and is equipped with a dry hearth and a sidewell. Emissions from the furnace are ducted to an afterburner followed by a lime coated baghouse. The furnace is custom made and is unique in design. The furnace has many of the attributes of a Group 1 reverberatory furnace, such as having a sidewell, is maintained with a heel in the holding chamber and is controlled by a baghouse.

#### Emission Limits

EUFURNACE restricts the emission of hydrogen fluoride (HF), hydrogen chloride (HCL), copper, nickel, cobalt and dioxin/furans (D/F). Compliance with the emission limits can be demonstrated by requesting emissions testing, proper operation of the control equipment and material use restrictions.

The facility conducted testing in April 2006 to evaluate the emission of HF, and D/F and VOC. The test results showed compliance with the permitted limits. Emission limits for copper, nickel and cobalt were added to the permit when the permit was modified in 2018.

Ongoing compliance with the emission limits is assumed through proper operation of the lime coated baghouse. Review of the facility's baghouse maintenance records (attached) for the previous 60 days, show that they have completed the daily, monthly, semi-annual and annual inspection. No abnormal conditions were documented in the records reviewed.

EUFURNACE limits opacity to a six-minute average of 10%. At the time of the inspection and during pre-inspection observations, no opacity was observed. Review of facility's daily maintenance logs (attached) showed that no visible emissions have been identified over the past 60 days.

### **Material Usage Limits**

Flux usage is restricted to 285 lb/ton of metal charged, based on a daily time period. Additionally, the facility is restricted to using flux with a maximum fluorine content of 60.32%.

Review of the flux usage records for the past 60 days showed flux usage to be well below the limit of 258 lb/ton. The facility supplied composition data for the fluxes currently in use. The supplied data shows all of the fluxes have a fluorine content less than 60.32%.

Metal input to the furnace is restricted to 37.5 tons/day. Facility records for the past 60 days show compliance with the ton/day limit. The peak charge observed was 24.28 tons/day.

### **Process/Operational Limits**

EUFURNACE requires the afterburner used to control emissions from the sweat furnace hearth to have a minimum temperature of 1,600 degrees F and a retention time of 1.0 second. The afterburner manufacturer certified that the afterburner installed has a minimum residence time of 1.0 second or greater. During the inspection, observation of the afterburner showed a temperature of 1702 degrees F. The facility supplied the last calibration report for the afterburner, which was conducted in August 2019.

One of the underlying applicable requirements for the afterburner temperature of 1,600 degrees is Subpart RRR. Subpart RRR requires an operating temperature of 1,600 degrees based on a 3-hour block average. As required by Subpart RRR, compliance with the 3-hour block average is based on the operation of a monitoring system that is capable of recording the temperature in 15-minute block averages and the average temperature for each 3-hour block period (63.1510(g)(2)(ii)). In March 2004, the facility submitted an alternative monitoring request to use a continuous chart recorder that does not compute the 15-minute block average or 3-hour block period. The facility proposed to continue using a continuous chart recorder and maintain the temperature above 1,600 degrees at all times. AQD agreed with the alternative monitoring request since it was more stringent than the averaging allowed by the NESHAP. USEPA Region 5 also observed and agreed with the continuous temperature recording system during an inspection conducted in June of 2004.

Subsequent to the issuance of a VN in 2018 for failing to maintain the afterburner temperature above 1,600 degrees at all times, the facility installed a data recorder on July 11, 2018, that has the capacity to record the 15-minute temperature averages that can be used to calculate the 3-hour block average temperature. The facility was required to submit an O&M plan for the control equipment, within 30 days of issuance of PTI No. 447-89B. The facility submitted an updated copy of the O&M plan on October 29, 2018.

### **Equipment**

The facility is required to install and operate an afterburner and lime coated baghouse equipped with a pressure drop gauge.

The facility has installed and is operating the afterburner and baghouse with a pressure drop gauge.

The baghouse is a lime coated baghouse, not a lime injected baghouse. The facility introduces 150 pounds of lime to the baghouse once a month by drawing it up through the collection hopper discharge. With the baghouse running, the lime is drawn into the system and coats the bags.

During the inspection, the pressure drop across each of the chambers was -0.5" (appears to be recorded by the facility as 5). The facility observes the pressure drop daily and records whether or not the pressure drop is below 10". The facility supplied pressure drop records for the previous 60 days. All readings were between 4-7".

### **Monitoring/Recordkeeping**

The permit requires the facility to install and maintain a device to monitor and record the temperature and residence time of the afterburner on a continuous basis.

The afterburner temperature is monitored and recorded on a continuous basis. The residence time of the afterburner is based upon the design and certification by the manufacturer. Staff is not aware of a residence time monitor and considers this part of the condition to be an error.

The facility is required to monitor on a daily basis, the lime injection or coating rate. EG reviewed records that showed compliance with the requirement. Consistent with the facilities historical lime coating practices and O&M plan, the facility adds 150 pounds of lime to each compartment of the baghouse once per month. The lime is added to the bottom of the compartments which results in it being drawn up to the bags. Review of the facility records for the past 3-months showed that they have added lime every month.

### **Secondary Aluminum Production NESHAP – Subpart RRR**

The facility's aluminum sweat furnace is subject to Subpart RRR.

Area source sweat furnaces are only subject to dioxin/furan limit under the NESHAP.

The hearth is controlled by an afterburner and baghouse, while the sidewall emissions go directly to the baghouse. Emission testing was conducted in 2006, at which time compliance with the dioxin/furan limits was demonstrated at the baghouse exhaust.

The facility is currently in compliance with the NESHAP requirements regarding the submittal of semi-annual/annual excess emission certifications. Recent compliance certifications reported three excursions. One excursion occurred during the semi annual reporting period of January 1, 2019 - June 30, 2019. An area power outage resulted in the afterburner temperature dropping below 1600 degrees for 1 hour and 7 minutes. The outage occurred during a holiday weekend when no production or charging was occurring. For the semi annual reporting period of July 1, 2019 - December 31, 2019, two excursions were reported. On July 22, 2019, an area wide power outage resulted in a mechanical failure that resulted in the afterburner temperature dropping below 1600 degrees for 13 hours. The outage occurred when no production or charging was occurring. On December 18/19, 2019, a mechanical failure resulted in the afterburner temperature dropping below 1600 degrees. The facility reported the time period of the incident as 17 hours, however, review of the 15 minute average temperature readings appears to show that there was only one 3-hour block time period where the afterburner temperature was below 1,600 degrees. The outage occurred when no production or charging was occurring.

The facility appears to have responded to the excursions in a timely and appropriate manner. Since the excursions occurred when the furnace was only holding a heel, emissions would assumed to be minimal. As noted earlier, the furnace is operated similarly to a Group One Furnace, for which Subpart RRR has provisions for shutting the afterburner off during periods when the furnace is only holding a heel.

The facility has in place the required OM&M and SSM plans. Review of the facility records showed that they have been performing and documenting the required inspection/maintenance actions required by Subpart RRR and contained in the OM&M plan.

Subpart RRR, 63.1510(d) requires the source to inspect each capture and collection system at least once per year. This inspection requires the collection of the actual volumetric measurements to verify the minimum volumetric flow rate is being maintained in accordance with Chapters 3 and 5 of ACGIH manual. The facility is conducting this inspection annually. The most recent inspection was completed and submitted in March 2019.

### **Miscellaneous**

During the inspection a new stormwater evaporator was observed in the northwest portion of the facility. Subsequent to the inspection the facility provided an exemption determination (attached) that was conducted prior to the installation of the unit. The determination utilized Rule 285(m), but also stated that Rule 290 was also applicable.

### **Conclusion**

Based on the information and observations made during this inspection, the facility appears to be in compliance with all applicable air quality rules and regulations.

NAME 

DATE 1/30/20

SUPERVISOR 