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

N595768192

FACILITY: Real Alloy Recycling, LLC		**SRN / ID:** N5957
LOCATION: 267 N. Fillmore Rd, COLDWATER		**DISTRICT:** Kalamazoo
CITY: COLDWATER		**COUNTY:** BRANCH
CONTACT: David Likens , HSE Manager		**ACTIVITY DATE:** 06/15/2023
STAFF: Amanda Cross	**COMPLIANCE STATUS:** Compliance	**SOURCE CLASS:** MAJOR
SUBJECT:		
RESOLVED COMPLAINTS:		

On June 15, 2023, Air Quality Division's Amanda Cross and Water Resources Division's Daniel Burlingame (staff) arrived on site to conduct an unannounced air quality inspection at the Real Alloy Recycling (State Registration Number (SRN): N5957). The North Plant is located at 368 West Garfield Ave and the South Plant located at 267 North Fillmore Road, Coldwater Michigan, Branch County. The purpose of the inspection was to determine compliance with the Federal Clean Air Act, Article II, Part 55, Air Pollution Control Rules, of the Natural Resources and Environmental Protection Act, 1995 PA 451, as amended (Act 451); AQD administrative rules; 40 CFR Part 63, Subpart RRR and MI- ROP-N5957-2022.

Real Alloy North and South were formerly referred to as Real Alloy Specification, Inc. and Real Alloy Recycling, Inc. The plants constitute a single stationary source that has the potential to emit nitrogen oxides (NOx), particulate matter less than 10 microns (PM10), and hazardous air pollutants (HAPs) in the form of hydrogen chloride (HCl) above respective major source threshold levels. With the issuance of Permit to Install (PTI) 62-19A, the facility combined both the north and south plants into one permit and included FGFACILITY limits for criteria pollutants. The facility was previously subject to prevention of significant deterioration (PSD) regulations per 40 CFR Part 52.21 for particulate matter but since the facility was issued PTI 63-19A and they took FGFACILITY limits for all criteria pollutants, they are no longer subject to PSD regulations. They are also subject to the requirements of EGLE-AQD administrative consent order No 2019-29 that was effective on 11/21/19.

The source operates certain process equipment that is subject to major source requirements of the Secondary Aluminum Production NESHAP, 40 CFR Part 63, Subpart RRR as follows:

North Plant (formerly Real Alloy Specification):

EUALFURN1 – 18,000 lb/hour reverberatory melting furnace

EUALFURN2 – 120,000 lb/hour reverberatory holding furnace (Group 2 operation only)

EUALFURN7/8 – 17,000 lb/hour combined capacity reverberatory melting furnaces (EUALFURN7 and EUALFURN8)

EUALDRYER3 – 15,000 lb/hour aluminum chip dryer

EUALSHREDDER – 25,000 lb/hour aluminum crusher/shredder

South Plant (formerly Real Alloy Recycling):

EUIMREVERBFURN – 15,000 lb/hour reverberatory melting furnace

EUIMROTFURN1/2 – 42,000 lbs/hour rotary melting furnaces, formerly separate (EUIMROTFURN1 and EUIMROTFURN2)

AQD and WRD staff entered the office building for the North Plant, located a Real Alloy Employee, and said we were there to conduct an inspection. The environmental contact for both the North and South Plant is David Likens, who we contacted. We went into a small conference room and had a pre-inspection meeting. Joining us, via Microsoft Teams was Jennifer Zavoda, corporate environmental contact for Real Alloy as well as another corporate employee for Real Alloy. I discussed the overall inspection process of a site tour and records review to verify compliance with emission limits. We also discussed termination of the existing ACO, which can be done following the stack testing scheduled for July, assuming the facility shows compliance with the permitted emission limits.

The facility generally runs 24 hours a day, 7 days a week, 365 days a year. This is done in a combination of shift work for production and processing and weekend maintenance shifts. There are currently approximately 119 employees at between the two facilities. Required PPE include safety glasses, hearing protection, hard hat, long sleeve shirt preferably FR compliant, and all jewelry must be removed or covered.

MI-ROP-N5957-2022

Source Wide Conditions

These conditions were added to this permit to maintain the facility below PSD levels. These apply to all equipment, source-wide, and include all other permits, grandfathered equipment, and exempt equipment.

Pollutant	Limit	Vented Through	12-Month Rolling Emission
PM	87.3 tpy	FGFACILITY	25.2 tpy
PM10	84.4 tpy	FGFACILITY	38.1 tpy
PM2.5	83.4 tpy	FGFACILITY	38.1 tpy
NOx	99.3 tpy	FGFACILITY	30.7 tpy
CO	82.9 tpy	FGFACILITY	25.5 tpy
VOC	99.8 tpy	FGFACILITY	54.2 tpy

Emissions for this flexible group were the highest in December 2022, except for PM, which was highest November 2021. The facility is also monitoring the total maximum heat input of all exempt natural gas burning equipment along with all the natural gas used on site.

North Plant –

EUALFURN1

Process emissions from EUALFURN1 are routed to a 60,000 CFM lime injected Baghouse No. 2 vented from SVALBH1. This is equipped with a bag leak detection (BLD) system. The permit has emission limits for both the furnace flue as well as the baghouse.

Pollutant	Limit	Vented Through	12-Month Rolling Emission
Hydrogen Chloride (HCl)	9.9 tpy	SVALBH1	0.016 tpy
Hydrogen Chloride (HCl)	9.9 tpy	SVALFURN1	8.97 tpy
Chlorine	1.36 tpy	SVALBH1	0.018 tpy
Chlorine	16.31 tpy	SVALFURN1	0.046 tpy
NOx	2.48 tpy	SVALBH1	0.568 tpy
NOx	9.90 tpy	SVALFUFRN1	2.69 tpy
SO2	4.95 tpy	SVALBH1	0.717 tpy
PM10	2.48 tpy	SVALBH1	0.853 tpy
PM10	8.09 tpy	SVALFURN1	4.691 tpy
PM2.5	2.48 tpy	SVALBH1	0.850 tpy
PM2.5	8.09 tpy	SVALFURN1	4.691 tpy
PM	2.48 tpy	SVALBH1	0.613 tpy
PM	13.12 tpy	SVALFURN1	7.03 tpy

THC, as propane	2.48 tpy	SVALBH1	1.795 tpy
THC, as propane	2.97 tpy	SVALFURN1	0.209 tpy
HF	2.43 tpy	SVALFURN1	0.314 tpy

The highest emissions varied from September 2021, November 2021, December 2022, February 2023, and May 2023. EGLE-AQD administrative consent order No 2019-29 contains requirements for the facility to maintain compliance with PM and PM10 emission limits for the reverberatory melting furnace and PM10 limits for the flue of the reverberatory melting furnace for SVALFURN1. As required by the permit and the consent order, the facility appears to be in compliance with the required permit limits.

Material	Limit	Vented Through	Highest Usage
Feed/Charge	49,500 tpy	SVALFURN1	12,430.99 tpy
Feed/Charge	350,000 lbs/day	SVALFURN1	323,953 lbs/day April 2023

The furnace was operating during the inspection. The molten level was at 21" at 8:30am and 24" at 9:30am which is above the 15" arch height, as required by the permit. NESHAP labels for all reverberatory furnaces on the north side are located on the production floor. Label for EUALFIRN1 is located outside the production office by the pump well. Bath temperature was 1,257 degrees. The weigh scales for the north plant were all last calibrated on 6/8/23. The thermocouples for Furnaces 1, 7, and 8 were calibrated on 1/7/23 and this is done semiannually. The annual capture and collection system was inspected in June of 2022 and is due again June 2023. Baghouse leak detection (BLD) was last calibrated on 2/10/23.

The chlorine room is between baghouse #1 and #2 and is used to store the liquid chlorine cylinders and evaporator system that is used to supply chlorine gas to EUALFURN1 and EUALFURN7/8 for fluxing and demagging aluminum scrap. These cylinders are weighed continuously to keep track of chlorine usage in each furnace. During the inspection, the chlorine scale #1 read 1,427 pounds and scale #2 read 1,487. The alarm setpoint in the room is 3 ppm with the sensor calibration for the alarm completed on 4/24/23. The dates of the scale calibrations were listed beneath the readouts and said 6/8/23. There are three evaporators that are designed to a specific furnace. Evaporator #1 serves EUALFURN1 and evaporators #2 and #3 serve EUALFURN7 and EUALFURN8 respectively. The chlorine concentrations are continuously monitored inside the room and an alarm will be triggered is it exceeds the ppm setpoint.

The control ID for the baghouse is Baghouse #2, which is a lime injected 60,000 cfm shaker type baghouse with a BLD system vented through SVALBH1. During the inspection, the lime tube was free flowing with a dial setting of 3. The 8-hour maintenance check records were available on site and viewed during the inspection. The 15-minute baghouse inlet temperature was 99 degrees F

and the 3-hour average inlet temperature was also 91 degrees F with a maximum temperature of 136 degrees F. The baghouse pressure drop was 5.16" and baghouse draft fan 272 amps. BLD reading was 0.52%, setpoint for the BLD was 5%, and the delay alarm set for 46 seconds. There were no visible emissions seen during the inspection.

Facility certified in their most recent semi-annual NESHAP excess emissions/summary report dated 3/13/23 and that during the entire reporting period, all monitoring and associated recordkeeping requirements in the ROP were met except for the identified deviations. There were no deviations identified for this emission unit.

EUALFURN2

EUALFURN2 is a reverberatory holding furnace with 120,000 lbs holding capacity and no charge well. There is no pollution control equipment associated with this furnace, so emissions are vented uncontrolled from SVALFURN2. This is a Group 2 operation furnace only.

Pollutant	Limit	Vented Through	12-Month Rolling Emission
NOx	2.01 tpy	SVALFURN2	1.628 tpy
PM	1.53 tpy	SVALFURN2	0.321 tpy
PM10	1.53 tpy	SVALFURN2	0.600 tpy
PM2.5	1.53 tpy	SVALFURN2	0.600 tpy
THC, as propane	1.01 tpy	SVALFURN2	0.900 tpy

The highest emissions were all in March 2021. THC, as propane appears to be the pollutant the closest to the emission limit, about 89% of the limit. The weigh scale was last calibrated on 6/8/23 and the last annual NESHAP capture and collection system inspection date was June 2022 and is due again June 2023. There were no visible emissions seen from the furnace during the inspection.

The furnace was in operation during the inspection and tapping was occurring from EUALFURN2. The NESHAP label for this furnace is located by the Furnace 2 charge door.

The EGLE-AQD administrative consent order No 2019-29 contains requirements for the facility to maintain compliance with PM and NOx emission limits for the flue of EUALFURN2, which is denoted as SVALFURN2 for the vent. As required by the permit and the consent order, the facility appears to be incompliance with the required permit limits.

EUALFURN7/8

This emission unit consists of two reverberatory melting furnaces, EUALFURN7 and EUALFURN8, which have become commonly controlled. These furnaces have a combined hourly charge of 17,000 pounds. Emissions from natural gas are controlled by a 90,000 CFM lime-injected baghouse, SVALFURN7/8 (Baghouse #1). Emissions from fluxing and melting are controlled by a 65,000 CFM lime-injected baghouse vented through SVALBH7/8 (Flue baghouse F7N and F8N).

Pollutant	Limit	Vented Through	12-Month Rolling Emission
Hydrogen Chloride (HCl)	12.00 tpy	SVALBH7/8	5.566 tpy
Hydrogen Chloride (HCl)	12.00 tpy	SVALFURN7/8	1.586 tpy
NOx	4.5 tpy	SVALBH7/8	1.670 tpy
NOx	12.00 tpy	SVALFUFRN7/8	5.566 tpy
SO2	6.0 tpy	SVALBH7/8	2.087 tpy
PM	4.5 tpy	SVALBH7/8	0.362 tpy
PM	4.5 tpy	SVALFURN7/8	1.461 tpy
PM10	8.1 tpy	SVALBH7/8	0.501 tpy
PM10	4.5 tpy	SVALFURN7/8	2.087 tpy
PM2.5	8.1 tpy	SVALBH7/8	0.501 tpy
PM2.5	4.5 tpy	SVALFURN7/8	2.087 tpy
THC, as propane	27 tpy	SVALBH7/8	11.687 tpy
THC, as propane	3.0 tpy	SVALFURN7/8	0.264 tpy

The highest emissions were all in February 2023. The PM2.5 emissions from SVALFURN7/8 were the closest to the emission limit. The EGLE-AQD administrative consent order No 2019-29 contains requirements for the facility to maintain compliance with PM, PM10, NOx, and SOx

emission limits for the EUALFURN7/8. As required by the permit and the consent order, the facility appears to be incompliance with the required permit limits.

Material	Limit	Equipment	Highest Daily/Monthly Usage
Feed/Charge	60,000 tpy	SVALFURN7/8	27,831 tpy
Feed/Charge	480,000 lbs/day	SVALFURN7/8	256,458 pounds
Beryllium	0.01% of feed/charge	SVALFURN7/8	0 pounds

According to Mr. Likens, the facility has not processed any Beryllium since 2016.

Furnace 8 was operating during the inspection, but Furnace 7 was idled, acting as a holding furnace. The molten level was 23" in EUALFURN8 and 35" in EUALFURN7 which is above or equal to the 15" arch height, as required by the permit. Bath temperature for Furnace 8 was 1,347 F and Furnace 7 was 1,350 F. The weigh scales for the north plant were all last calibrated on 6/8/23. The thermocouples for Furnaces 1, 7, and 8 were calibrated on 1/7/23. The annual capture and collection system was inspected on 3/28/23.

Chlorine is supplied to these furnaces from the same room that supplies chlorine to EUALFURN1. The cylinders are weighed continuously to keep track of chlorine usage in each furnace. During the inspection, the chlorine scale #3 read 2,560 pounds and scale #4 read 1,496 pounds. The alarm setpoint in the room is 0.3 ppm. The dates of the scale calibrations were listed beneath the readouts and said 6/8/23. The chlorine concentrations are continuously monitored inside the room and an alarm will be triggered is it exceeds the ppm setpoint. Chlorine was not being injected during the inspection.

The control IDs for the baghouses are Baghouse #1 and Flue Baghouse F7N and F8N. Baghouse #1 controls emissions from natural gas combustion and is a 90,000 CFM lime injected baghouse through SVALFURN7/8. Emissions from fluxing and melting are routed through this 65,000 CFM lime-injected baghouse, denoted as SVALBH7/8.

During the inspection, the lime tube was free flowing to SVALFURN7/8 with a dial setting of 2.75. The 15-minute baghouse inlet temperature was 118 degrees F and the 3-hour average inlet temperature was also 103 degrees F with a maximum temperature of 169 degrees F. The baghouse pressure drop was 7" and baghouse draft fan 273 amps. BLD reading was 0.88%, setpoint for the BLD was 3%, and the delay alarm set for 88 seconds. There were no visible emissions seen during the inspection.

The lime was visually free flowing to baghouse SVALBH7/8 (Torit 7/8) during the inspection. The lime dial was set to 0.5. The 8-hour maintenance check records were available on site and viewed during the inspection. The 15-minute baghouse inlet temperature for BH7 was 190 degrees F and the 3-hour average inlet temperature was 112 degrees F, maximum 350 F. The baghouse pressure drop was 3.5" and baghouse draft fan 1785 RPM. BLD reading was 0.8%, setpoint for the BLD was

21%, and the delay alarm set for 60 seconds or 60,000 nanoseconds. There were no visible emissions seen during the inspection.

The 15-minute baghouse inlet temperature for BH8 was 306 degrees F and the 3-hour average inlet temperature was 299 degrees F, maximum 350 F. The baghouse pressure drop was 7.1" and baghouse draft fan 1600 RPM. BLD reading was 0.38%, setpoint for the BLD was 21%, and the delay alarm set for 60 seconds or 60,000 nanoseconds, as is set in the facility's online alarm system. There were no visible emissions seen during the inspection.

Facility certified in their most recent semi-annual NESHAP excess emissions/summary report dated 3/13/23 and that during the entire reporting period, all monitoring and associated recordkeeping requirements in the ROP were met except for the identified deviations. There were no deviations identified for this emission unit.

EUALDRYER3

This is a rotating drum dryer capable of handling up to 15,000 pounds per hour of metal chips. Process emissions are routed to an afterburner, cyclone, and 43,000 CFM baghouse, vented through SVALDRY3OX aka Torit #2. The drum dryer seals are controlled by at 34,000 CFM baghouse, Torit #3, which also controls EUALSHREDDER.

Pollutant	Limit	Vented Through	12-Month Rolling Emission
NOx	12.42 tpy	SVALDRYER3	4.964 tpy
PM	8.07 tpy	SVALDRYER3	3.227 tpy
PM10	10.04 tpy	SVALDRYER3	4.013 tpy
PM2.5	10.04 tpy	SVALDRYER3	4.013 tpy
THC, as propane	13.46 tpy	SVALDRYER3	5.378 tpy

Highest emissions for this emission unit were in November 2022.

Material	Limit	Equipment	Highest Daily/Monthly Usage
Feed/Charge	41,400 tpy	SVALDRYER3	11,472 tpy
Feed/Charge	250,200 lbs/day	SVALDRYER3	243,516 lbs May 2023

The dryer was not in operation during the inspection. The NESHAP label for this emission unit is posed in the processing office.

The facility processes unpainted metal chips only in this emission unit. The scale calibration date was 5/28/23 and annual capture and collection system certification date was June 2022 and is due again June 2023. The thermocouple calibration date for Torit #2 and Torit #3 is 5/10/23 and BLD most recent inspection date is 6/13/23. The drum dryer temperature was 0 degrees F. The afterburner 15-minute average was 80 degrees F, and 3-hour average temperature 78 degrees F, maximum 1,443 degrees F. The low 15-minute and 3-hour average temperatures can be attributed to the dryer not operating at the time of the inspection.

The baghouse inlet 15-minute average was 78 degrees F and 3-hour average temperature 60 degrees F, maximum 408 degrees F. The bypass cap was closed, and the maintenance manager said it's the damper is rusted shut and will not open without tools to pry it open. The baghouse pressure drop read 0.21" and the draft fan was 0 amps. The BLD reading was 0.2% during the inspection with a BLD setpoint of 13%. The BLD alarm delay was set to 66 seconds. No visible emissions were observed during the inspection. The low temperatures on the baghouse and draft fan are also tied to the fact that the dryer was not operating during the inspection.

EUALSHREDDER

This is a 25,000 pound per hour shredder with emissions controlled by a 34,000 CFM baghouse (Torit #3) which also collects seals emissions from the chip dryer, as discussed above.

Pollutant	Limit	Vented Through	12-Month Rolling Emission
PM10	2.74 tpy	SVALSHREDDER	0.138 tpy
PM2.5	2.74 tpy	SVALSHREDDER	0.138 tpy
PM	2.74 tpy	SVALSHREDDER	0.186tpy
NOx	1.09 tpy	SVALSHREDDER	0.207 tpy
THC, as propane	2.74 tpy	SVALSHREDDER	0.258 tpy

Highest emissions for this emission unit were in January 2022.

Material	Limit	Equipment	Highest Daily/Monthly Usage
Feed/Charge	54,750 tpy	SVALSHREDDER	18,487 tpy

Feed/Charge	**450,000 lbs/day**	**SVALSHREDDER**	**298,780 pounds**

The highest month of feed charge was in November 2022 and the highest single day weight processed was on 2/13/23. This process was not operating during the inspection. The NESHAP label for this emission unit is located inside the processing office.

The scale was most recently calibrated on 5/28/23 and the thermocouple calibrated on 5/4/23. The annual capture and collection inspection date was June 2022 and dune again June 2023 and the bag leak detection calibrated on 5/23/23. The baghouse inlet 15-minute average was 74 degrees F and the 3-hour average was 30 degrees F with a maximum temperature of 118 degrees F. The baghouse pressure drop was 4.76" with the draft fan running at 117.6 amps. BLD readings were 0.76% with a setpoint of 6% and an alarm delay of 74 seconds.

EUALDROSS

These are the dross handling operations at the north plant where are emissions are vented through a 50,000 CFM pulse jet baghouse (Torit #1) with no BLD system. This was not operational at the time of the inspection.

Pollutant	Limit	Vented Through	12-Month Rolling Emission
PM	**0.50 tpy**	**SVALDROSS**	**0.485 tpy**
PM10	**3.50 tpy**	**SVALDROSS**	**3.377 tpy**
PM2.5	**3.50 tpy**	**SVALDROSS**	**3.377 tpy**

The highest emissions for this emission unit were in May 2023. The fabric curtains that were hanging down from the collection hood over the loading area appeared to be in good condition.

Mr. Likens had some questions about emissions calculations for this area. There are approximately 2-3 trucks per week that load dross. Since trucks are not tracked, emissions are calculated as though the unit is operating constantly. This is the reason the emissions are so close to the limit, which is a large over estimation of actual emissions. Staff suggested having a sheet in the area for the drivers to sign in and out when they collect the dross. This should provide a start and end time for when the actual emission unit is in use.

The baghouse pressure drop was 2.4" and the fan was 125 amps, even though there were no trucks loading dross during the inspection. The visible emissions and pressure drop are recorded at least once every four hours during operation.

EUALCRUCIBLES

This emission unit contains ten gas-fired crucible stations rated at 1.5 MMBtu/hour each with no pollution control. During the inspection there were no crucibles being fired or filled. The facility reports that crucibles have been in low demand.

Pollutant	Limit	Vented Through	12-Month Rolling Emission
NOx	6.441 tpy	SVALCRUCIBLES	1.447 tpy

The highest emissions were in May 2023. The facility is also tracking all natural-gas usage throughout the facility, by emission unit. There were no crucibles being fired during the inspection. Approximately one crucible per week is shipped out from the facility.

Exempt Equipment

The facility has a cold cleaner located in the maintenance area. The lid was closed while not in use and operations sticker was on the inside of the lid. The cold cleaner is maintained by Safety Kleen and uses Safety Kleen Premium Solvent which is 100% light petroleum distillate solvent. The lid was closed during the inspection.

CAM Subject Units – North Plant

The facility is required to comply with compliance assurance monitoring (CAM) requirements. In the ROP, this consists of emission units that use a control device to achieve compliance with a federally enforceable emission limitation or standard for particulate matter. The permittee submitted a new CAM plan received on August 28, 2021, at the request of the Department. The applicable emission units on the north side are EUALDRYER3, EUALFURN1, EUALFURN7/8, EUALSHREDDER, and EUALDROSS. The permittee operates and maintains a BLD system for the baghouses associated with CAM, except for the EUALDROSS. The BLD system automatically runs a daily zero and span calibration. Any calibration errors will trigger the BLD system to alarm and send an email to management who notify the maintenance staff to evaluate the system.

The furnace and dryer baghouses on the north side are equipped with a high inlet temperature audio/visual blue light alarm that is tested monthly for functionality by the maintenance staff. The facility also has computer software (ie Ignition) that looks at predicted 15-minute temperature average and well send an email to management and maintenance staff if inlet temperatures may approach limit established during the most recent performance test. The permittee submits a semi-annual report of monitoring, any deviations and/or monitoring downtime during the reporting period.

South Plant –

EUIUMHOTDROSS

This process is a salt cake/hot dross handling and loadout. Emissions are controlled by a 40,000 CFM baghouse vented through SVIMDROSSBH (Torit #1). This baghouse is not equipped with a BLDS. This was operational during the inspection.

Pollutant	Limit	Vented Through	12-Month Rolling Emission
PM	3.942 tpy	EUIMHOTDROSS	2.196 tpy
PM10	3.942 tpy	EUIMHOTDROSS	2.767 tpy
PM2.5	3.942 tpy	EUIMHOTDROSS	2.767 tpy

Fabric curtains that hang down from the dust collection hood were missing some pieces. Staff expressed to the facility that these should be repaired. Photos were sent, following the inspection, of the repaired curtains in this area. It is understood they are damaged while the trucks are loading the dross and are inspected periodically. There was also some damage to the side of the building around the IMDROSSBH, which could result in unintended fugitive emissions. This was also repaired following the inspection and photos were sent to verify the requested repairs.

No visible emissions were noted from the baghouse at the time of the inspection nor from the entrance to the dross handling area. No loading was occurring during the time of the inspection. The baghouse pressure drop read 4.1" and the fan was running at 109.1 amps. The monitoring records were available during the inspection. Visible emissions are noted at least daily, and pressure drop once per shift.

EUIMREVERBFURN

This is a reverberatory melting furnace with a charge capacity of 15,000 pounds per hour. Emissions from natural gas are emitted uncontrolled from the flue. Emissions from fluxing and melting are controlled by a 70,000 CFM lime-injected baghouse and are vented from SVIMREVBH.

Pollutant	Limit	Vented Through	12-Month Rolling Emission
Hydrogen Chloride (HCl)	1.2 tpy	SVIMREVBH	0.681 tpy
Hydrogen Chloride (HCl)	4.94 tpy	SVIMREVFLUE	1.123 tpy
NOx	1.2 tpy	SVIMREVFLUE	0.681 tpy
NOx	1.2 tpy	SVIMREVBH	0.681 tpy
SO2	1.80 tpy	SVIMREVBH	0.825 tpy

PM10	0.75 tpy	SVIMREVBH	0.425 tpy
PM10	7.8 tpy	SVIMREVFLUE	2.723 tpy
PM	0.75 tpy	SVIMREVBH	0.425 tpy
PM	9.75 tpy	SVIMREVFLUE	0.528 tpy
PM2.5	0.75 tpy	SVIMREVBH	0.425 tpy
PM2.5	7.8 tpy	SVIMREVFLUE	2.723 tpy
THC, as propane	1.46 tpy	SVIMREVBH	0.825 tpy
THC, as propane	1.46 tpy	SVIMREVFLUE	0.825 tpy
HF	1.38 tpy	SVIMREVFLUE	0.214 tpy

All the highest emissions from this emission unit were reported in November 2022. The EGLE-AQD administrative consent order No 2019-29 contains requirements for the facility to maintain compliance with NOx, PM10, and HCl emission limits for the EUIMREVERBFURN. As required by the permit and the consent order, the facility appears to be incompliance with the required permit limits. Testing of this emission unit is scheduled for July 2023 to verify continued compliance with these emission limits.

Material	Limit	Equipment	Highest Daily/Monthly Usage
Feed/Charge	6,000 tpy	EUIMREVERBFURN	3,403 tpy
Feed/Charge	200,000 lbs/day	EUIMREVERBFURN	70,500 lbs/day

The furnace was operational during the inspection. Molten level was confirmed to be 18". No visible emissions were observed from the baghouse during the inspection. The overall differential pressure was 4.5". The current BLD reading was 4.32% with an alarm at 11% with a 31 second delay. During the inspection, the fan on the baghouse was running at 1678 RPM. This reading was taken manually during the inspection. The NESHAP label for this furnace is located by the reverb furnace charge door and was observed during the inspection.

For the entirety of the south plant, the scales were last calibrated on 6/3/23, as the south plant all use the same scale for weighing material. The thermocouples were calibrated on 4/3/23. The

annual capture and collection system evaluation date for the reverberatory furnace was on 6/27/22. The feed/charge scale is shared with the rotary furnaces and is located next to the rotary furnace control tower. The facility certified in their most recent semi-annual NESHAP excess emissions/summary report that the molten metal level was maintained above the archway height between the furnace charge well and hearth during reactive fluxing.

The chlorine room is used to store liquid chlorine cylinders and evaporator system that is used to supply chlorine gas to EUIMREVERBFURN for fluxing and demagging. Chlorine cylinders are weighed continuously to keep track of chlorine usage in the reverb furnace. The weight of chlorine cylinder #1 was 1,474 pounds and cylinder #2 was 2,104 pounds. The scales were last calibrated on 6/13/23. The room is also equipped with an alarm with a setpoint of 0.3 ppm which was last calibrated on 4/20/23. Chlorine was not currently being used during the inspection. According to staff personnel, chlorine is used about once a month now.

During the inspection, the lime was free flowing in the tube. The dial setting was at 2. The lime-flow 8-hour maintenance checks were available and reviewed during the walk-through. The 15-minute baghouse inlet temperature was 115 degrees F and the 3-hour average was 106 degrees F, with a maximum temperature of 112 degrees F.

EUIMROTFURN1/2

This emission unit consists of two formerly separate furnaces that have become commonly controlled (EUROTFURN1 and EUROTFURN2) with a combined capacity of 42,000 pounds. Emissions from EUIMROTFURN1/2 are vented through oxy-fuel burners and an 80,000 CFM line-injected baghouse.

Pollutant	Limit	Vented Through	12-Month Rolling Emission
Hydrogen Chloride (HCl)	3.6 tpy	EUIMROTFURN1/2	3.085 tpy
PM	18.11 tpy	EUIMROTFURN1/2	15.423 tpy
NOx	27.162 tpy	EUIMROTFURN1/2	14.266 tpy
SO2	45.27 tpy	EUIMROTFURN1/2	14.652 tpy
PM10	22.64 tpy	EUIMROTFURN1/2	19.279 tpy
PM2.5	22.64 tpy	EUIMROTFURN1/2	19.279 tpy
THC, as propane	40.74 tpy	EUIMROTFURN1/2	34.702 tpy

All the highest reported emissions from this emission unit were in December 2022.

Material	Limit	Equipment	Highest Daily/Monthly Usage
Feed/Charge	90,540 tpy	EUIMROTFURN1/2	71,115 tpy
Feed/Charge	360 tons/day (720,000 lbs/day)	EUIMROTFURN1/2	677,160 lbs

Rotary furnace 1 was operating during the inspection but rotary furnace 2 was not, as it was in the process of being relined. Rotary furnace 1 was processing dross/scrap. No visible emissions were noted during the inspection. The overall baghouse differential pressure reading was 9.46". The BLD system was last calibrated on 2/26/23 and read 4.06% during the inspection with a setpoint of 13% and alarm delay of 76 seconds.

The baghouse 15-minute temperature was 161 degrees F and the 3-hour average of 157 degrees F, maximum 221 degrees F. The baghouse draft fan was pulling about 1680 RPMs during the inspection. The lime was free flowing, and the dials were set to 3 for #1 and 2 for #2. The annual capture and collection system inspections were on 3/20/23 for EUIMROTFURN1 and EUIMROTFURN2.

Facility certified in their most recent semi-annual NESHAP excess emissions/summary report dated 3/13/23 and that during the entire reporting period, all monitoring and associated recordkeeping requirements in the ROP were met except for the identified deviations. The deviation was reported as a stack testing date deviation. EUIMROTFURN1/2 missed the 5-year stack testing deadline as of 10/12/22. Conflicting stack testing provisions and Real Alloy's interpretation regarding relevant stack testing deadlines for source EUIMROTFURN1/2, when comparing to the former ROP (2016), PTI (2106), and recently issued ROP (2022), resulted in a missed testing deadline. Real Alloy has requested enforcement discretion from EGLE in a letter dated 2/28/23. testing is scheduled for July 2023. A violation notice was sent for this deviation and stack testing is scheduled for July 2023.

EUIMCURCIBLES

This flexible group contains eight gas-fired crucible stations rated at 1.5 MMBtu/hr each. These were not running during the inspection and staff indicated that these are not being consistently used on site as the industry demand is more for other products.

Pollutant	Limit	Vented Through	12-Month Rolling Emission
NOx	5.153 tpy	SVIMCRUCIBLES	0.000650 tpy

The highest monthly emissions for this emission unit were in May 2023. The reduction in NOx for EUIMCRUCIBLES can be attributed to the change in demand for crucibles, or pots. Demand went from 4-5 pots per day to 4 pots per month, at a high. If pots are poured, they are generally sent

over to the north side to be kept hot until they are shipped off site. For this reason, the use of natural gas has decreased drastically since 2021.

Exempt Equipment

The facility has a cold cleaner located in the maintenance area. The lid was open during the inspection and the facility was reminded to keep it closed while not in use. The cold cleaner is maintained by Safety Kleen and uses Safety Kleen Premium Solvent which is 100% light petroleum distillate solvent.

Rule 290 – Deox Line

The facility runs a deox casting operation which uses mold release at the South plant. Facility staff was able to provide the SDS for the mold release as well as contact the supplier who confirmed there are no volatiles or carcinogenic air contaminants in the mold release formulation. Only crystalline silica quartz is identified on the SDS.

Upon request, the facility provided purchase records for the mold release, which is used throughout both the North and South Plants. The facility uses the mold release on the Deox line at the South Plant and on Ingot Line 1 & 2 at the North Plant. Mold release was purchased in August and October 2022 and March and April 2023, with a quantity of 800 pounds each time. While these are not usage records, it can be assumed that less than 1000 lbs is used, monthly on the Deox Line.

The facility should find a way to track usage of mold release, monthly, moving forward on the Deox Line, as well as keep the SDS and supplier documentation of the nature of ingredients on site.

CAM Subject Units – South Plant

The facility is required to comply with compliance assurance monitoring (CAM) requirements. In the ROP, this consists of emission units that use a control device to achieve compliance with a federally enforceable emission limitation or standard for particulate matter. The permittee submitted a new CAM plan received on August 28, 2021 as the request of the Department. The applicable emission units on the north side are EUIMHOTDROSS, EUIMROTFURN1/2, and EUIMREVERBFURN. The permittee operates and maintains a BLD system for the baghouses associated with CAM, except for the EUIMHOTDROSS. The BLD system automatically runs a daily zero and span calibration. Any calibration errors will trigger the BLD system to alarm and send an email to management who notify the maintenance staff to evaluate the system.

The permittee submits a semi-annual report of monitoring, any deviations and/or monitoring downtime during the reporting period.

Conclusion-

Based on the walk through of the facility, review of the required recordkeeping and submitted reports, Real Alloy Recycling, LLC appears to be in operating in compliance with Federal Clean Air Act, Article II, Part 55, Air Pollution Control Rules, of the Natural Resources and Environmental

Protection Act, 1995 PA 451, as amended (Act 451); AQD administrative rules; 40 CFR Part 63, Subpart RRR and MI- ROP-N5957-2022.

The facility is addressing the outstanding violation notice related to lapsed testing dates by completing the required NESHAP RRR 5-year testing in July-August 2023.

NAME Amanda Cross DATE 7/18/2023 SUPERVISOR Monica Brothers