

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

N768870859

FACILITY: Dicastal North America, Inc.		SRN / ID: N7688
LOCATION: 1 Dicastal Dr., GREENVILLE		DISTRICT: Grand Rapids
CITY: GREENVILLE		COUNTY: MONTCALM
CONTACT: Shawna Enbody , EHS Supervisor		ACTIVITY DATE: 01/31/2024
STAFF: Eric Grinstern	COMPLIANCE STATUS: Non Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT: Multi-media inspection		
RESOLVED COMPLAINTS:		

FACILITY DESCRIPTION

Dicastal North America Inc. is in the city of Greenville, in Montcalm County. The facility is a low-pressure permanent mold aluminum alloy wheel manufacturing operation. All processes associated with alloy wheel manufacturing are conducted onsite, including melting, casting, heat treating, finishing, and coating.

The facility was inspected as part of an EGLE multimedia inspection that included AQD, MMD, and RRD. Participating in the inspection was Ryan Grant - WRD, Jonathan Vrugink - MMD, David Wierzbicki - RRD, Laura Martin - AQD, and Eric Grinstern (EG) – AQD.

REGULATORY ANALYSIS

The stationary source has an opt-out permit (No. 78-15H) that covers all permitted processes. Permit No. 78-15H was issued in 2021, to address the replacement of the existing chip dryer with a new rotary drum chip dryer and thermal oxidizer.

Additionally, the facility is operating under Consent Order No. AQD 2019-21, which addresses violations associated with the operation of an aluminum chip dryer. The facility's chip dryer (EU-DChipDryer) is subject to the area source requirements of Subpart RRR, Secondary Aluminum Production NESHAP. On March 17, 2023, sparks from a hand grinder ignited aluminum dust that caused an explosion in the chip dryer duct work. The explosion damaged the duct work associated with the chip dryer as well as causing damage to the building. The rotary drum chip dryer and thermal oxidizer were not operated after the explosion but were brought back online per the facility in October 2023.

A natural gas boiler (11.2 MMBtu/hr.), associated with the paint shop (EU-PaintShopBlr) is subject to NSPS Dc. The facility also has a 1,500-kW diesel emergency generator (EU-Gen1) that is subject to the RICE MACT, Subpart ZZZZ and NSPS subpart IIII.

COMPLIANCE EVALUATION

At the facility, EGLE staff met with Shawna Enbody, EHS Supervisor. Compliance records were requested subsequent to the inspection and provided by Samantha Lown, Environmental, Health, & Safety Technician, on February 16, 2024, and March 25, 2024.

Below is an evaluation of compliance with the facilities air quality requirements based on PTI No. 78-15H, and all other applicable air quality rules and regulations.

EU-DChipDryer

DESCRIPTION: Machining fluid removal system and thermal chip dryer. A spinner uses centrifugal force to mechanically remove excess emulsion fluid from the chips, followed by a thermal chip dryer for volatilizing the remaining emulsion on the chips using natural gas combustion (6.0 MMBtu/hr.) for heat. Control consists of a thermal oxidizer followed by a high efficiency cyclone.

The facility operated a chip dryer under PTI 78-15G, however the thermal oxidizer associated with the chip dryer had a fire in July 2020. The chip dryer was shut down until a new chip dryer and thermal oxidizer, permitted under PTI 78-15H, came online June 6, 2021. The new chip dryer is a rotary unit. On March 17, 2023, a worker conducting maintenance with a hand grinder on the system’s cyclone collector ignited aluminum dust that caused an explosion in the chip dryer duct work. The explosion damaged the duct work associated with the chip dryer as well as causing damage to the building. The rotary drum chip dryer and thermal oxidizer were not operated following the explosion unit November 2023. Prior to restarting the chip dryer, the facility moved the cyclone collector, which is downstream of the thermal oxidizer, outside the building, adjacent to the stack.

EMISSION LIMITS

The permit limits the emission of PM, PM10, PM2.5, VOC, and dioxins and furans. Particulate matter and VOC are limited on a pph. basis. Dioxins and furans are limited under Subpart RRR on a grain per ton of charge basis.

Compliance with the emission limits is based on proper operation of the control equipment and compliance testing.

Performance testing was conducted in November 2021, at which time compliance with the emission limits was demonstrated. The thermal oxidizer temperature was 754 degrees C during the compliance test. Additionally, the facility voluntarily conducted compliance testing in August 2022, to demonstrate compliance while operating the thermal oxidizer at a lower temperature of 700- and 730-degrees C. The emissions determined through testing are as follows:

	Test 11/2021 754 C	Test 8/2022 730 C	Test 8/2022 700 C	Permit limit
Charge Rate During Test	3.31 tph	1.87 tph	1.75 tph	
PM (lb/hr)	0.79	0.64	0.58	2.5
PM-10 (lb/hr)	0.79	0.64	0.58	3.0
PM-2.5 (lb/hr)	0.79	0.64	0.58	3.0

VOC (lb/hr)	0.11	0.10	0.29	0.6
D/F (gr/TEQ per ton/charge)	1.2×10^{-9}	4.8×10^{-7}	5.8×10^{-6}	3.5×10^{-5}

MATERIAL LIMITS

The chip dryer is limited to processing 3.31 tons of chips per hour (daily average) and 20,834 tpy on a 12-month rolling time period. While the permit limit is 3.31 tons per hour, if compliance testing is conducted at a lower rate, that rate is the maximum rate that chips can be processed on an hourly basis.

Compliance with the material throughput limits is determined through the permit and Subpart RRR requirement that the chip dryer be equipped with a device to measure and record the weight of chips fed to the dryer. The facility is also required to monitor and record the weight of chips fed to the dryer on a daily basis, keep a log of the hourly average throughput rate of material charged and keep monthly and 12-month rolling records of the total weight of charge materials to the dryer.

The conveyor system is equipped with a feed rate scale that shows tons per hour and a recorder that tracks total chips fed to the dryer.

The chip dryer was operating during the inspection. Observation of the scale reading showed an instantaneous feed rate of 2.8 – 3.0 tons per hour. The facility supplied throughput records for the previous 60-days showing a ton per hour daily average below 1.5 tons. The facility supplied requested throughput records for the previous 12-month time period. The records document 2,860 tons of chips processed for the 12-month period ending in December 2023. Which is below the 20,834 tpy limit.

Feedstock to the chip dryer is limited to unpainted/uncoated aluminum chips. Only unpainted/uncoated aluminum chips were observed being fed to the dryer. Inspection of the chips showed them to be very dry.

PROCESS/OPERATIONAL RESTRICTIONS

Requires that the emissions from the chip dryer be controlled with a thermal oxidizer. The thermal oxidizer was observed and was operating at the time of the inspection. The thermal oxidizer is required to be operated at a minimum temperature of 729 degrees C, or the temperature established during stack testing. During the stack test in November 2021, the temperature was established at 754 degrees C, the facility subsequently conducted testing in August 2022 to demonstrate compliance at a TO temperature of 700- and 730-degrees C. At the time of the inspection, the TO exhaust temperature was observed at 756 degrees C.

The facility submitted a Subpart RRR semiannual compliance certification for July 1, 2023 – December 31, 2023, that documented operation of the chip dryer while the thermal oxidizer temperature was below the required temperature on three occasions during the reporting period. The temperature was below the required temperature on November 12, 2023, and twice on November 30, 2023. During each of the events the temperature was below the established threshold for one 3-hour block.

Additionally, review of the requested records for the most recent 60-day time period prior to the inspection showed no 3-hour time periods that the average temperature was below the minimum temperature when the dryer was processing chips.

The facility is required to submit an OM&M plan for EU-DChipDryer within 90 days after a successful initial performance test. The facility submitted an updated OM&M plan dated February 28, 2022.

DESIGN/EQUIPMENT PARAMETERS

Requires a device to measure and record the weight of feed to the chip dryer. The device has been installed and was observed operating during the inspection. The device is required to be able to measure and record the weight of feed over the same time period used in the performance test. The observed system has that capability.

Requires a device to monitor and record the thermal oxidizer temperature on a continuous basis. The monitor was observed during the inspection, and continuous temperature records were supplied by the facility.

Requires that the capture and control equipment meet the requirements of Subpart RRR, including a capture and control system that meets ACGIH, vent emissions through a closed system and operate capture and control in accordance with the OM&M plan. The system was designed per the permit application to comply with capture and control requirements. Observation of the system during the inspection showed that it appeared to meet the requirements. The facility is required to certify compliance in the Notification of Compliance Status Report, which was completed.

EU-DChipDryer shall not operate unless the capture system, cyclone and thermal oxidizer are installed, maintained, and operated in accordance with the manufacturer's recommendations. During the inspection, staff observed the required equipment installed and did not observe anything that would be contrary to the manufacture's recommendations.

TESTING/SAMPLING

The facility is required to verify compliance with the permitted PM, PM10, and PM2.5 emission limits within 180 days of permit issuance. Testing was completed in November 2021 and August 2022, which documented compliance with the emission limits.

In accordance with Subpart RRR, dioxin/furan emission rate testing is required within 180 days of initial startup. Testing was completed within that timeframe.

MONITORING/REPORTING/RECORDKEEPING

The facility is required to record the temperature of the thermal oxidizer in 15-minute block averages and record the average temperature for each 3-hour block time period. The facility provided requested records of the 15-minute averages and 3-hour block average temperatures for the most recent 60-day time period. The minimum temperature established during stack testing is 754 degrees C in November 2021 and 700 C and 730 C during August 2022 testing. The records document 3-hour block averages above 754 degrees C for the reviewed records except for one 3-hour block time period (December 27, 2023) that the temperature was below the minimum

temperature. The facility documented this in the semi-annual deviation, noting that no chips were being processed at the time.

The facility is required to maintain records of the following: chip dryer feed weight per operating cycle, daily record of average hourly throughput rate, and monthly and 12-month rolling total charge to the dryer. The facility is maintaining the required records of feed throughput.

In accordance with Subpart RRR, the facility is required to submit semiannual compliance certification reports. The facility has been submitting the required semiannual reports.

STACK/VENT

The stack associated with the chip dryer is required to be a maximum of 22 inches in diameter and a minimum height of 75 feet. The stack is detached from the facility and is located on the east side of the plant. Visual observation of the stack showed that it appears to meet the required dimensions.

EU-MoldPreHeat

DESCRIPTION: 1.86 MMBtu/hr natural gas combustion furnace for preheating the die casting molds. Furnace has 3 burners each rated at 180 kW. Exhaust gases are vented with EU-MoldCoatFurn.

The mold preheat furnace is restricted to burn only pipeline quality natural gas and to not exceed 180 kilowatts per burner.

No other source of fuel was observed, except natural gas. The burners are assumed to meet the 180-kilowatt maximum as designed and permitted. During a previous inspection, observation of the spec. plate on the boiler showed that it appeared to meet the permitted requirements.

STACK/VENT

The stack associated with the mold pre-heat furnace is required to be a maximum of 16 inches in diameter and a minimum height of 33 feet. There is one stack for the mold pre-heat furnace and the mold coat furnace. Visual observation of the stack showed that it appeared to meet the required dimensions.

EU-MoldCoatFurn

DESCRIPTION: 1.24 MMBtu/hr two-chamber natural gas combustion furnace for drying the water-based mold coating. Furnace has 2 burners each rated at 180 kW. Furnace includes two rail car bays. Exhaust gases are vented with EU-MoldPreHeat.

The mold coat furnace is restricted to burn only pipeline quality natural gas and to not exceed 180 kilowatts per burner.

No other source of fuel was observed, except natural gas. The burners are assumed to meet the 180-kilowatt maximum as designed and permitted. During a previous inspection, observation of the spec. plate on the boiler showed that it appeared to meet the permitted requirements.

STACK/VENT

The stack associated with the mold coat furnace is required to be a maximum of 16 inches in diameter and a minimum height of 33 feet. There is one stack for the mold pre-heat furnace and the mold coat furnace. Visual observation of the stack showed that it appeared to meet the required dimensions.

EU-MoldSonicClean

DESCRIPTION: Mold sonic cleaner baths consisting of alkaline cleaner, rinse, followed by rust inhibitor used to clean the molds before casting. Vapors from the baths are vented externally out the wall.

MONITORING/RECORDKEEPING

The permit requires that the facility maintain a current list, from the manufacture, of the chemical composition of every material used in EU-MoldSonicClean. The facility previously provided copies of the SDSs for the cleaners used in the process.

EU-DieCasting

DESCRIPTION: 28 low-pressure die casting machines used to form the shape of the aluminum wheels. There is no dedicated exhaust system for the die casting machines. Molten aluminum is transported to the electric holding furnaces of the die casting machines. A solid fluxing agent is used in the die casting machines' holding furnaces for removing impurities in the molten aluminum prior to the aluminum being injected into the molds. A cooling tower is used to cool process water. Process water is used to cool the molds in the die casting machines.

EMISSION LIMITS

The emission of PM from the cooling tower is limited to 0.005% drift loss. Compliance with the emission limit is verifiable via testing, which has not been required.

MATERIAL LIMITS/ RECORDKEEPING

The permit limits the use of flux in EU-DieCasting. Compliance is based on the requirement that the facility maintain records of the daily flux usage as well as the monthly and 12-month rolling usage of flux.

Flux usage is limited to 80lb/ 8-hours and 92,594 lb./ year limit. The facility is required to maintain daily, monthly and 12-month rolling time period flux usage records. Review of the previous 60 days of flux records showed a usage of 224 pounds per day, which equates to 74.67 pounds/8-hours. Review of the monthly flux records for the past 12 months showed a monthly high usage of 6,944 pounds/month. The 12-month rolling total was 68,544 pounds, ending in January 2024.

MONITORING/RECORDKEEPING

In addition to records of flux usage, the facility is required to maintain records of HCL emissions. HCL emissions are associated with the use of flux in EU-DieCasting. The facility provided monthly and 12-month rolling HCL emission

records. EU-DieCasting does not contain a limit for HCL. Facility records for the previous 12 months show a monthly high occurred in December 2023 with 4.34 tons of HCL emitted.

EU-SandBlast

DESCRIPTION: Sand Blasting Machine used to clean the molds following casting. The emissions from the sand blasting machine are controlled by a fabric filter.

EMISSION LIMITS

The emission of PM is limited to 0.007 grains per dscf of gas. Compliance with the emission limit is based on proper operation of the fabric filter. To assure proper operation of the fabric filter unit, the facility is required to monitor and record the pressure drop once per day.

The facility provided a copy of the pressure drop readings for the previous 60 days. All readings were below the established upper operating limit of 7", except for 16 days the readings were zero due to the pressure drop monitor not working or being frozen. The records document "frozen" and a reading of zero from January 13, 2024, through January 28, 2024. The facility failed to take proper and timely action to fix the pressure drop gauge. During the inspection the pressure drop was observed at 3.1 inches.

Observations

Observation of the baghouse showed a small amount of visible emissions when the baghouse pulsed. Observation of the area around the baghouse showed that it appeared to have been recently cleaned.

EU-Pretreatment

DESCRIPTION: Wheel surface preparation consisting of degreasing tanks (3), acidic, passivation and sealant tanks, which will be used to spray apply acidic or alkaline solutions to degrease (remove the machining fluid) and prepare the surface for proper coating adhesion to the aluminum. During various steps in the surface preparation process, water will be used to rinse off the alkaline and acidic solutions.

MONITORING/RECORDKEEPING

The facility is required to maintain monthly and 12-month rolling time period records of acid and degreasing solvent additions.

The facility provided records of additions for the previous 12-month time period.

EU-PretreatOven

DESCRIPTION: 7.6 MMBtu/hr Natural Gas Combustion Oven for removing the surface moisture on the wheels that have been treated.

After the wheels are processed through the pretreatment surface preparations, they are conveyed through the pretreatment oven.

EMISSION LIMITS/DESIGN PARAMETERS

The primary requirement for the pretreat oven is the limited heat input capacity of 7.6 MMBtu per hour and NOx emission rate guarantee from the manufacture of 75 ppmv@3% O2. Additionally, fuel usage is limited to pipeline quality natural gas.

The facility appears to be in compliance with the burner and NOx emission rate requirements, based on installed design. No other source of fuel was observed, except natural gas.

EU-PaintShopBlr

DESCRIPTION: 11.2 MMBtu/hr Natural gas Combustion Paint Shop Boiler

The Paint Shop boiler is located adjacent to the paint line thermal oxidizer.

EMISSION LIMITS/MATERIAL LIMITS/DESIGN PARAMETERS

The primary requirement for the pretreat oven is the limited heat input capacity of 11.2 MMBtu per hour and NOx emission rate guarantee from the manufacture of 75 ppmv@3% O2.

During a previous inspection, observation of the rating plate showed a listed capacity of 10.5 MMBtu.

The permittee is required to burn only pipeline quality natural gas in EU-PaintShopBlr.

No other fuel supply was observed during the inspection, the facility supplied natural gas usage records for the boiler.

The facility is required to maintain records of monthly natural gas usage. The facility supplied the previous 12 months of fuel usage records as requested. The records document a monthly high usage of 3.28 MMCF of natural gas, occurring in May 2023.

The permittee was required to submit notification of the date of construction and actual startup of EU-PaintShopBlr in accordance with NSPS 40 CFR 60.7.

The notification was submitted on November 30, 2015.

EU-LiquidCoat

DESCRIPTION: One Base liquid coating booth and one Clear liquid coating booth, each utilizing high volume low pressure (HVLP) or comparable applicators, associated flash off tunnels, and one 2.6 MMBtu/hr Natural Gas Combustion Curing Oven. The VOC emissions from this line will be controlled by Non-Fugitive Enclosure (NFE) and a recuperative thermal oxidizer (TO). The particulate emissions are controlled by water spray.

EMISSION LIMITS

The emissions of VOC, Heavy aromatic solvent naphtha, Mixed Xylenes, Butyl carbitol, Formaldehyde and Naphthalene are limited by the permit.

Compliance with the VOC emission limit is based on compliance testing and proper operation of the capture and control system (thermal oxidizer). Compliance testing was conducted in September 2016, at which time compliance with the thermal

oxidizer destruction efficiency (minimum 95%) was documented. The facility also demonstrates compliance through the maintenance of monthly and 12-month rolling VOC emission records, which the facility supplied documenting compliance with the 17.5 tpy limit. The facility records show emissions of 0.62 for the 12-month time period ending in December 2023. Compliance with the Heavy aromatic solvent naphtha, Mixed Xylenes and Butyl carbitol emission limit is demonstrated via the facility maintaining daily emission records. The facility provided records for the previous 30 days documenting compliance with the applicable emission limits (Heavy aromatic solvent naphtha: 105.50 lbs./day, Mixed Xylenes: 150.66 lbs./day and Butyl carbitol: 30.14 lbs./day) for each of the pollutants. The facility records document a daily high of 0.44 lbs./day for heavy aromatic solvent naphtha, a daily high of 2.05 lbs./day for mixed xylenes, and a daily high of 0.09 lbs./day for butyl carbitol.

PROCESS/OPERATIONAL RESTRICTIONS

The facility is required to capture all waste materials and store them in closed containers, dispose of spent filters in a manner to minimize the introduction of air contaminants to the outer air, and to handle all VOC and HAP containing materials to minimize the generation of fugitive emissions.

Staff did not witness any activities that contradicted the above listed requirements during the inspection.

The facility is required to have a MAP for the TO. The facility previously submitted a copy of the MAP.

DESIGN/EQUIPMENT PARAMETERS

The facility is required to install and operate a thermal oxidizer with a minimum VOC destruction efficiency of 95% and maintain a minimum temperature of 1292 degrees F (700 degrees C). To monitor the TO temperature, the facility is required to install and operate a monitor to record the temperature on a continuous basis. During the inspection, the temperature was observed at 725 degrees C.

Review of the TO temperature records for the previous 60 days showed recorded temperatures were greater than 700 degrees C, except for two periods while the paint line was operating. On December 15, 2023, the temperature was below 700 degrees C for 2 hours and on January 29, 2024, the temperature was below 700 degrees C for 44 minutes. The facility determined that the December 15 event resulted from a fire in the Deburr dust collector. The TO shutdown as part of the fire alarm system. Additionally, they determined that the January 29th event was caused by continuous burner fault issues with the TO and it shut down.

The facility is required to operate EU-LiquidCoat in a non-fugitive enclosure. The facility has installed pressure drop gauges to verify and demonstrate negative pressure in the bake oven, liquid base coat and liquid clear coat booths.

Observation of the pressure drop gauges during the inspection showed the following readings:

	<u>Pressure Reading</u>	<u>Normal Range</u>
Bake Oven (#1) (+)	0.035	0.05 +/-10%

Liquid Clear Booth RTO (#2) (-)	0.031	-0.1 +/-10%
RTO Flash Tunnel (#3) (-)	0.027	-0.04 +/-10%
Liquid Clear Booth Exit (#4) (+)	0.03	> 0.007
Liquid Clear Booth Entrance (#5) (-)	0.01	> -0.007
Liquid Base Booth RTO (#6) (-)	Not Observed	-0.265 +/-10%
Liquid Base Booth Exit (#7) (+)	Not Observed	> 0.007
Liquid Base Booth Entrance (#8) (+)	Not Observed	> 0.007

The facility is required to monitor the pressure differential continuously and record the readings at least once per operating day. The facility is also required to implement an air pressure differential monitoring plan as part of the MAP. The MAP contains an air pressure differential monitoring plan in Section 6.1.1. As detailed in the MAP, monitoring is done using eight differential pressure drop gages (listed above), with the pressure drop readings recorded once per operating day. Additionally, the MAP lists the normal operating ranges for each monitoring location (see above). The facility installed the gauges backwards, resulting in negative pressure drop readings when it should be positive and vice versa. The table above notes if the reading should be positive or negative. Readings for the past 90 days were requested and provided by the facility. Review of the records showed pressure drop readings that were outside of the established operating range for the Bake Oven (17 readings outside of range), Liquid Clear Booth RTO (47 readings outside of range), RTO Flash Tunnel (80 readings outside of range), Liquid Clear Booth Exit (3 readings outside of range), Liquid Clear Booth Entrance (1 reading outside of range), Liquid Base Booth RTO (81 readings outside of range), and Liquid Base Booth Exit (10 readings outside of range). Additionally, during the inspection the pressured drops for Bake Oven, Liquid Clear Booth RTO, and the RTO Flash Tunnel were observed to be outside the established pressure drop range.

MONITORING/RECORDKEEPING

The facility is required to maintain coating/material usage and VOC emission records on a monthly basis. The facility provided records as requested, documenting compliance with the permitted limits.

The facility is required to maintain records on a monthly basis, documenting the gallons of coating used and reclaimed, VOC content of each material, VOC emission calculations (monthly and 12-month rolling). Supplied records showed compliance with the VOC limit of 17.5 tpy based on a 12-month rolling average. The 12-month rolling emission rate ending in December 2023 was 0.62 tons. The facility supplied requested records documenting materials used, reclaimed and VOC content.

The facility is required to maintain usage records on a daily basis for heavy aromatic solvent naphtha, mixed xylene and butyl carbitol containing materials used. The facility supplied requested records documenting compliance.

The facility is required to maintain monthly records for formaldehyde and naphthalene, regarding the following: Gallons of formaldehyde and naphthalene

containing material used, gallons of material reclaimed, formaldehyde and naphthalene content of material, monthly emission calculations for each in tons per month, annual emissions of each in tons per 12-month rolling time period. Additionally, the facility is required to maintain records of heavy aromatic solvent naphtha, mixed xylene and butyl carbitol content of each material used and emissions in pounds per calendar day. The facility provided requested records documenting compliance with the record keeping requirements and emission limits as summarized in the table below.

The facility is required to maintain usage and HAP emissions data on a monthly basis. The facility provided requested records of monthly HAP emissions.

The facility is required to maintain records demonstrating compliance with the below listed emission limits. The records reviewed demonstrate compliance with the applicable limits.

Pollutant	Limit	Time Period /	
		Operating Scenario	Maximum emission rate from records
2. Heavy aromatic solvent naphtha (CAS No. 64742-94-5)	105.50 lb/day ¹	Calendar day	0.44 lb/day
3. Mixed Xylenes (CAS No. 1330-20-7)	150.66 lb/day ¹	Calendar day	2.05 lb/day
4. Butyl carbitol (CAS No. 112-34-5)	30.14 lb/day ¹	Calendar day	0.09 lb/day
5. Formaldehyde (CAS No. 50-00-0)	0.83 tpy ¹	12-month rolling time period as determined at the end of each calendar month	Facility records document 0.00 tons/12-month rolling time period. (facility records previously documented two coatings that contain formaldehyde, which have limited usage.

Pollutant	Limit	Time Period /	Maximum emission
		Operating Scenario	rate from records
6. Naphthalene	0.18 tpy	12-month rolling time period as determined at the end of each calendar month	0.01 tons/12-month rolling time period (After control, emissions in tons are below two significant digits)

EU-BrushingBurr

DESCRIPTION: 12 Brushing Burr Machines controlled by a common fabric filter.

EMISSION LIMITS

The emission of PM is limited to 0.0075 lbs. per 1,000 lbs. of gas. Compliance with the emission limit is based on proper operation of the fabric filter. To assure proper operation of the fabric filter unit, the facility is required to monitor and record the pressure drop.

The facility had a baghouse fire on December 15, 2023, after which the baghouse was no longer operational and was not operating at the time of the inspection. The facility was in the process of evaluating control that accounts for fire potential from the aluminum dust. With the baghouse not operating the facility was not ducting emissions from the brushing burr cells. The facility was allowing the dust to accumulate in the cells and vacuuming the dust up at the end of the shift. The permit states that the permittee shall not operate EU-BrushingBurr unless the fabric filter is installed, maintained, and operated in a satisfactory manner.

EU-Gen1

DESCRIPTION: A 1,500 kilowatt (kW) or smaller diesel-fueled emergency engine with a model year of 2006 or later, and a displacement of less than 30 liters/cylinder. This emergency engine is subject to the New Source Performance Standards for Stationary Reciprocating Internal Combustion Engines (RICE), combustion ignition, emergency RICE less than 3000 HP.

EMISSION LIMITS/MATERIAL LIMITS

The permit limits the emission of NOx+HC, CO, PM, NOx and PM2.5.

Compliance is based primarily on the facility installing an EPA Certified engine and maintaining the engine in accordance with the manufacture recommendations.

Opacity from the unit is limited to 15% during lugging and 20% at all other times.

The generator was not operating at the time of the inspection.

The unit is limited to burning diesel fuel with a maximum sulfur content of 15 ppm by weight and a minimum Cetane index of 40 or a maximum aromatic content of 35 volume percent.

The facility provided a copy of a fuel analysis dated 2/7/2024. The analysis documents compliance with the fuel requirements.

The engine is limited to 500 hours of operation a year and 100 hours per year for maintenance checks. Compliance is based upon the requirement that the engine be equipped with a non-resettable hour meter and maintaining records of the hours of operation. The facility provided records of the hours of usage showing 10.0 hours of operation for the 12-months ending in December 2023, 5.5 hours of total maintenance check operation, and an additional 4.0 hours of non-emergency use.

FG-Melting

DESCRIPTION: Two natural gas fired aluminum melting furnaces with burners rated at 10.1 MMBtu/hr and a capacity of 13.2 tons each, two natural gas fired aluminum chip melting furnaces with burners rated at 6.2 MMBtu/hr and a holding capacity of 13.2 tons each, two natural gas fired aluminum holding furnaces with burners rated at 2.7 MMBtu/hr and a holding capacity of 13.2 tons each, and the process transfer ladles.

Emission Units: EU-Melt1, EU-Melt2, EU-Chip1, EU-Chip2, EU-Hold1, EU-Hold2, EU-LadleHood

EMISSION LIMITS/RECORDKEEPING

The permit limits the emission of PM, PM10, PM2.5, HCL, HF, cadmium and chromium.

Compliance with the emission limits is demonstrated via material throughput limits, proper operation of the lime-injected baghouse and compliance testing. Compliance testing was conducted in May 2018, at which time compliance was demonstrated for the following pollutants.

	Measured	Permit limit
PM (lb/hr)	0.25	2.92
PM-10 (lb/hr)	0.43	2.68

PM-2.5 (lb/hr)	0.42	1.89
HCL (lb/hr)	<0.02	7.69
HF (lb/hr)	<0.01	1.67

As required by the permit, the facility is required to calculate and maintain records of the monthly and 12-month rolling emission records for HCL, cadmium and chromium to demonstrate compliance with the ton per year limits. The facility provided records demonstrating compliance with the 12-month rolling total emission rate for HCL, cadmium and chromium. (ending in December 2023)

	12-month total	Permit limit
HCL (tpy)	0.89 tpy	3.72 tpy
Cadmium (tpy)	7.09E-05 tpy	1.79E-04 tpy
Chromium (tpy)	8.78-04 tpy	1.83E-3 tpy

MATERIAL LIMITS/ RECORDKEEPING

Feed/charge and material throughput rates are limited for each of the melting furnaces, chip furnaces, and holding furnaces, on a ton per hour basis. The facility supplied requested records for the previous 60 days. The facility did not operate melting in April 2023, due to the explosion in March 2023. Review of the daily material usage records for each of the furnaces showed compliance with the limits, with exception of the following: Melt 1 exceeded limit of 3.31 tons/hr. on (3) days (3.33 tons/hr, 3.34 tons/hr, 3.32 tons/hr.), Melt 2 exceeded limit of 3.31 tons/hr. on two (2) days (3.47 tons/hr., 3.32 tons/hr.). Review of the records for chip melting furnaces and holding furnaces showed compliance with the tons per hour limits. (Each chip furnace limited to 1.65 tons/hr., Each holding furnace limited to 4.96 tons/hr.)

The melt rate for painted wheels is limited to 904,020 wheels per year. Review of the facility records shows a 12-month total of 432,083 wheels melted, ending in December 2023.

Flux usage is limited to 1,866 lb/day and 564,053 lb/yr. The facility provided requested daily records, monthly and 12-month records for flux usage. Facility records showed a daily flux usage rate as high as 318 pounds, for records

reviewed. The 12-month rolling total ending in December 2023 was 63,479 pounds of flux used.

The facility is required to melt only clean charge as defined by Subpart RRR. During the inspection and based on facility records, the facility appears to only use charge materials that are defined as clean charge under Subpart RRR. This includes ingots and reject painted/unpainted wheels that have remained under the control of Dicastal.

PROCESS/OPERATIONAL RESTRICTIONS

The facility is required to implement and maintain a malfunction abatement plan (MAP). The facility previously submitted a MAP.

DESIGN/EQUIPMENT PARAMETERS

FG-MELTING requires proper operation of a capture system and lime injected baghouse equipped with a bag leak detection system. The facility has capture for each of the furnaces which duct to a lime injected baghouse equipped with a bag leak detection system.

The lime feed rate was observed during the inspection to be at 1.5 pounds per hour, which is below the required minimum of 5.9 pounds per hour. The BLDS reading was 1.5 mg/m³. The facility is recording the pressure drop readings for each baghouse. At the time of the inspection the pressure drop was 1571.6 pa for Baghouse No.1 and the pressure drop was 1203.1 pa for Baghouse No. 2.

TESTING/SAMPLING

Emission testing for PM, PM₁₀, PM_{2.5}, HCL and HF is required by the permit. Testing was conducted on May 8-10, 2018, at which time compliance was demonstrated.

FG-HeatTreat

DESCRIPTION: Three natural gas fired heat treat lines with burners rated at 10 MMBtu/hr each.

Emission Units: EU-HeatTreat1, EU-HeatTreat2, EU-HeatTreat3

EMISSION LIMITS/MATERIAL LIMITS

FG-HeatTreat does not have specific emission limits but is restricted to burn only pipeline quality natural gas. No gas other than pipeline quality natural gas has been observed in use.

DESIGN/EQUIPMENT PARAMETERS

The designed heat input for each burner in FG-HeatTreat is limited to 10MMBtu per hour. Compliance is based on the manufacture specifications.

FG-PowderCoat

DESCRIPTION: The powder coating process which includes two primer coating booths, a 3.5 MMBtu/hr rated primer powder curing oven, one clear coating booth,

and a 3.5 MMBtu/hr clear coat powder curing oven. The powder coating portions of this process are controlled by a dry filtering system with isolation chamber.

Emission Units: EU-PrimePowder, EU-PrimeOven, EU-ClearPowder, EU-ClearOven

EMISSION LIMITS/RECORDKEEPING

FG-PowderCoat has emission limits for PM and NOx. PM is limited to 0.03 tpy and NOx is limited to 75 ppmv@3%O2. Compliance with the PM limit is based on proper operation of the dry filtering system and isolation chamber. Compliance with the NOx limit is based on the manufacture guarantee.

PROCESS/OPERATIONAL RESTRICTIONS

Requires a minimum transfer efficiency of 93%. Compliance can be determined via testing, which has not been requested.

FG-MACT6Z

DESCRIPTION: The affected source is the collection of all melting operations located at an aluminum, copper, or other nonferrous foundry, that is (or is part of) an area source of hazardous air pollutant (HAP) emissions. The affected source is a new small foundry as defined by 40 CFR Part 63 Subpart ZZZZZZ.

Emission Units: EU-Melt1, EU-Melt2, EU-Chip1, EU-Chip2, EU-Hold1, EU-Hold2, EU-LadleHood

Subpart 6Z establishes material limits regarding the type of scrap metal melted, covering each furnace with a lid, if it is equipped with a lid, and operating in accordance with a management practices plan.

MATERIAL LIMITS/ RECORDKEEPING

The facility's charge material consists of ingot and internal scrap. Therefore, they are in compliance with the NESHAP requirements regarding the use of HAP metal depleted scrap.

PROCESS/OPERATIONAL RESTRICTIONS

The facility is complying with the cover and enclosing requirements for the furnaces. The facility provided copies of furnace operating records.

The facility previously submitted a written management practice plan as required by Subpart 6Z.

FGFACILITY

Flex group that establishes source-wide opt out limits for HAP emissions.

EMISSION LIMITS/RECORDKEEPING

The permit limits emissions of each individual HAP to less than 8.9 tpy and aggregate HAPs to less than 22.5 tpy.

The facility provided records demonstrating compliance with the emission limits and record keeping requirements for FGFACILITY.

For the 12-month period ending in December 2023 the total aggregate HAP emission amount was 5.80 tons. The individual HAP with the highest emission rate was HCL, with a 12-month rolling total of 4.34 tons ending in December 2023.

CONCLUSION

Based on the information and observations made during this inspection, the facility is in compliance with applicable air quality rules and regulations, with the exception of the following:

PTI 78-15H, EU-LiquidCoat, Special Condition IV.5. – Failure to maintain the established pressure drop ranges to maintain a non-fugitive enclosure. Three of the eight gauges were observed to have pressure drops outside of the established range during the inspection. Additionally, facility records for the previous 90 days document that the pressure drop readings were outside of the established ranges for the Bake Oven (17 readings outside of range), Liquid Clear Booth RTO (47 readings outside of range), RTO Flash Tunnel (80 readings outside of range), Liquid Clear Booth Exit (3 readings outside of range), Liquid Clear Booth Entrance (1 reading outside of range), Liquid Base Booth RTO (81 readings outside of range), and Liquid Base Booth Exit (10 readings outside of range).

PTI 78-15H, FG-Melting, Special Condition VI.9. – Failure to maintain the lime injection rate at or above the feeder setting established during performance testing. During the inspection the lime injection rate was observed at 1.5 pounds per hour, which is below the required minimum of 5.9 pounds per hour.

PTI 78-15H, EU-BrushingBurr, Special Condition IV.1. – Operating the brushing burr operation without fabric filter control. The fabric filter collector was not operational due to a fire on December 15, 2023.

PTI 78-15H, EU-SandBlast, Special Condition IV.2. – Failure to maintain the baghouse with a device to monitor and record the pressure drop from January 13, 2024, through January 28, 2024.

A Violation Notice will be issued for the above listed violations.

NAME Eric Grinstern

DATE 04/02/2024

SUPERVISOR HH