

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

N768844028

FACILITY: Dicastal North America, Inc.		SRN / ID: N7688
LOCATION: 1 Dicastal Dr., GREENVILLE		DISTRICT: Grand Rapids
CITY: GREENVILLE		COUNTY: MONTCALM
CONTACT: Jake Kizer, Environmental Health and Safety Specialist		ACTIVITY DATE: 04/04/2018
STAFF: Eric Grinstern	COMPLIANCE STATUS: Non Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT: Compliance Inspection		
RESOLVED COMPLAINTS:		

**Dicastal North America Inc. (SRN: N7688)**

**FACILITY DESCRIPTION**

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

**REGULATORY ANALYSIS**

The stationary source has as an opt-out permit (No. 78-15D) that covers all permitted processes. The facility has one chip dryer (EU-Dryer) that is subject to the area source requirements of Subpart RRR, Secondary Aluminum Production NESHAP. 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, AQD staff consisting of Eric Grinstern met with Jake Kizer, Environmental Health & Safety Specialist. On the day of the compliance inspection, the facility was conducting performance testing to demonstrate compliance with the dioxin/furan limit under Subpart RRR for the aluminum chip dryer.

**EU-ChipDryer**

**DESCRIPTION:** Machining fluid removal system and thermal chip dryer. A spinner will use centrifugal force to mechanically remove excess emulsion fluid from the chips, followed by a thermal chip dryer for volatilizing remaining emulsion on the chips using natural gas combustion (6.0 MMBtu/hr) for heat.

**Observations:** Compliance testing was being conducted on the chip dryer at the time of the inspection. Compliance with the Subpart RRR dioxin/furan limit was being evaluated. Testing was previously conducted for dioxin/furan in May 2017, at which time compliance was demonstrated. The facility was retesting to account for increased chip throughput associated with the installation of a second melt line. Observation of the sample train filters showed a heavy particulate coating, for both the May 2017 and the current dioxin/furan testing.

**POLLUTION CONTROL EQUIPMENT**

## High efficiency cyclone, thermal oxidizer

The cyclone and oxidizer were installed and operating during the inspection.

### EMISSION LIMITS

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

Compliance with the dioxins and furans limit was being verified at the time of the inspection through compliance testing. Compliance with the particulate limits and VOC destruction efficiency will be verified in compliance testing, as required by the permit, on May 8-10, 2018. In accordance with a facility request to extend the testing deadline to 180 days from the start of trial operation of the second melt line, the facility had until July 14, 2018 to test. The test deadline was extended to allow for representative testing to be conducted with both melt furnace lines installed. In a meeting with facility representatives on April 27, 2018, it was conveyed that the facility conducted an engineering study to evaluate emissions from the chip dryer in February 2018. The results of the testing provided an indication that the facility will not be able to comply with the existing PM limits contained in the PTI. The facility is currently evaluating options, including requesting an increase in the PM emission limits as well as the installation of baghouse control.

May 8-10, 2018 Testing – Results of stack testing conducted May 8-10, 2018 were received on July 11, 2018. In summary, the results showed the following:

Measured	Permit limit	
PM (lb/hr)	2.32	0.58
PM-10 (lb/hr)	2.79	0.51
PM-2.5 (lb/hr)	2.79	0.26
VOC DE (%wt)	25%	>95%

Regarding particulate emissions, the test results showed what the facility had previously informed AQD, emissions are exceeding the permitted limit. The test results also showed that there are minimal VOC concentrations at the inlet and outlet of the thermal oxidizer. There does not appear to be a sufficient amount of VOC containing cutting fluids on the aluminum chips to warrant the operation of a thermal oxidizer. Due to the low inlet concentrations of VOCs (<3.5 ppmv) to the thermal oxidizer, the unit was unable to achieve the minimum destruction efficiency of 95%.

### 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.

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 feed to the dryer. During compliance testing the facility was attempting to maximize the feed rate to the chip dryer. The observed rate during the inspection was around 2.5 tons per hour. The facility supplied throughput records for the previous 30 days as requested. The records show a peak hourly throughput rate of 1.98 tons per hour, based on a daily average. The facility supplied throughput records documenting 6,868 tons of chips processed for the 12-month period ending in March 2018. Both the hourly and tpy rates are in compliance with the permitted limits.

Feedstock to the chip dryer is limited to unpainted/uncoated aluminum chips. Feedstock to the chip dryer is conveyed directly from the in-plant wheel finishing operations. If more chips are generated than can be fed to the chip furnaces or stored in the chip silo, they are conveyed to a semi-trailer for storage and later use. During the inspection only unpainted/uncoated chips were observed to be fed to the chip dryer.

### PROCESS/OPERATIONAL RESTRICTIONS

Requires that the thermal oxidizer maintain a minimum temperature of 700 C and a minimum retention time of 0.5 seconds. Compliance with the retention time is based on the designed capacity of the unit. Compliance with the minimum temperature is based on the requirement that the unit be equipped with a device to monitor and record the combustion temperature of the oxidizer on a continuous basis.

The oxidizer is equipped with a device to monitor and record the temperature on a continuous basis. During the inspection the temperature was observed to be around 725 C.

In accordance with Subpart RRR, the minimum temperature is required to be maintained above the minimum temperature established during stack testing, based on a 3-hour block average. The facility provided temperature records for the past 6-months. The facility documented 16 occurrences where the thermal oxidizer was below 700 degrees on a 3-hour block average with the weight belt showing that chips were being fed to the chip dryer.

### DESIGN/EQUIPMENT PARAMETERS

Requires a device to measure and record the weight of feed to the chip dryer. The device has been installed as previously discussed.

Subpart RRR requires that the scale be calibrated no less than every 6 months. The facility provided a copy of the most recently calibration conducted on April 12, 2018. The calibration certificate showed that no adjustment was necessary, and the next scheduled calibration was October 12, 2018.

Requires that the capture and control equipment meet the requirements of Subpart RRR. The facility is required to certify compliance in the Notification of Compliance Status Report. Observation of the capture and control system during the inspection showed an almost closed system from which no fugitive emissions were observed.

Under Subpart RRR (63.1510(d)), the facility is required to inspect the capture and collection system at least once each calendar year to ensure that the system is operating in accordance with the requirements of 63.1506(c).

The facility does not believe that they conducted the annual inspection.

The thermal oxidizer is required to meet a minimum destruction efficiency of 95%, maintain a minimum temperature of 700 degrees C, and have a minimum retention time of 0.5 seconds. Destruction efficiency testing will be verified through testing May 8-10, 2018. As discussed above, the TO is not meeting a minimum VOC destruction efficiency of 95%. The TO is equipped with a recorder to document compliance with the minimum temperature requirement. The minimum retention time is documented via the engineering/manufacture specifications.

#### **TESTING/SAMPLING**

The facility is required to verify the destruction efficiency of the thermal oxidizer, and verify emissions of PM, PM10, and PM2.5 within 180 days of commencement of trial operation. Due to a delay in the installation of the second melt line, the deadline to conduct testing was extended to 180 days after trial operation of the second melt line.

A deadline of July 14, 2018 was established. Testing was conducted on May 8-10, 2018. See summary of testing results under "Emission Limits".

Verification of dioxin/furan (D/F) emissions was required within 90 days of commencement of trial operation. An initial D/F test was conducted in May 2017, at which time compliance was demonstrated with the limit established by Subpart RRR. A second D/F test was being conducted during this inspection to verify compliance at an increased chip throughput rate associated with the installation of the second melt line.

#### **MONITORING/RECORDKEEPING**

Requires temperature monitoring of the thermal oxidizer with 15 minute and 3-hour block averages, in accordance with Subpart RRR. The facility supplied requested temperature records for the previous 6 months.

The permit requires the facility to maintain records to demonstrate compliance with the tpy VOC limit. The facility provided records showing VOC emissions to be 5.8 tons for the 12-month time period ending in March 2018. This is in compliance with the 17.1 tpy limit. The estimated emission rate was verified as part of the testing conducted on May 8-10, 2018. Results of the May 8-10, 2018 testing showed a VOC emission rate of 0.15 pounds per hour, much lower than was anticipated when the process was permitted.

#### **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.

During the inspection the mold preheat furnace was observed but was not operating at the time.

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

No other gas source except natural gas was observed during the inspection. The facility records provided as part of the inspection confirm compliance with the 180 kW heat input limit for each of the three burners.

#### **EU-MoldCoatFurn**

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**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.

During the inspection the mold coat furnace was observed but was not operating at the time.

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

No other gas source except natural gas was observed during the inspection. The facility records provided as part of the inspection confirm compliance with the 180 kW heat input limit for each of the two burners.

### **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**

Requires that the facility maintain a current list, from the manufacture, of the chemical composition of every material used in EU-MoldSonicClean. The facility 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.

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### **MATERIAL LIMITS/ RECORDKEEPING**

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

Flux usage is limited to 80lb/ 8-hours and 92,594 lb./ year limit. The facility started out not using any flux in the die casting machine holding furnaces but has gradually increased flux usage. Review of the previous 30 days of flux records showed 4 pounds used. Usage from May 2018 going forward should see an increase. Review of 12-month rolling total usage records showed a total of 58 pounds used.

The facility is limited to using 11 tons of mold release on a 12-month rolling time period. The facility provided records documenting compliance, with a 12-month rolling time period usage amount of 4.1 tons.

## MONITORING/RECORDKEEPING

In addition to records of flux and mold release usage, the facility is required to maintain records of HCL emissions. HCL emissions are associated with the use of flux in EU-DieCasting. Review of the 12-month rolling total HCL emission records documented 0.08 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 maintains a record of the pressure drop at the emission unit. The facility provided a copy of the pressure drop readings for the previous 6+ months. There were four days in February 2018 where the pressure drop reached 6.0 inches. The facility has established an upper limit of 6 inches, (above 6 inches they are to notify Maintenance. In March 2018, there were three days where the pressure drop reached a high of 7.0 inches. The records state that Maintenance was notified, after which the pressure drop was recorded as 1.0 inches. In November 2017, there were six days where the pressure drop was recorded as 6 inches. The records note "needs filters" on the days with 6-inch readings. On the date, November 4, 2017, that the note "change filters" is logged, the pressure drop was recorded as 3 inches. The records appear to show timely and appropriate response to addressing pressure drop increases at or above the established upper limit.

### EU-Pretreatment

**DESCRIPTION:** Wheel surface preparation consisting of degreasing tanks (3), acidic, passivation and sealant tanks, which will be 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

Requires monthly and 12-month rolling time period records of acid and degreasing solvent additions.

The facility provided copies of acid and degreasing additions for the previous 12-months, on a monthly and 12-month rolling time period basis.

### 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 these requirements.

### 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.

The previously observed rating plate listed 10.5 MMBtu.

The permittee shall 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 6-months of fuel usage records as requested.

The permittee shall 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 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 thermal oxidizer. Compliance testing was conducted in September 2016, at which time compliance with the thermal oxidizer destruction efficiency (minimum 95%) was documented. Compliance with the Heavy aromatic solvent naphtha, Mixed Xylenes and Butyl carbitol emission limit is demonstrated via the facility recording daily usage of each material.

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).

The temperature of the thermal oxidizer was 725 degrees C at the time of the inspection. Review of the RTO temperature records showed recorded temperatures below 725 degrees C on March 12, 13 and 16, 2018. The facility provided the following explanation for the temperature drops:

*“The RTO temperature dropped below on March 12-13<sup>th</sup> due to a leaking solenoid valve that continuously faulted out the system. The paint line was down during that time, as it will not run with the RTO down. On March 16<sup>th</sup>, the cleaning company hit an e-stop that shut down the RTO and thus the entire paint line down.”*

The facility is required to operate EU-LiquidCoat in a non-fugitive enclosure.

The facility has installed pressure drop gages to verify and demonstrate negative pressure in the bake oven, liquid base coat and liquid clear coat booths.

The facility is required to maintain the following coating usage and VOC emission records on a monthly basis:

The permittee shall keep the following information on a monthly basis for the EU-LiquidCoat:

- a) Gallons (with water) of each material (coatings, reducers, thinners, cleaning solvents, etc.) used and reclaimed.
- b) VOC content (with water) of each material as applied.
- c) VOC mass emission calculations determining the monthly emission rate in tons per calendar month.
- d) VOC mass emission calculations determining the annual emission rate in tons per 12-month rolling time period as determined at the end of each calendar month.

The facility supplied records demonstrating compliance with the above requirements. Supplied records showed compliance with the VOC limit of 17.5 tpy based on a 12-month rolling average. The highest observed emission rate for the previous 12-months occurred in April 2017 with an emission rate of 1.524 tpy.

The facility is required to maintain the following solvent usage records on a daily basis:

The permittee shall keep the following information on a daily basis for the EU-LiquidCoat:

- a) Gallons (with water) of each heavy aromatic solvent naphtha (CAS No. 64742-94-5), mixed xylene (CAS No. 1330-20-7), and butyl carbitol (CAS No. 112-34-5) containing material used.
- b) Where applicable, the gallons (with water) of each heavy aromatic solvent naphtha (CAS No. 64742-94-5), mixed xylene (CAS No. 1330-20-7), and butyl carbitol (CAS No. 112-34-5) containing material reclaimed.

The facility supplied records for the most recent 30 days (as requested) demonstrating compliance with the above requirements.

The facility is required to maintain the following data regarding usage and emissions on a monthly basis:

The permittee shall keep the following information on a monthly basis for the EU-LiquidCoat:



- a) Gallons (with water) of each formaldehyde (CAS No. 50-00-0) and naphthalene (CAS No. 91-20-3) containing material used.
- b) Where applicable, the gallons (with water) of each formaldehyde (CAS No. 50-00-0) and naphthalene (CAS No. 91-20-3) containing material reclaimed.
- c) The formaldehyde (CAS No. 50-00-0) and naphthalene (CAS No. 91-20-3) content (with water) in pounds per gallon or weight percent of each material used.
- d) Formaldehyde (CAS No. 50-00-0) and naphthalene (CAS No. 91-20-3) mass emission calculations determining the monthly emission rate in tons per calendar month.
- e) Formaldehyde (CAS No. 50-00-0) and naphthalene (CAS No. 91-20-3) mass emission calculations determining the annual emission rate in tons per 12-month rolling time period as determined at the end of each calendar month.
- f) The heavy aromatic solvent naphtha (CAS No. 64742-94-5), mixed xylene (CAS No. 1330-20-7), and butyl carbitol (CAS No. 112-34-5) content (with water) in pounds per gallon or weight percent of each material used.
- g) Heavy aromatic solvent naphtha (CAS No. 64742-94-5), mixed xylene (CAS No. 1330-20-7), and butyl carbitol (CAS No. 112-34-5) mass emission calculations determining the mass emission rate in pounds per calendar day based on daily usages recorded in SC VI.4.

The facility supplied records demonstrating compliance with the above requirements. The records supplied demonstrated compliance with the applicable emission limits (below)

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 <sup>1</sup>	Calendar day	1.11 lb/day
3. Mixed Xylenes (CAS No. 1330-20-7)	150.66 lb/day <sup>1</sup>	Calendar day	2.32 lb/day
4. Butyl carbitol (CAS No. 112-34-5)	30.14 lb/day <sup>1</sup>	Calendar day	0.038 lb/day
5. Formaldehyde (CAS No. 50-00-0)	0.83 tpy <sup>1</sup>	12-month rolling time period as determined at the end of each calendar month	3.34 <u>lbs</u> 12-month rolling time period
6. Naphthalene (CAS No. 91-20-3)	0.18 tpy <sup>1</sup>	12-month rolling time period as determined at the end of each calendar month	49.81 <u>lbs</u> 12-month rolling time period

**EU-BrushingBurr**

**DESCRIPTION:** 12 Brushing Burr Machines controlled by a common 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.

The facility supplied pressure drop records from the end of August 2017 until April 24, 2018.

The records showed numerous days where the pressure drop was not recorded. For the days that the pressure drop was recorded, the readings were all below the facility established 7" upper limit. The facility acknowledged the missed readings and stated that they have assigned the responsibility of recording the readings to Maintenance. The facility also stated that the system is digitally monitored and alarms if the pressure drop is out of spec.

### 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 Stationary for 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 unit was not in operation during 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 verifies compliance based on fuel delivery records.

The engine is limited to 500 hours of operation a year and 100 hours per year or maintenance checks. Compliance is based the requirement that engine be equipped with non-resettable hours meters and the maintaining records of the hours of operation. The facility provided records of the hours of usage showing 14.1 hours of total operation and 5.5 hours of maintenance operations. Both categories of usage are in compliance with the permit limits.

### 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 on May 8-10, 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	

The facility provided records demonstrating compliance with the 12-month rolling total emission rate for HCL, cadmium and chromium (attached)

#### MATERIAL LIMITS/ RECORDKEEPING

Feed/charge and material through put rates are limited for each of the melting furnaces, chip furnaces, and holding furnaces, on a ton per hour basis. Review of the daily material usage records (previous 30 days, attached) for each of the furnaces showed compliance with the limits.

The melt rate for painted wheels is limited to 904,020 wheels per year. Review of the facility records (attached) shows a maximum of 5,382 wheels melted for the previous 12-months.

Flux usage is limited to 1,866 lb/day and 564,053 lb/yr. The facility provided daily (30 days), monthly and 12-month records for flux usage (previous 12 months). Facility records showed a daily flux usage rate of 384.34 pounds. Total flux usage for the previous 12-months was 16,911.16 pounds.

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, internal scrap (chips) and rejected 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 PARAMENTERS

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.

During this and previous inspections, good capture has been observed at the furnaces. Additionally, the bag leak detection system and lime injection system has been observed in operation. During compliance testing conducted on May 8-10, 2018, the follow baghouse operating parameters were recorded:

	Side 1	Side 2
Average Pressure Drop during PM testing:	1400 Pa	1277 Pa
Average Pressure Drop during HCL/HF Testing:	1398 Pa	1277 Pa
Average PM Loading (mg/m3), PM testing:	2.82	
Average PM Loading (mg/m3), HCL/HF testing:	2.82	
Lime Injection Rate (lb/hr) during both tests:	5.90	

### TESTING/SAMPLING

Emission testing for PM, PM10, PM2.5, HCL and HF was required to be conducted within 180 days of commencing trial operation. Due to a delay in the installation of the second melt line, the deadline to conduct testing was extended to 180 days after trial operation of the second melt line. A deadline of July 14, 2018 was established. Testing was conducted on May 8-10, 2018. See summary of testing results under "Emission Limits".

### 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 coatings 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.

**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 previously submitted a written management practices plan as required by Subpart 6Z.

**FGFACILITY**

1. Each Individual HAP	Less than 8.9 tpy *	12-month rolling time period as determined at the end of each calendar month	FGFACILITY	SC VI.2	R 336.1205(3)
2. Aggregate HAPs	Less than 22.5 tpy *	12-month rolling time period as determined at the end of each calendar month	FGFACILITY	SC VI.2	R 336.1205(3)

The permittee shall keep the following information on a monthly basis for FGFACILITY:

- a) Gallons or pounds of each HAP containing material used.
- b) Where applicable, gallons or pounds of each HAP containing material reclaimed.
- c) HAP content, in pounds per gallon or pounds per pound, of each HAP containing material used.

- d) Individual and aggregate HAP emission calculations using a mass balance approach and emission factors as approved by the AQD District Supervisor for determining the monthly emission rate of each in tons per calendar month.
- e) Individual and aggregate HAP emission calculations using a mass balance approach and emission factors as approved by the AQD District Supervisor for determining the annual emission rate of each in tons per 12-month rolling time period as determined at the end of each calendar month. For the first month following permit issuance, the calculations shall include the summation of emissions from the 11-month period immediately preceding the issuance date. For each month thereafter, calculations shall include the summation of emissions for the appropriate number of months prior to permit issuance plus the months following permit issuance for a total of 12 consecutive months.

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

For the 12-month period ending in March 2018, the total aggregate HAP emission amount was 0.58 tons. The individual HAP with the highest emission rate was mixed Xylenes with a single month remission rate of 0.05 tons and a 12-month rolling total of 0.43 tons.

#### 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:

#### EU-ChipDryer

- As documented by compliance testing conducted on May 8-10, 2018, exceedance of the PM, PM10 and PM2.5 emission limits.
- Failure to meet the minimum VOC destruction efficiency, as documented during testing conducted on May 8-10, 2018.
- Failure to conduct annual capture and collection system inspection in accordance with Subpart RRR (63.1510(d)).
- Failure to maintain the thermal oxidizer with a minimum 3-hour block average temperature of 700 degrees at all times when the chip dryer is in operation. Facility records document 16 occurrences when the temperature dropped below 700 degrees.

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

NAME



DATE

7/25/18

SUPERVISOR

