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

B152359108

FACILITY: H.C. Starck		**SRN / ID:** B1523
LOCATION: 460 Jay St., COLDWATER		**DISTRICT:** Kalamazoo
CITY: COLDWATER		**COUNTY:** BRANCH
CONTACT:		**ACTIVITY DATE:** 07/19/2021
STAFF: Chance Collins	**COMPLIANCE STATUS:** Non Compliance	**SOURCE CLASS:** SM OPT OUT
SUBJECT: Scheduled Inspection for FCE		
RESOLVED COMPLAINTS:		

On July 19, 2021 AQD staff traveled to Branch County to perform an inspection of H.C. Starck. The purpose of the inspection was to determine the facility's compliance with Permit to Install No. 12-17A and applicable state and federal air pollution control regulations. The facility converts molybdenum containing compounds (powders) into elemental molybdenum for use in a variety of industries.

AQD staff arrived on site at 10:00 a.m. to sunny conditions with a temperature of 72°F with a SE wind of 0 mph. There were no noticeable odors upon arrival.

AQD staff met with Patrick Houle (EHS Manager), Brad Topp (Maintenance Manager), and Brad Lemon (Supply Chain Manager). Mr. Houle will be leaving the facility within the week and a replacement for him has not been found at this time. Mr. Lemon assisted with reviewing of records on-site, while Mr. Houle and Mr. Topp walked staff through the facility and answered all questions.

During the record review portion of the on-site inspection, it was noted that the 12-month rolling time period records have not been kept. Mr. Lemon is working to create a variant in the record program to record 12-month rolling time period for all recordkeeping requirements moving forward. A violation notice will be sent.

The following discusses the findings of the inspection and review of records:

<u>EU-Spherical:</u> Spherical thermal spray process A metal powder slurry is sprayed/blown into natural gas heated drying chamber and collected in a cyclone. This process includes flow bins, mix tank, feed tanks, spray drier, collectors and blenders.

Pollution control equipment: Process equipment used to recover product metal material also controls emissions. Any particulate emission from the exhaust of the cyclone spray dry collector are controlled by a baghouse. These emissions are then collected and sold for minimal waste from the facility. There is a gauge that measures pressure drop across the bag house (6"), in shop readings and records are kept of the pressure drop.

During the record review portion of the on-site inspection, it was noted that the 12-month rolling time period records have not been kept. Mr. Lemon is working to create a variant in the record program to record 12-month rolling time period moving forward. A violation notice will be sent. Mr. Lemon was able to calculate the 12-month rolling time period production amount in pounds for spray dried material produced (93945.02 lb.), which is well below the material limit set forth in the Permit of 2.205 million pounds.

Stack height and diameter appeared to be in compliance with the permitted limit.

EU-PD-1: Plasma Densifier. This emission unit has not ran in years. It is used for high volume densification. This portion of the operation has been stopped at this facility and is now ran in Germany.

EU-EXFUR3: #3 Extrusion preheat furnace controlled by integral DC-3. 11.5 MMBtu/hr natural gas.

Pollution control equipment: Torit DC-3 cartridge collector, process equipment that also serves to limit emissions. The cartridge collector is a sock style. Differential pressure gauge is installed and read 3.4".

EU-HEXBLDR: Hexamine Blender, a closed process used to blend lower grade molybdenum trioxide with hexamine.

Pollution control equipment: DC-HEXBLDR collector. DC-HEXBLDR is installed with a device to monitor pressure drop across the wet collector, this read at 6.4".

FG-EXTRUSION: Metal fume processes and furnace stacks that discharge to DC-3. The hotworks GFM furnace stack is vented to DC-3. DC-3 is integral to the process to collect valuable material and also controls emissions. The extrusion press discharges to a separate uncontrolled stack.

Emission Units: EU-EIF8, EU-PRESS, EU-EXFUR1, EU-EXFUR2, EU-EXFUR3, EUHWGFMFUR

Pollution control equipment: Dust Collector DC-3

Records are being kept monthly of the amount of material processed in FG-EXTRUSION the amount of material removed from dust collector DC-3. PM emission calculations and VOC emission calculations are also being tracked on a monthly basis. As stated, the facility has not been keeping 12-month rolling time period and will be included in the violation notice.

FG-HOTWORK1-2-3: HOTWORK1 includes all furnaces with stacks that discharge to the integral DC-2 collector for material recovery. HOTWORK2 includes all processes that produce molybdenum fumes during colling, rolling, or straightening. Fumes are collected for material recovery in DC-Wheelabrator. HOTWORK3 includes GFM FORGE – Molybdenum fumes from the forging process are captured and collected for material recovery in the integral DC-4.

Emission Units: HOTWORK1: EU-HWRMFUR, EU0HWFUR1, EU-HWFUR2, EU-HWFUR3. HOTWORK2: EU-2HIM, EU-STPR1, EU-STPR2, EU-SMKHOUS. HOTWORK3: EUGFM

Pollution control equipment: Process equipment used to recover product metal material also controls emissions. HOTWORK1: Dust Collector DC-2. HOTWORK2: DC-Wheelabrator. HOTWORK3: Dust Collector DC-4.

All dust collectors are installed and have differential pressure monitoring gauges installed.

FG-REDUCTIONCONV: All conventional furnaces that process Molybdenum Trioxide in the first step or Molybdenum Dioxide in the second step. Furnace stacks and reduction hoods are vented to DC-1.

Emission Units: EU-FDFA, EU-FDFB, EU-RDF2-5, EU-RDF7-10

Pollution control equipment: Process equipment used to recover product metal material also controls emissions. Dust Collector DC-1. The pressure gauge read 3.4".

FG-ADM: All furnaces that may process high purity ADM and reduce it to high grade Molybdenum dioxide. No ammonia water vapor emission control for EU-ELINO, EU-FDFA, EU-FDFB. Natural gas flare controls ammonia emissions from EU-HARP.

Emission Units: EU-ELINO, EU-FDFA, EU-FDFB, EU-HARP

Pollution control equipment: Natural gas flare for EU-HARP, second natural gas flare for EU-ELINO. Both were installed and were in operation at time of inspection.

FG-COMBUSTION: All natural gas fired furnaces, flares, make up air units and space heaters that are not vented to an emission control device. Total heat input capacity is 132.4147 MMBtu/hr.

Emission Units: EU-ELINO, EU-EVAP1, EU-EVAP2, EU-EVAP3, EU-HARP, EU-HWRMFUR, EU-HWFUR1, EU-HWFUR2, EU-HWFUR3, EU-EXFUR1, EU-EXFUR2, EU-EXFUR3, EU-EXFUR4, EU-RDFA, EU-RDFB, EU-EU-RDF2-5, EU-RDF7-10, EU-RDF11, EU-RDF12, EU-RDF13, EU-RDF14, EU-RDF15, EU-SWAG1, EU-SWAG2, EU-SWAG3, EU-SWAG4, EU-SPHERICAL, EU-GFM, EU-SLDRYER, EU-MAU1, EU-MAU2, EU-MAU3, EU=SPACEHEAT.

The facility is currently not tracking monthly or 12-month rolling NOx and CO emission rates from FG-COMBUSTION. This will be included with the violation notice.

FG-MATHAND: This group contains two process groups. One is the recovery of valuable material with process dust collectors that also control emissions and are vented in-plant. The second is the hexamine blender EU-HEXBLDR. Material handling losses are controlled by local integral collector DC-HEXBLDR with a discharge point above the roof.

Emission Units: EU-BLDR1-5, EU-DUMP1-7, EU-PELT1, EU-PELT2, EU-HEXBLDR

Pollution control equipment: DC-HEXBLDR

Facility is tracking annual material losses through FG-MATHAND dust collectors.

FGFACILITY: Process equipment used to recover product metal material also controls emissions.

The facility has a PM limit of 43 tons per year. The facility could not produce the 12-month rolling time period PM emissions. This will be included in the violation notice.

NAME  DATE 8/31/2021 SUPERVISOR RAL 8/31/21