



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
Four Penn Center – 1600 John F Kennedy Blvd
Philadelphia, Pennsylvania 19103-2852

Report Title: Clean Air Act Inspection of Special Metals
Inspection Date(s): June 5-6, 2023
Regulatory Program(s): SIP, Title V, MACT

Company Name: Special Metals
Facility Name: Huntington Alloy
Facility Location: 3200 Riverside Drive
Huntington, WV 25705
Latitude: 38.414353 **Longitude:** -82.384179
County/Parish: Cabell

AFS/ICIS-Air Number: WV00001100007
Permit Number: R30-01100007-2018
NAICS Code: 331419 **SIC:** 3339
Unique Project #: 3E23CA097A

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I. Introduction

The United States Environmental Protection Agency (EPA) conducted a Clean Air Act (CAA) inspection at Special Metals (dba Huntington Alloy) (Huntington or Facility) to verify compliance with applicable State and Federal regulations. The West Virginia Department of Environmental Protection (WVDEP) was notified of the inspection on May 11, 2023 via email. On June 1, 2023, EPA notified the Facility of the planned inspection via phone and email. EPA emailed a list of records for review to Tom Bell, prior to the inspection (see Attachment 1). These records are listed in the Records Review section of the report.

The inspection included an evaluation of the Facility's processes and its compliance with the CAA. All information included in this report is the result of statements by the Facility representatives, materials shown to the inspectors by the Facility representatives, and/or documents provided by the Facility representatives to the inspectors at the time of, or subsequent to, the inspection. In addition, information gathered prior to the inspection from a review of EPA and State records may be included in Section A. Summary of the Facility.

A. Summary of the Facility

The Facility is located at 3200 Riverside Drive, Huntington, WV 25705. Huntington is a fully integrated plant that manufactures nickel alloys in the form of rods, sheets, tubes, and coils depending on customer needs. The plant operates under several NAICS/SIC codes, including:

- 3339 Primary Nonferrous Metals
- 3449 Miscellaneous Metal Work
- 3356 Nonferrous Rolling and Drawing
- 3547 Rolling Mill Machinery
- 331419 Primary Smelting and Refining of Nonferrous Metal (except Copper and Aluminum)
- 331491 Nonferrous Metal (except Copper and Aluminum) Rolling, Drawing, and Extruding
- 332114 Custom Roll Forming
- 333519 Rolling Mill and Other Metalworking Machinery Manufacturing

The Facility received a Title V permit (R30-01100007-2018) from WVDEP issued on November 27, 2018.

Huntington is classified as major source for Nitrogen oxides (NOX) and hazardous air pollutants (HAPs). The Facility is subject to, or potentially subject to the following federal regulations:

- 40 C.F.R. Part 63, Subpart N: National Emission Standards for Chromium Emissions from Hard and Decorative Chromium Electroplating and Chromium Anodizing Tanks
- 40 C.F.R. Part 63, Subpart DDDDD: National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters.

June 5, 2023:

B. Inspection Opening Conference

At 8:40AM on June 5, 2023, EPA inspectors arrived at the Facility for a CAA Inspection and conducted a brief opening conference. Huntington was represented by Tom Bell. Also, Eric Ray from WVDEP was present. EPA inspectors, Bruce Augustine and Alex Everhart, presented their credentials and explained the purpose of the visit was to conduct a CAA to determine compliance with their permit and any applicable regulations. Additionally, EPA informed the facility representatives of their right to claim any confidential business information (CBI). At that time, Tom Bell did not claim any photos or documentation as CBI.

II. Site Activity/Process Description

Huntington began operating at the site in 1922 as the International Nickel Company. The Facility currently does business as Huntington Alloy and is owned by Special Metals. Special Metals formed in 1998 and is owned by Berkshire Hathaway. Berkshire Hathaway is a publicly traded company. Special Metals owns and operates several facilities in the U.S. and around the world, however, the Huntington Site is the main produce of nickel alloys.

The site is located on 130 acres and employs approximately 800 full time workers. The majority of the employees are represented by the Steelworkers Union. Huntington operates 24 hours/day, seven days/week, four shifts/day. Production at the site varies but melting takes place four-five days/week.

Huntington takes raw material (nickel, chrome, copper, and scrap) and melts it into ingots in either the electric arc furnaces, argon oxygen reactor, or vacuum induction melting. The two electric arc furnaces have a rated capacity of 35,000 lb/hr and were installed in 1966 and 1971 respectively. The argon oxygen reactor also has a rated capacity of 35,000 lb/hr and was installed in 1971. The vacuum induction melting furnace operates under a vacuum and is not an emission source.

Raw materials are obtained from all over the world and only arrive at the facility via truck. Some final product is shipped as ingots, however, the majority of the ingots are sent further down the process to be made into various products (tubes, coils, bars, sheets, etc.). Approximately 70% of the ingots are shipped to a Special Metals facility in Kentucky for electro slag remelt (ESR), which removes the impurities from the alloy. After the ESR process, the alloy is sent back to the Huntington Plant.

After melting and the ESR process, material is sent to furnaces to maintain temperature. There are more than fifteen furnaces located throughout the site ranging from 10MMBtu/hr to 75MMBtu/hr. All furnaces are fired with natural gas and were installed from the 1970s through the 1990s. The furnaces route materials to either the two rolling mills or the forge press. The

materials are then sent to either bar and wire mill, primary mill, or strip mill. All finished products are shipped from the site via truck to over 5,000 customers worldwide.

Mr. Bell stated that Huntington does not have a planned annual shutdown. To conduct annual maintenance, there are small equipment shutdowns planned throughout the year, depending on production demands. The electric arc furnaces are rebuilt at the end of their useful life and the refractory is replaced. Mr. Bell stated that the capacity of the furnaces has not changed. A baghouse (MS-1-C1 & MS-1-C2) is used to control particulate matter emissions from the melt shop. The baghouse was last stack tested over 10 years ago. Typically, the pressure drop across the baghouse is monitored through gauges that transmit to a central data receiver, however, due to a fire, manual pressure drop readings are being taken daily. The Title V permit requires that corrective action be taken at the melt shop baghouse if the average daily pressure drop across the baghouse is below two or greater than eight inches of water.

Huntington utilizes several boilers at the site for process heat and steam. The “Main Boiler” is located at the melt shop and is rated at 80MMBtu/hr. This boiler is located in a trailer outside of a building and is a rental because the original boiler blew up approximately 10 years ago. The vacuum induction melting boiler is rated at 26MMBtu/hr and Mr. Bell stated that the boiler onsite is not the same one listed in the permit. He was not sure if the boiler change had been reflected in the most recent Title V permit renewal application. There are two additional boilers located in the cold draw and strip mill process areas. Mr. Bell indicated there are no diesel fire pumps at the Facility.

Huntington has two rotary kilns that were installed in 2011 and are rated at 8,000lb/hr. The burners are natural gas fired and emissions from the kilns are routed to thermal oxidizers. Mr. Bell stated that one of the kilns is not operational and is undergoing repair while one of the kilns is operating. The kilns are designed to automatically shut down if the oxidizer temperature falls below 1150°F.

There are two pickling lines (East & West) which use an acid bath to remove impurities from the alloy surface. The West pickle line receives the majority of the material while the East line receives larger pieces. The pickling process uses several acids and vents inside the building. However, the air from the top of several pickling tanks vents to a scrubber located outside of the cold draw process building. There is also a hard chrome plating tank located at cold draw that is used to plate parts. The tank is vented to a scrubber and is monitored by Huntington staff weekly. A second chrome plating tank is no longer in operation but is still onsite. Mr. Bell was not sure of the rectifier capacity of the tank nor when it was last stack tested. Mr. Bell stated that there are no halogenated solvent degreasers on site. All degreasers use a cold solvent that is changed by a third party.

Huntington does not have any diesel emergency generators or diesel fire pumps. The Facility also has a wastewater treatment plant that discharges to the Huntington Sanitary Board.

The opening conference concluded at 10:28AM.

III. Observations

EPA inspectors were led on a walkthrough of the Facility at 10:45AM by Tom Bell of Huntington and Eric Ray of WVDEP was also present for the walkthrough. EPA inspectors noted photos would be taken during the Facility walkthrough (Attachment 2).

The first area observed was the melt shop. Electric arc furnace #4 was operating during the inspection while electric arc furnace #5 was out of service. Huntington representatives noted that the shells on the electric arc furnaces can be changed frequently. The melt shop baghouse was observed, as well as the pressure drop gauges on the baghouse compartments. The following pressure drops were observed across the six melt shop baghouse compartments:

Compartment	Pressure Drop (in. H ₂ O)
1	8
2	8
3	1
4	5.2
5	7
6	0.4

The current Title V permit requires Huntington to calculate a daily average pressure drop across the baghouse and perform corrective action if the average pressure drop is outside of the specified range. Huntington representatives indicated that due to a fire at the baghouse, the pressure drop is not being monitored and daily average pressure drop is not being calculated.

The EPA inspection team observed the Main Boiler which is a 1952 Babcock & Wilcox boiler rated at 75,000 lb/hr steam. The boiler was not operating during the inspection and appears to not have operated for some time and is incapable of operating without major maintenance. The inspection team also observed the temporary boiler that is operating in place of the Main Boiler. The temporary boiler is rated at 34,500 lb/hr steam and was built in 2011. The boiler was operating during the inspection. After observing the temporary boiler, the inspection team took a break between 11:50AM and 12:50PM.

The inspection walkthrough resumed at the vacuum induction melting building at 12:50PM. EPA observed the Tundish Furnace and the vacuum induction melting boiler. This boiler supplies heat to the vacuum induction melting furnace. The vacuum induction melting furnace was observed and product from this furnace is sent to either ESR off-site or to the primary mill. This furnace is electric and exhausts into the building.

The inspection team proceeded to the grinding building. There are multiple dust collectors on the outside of the building to collect particulate matter emitted during grinding. The magnehelic gauge for the Emission Point 53 was not operating during the inspection. The pressure drop across Emission Point 57 was 7" WC. Pressure drop across Emission Point 56 was 0" WC. The two magnahelics at the Northeast Grinder were 7.4" and 6.5" WC.

The inspection team proceeded to the Primary Mill. The forge press was not operating during the inspection. EPA observed multiple forge furnaces in the building that are used to hold temperature on material prior to going to the forge press. The 110 mill and Steckel mill are located in the Primary Mill area. There are two reheat furnaces for the 110 Mill and one reheat furnace on the Steckel Mill. The plasma torch was observed. This source cuts the ends off of plates that were formed in the mill. This source operates daily.

The inspection team proceeded to the chipping shop. Grinding operations were not operable during the inspection. EPA observed that there were no magnehelic gauges on Emission Points 59, 60, and 62.

The Strip Mill is where coils are unraveled and treated prior to being re-wound. The unwound coil is pulled through a Kolene salt bath to remove oxides from the coil. The coil is then rinsed and hit with shot blast. The coil is then sent through a hydrogen flouride (HF) and nitric acid bath. The line is controlled by a mist eliminator to reduce acid emissions to the atmosphere. Huntington representatives stated that spent HF liquid is sent to the acid reclaim plant.

The EPA inspection team returned to the conference room at 3:27PM. The areas to be observed on the second day of the inspection were discussed. EPA was provided a copy of the monthly PM monitoring log for May 2023. EPA also observed the scrubber monitoring parameters for the strip mill pickle line. The completed the first day of the inspection and EPA exited the Facility at 3:44PM

June 6, 2023:

EPA returned for the second day of the inspection at 8:32AM. Tom Bell was present from Huntington and Eric Ray was present from WVDEP. The inspection team proceeded to the bar and wire mill. This area produces small diameter wires. There are two mill furnaces located in this building and several particulate matter sources. The inspection team then moved to the cold draw, where tube diameters are reduced. The east and west pickle baths are also located in this building. The west pickle bath was operating during the inspection and a 30% sulfuric acid tank and a 15-25% HF nitric acid tank were observed. The ammonia tank for the west pickle line was observed to be empty. Huntington representatives stated that the ammonia tank vents to a scrubber and the differential pressure and pH are monitored. They indicated that they are going to begin monitoring scrubber flow rate as an additional monitoring parameter. Spent acid from the pickle lines are sent to acid reclaim to adjust pH before sending to the onsite wastewater treatment plant. Neutralized acid is sent through a filter press and solids collected are sent offsite.

The east pickle line was observed next and is out of service. Huntington representatives stated that this line hasn't operated in approximately two years. EPA observed the acid reclaim area. This area consists of several tanks and a filter press.

The Thistle Area is where reclaimed scrap material is processed. This area consists of two kilns which dry the reclaim material. Kiln 1 was operating during the inspection while Kiln 2 has been out of service for 18 months. Both kilns, when operating, vent to a thermal oxidizer and dust collector. Kiln 1 thermal oxidizer was operating between 1380-1400°F at the time of the inspection while the kiln was operating at 1075°F. The blasting booths and plasma cutter in this area were not operating during the inspection.

Process water from the Facility is sent to the onsite wastewater treatment plant prior to being discharged to the Huntington Sanitary Board. Process water enters the plant and is sent to the main collection tank where Sodium hydroxide is added. Huntington also uses two additional collection tanks: U1 which receives material from cold draw and the strip mill; and U2 which receives material from the primary mill. Ferrous chloride is added to U1 and a polymer is added to U2. There are two clarifiers located outside that are used for settling prior to discharge to the local sanitary board. On average, Huntington discharges 350gpm and 500,000gallon/day to the Huntington Sanitary Board.

EPA observed the hazardous waste accumulation area. There were several drums and totes of waste located in this area. Most of the drums were labeled, however, EPA observed two drums that were labeled with no writing on the label. Mr. Bell stated that the drums were labeled, however, the writing had worn off.

Huntington has two hard chrome plating tanks onsite. Only one of the tanks is operational and was operating during the inspection. EPA observed emissions from the tank being collected by the ductwork that is routed to the plating tank scrubber. The second plating tank was empty and appeared to not be able to operate without repairs. Huntington utilizes a composite mesh pad/packed bed scrubber system to control emissions from the plating tanks. Huntington stated that preventative maintenance on the system is performed by a third party. The pressure drop across the plating tank scrubber system was 2"WC and the rectifier was operating at 225 amps and 9 volts.

The walkthrough concluded at 11:45AM.

IV. Records Review

The records review commenced after a break at 12:46PM. EPA inspectors reviewed documents requested in the June 1, 2023 email to Tom Bell (see Attachment 1). Records were provided at the time of the inspection by Mr. Bell. Below are the records requested and what was provided:

1. Provide a plot plant of the facility. Also, provide a paper copy during the opening conference. ***Huntington provided a hardcopy of the plot plan during the inspection and an electronic copy of the plan via email on June 15, 2023.***

2. Provide a detailed description of the facility process(es). ***The process was discussed in detail during the opening conference and a hardcopy of the process flow diagram was provided during the opening.***
3. Provide copies of the emission statements submitted to WVDEP for the years 2020-2022. These emission statements shall include the emission factors used to determine emissions and the derivation of each factor (stack test, CEMS, AP-42, etc.). ***During the inspection record review, EPA reviewed the 2020 emissions report which estimated emissions for each emission unit and emission point. The report is several hundred pages and EPA requested a smaller breakdown of just the actual emissions for each emission unit. In 2021, Huntington reported 45 tons of NOx emissions and 83 tons in 2022. The Facility experienced a strike from October 2021 thru March 2022, which caused operations to be curtailed during this time. Huntington provided electronic summaries of the emissions for 2021-2022 via email on June 15, 2023.***
4. For each furnace, boiler, or engine at the facility provide:
 - a. Fuel type and amount (MMscf, gallon, etc.) combusted monthly since January 2020 to the present; ***Huntington provided records of fuel use for 2020-2022. The individual department totals reviewed did not add up to the source totals that recorded on individual fuel reports. Huntington provided electronic copies of fuel usage by unit for 2020-2022 via email on June 15, 2023.***
 - b. Hours of operation monthly since January 2020; ***Huntington provided, during the inspection, a sheet with the source information, size, date installed, and controls for each combustion unit onsite.***
 - c. Records of each tune-up conducted at each unit since January 2020. ***EPA reviewed records of tune-ups for MACT DDDDD affected boilers. Records indicate that the rental boiler was tuned in January 2023, Kiln 1 in April 2022, the VIM Boiler in March 2022, and the Kolene Salt Bath boilers in June 2022. Vanaire also conducts quarterly scrubber monitoring/maintenance.***
5. Hours of operation each calendar year for plasma torch (PM-20-P) since January 2020. ***These records have not yet been submitted to EPA.***
6. Provide the highest sulfur containing batch/heat/melt that is charged to the electric arc furnaces and the argon oxygen reactor on a monthly basis since January 2020. Also, provide the calculation converting this to a concentration. ***Huntington sends these reports to WVDEP quarterly and were reviewed for 2022-2023 during the inspection.***
7. Provide a list of each control device currently in use at the facility used to control or reduce emissions from any emission point at the site. The list should include:
 - a. The make/model of the control;
 - b. Date installed at the facility;
 - c. Which pollutant(s) are being controlled;
 - d. Each source or emission point being controlled;
 - e. The reduction efficiency (%) for each control;
 - f. Copies of any stack tests conducted to determine emissions, control efficiency, for compliance demonstrations, for internal purposes, etc. conducted at the facility since 2000. ***Huntington provided an electronic table via email on June***

15, 2023. However, Huntington has not provided any stack tests in response to Question 7.f that have been conducted for any emission sources.

8. Provide records of baghouse pressure drop and scrubber liquid flow rate monitoring for each baghouse and scrubber since January 2021. **Huntington is maintaining the baghouse pressure drop monitoring records for the melt shop baghouse (with the exception of the period after the fire), the strip mill shot blaster, and the powder torch. Huntington is also maintaining the thermal oxidizer temperature records for Kiln 1. Thermal oxidizer temperature records were not available for January 12, 2021-Fenraury 21, 2021. In addition, the second half 2022 Title V permit deviation reports included the deviations that were reported in the first half 2022.**
9. For emission units CD-36-P, hard chrome plating tanks, provide:
 - a. The rectifier capacity of each tank; **Huntington indicated that the rectifier capacity is <6,000,000 amp-hr/yr**
 - b. Whether the tank is existing or new; **Plating tank is existing**
 - c. The control(s) used on each tank; **Tank is controlled with CMP/PBS**
 - d. Copies of monitoring records since January 2021; **Huntington is submitting hardcopy reports to the previous EPA Region 3 address. EPA requested Huntington submit electronic reports or send hardcopies to the new EPA address.**
 - e. A copy of the operation and maintenance plan required by 40 C.F.R. § 63.342(f)(3). **Huntington agreed to provide the O&M Plan, however, the O&M plan has not provided to this point.**
10. Provide copies of any initial notifications, compliance reports, or periodic reports submitted to either EPA or WVDEP for 40 C.F.R. Part 63 Subpart N, Subpart T, or Subpart DDDDD. **Mr. Bell stated the only reports submitted, other than Title V reports, are for the chrome plating tanks. Huntington has not submitted any periodic tune-up reports under MACT DDDDD.**

During the inspection and record review, EPA requested the following additional records:

1. Monthly reports for Plate Anneal Furnace PM-23-P required by 5.4.2. **These records are yet to be provided.**
2. Monthly records for forge furnaces F-101 and F-102 required by 5.4.3 using Appendix A & B of R13-2163. **EPA reviewed the forge furnace records and there appeared to be an issue with fuel conversion. It was unclear if the fuel is recorded in MMscf or scf. Also, several months recorded more than 744 hours of operation for a single month when there are not more than 744 months in a month.**
3. Weekly melt shop BH inspections 6.4.4. **EPA reviewed these records during the record review.**
4. Records of daily scrubber checks and monthly inspections 7.4.1. **EPA reviewed these records during the record review.**
5. Records of throughout for abrasive saw CD-40-P 7.13. **EPA reviewed these records during the record review.**

6. Records of cold work operations baghouse inspections 7.4.5.
7. Pressure drop across plating tank(s) and value established during test. ***These records have not been provided.***
8. Inspections of CMP packed bed scrubber system. ***These records have not been provided.***
9. TP-10-C pressure drop records 13.3.2. ***These records have not been provided.***
10. Tune up records for sources in 14.1.25. ***These records were reviewed during the record review.***

V. Closing Conference

After the records review, EPA inspectors, Tom Bell from Huntington and Richard Ray from WVDEP had a brief closing conference to ask additional questions and discuss observations. The EPA inspectors noted that the investigation is on-going, and any areas of concern identified in the final report do not necessarily reflect a violation or deviation, rather, they are areas that will require further investigation. EPA also noted that they would issue an inspection report within in 60 days, with a copy to the State. Simultaneously, EPA will perform a detailed review of records and may have additional questions. The inspection concluded at 3:46PM.

The following have been identified as *potential* issues during the inspection. They are issues that require either further investigation by EPA or additional information or explanation by Huntington Alloy.

- Condition 6.2.3 of the Title V permit requires the Facility to continuously monitor the pressure drop at the inlet and outlet of the melt shop baghouse and a daily average pressure drop shall be calculated. If the averaged pressure drop falls below 2"WC or exceeds 8"WC, Huntington shall take corrective action, as specified in the permit. Huntington indicated that since a fire at the baghouse, they have not been continuously monitoring the pressure drop across the baghouse compartments. They indicated during the inspection that they would immediately institute daily pressure drop monitoring and calculate a daily average pressure drop until the baghouse monitoring is repaired. It was not clear when the continuous monitoring ceased but it has been at least two months.
- It is not clear from the Title V permit how the average daily pressure drop across the baghouse should be calculated. Condition 6.2.3 of the permit states that the "pressure drop through the baghouses shall be measured at the baghouse inlet and exhaust on a continuous basis." Furthermore, "the pressure drop across the baghouse shall be averaged daily." Huntington was monitoring the pressure drop across each baghouse compartment and then averaging those values daily. As observed during the inspection and reflected in the Table on Page 6 of this report, several of the baghouse compartments had a pressure drop of at least 8"WC or below 2"WC.
- The Main Boiler, VIM Boiler, West Pickle Salt Bath, and CAP Salt Bath are subject to MACT Subpart 5D. These boilers are subject to either annual, biennial, or 5-year tune-ups. Title V permit condition 4.5.3 and 40 C.F.R. § 63.7550 require the Facility to submit

periodic tune-up reports to EPA and WVDEP for the periodic tune-ups. Huntington has indicated during the inspection that these reports have not been submitted.

- 40 C.F.R. § 63.343(b)(1) requires that the operator of an affected hard chrome plating tank conduct an initial performance test to determine compliance. Huntington has not provided a copy of this test nor provided the site specific operating parameter pressure drop across the composite mesh pad system established during the performance test. Huntington should provide copies of these materials if they exist.
- Title V permit condition 5.1.11 lists emission limits for Forge Furnace F-101 and F-102 (PM-28-P & PM-29-P). To determine compliance with these limits, the hours of operation and fuel use for these two furnaces is required to be monitored and recorded (Condition 5.4.3). Records reviewed during the inspection indicate that records of fuel use are not being maintained in the proper units and the hours of operation at times exceeded the actual number of hours in a month.
- A review of melt shop baghouse pressure drop monitoring for calendar year 2022 indicates that either the process was out of service or the baghouse was not monitoring from January 1-April 24, 2022. In addition, there are periods when the baghouse pressure drop exceed 8"WC (even though the daily average might not exceed 8"WC).

VI. List of Attachments

- Attachment 1: Email correspondence to Tom Bell of records requested to review during inspection
- Attachment 2: Photo Log