



REGION 3

PHILADELPHIA, PA 19103

Report Title: Clean Air Act Inspection of Catalyst Refiners, Inc.
Inspection Date(s): June 4, 2024
Regulatory Program(s): SIP

Company Name: Same as below
Facility Name: Catalyst Refiners, Inc.
Facility Location: 1580 1st Avenue South
Nitro, WV 25143

Latitude: 38.387486 **Longitude:** -81.784721
County/Parish: Kanawha County

AFS/ICIS-Air Number: WV00003900652
Permit Number: N/A
NAICS Code: 331492 **SIC:** 3341
DSB ID #: ECAD-46

Facility Representatives:	Point of Contact
Tim Roush, Plant Manager Phone: (304) 812-2917 Email: troush@amesgoldsmith.com	☒
Dr. Ernest Addo, Scientist Phone: (443) 945-2731 Email: eaddo@colonialmetals.com	☐
Eddie Lovejoy, Facilities Manager Phone: (304) 766-8899 Email: elovejoy@amesgoldsmith.com	☐

EPA Inspectors:

Dean DeLuca, Physical Scientist, 3ED21
Phone: (304) 234-0264 Email: Deluca.dean@epa.gov
Scott Yanos, Life Scientist, 3ED21
Phone: (215) 814-2128 Email: Yanos.scott.@epa.gov
Kyle Krall, Enforcement Inspector, 3ED21
Phone: (215) 814-2156 Email: Krall.kyle@epa.gov

State/Local Inspectors:

Angela Chestnut, Engineer Inspector
Phone: (304) 389-7946 Email: Angela.k.chestnut@wv.gov

EPA Lead Inspector

Signature

Dean Deluca

Date

1060 Chapline Street, Suite 303
Wheeling, WV 26003-2995

Supervisor

Signature

Kristen Hall

Date

Table of Contents

I. Introduction	4
A. Summary of the Facility.....	4
B. Inspection Opening Conference.....	4
II. Site Activity/Process Description	5
III. Observations	6
IV. Records Review	7
V. Closing Conference	8
VI. List of Attachments	8

I. Introduction

The United States Environmental Protection Agency (EPA) conducted a Clean Air Act (CAA) inspection at Catalyst Refiners, Inc. (Catalyst 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 20, 2024, via email. On May 31, 2024, EPA notified the Facility of the planned inspection via phone and email. EPA emailed a list of records for review to Tim Roush, plant manager, 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 1580 1st Avenue South, Nitro, WV 25143. Catalyst operates in the Ethylene Oxide (EtO) catalyst refining market. They are a reclamation provider for Ethylene Oxide catalyst manufacturers who can handle spent catalysts, but the Facility's process does not use any Ethylene Oxide. The Facility reclaims silver from silver containing catalysts. The Facility operates under a NAICS code of 331492.

The Facility does not have any Clean Air Act (CAA) Federal or State permits. The Facility most recently submitted a permit determination application in July 2014 and WVDEP replied with a recommendation that an air permit is not required.

Catalyst is classified as a minor source for all air pollutants.

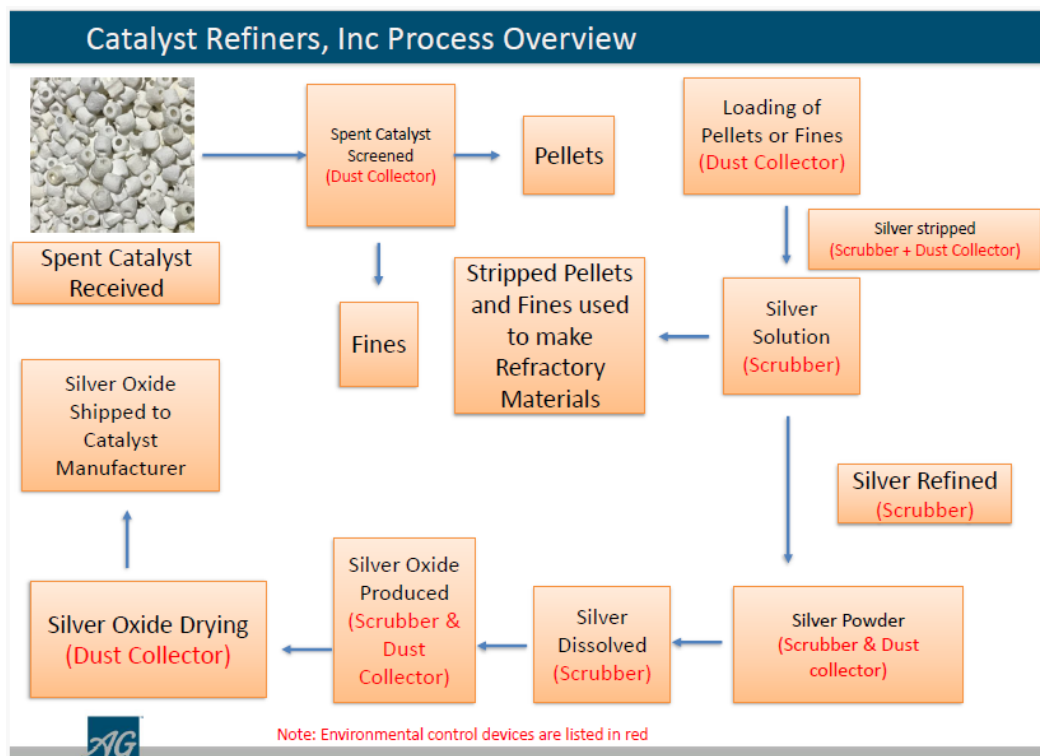
B. Inspection Opening Conference

At 8:40am on June 4, 2024, EPA inspectors arrived at the Facility for a CAA Inspection and conducted a brief opening conference. Catalyst was represented by Tim Roush, Plant Manager, Eddie Lovejoy, Facilities Manager, and Dr. Ernest Addo from Colonial Metals, Inc. which is another subsidiary under the same parent company, Ames Goldsmith Corp. Also, Angela Chestnut (WVDEP) was present. EPA inspectors, Dean DeLuca, Scott Yanos, and Kyle Krall presented their credentials and explained the purpose of the visit was to conduct a CAA inspection to determine compliance with any applicable regulations. Additionally, EPA informed the facility representatives of their right to claim any confidential business information (CBI). At that time, Catalyst claimed any photos taken showing the

second floor of the catalyst area would be claimed as CBI as well as certain process details such as additives.

II. Site Activity/Process Description

This Facility was incorporated in 1987 and there have not been any ownership changes since the Facility opened. Ames Goldsmith Corp. is the privately owned parent company to Catalyst Refiners, Inc., in addition to other subsidiaries. The Facility refines silver from spent catalysts and produces high purity silver oxide for sale. The Facility's more detailed process overview is shown in the below image. In addition to the process below, the Facility also treats their process wastewater and any site rainwater and tests to ensure it is less than two parts per million (ppm) silver before shipping. Sludge created on-site is also separately shipped off-site to other Ames Goldsmith companies. The spent catalyst is the raw material in the process and is received by truck mainly in super sacks. The Facility has two MAPCO scrubbers and six dust collectors. The dust collected is returned to the process after collection.



The Facility is located on land leased from Altivia Services, but the buildings are owned by Ames Goldsmith. The Facility receives steam and electrical power from Altivia. The Facility has thirty-two full-time employees and operates in two eight-hour shifts/day. They are currently working eight-hour shifts five days a week but may be changing to working four days a week with ten-hour shifts. The Facility has approximately 25,000 square feet under roof and is approximately 1.3 acres.

The opening conference concluded at 9:50 AM.

III. Observations

EPA inspectors were led on a walkthrough of the Facility at 9:57 AM by Tim Roush (Plant Manager), Eddie Lovejoy (Facilities Manager), and Dr. Ernest Addo (Scientist) representing Catalyst. Angela Chestnut of WVDEP was also present for the walkthrough. EPA inspectors noted photos would be taken during the Facility walkthrough (Attachment 2) and Catalyst mentioned that some areas would be claimed as CBI. During the walkthrough, the weather was clear, and the temperature was approximately 82°F.

The inspection team started the walkthrough by observing a twelve-cartridge SWECO dust collector used to collect dust from the initial screening of the spent catalyst. This dust collector exhausts inside the building through HEPA filters after being ducted outside and returning inside. WVDEP considered the HEPA filter to be inherent to the process since it collects materials which are then refined in the process. The Facility stated the cartridges are removed for inspection and cleaning after each job run, which varies in duration but are generally a few weeks, and are replaced annually.

After observing the SWECO dust collector, the inspection team then observed the four strip reactors, one of which is no longer in use, and the associated MAPCO wet scrubber. At the time of the inspection, the differential pressure was observed to be 1.7" of water. A couple flanges on pipes going towards the scrubber were seen to have evidence of leaking precipitate.

The inspection team then observed the tanks and vats used in the portion of the process which turns the silver solution to a silver powder and then to the final product, silver oxide. The silver oxide powder is then dried in ovens with dust being collected by a Donaldson Torit dust collector. When asked, the Facility stated there is a gap between the drying oven exhaust and the intake for the dust collector because it was the engineer's suggestion during the design process. The process takes an average of about thirty-two hours to complete.

The Facility stated they have a mechanic who checks the dust collectors and reads the dust collectors' magnehelic daily, if a magnehelic is present, but the values are not recorded. At the time of the inspection, dust collector used in the silver stripping process was 2.1" of water and the drying ovens' dust collector was observed to be 0.0" of water. The Facility later stated the filters were changed in mid-May which could have caused the low differential pressure. The inspection team lastly went through the wastewater treatment area of the Facility and observed the stack on the building's exterior.

The walkthrough concluded at 11:15 AM.

IV. Records Review

The records review occurred prior to the inspection on June 3, 2024. EPA inspectors requested the below records in the May 31, 2024, email to Catalyst (see Attachment 1). Records were provided to the EPA prior to the inspection by Tim Roush.

1. Provide a plot plan of the facility available in hardcopy for the inspection opening conference which identifies each processing unit, control device, storage vessels, and facility boundaries etc. for the facility.
 - *Facility provided a plot plan and site layout prior to the inspection.*
2. Provide facility-wide potential to emit for Nitric Acid, Silver Compounds, Nitrate Compounds, Ethylene Oxide, VOC, total HAPs, and all air criteria pollutants, as well as 2022 and 2023 annual air emissions if calculated.
 - *Facility stated they do not use VOCs or ethylene oxide. Air emissions have not been calculated.*
3. Provide the current owner of the facility and all parent companies.
 - *Facility stated that Ames Goldsmith is the parent company of Catalyst Refiners, and that Ames Goldsmith is privately owned.*
4. Provide the month during which the facility commenced operations and the date(s) of any ownership change (s), if applicable.
 - *Facility stated the facility commenced operations in July 1987 and there have been no ownership changes.*
5. Provide the address of any other locations owned and/or operated by Catalyst Refiners, Inc. and how many facilities are owned and/or operated by any parent company.
 - *Facility provided the addresses for the twelve locations owned by the parent company, Ames Goldsmith.*
6. Provide a description of any process, equipment, or material changes which may have increased or decreased emissions since the last permit determination in 2014, if any.
 - *Facility stated there have not been any process, equipment, or material changes since 2014.*
7. For each fire pump, generator, or engine located onsite, if any, provide:
 - The make and model of the unit;
 - The size of the unit (HP and displacement (L));
 - Fuel amount and type combusted monthly (gallons) from January 2021-April 2024;
 - Hours of operation monthly from January 2021-April 2024.
 - *Facility stated there are no fire pumps, generators, or engines located on-site.*

V. Closing Conference

After the inspection walkthrough, EPA inspectors, Tim Roush (Plant Manager), Eddie Lovejoy (Facilities Manager), Dr. Ernest Addo (Scientist), and Angela Chestnut of 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 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 11:50 AM.

There were no issues identified during the inspection by EPA, but the investigation is ongoing, and EPA will contact Catalyst if any additional information is needed.

VI. List of Attachments

- | | |
|---------------|--|
| Attachment 1: | Email correspondence to Tim Roush of records requested to review during inspection |
| Attachment 2: | Non-Confidential Photo Log |
| Attachment 3: | Inspection Sign-In Sheet |