AIR COMPLIANCE INSPECTION REPORT

U.S. Environmental Protection Agency
Region 7
Enforcement and Compliance Assurance Division

Sivyer Steel
225 South 33rd Street
Bettendorf, Iowa 52722

Telephone Number: (563) 355-1811
AFS Plant ID Number: 1916300190

Inspection Date: May 11, 2021

INTRODUCTION

At the request of the Enforcement and Compliance Assurance Division (ECAD), the ECAD Air Branch conducted an announced, on-site, Clean Air Act, Partial Compliance Evaluation (PCE), inspection of Sivyer Steel, located in Bettendorf, Iowa.

PARTICIPANTS

Sivyer Steel:
Tim Murray, Director QA and Regulatory Compliance
(tmurray@sivyersteel.com)
Stacy Braden, Director of Operations
Schuyler Bowman, Maintenance Manager
Matt Tracey, Supervisor for Molding and Melting
Tyler Schneiter, Engineer Manager
Scott Tinsman Jr., CEO

U.S. Environmental Protection Agency (EPA):
Avery Bowers, Environmental Engineer, Region 7
Dakota Prentice, Environmental Engineer Region 5
Brianna Fenzl, Environmental Engineer Region 5
Emma Leeds, Environmental Engineer Region 5

INSPECTION PROCEDURES

I contacted Mr. Murray by telephone on April 28, 2021 and explained that I was planning to conduct a Partial Compliance Evaluation (PCE) inspection at Sivyer Steel. A follow up email detailing the expectations of the PCE, along with the documents needed for review, was sent shortly after the phone conversation. Mr. Murray and I agreed to meet on May 11, 2021. Due to Covid-19, we agreed to have a virtual opening conference on May 7, 2021 to limit in-person contact exclusively to the on-site inspection portion. The conference started with introductions

and Mr. Prentice stated the purpose of the inspection. During the opening conference, Mr. Murray gave step-by-step explanations of the process flow for Sivyer Steel. Throughout the explanation I requested stack tests data and Safety Data Sheet's (SDS) for chemicals used throughout various processes in the facility. In the opening conference, Mr. Murray noted the bag leak detection system (BLDS), which the facility used as their continuous emission monitoring (CEM), had failed the previous year. He stated that a work order was put in but the system, made by Auburn, no longer supplied the necessary parts to fix it. I also requested a receipt for their Title V permit renewal submission since the current permit expired in March 2019. Attachment 1 contains the expired Title V permit; a permit renewal has not been issued yet. Attachment 2 is the email correspondence between Mr. Murray and the Iowa Department of Natural Resources (Iowa DNR) for updates on their Title V permit renewal application.

Mr. Prentice, Ms. Leeds, and Ms. Fenzl and I arrived at the facility at approximately 8:50 a.m. on May 11, 2021. Mr. Murray greeted us at the visitor's check-in building. Once we checked in, we entered the conference room. Stacey Braden and Schuyler Bowman from Sivyer Steel joined us during a brief opening discussion where Mr. Prentice presented EPA credentials and restated the purpose of the inspection.

Before we began the facility tour, Mr. Murray gave a brief description of the facility operations and managerial changes in the last three years. He discussed the staff capacity, revenue, and operation changes since Covid-19. Following our conversation, Mr. Murray allowed Mr. Braden and Mr. Bowman to conduct the facility tour.

After the facility tour, we went back to the conference room and held the closing conference where the CEO Scott Tinsman Jr. joined us. Mr. Prentice described our preliminary findings and each photo taken, allowing Mr. Murray an opportunity to claim any Confidential Business Information (CBI); for which he did not claim any.

FACILITY DESCRIPTION

Sivyer Steel is a steel foundry that began operating in 1908. The facility consists of various emission units including three electric arc furnaces which are controlled by 8 baghouses. It also has13 dust collectors. The facility was acquired by new local ownership following the 2018 bankruptcy and now includes less than 100 hourly employees and two dozen salary employees. Due to decreased demand related to Covid-19, their hours of operation have been shortened, they operate from 5am-mid-afternoon, Monday through Friday and allow only two furnace heat cycles per day. Sivyer Steel is a major air emissions source and is authorized by the Iowa DNR to operate under a Title V operating permit.

PROCESS

Sivyer Steel has six major processes. Sivyer Steel receives scrap steel, from one of its two suppliers, as raw material that is then melted in one of three arc furnaces. The molten steel from the furnaces is then poured into molds that are formed onsite from mechanically reclaimed and thermally processed sand. The facility has three electric arc furnaces (EAFs) that are controlled by exhaust hoods that route emissions to baghouses. Occasionally, after the steel has cooled and

the product formed, it will go through a paint process if requested by the customer. After the cooling and/or painting is complete, the product is cleaned and goes through an internal inspection. If the product meets all the requirements set forth by the customer and passes the internal performance metrics, it is shipped off to its final destination.

Sivyer Steel is subject to: 40 CFR Part 63, National Emission Standards for Hazardous Air Pollutants Subparts A (General Provisions), EEEEE (NESHAP for Iron and Steel Foundries), MMMM (NESHAP for Surface Coating of Miscellaneous Metals and Products), DDDDD (NESHAP for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters), and ZZZZ (NESHAP for Stationary Reciprocating Internal Combustion Engines Emissions Equipment). Our inspection focused on Subpart EEEEE (Subpart 5E) requirements.

Photographs taken during the inspection and the photograph log can be found in Attachment 3 and 4. The date stamp on the photographs is incorrect. All photographs were taken on May 11, 2021.

OBSERVATIONS AND FINDINGS

During the inspection the facility appeared to be operating normally. The ambient temperature was in the upper 50's to lower 60's (°F). The sky was clear with winds from the south, 5 to 10 miles per hour.

The following descriptions pertain to 40 CFR 63 Subpart **EEEEE (5E) requirements** to which the facility is subject:

> *Per 40 CFR §63.7710(b), the facility is required to have an operation and maintenance plan for each capture and control device.*

Upon request in a follow-up email, I received the "Operation & Maintenance Plan" from Mr. Murray (Attachment 5).

> *The facility is required to have a preventative maintenance plan for each baghouse following the manufacturer's instructions per section IV of the Title V Operating Permit.*

I received email confirmation that a preventative maintenance plan is in place and received supporting documentation on July 9, 2021.

> *Per §63.7710(b)(4), the facility is required to have a site-specific monitoring plan for each bag leak detection system.*

I have requested the Continuous Emission Monitoring plan and Mr. Murray sent the plan to me July 9, 2021 and it will be evaluated. During the opening conference, Mr. Murray stated that the BLDS they use for continuous emission monitoring had failed. I sent a follow-up email and Mr. Murray replied saying they received quotes for a new system but cannot afford one at this time.

> *Per §63.7710(b)(5), the facility is required to have a corrective action plan for each*

baghouse. They must initiate the corrective action plan within one hour and correct the problem within 24 hours.

I sent an email asking for corrective action plan but received no reply regarding that document or if a plan is in place.

Per 40 CFR §63.7741(b), the facility is required to install, maintain and, operate a bag leak detection system.

During the opening conference, Mr. Murray mentioned the BLDS had failed and that he notified the IDNR about it but received no response in terms of resolution for the issue. While on-site he confirmed and reiterated that it was still not fixed. I requested information to determine when the failure occurred, and the information was provided July 9, 2021. I will review the content.

Per 40 CFR §63.7740©(1), the facility is also required to monitor the pressure drop across each cell of the baghouse associated with this emission point each day to ensure pressure drop is in normal operating range identified in manual.

The baghouse identified as East Sly (Emission Point 3) was at the maximum pressure gauge reading of 15psi -the requirements state that the reading should be between 2psi and 8psi. Attachment 4, photo 6 references the gauge reading. The baghouse had a broken manometer (which may have caused the 15psi reading we witnessed). Mr. Murray noted that the manometer had been broken for weeks. He stated that daily pressure drop readings were done by personnel. Through a follow-up email, Mr. Murray described the process saying that the personnel use a hand-held device that connects to the air lines. I have requested a detailed explanation on how the manual pressure drop reading is done to discern if the method is acceptable and comparable to the original monitor used. Mr. Murray supplied the description by July 9, 2021 and it is under review.

As specified in §63.7740(c)(2), confirm that dust is being removed from hoppers through weekly visual inspections or other means of ensuring the proper functioning of removal mechanisms.

Via email, Mr. Murray confirmed that daily visual emission checks are done but I did not ask for any documentation to confirm.

Per 40 CFR §63.7740(c)(3), the facility needs to check compressed air supply for pulse-jet baghouses each day.

I did not request this data or ask about it on site.

Per 40 CFR §63.7740©(4), the facility also needs to monitor cleaning cycles to ensure proper operation using appropriate methodology.(§ 63.7740(c)(2)).

I did not request this data or ask about it on site.

Per §63.7740(c)(5), the facility is required to check bag cleaning mechanisms for proper functioning through monthly visual inspection or equivalent means.

Mr. Murray stated in a follow-up email that these visual inspections are logged in their Odyssey ERP program. Daily performance of those activities is recorded on a visual board. No further information was requested for confirmation of visual inspections.

Per 40 CFR §63.7740(c)(6), they must make monthly visual checks of bag tension on reverse air and shaker-type baghouses to ensure that bags are not kinked (kneed or bent) or lying on their sides.

During the inspection, this requirement was not addressed.

Per 40 CFR §63.7740©(7), the facility is required to confirm the physical integrity of the baghouse associated with this emission point through quarterly visual inspections of the baghouse interior for air leaks.

Mr. Murray noted that these inspections are in their Odyssey ERP system. While on site, as we examined and photographed the duct work leading to the baghouses, there appeared to be some wear and tear on the equipment (see photos 7 and 8 of Attachment 4).

Per 40 CFR §63.7740(c)(8), they are required to inspect fans for wear, material buildup, and corrosion through quarterly visual inspections, vibration detectors, or equivalent means.

Through a follow-up email, Mr. Murray stated inspections are made and are noted on a visual board. No photographic documentation was requested or taken for confirmation.

Per 40 CFR §63.7743©(1), they must maintain records of the times the bag leak detection system alarm sounded, and for each valid alarm, the time owner/operator initiate corrective action, the corrective action taken, and the date on which corrective action was completed.

While on site, we did not hear the BLDS alarm going off. I had requested the information regarding the system alarm sounding and received the documents July 9, 2021 and I will evaluate the content.

Per 40 CFR §63.7700(c), the facility is required to have records documenting compliance for scrap metal selection and inspection in removing mercury.

Mr. Murray provided the scrap selection, inspection, and purchase program for scrap metal at Sivyer Steel Corporation to ensure they minimize, as much as possible, the amount of organics and HAP metals in the charge materials used at SSC (Attachment 6). Mr. Murray also stated that the supplier does the inspections using said protocol, for certifying the scrap Sivyer Steel accepts. During the inspection, we did not request any purchase orders.

Per 40 CFR §63.7731, the facility is required to monitor equipment with stack tests.

During the opening conference I requested the stack tests and received them shortly after our virtual meeting via email. Attachment 7 contains the stack tests.

Per the Title V Compliance Assurance Monitoring (CAM) plan, for baghouse 3 and 4, the facility is required to maintain records of the maintenance performed on the baghouse. The records at a minimum shall indicate when filter bags are replaced and when inspections of the baghouse have been conducted.

I reviewed the operation and maintenance plan; the plan did not contain information about filter bag replacement or when baghouse inspections have occurred. I requested any records indicating this procedure being performed. Mr. Murrayd provided documentation by July 9, 2021 and it is under review.

Per the Title V CAM plan, for baghouse 3 and 4, operating limits for this emission unit shall be: Operate the baghouse according to manufacturer's specifications.

I have requested the information related to the baghouse manufacturer specifications. The documents were provided by July 9, 2021 and are under review.

Per Section IV of the Operating Permit, for baghouse 3 and 4, a CAM plan is required.

I have asked Mr. Murray to supply all documentation demonstrating the facility's compliance with the CAM plan specifically regarding the broken manometer on East Sly baghouse. The documentation was sent July 9, 2021 and is being evaluated.

Per Section IV of the Operating Permit, for Emission Point 15 and 16-Ceramic Coating of Molds: A. The amount of VOC containing detergent used in EU 23 and EU 24 shall not exceed 3400 gallons per rolling 12-month period. The VOC content of any detergent used in this unit shall not exceed 2.9 pounds per gallon.

In an email, Mr. Murray stated they use Kem-Flash Prime Metal Primer. After he reviewed the SDS documents, he do not find anything related to detergents. I have requested information on whether the facility has changed coating product that no longer requires detergents. This information was provided by July 9, 2021. I will evaluate the content.

Per Section IV of the Operating Permit, the facility must record the amount of detergent used in EU 23 and EU 24, in gallons, and calculate and record monthly rolling 12-month totals and record the VOC content of any detergent used, in pounds per gallon.
According to Mr. Murray, there are no detergents used in EU 23 and EU 24.

Per Section IV of the Operating Permit, for emission points 30 and 32 the facility is required to have an O&M plan.

We did not evaluate this requirement during the inspection.

Per Section IV of the Operating Permit, the Weekly Maintenance Procedures states: The facility will monitor the pressure drop across the baghouse on a weekly basis. If the baghouse is operating outside of 2-8" of water, the baghouse will be pulsed. If this does not return the pressure drop to the normal range within eight hours, the equipment will be inspected to determine the cause of the abnormal pressure readings. Corrective action will be initiated within eight hours to bring the baghouse back within normal operating parameters.
Visible emissions will be observed weekly to ensure no visible emissions during the operation of the arc furnaces. If visible emissions are observed, this would be an exceedance, not a violation and corrective action will be initiated as soon as possible but no later than eight hours. If weather conditions prevent the observer from conducting an opacity observation, this should be noted and a reading should be attempted the following day and each subsequent day until a reading is taken or there have been three consecutive unsuccessful attempts to take a reading.

While on site, the pressure reading for East Sly baghouse was not in range. The manometer was broken and through email correspondence, Mr. Murray said that it broke several weeks prior to our arrival. I requested the manual pressure readings log. I received the logs and they are being evaluated.

The baghouse will be pulsed monthly to ensure that the pulsing function is working properly.

I have requested the April-May 2021 data sheets on the pulsing functions for the facility. I received the report July 9, 2021 and will be evaluating the content.

Per Section IV of the Operating Permit, the hopper will be inspected monthly to ensure proper performance.

I requested April-May 2021 inspection logs of the hopper. I received documentation July 9, 2021 and will be evaluating the content.

Per Section IV of the Operating Permit, thoroughly inspect bags for leaks and wear quarterly. Look for obvious holes or tears in the bags.

I requested documentation for quarterly inspections. I received the documentation July 9, 2021 and I am reviewing the content.

Per Section IV of the Operating Permit, document any bag changes and the date of the change on a bag diagram shown on work orders quarterly.

I have requested bag changes and diagrams information. The documents were submitted by July 9, 2021 and are currently being evaluated.

As specified in Section IV of the Operating Permit, the facility shall inspect all

components not subject to wear or plugging such as the equipment housing, duct work and collection hoods semi-annually. If any defective equipment is noted, the equipment should be repaired or replaced promptly with action initiated within 8 hours of discovery.

The duct work outside showed visible emissions. Attachment 4, photos 1, 2, and 3 depict the hood and venting system at the furnace. Photos 8 and 9 depict the view of visible emissions I saw while on site.

I did not ask the facility for the records about the equipment housing, duct work, and collection hoods. We did not discuss this requirement on site.

Per Section IV of the Operating Permit, metal pouring shall only occur between the hours of 9:00 AM and 1:00 PM.

Mr. Murray stated that the facility's hours of operation are 5am-1pm. I requested the pour time logs which Mr. Murray submitted by July 9, 2021 and are currently being evaluated.

SUMMARY

The facility is operating without an up-to-date Title V permit.

The bag leak detection system, required under Subpart 5E, was not operating at the time of the inspection. The alarm required for the bag leak detection system was also not operating. I am reviewing documentation pertaining to the bag leak detection system record keeping and reporting requirements. Mr. Murray stated that the facility could not afford to fix the problem the facility is experiencing.

Emissions from EAFs were observed exiting ductwork at exterior locations but prior to the baghouses themselves.

The manometer of one baghouse, identified as "East Sly" (Emission Point 3), was at the gauge's maximum measurable pressure drop of 15 psi. The maximum pressure drop for compliance purposes is between 2psi and 8 psi. Sivyer representatives stated they were aware of the issue, described it as a faulty manometer, and stated it was scheduled for replacement. Mr. Bowman informed us that Sivyer Steel personnel perform a daily manual check on the pressure reading.

I am evaluating documentation of operation and maintenance activities which I received July 9, 2021.

AVERY BOWERS

Digitally signed by AVERY BOWERS
Date: 2021.08.05 05:08:39 -05'00'

Avery S Bowers
Environmental Scientist
Date:

Tracey Casburn
Air Branch Chief
Enforcement and Compliance Assurance Division

ATTACHMENTS:

1. Sivyer Steel Title V Permit (88 pages)
2. Email Correspondence with State Department (2 pages)
3. Sivyer Steel Photo log
4. Sivyer Steel Photographs (11 page)
5. Sivyer Steel Operation and Maintenance Plans (13 pages)
6. Scrap Metal Inspection Form/Requirements (7 pages)
7. All Stack Test Documents (229 pages)