COMPLIANCE EVALUATION INSPECTION REPORT
U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION 5

Purpose: Compliance Evaluation Inspection

Facility:
North Star BlueScope Steel
9627 US 20A
Delta, Ohio 43515
Fulton County
41.56517, -84.03754
FRS ID: 110016755304

NPDES Permit Number: OH0122386

Dates of Inspection: December 16, 2024 – December 17, 2024

EPA Representatives:
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State Representatives: None

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Brandon Veler, Pulpit Operator

Chuck Lyon, Operation and Maintenance I

Brandon Cotterman, Site Manager

Report Prepared by: Joan Rogers

Inspector Signature/Date: JOAN ROGERS Digitally signed by JOAN ROGERS Date: 2025.01.22 10:25:07 -06'00'

Approver Name and Title: Ryan Bahr, Supervisor, Section 2, WECAB

Approver Signature/Date: Ryan Bahr Digitally signed by Ryan Bahr Date: 2025.01.22 13:47:34 -06'00'

1. BACKGROUND

The purpose of this report is to describe and document the inspection at the North Star BlueScope Steel facility on December 16-17, 2024. This inspection was performed pursuant to Section 308(a) of the Federal Water Pollution Control Act, as amended.

The North Star BlueScope Steel facility (North Star or Facility) is an electric arc furnace steel facility in Delta, Ohio. The Facility was built in 1995 and is owned by the BlueScope Company which is based in Melbourne, Australia.

The Facility operates under NPDES Permit No. OH0122386 which was issued on February 1, 2024, and expires on January 31, 2029.

According to the Permit, the Facility has four permitted external outfalls (001, 002, 003, 004) and one permitted internal outfall (601). The facility also conducts mercury monitoring at influent monitoring location 600. Outfall 001 is the only process wastewater outfall, and it discharges to the Maumee River. Outfalls 002, 003, and 004 are stormwater outfalls which discharge to Bad Creek. The Maumee River is impaired for pathogens in the location of Outfall 001.

The inspection on December 16-17, 2024, was an inspection to determine compliance with portions of the NPDES Permit and observe the outfalls. EPA last inspected the Facility in March 2022 and Ohio EPA (OEPA) last inspected the Facility in February 2022.

2. SITE INSPECTION

Site Entry and Opening Conference

Arrival Time:	1:38 P.M.
Presented credentials?	Yes.
Credentials presented to whom and at what time?	1:42 P.M to Mr. Metzger, Ms. Murrey, and Mr. Schenk.
Was an opening conference held? With whom?	Yes, with Mr. Metzger, Ms. Murrey, and Mr. Schenk.

If photographs or documents were taken, does the facility consider any to be Confidential Business Information (CBI)?	No.
Which information does the facility consider to be CBI?	None.
Is the EPA vehicle parked in approved location?	Yes.
Location where EPA vehicle was parked?	By the Administration Building.
Cybersecurity Questions Asked?	Yes

EPA inspectors, Ms. Joan Rogers and Mr. Joe Forth arrived at the Facility at 1:38 P.M. and were shown into a conference room. Credentials were presented at 1:42 P.M. and Ms. Rogers gave an opening conference. The inspection was announced to the Facility on December 11, 2024, and in an email to Mr. Metzger, Ms. Rogers requested to have some documents ready for review.

The discussion began with an overview of the steel making equipment and processes at the Facility. At North Star BlueScope, there are two EAF lines. The older Classic line utilizes two electric arc furnaces (EAF) to take scrap metals and turn them into molten steel. The newer, Aristotle line has one EAF.

In the Classic side of the Facility, one of the EAFs is a twin shell and the other is a single shell. Non-contact cooling water is used to cool the shell of the EAF. After cooling the shell, the water is cooled in cooling towers and reused. Although it is a closed loop system, there is blowdown from this system which goes to the Hot Mill Scale Pit and then to the Hot Mill Water Treatment Plant. The Hot Mill Scale Pit holds four million gallons. Additionally, water is used to cool the electrodes and the off gas. The water evaporates during these processes. The Hot Mill Water Treatment Plant utilizes sand filters and “fuzzy” filters. Fuzzy filters absorb pollutants from the water.

The molten steel is dropped into a caster mold. Non-contact cooling water is used to cool the caster mold and blowdown from this closed loop system goes to the Hot Mill Scale Pit and then to the Hot Mill Water Treatment Plant. Additionally, water is sprayed on the slab to cool it. That water is contact water and goes to the Caster Scale Pit before going to the Caster Water Treatment Plant. The Caster Scale Pit is smaller than the Hot Mill Scale Pit but functions the same. The Caster Water Treatment Plant consists of sand filters but is then sent to a reverse osmosis system (RO) so the water can be treated for reuse in the Facility.

The slab of steel then is moved to a tunnel furnace to keep the temperature of the slab at a workable temperature before moving to the Roughing Mill. In the Roughing Mill, the slab is rolled thinner, and scale is removed by water sprayed on the slab. The contact water falls into a flume in the floor and flows to the Caster Scale Pit before going to the Caster Water Treatment Plant.

The steel continues down the process line to the Finishing Mill where is compressed and thinned to the final thickness. Contact water on the steel falls into the flume and then to the

Caster Scale Pit before going to the Caster Water Treatment Plant. Water is also used to cool the rollers at the Roughing Mill and Finishing Mill and that water also drops to the flume.

The third treatment plant is called the Final Water Treatment Plant. In this plant, there is a clarifier, sludge dewatering, aeration, ultra filtration, and plate filter presses. The ultra filtration (UF) system was not functioning on the day of the inspection and the Facility has been using a Lamella Clarifier in its place while the UF filters are replaced.

The Facility runs 24/7 and produces approximately 4 million tons of steel per year. Every three weeks, the facility shuts down for cleaning and rollers and stands are changed out twice per year, in the fall and spring.

On the Aristotle side of the Facility, there is one EAF and after the steel is dropped into the caster, it is shuttled to the Classic side for finishing. The only water on this side of the Facility is from the non-contact cooling water for the casting process and that water is managed the same as in the Classic side of the Facility.

An independent lab, Jones & Henry, pulls all the samples. Sample analysis takes approximately two to three weeks from the Jones & Henry Lab, but Nalco personnel will analyze the pH immediately.

The Facility recently requested permission from OEPA for two treatment additives. One was to try to identify a leak in the system, but ultimately, was never used because it was determined that there was no leak. The other was for a biocide which contained bromine. OEPA wanted the Facility to modify the permit to use this biocide. The Facility decided not to use it.

EPA inspectors then observed sample results and chain of custody forms for samples taken at Outfall 001 and Outfall 601. EPA did not observe any deficiencies in the forms.

EPA inspectors observed the 2023 Low-level Mercury Report. To reduce mercury, the Facility has requested that the mercury auto switches are removed from cars before the cars become scrap metal for the EAFs. This has greatly reduced the mercury in the wastewater. Additionally, another source of mercury was brine used to soften influent water. The Facility removed this source in January 2023.

Mr. Metzger brought up Google Earth imagery to show the signage at Outfalls 001 and 601. Both outfalls are located at the Final Water Treatment Plant. The wastewater discharge from Outfall 001 enters a closed pipe on the Facility and travels in the closed pipe many miles south to a lift station maintained by Fulton County and then to the Maumee River. Wastewater from Worthington Industries combines with the wastewater from North Star before it flows to the Maumee River. The signage at the Maumee River lists both companies.

Ms. Rogers asked about the waterway that is listed in the Permit as the receiving body, Creager Cemetery-Maumee River. Mr. Metzger stated that he didn't know what Creager Cemetery was and confirmed that the water flows via pipe directly to the Maumee River. Ms. Rogers investigated this after the inspection and Creager Cemetery-Maumee River is the name of the

12-digit Hydrologic Unit Code 041000090207 for that section of the Maumee River. Creager Cemetery is not a receiving body of water.

The discussion turned to the effluent violations that the Facility had since 2021. In the last quarter of 2022 and first quarter of 2023, there were three phosphorus violations. Mr. Metzger gave Ms. Rogers a copy of the letter sent to OEPA for the October 2022 phosphorus exceedance. The Facility claimed that the cause of the exceedance was due to high turbidity at the clarifier caused by an expired polymer, which caused excess scaling in the UF unit which in turn led to reduced flow rate through the UF. The Facility reduced their use of phosphorus removing coagulant to avoid plugging of the UF. Additionally, the Facility found that the composite sampling jugs for Outfall 001 had not been cleaned for several weeks and there was a phosphorus containing residue in the jugs. The Facility resolved the violation by replacing the expired polymer and increased its coagulant feed rate to remove phosphorus from the effluent. Additionally, the composite sampling jugs were properly washed and implemented a periodic cleaning regiment for them.

There was still an exceedance for November 2022, but the level of the exceedance was less than in October. For the December 2022, phosphorus exceedance, Mr. Metzger gave Ms. Rogers a copy of the letter to OEPA that contributed the exceedance to the UF/RO system not recycling water back into the process and a high amount of RO reject water being sent to the wastewater treatment plant and then to Outfall 001. The Facility repaired the system and believed the violation has been resolved.

Mr. Metzger stated that there was high inorganic phosphorus in the city water and then with the addition of their own phosphorus, they exceeded the effluent limit three times. The Facility rectified this by coordinating with the City of Toledo and lowering the Facility's level of phosphorus in their wastestream.

In January 2024, the Facility had a zinc exceedance. After an investigation, facility personnel determined there was too much overfeeding of anti-corrosion chemical in one station.

Lastly, there was a pH exceedance in June 2024. The cause of this was determined to be a malfunctioning probe. The probe was changed.

Mr. Metzger brought up requested documents on his computer and EPA observed them on a screen in the conference room. They included DMRs, Biomonitoring data, 2021 Spill Prevention, Control, and Countermeasure (SPCC) Plan, and the 2022 Stormwater Pollution Prevention Plan (SWPPP). EPA inspector Ms. Rogers requested a digital copy of the SWPPP be sent via email.

When asked about salt storage on site, Mr. Metzger stated that the Facility has no salt storage. Ms. Rogers asked about stormwater training and Mr. Metzger stated that the Facility has safety and stormwater training modules that all staff must complete. The last stormwater training was in July 2024.

Ms. Rogers then turned the discussion to the required stormwater Annual Inspections and Quarterly Visual Inspections. Outfall 004 is the stormwater outfall for the scrap yard. Outfall

003 is the stormwater outfall for the parking and alloys area and Outfall 002 is the stormwater outfall for the rest of the Facility.

All the stormwater outfalls flow to Bad Creek, but the stormwater that flows to Outfall 002 flows to a pond first. The pond is called the 100-year Pond.

Mr. Metzger brought up the Outfall 002, 003, and 004 Quarterly Visual Inspections from November 14, 2024, on the conference screen. EPA inspectors observed that the Facility stormwater Quarterly Inspection Checklist was filled out completely and Mr. Metzger also had photos taken during the visual inspections. EPA also saw the 2022 and 2023 Stormwater Annual Reports, required by the Permit. The annual reports had the documentation from the Quarterly Visual Inspections performed on 3/3/22, 6/30/22, 8/29/22, 12/30/22, 3/3/23, 6/13/23, 8/17/23, and 12/27/23.

Mr. Metzger also showed EPA the Outfall 002, 003, and 004 benchmark analysis for zinc and aluminum collected on July 10, 2024. The zinc levels were non-detect, but the aluminum levels were higher than the benchmark level of 750 mg/L. The levels of aluminum were over 10,000 mg/L on most of the samples. Mr. Metzger has begun a project to lower the aluminum levels in the stormwater by placing polymer logs in the stormwater pathways before the 100-Year Pond. The polymer in the polymer logs will hopefully help precipitate out the aluminum into the 100-Year Pond so the levels will be lower at Outfall 002. This project only started the previous Thursday.

At 4:15 P.M. EPA inspectors concluded the first day of the inspection and agreed to meet at the Facility at 8:30 A.M. on 12/17/24 for the Facility Walkthrough.

Facility Walkthrough

See Attachment A for the photolog of the photos taken during the facility walkthrough.

EPA arrived at 8:30 A.M. and met Mr. Metzger for the Facility Walkthrough. We began the observations at the scrap yard on the Aristotle Side. On the walk to the scrap yard, EPA observed a storm drain in the ground. There was a pile of waste production material near the storm drain. Mr. Metzger stated that the storm drains allow stormwater to go to Bad Creek. There were no control measures around the storm drain to prevent any pollutants from entering the storm drain. When asked why there weren't control measures, Mr. Metzger stated that any BMPs around the storm drains would be run over by trucks.

Next, the inspection team walked south to the Classic Side scrap yard. EPA observed the storm drains and a lot of dust on the ground everywhere we walked.

The inspection team then walked to the Control Room for the EAFs and observed the electrodes introduced into one of the EAFs. EPA discussed the EAF operations with Mr. Rex McClanahan, retired Melt Shop Operation Manager, and Mr. Brandon Veler, Pulpit Operator. Mr. McClanahan explained that the only process wastewater was the blowdown from the shell cooling system. Each EAF takes 400,000 pounds of scrap metal and the electrodes are

lifted out of an EAF after the “heat”, the electric arc steelmaking process, and moved over to the other EAF. It is approximately 40 minutes from tap to tap and there are 40-50 heats per day. The Facility runs 24 hours per day and seven days per week.

After leaving the Control Room, EPA observed the casting process with water sprayed on the slab. The water fell to a flume in the floor and flowed to a scale pit. The hot slab of steel then moved down the line to a tunnel furnace. No water is used in the tunnel furnace. The slab then is moved to the first part of the finishing, the Roughing Mill. Two stands use rollers to thin the slab. Water is sprayed on the rollers to keep them cool. That water falls to the flume in the floor before flowing to the scale pit. Another tunnel furnace after the Roughing Mill helps to keep the slab from cooling too much before moving to the Finishing Mill. There are six stands at the Finishing Mill and water is used to spray the rollers to cool them. The water falls to the flume, and then to the scale pit.

The steel is then cooled with a laminar cooling system. The water in the laminar cooling system also falls to the flume and flows to the scale pit. Finally, the steel is rolled into coils on one of two down coilers, which alternate usage.

Backup power for the steel mill would come from diesel generators. Mr. Metzger stated that the generators are tested monthly and are tested under load once per year.

The EPA inspectors followed Mr. Metzger out of the steel making building and to the Hot Strip Mill Scale Pit. EPA observed the main inlet to the scale pit, which came from the laminar cooling water. The scale settles out of the wastewater in the scale pit and is then clam-shelled out of the pit and stacked on a pad next to the pit. Leachate from the scale flows back into the scale pit through holes below the stacked scale. After drying, the scale is sold. Rope skimmers remove oil from the water and collected in oil drums. There are four pumps in the Hot Strip Mill Scale Pit to pump the water to the Hot Strip Mill Treatment Building.

In the Hot Strip Mill Treatment Building, EPA observed the sixteen 16’ wide sand filters and four fuzzy filters that are used to filter the water before it is pumped to the cooling towers. The sand filters and fuzzy filters are all used simultaneously. After cooling in the cooling towers, the water flows to the Final Water Treatment Plant where there is an EQ Pit, and then a lamella clarifier. Water that is not recycled is aerated and then flows to the Maumee River. If water is to be reused, after the clarifier, it would flow through an Ultrafiltration Unit. Since the UF is offline for repairs, the Facility is currently not reusing any water.

The sand filters and fuzzy filters are backwashed with water from the cooling towers and the backwashed water is sent to the Final Water Treatment Plant.

EPA inspectors then observed the location of the taps for the grab samples and the composite samplers for Outfalls 001 and 601. The thermometers in the refrigerators are replaced every year and are good until March 2025. The samplers begin pulling aliquots on Sunday mornings and the samples are removed on Monday mornings at 9:00 A.M. Ms. Rogers noted that the temperature of the refrigerator for Outfall 601 was 1.3℃, but the

temperature of the refrigerator for Outfall 001 was 14.6℃. Mr. Chuck Lyon, Operation and Maintenance I, and Brandon Cotterman, Site Manager, had not noticed that the temperature of the Outfall 001 composite sampler was not cool enough and said that they would investigate it. While EPA was still on site, Mr. Cotterman notified Mr. Metzger that the thermometer receptacle was tripped, and he was able to fix it. He sent a photo to Mr. Metzger showing that the temperature of the refrigerator was now below 2℃.

The EPA inspection team then walked to the Caster Water Treatment Plant Building. The Caster Water Treatment Plant utilizes sand filters to filter the water before the water is cooled in cooling towers. Also in the Caster Water Treatment Building is the Reverse Osmosis (RO) System. The Facility uses RO to help precipitate out solids from the City of Toledo water.

Outside the Caster Water Treatment Building, EPA inspectors observed the Caster Scale Pit I. This scale pit functions like the Hot Strip Mill Scale Pit, although it is smaller. This scale pit utilizes a belt skimmer for oil removal and there are two pumps to pump the water to the Caster Water Treatment Plant. Leachate from the stacked scale flows back into the scale pit.

On the Aristotle side of the Facility, there is another small, scale pit, the Aristotle Scale Pit which is like Caster Scale Pit I. Two pumps pump the wastewater to the Caster Water Treatment Plant.

At 11:40 A.M. the inspection team began the inspection of the outfalls starting with Outfall 004. EPA inspectors observed silt and slag sediment in the ditch before the outfall, but the outfall water was clear on the day of the inspection.

EPA inspectors next observed the 100-Year Pond. Mr. Metzger stated that the pond is only 10-12 inches deep and covers 4 acres. The water in the pond appeared clear on the day of the inspection. At a concrete culvert, there was a blue object in the water. Mr. Metzger stated that it was one of the polymer logs. This is the furthest downstream that any of the logs were placed.

The overflow from the 100-Year Pond flows to Outfall 002. At Outfall 002, EPA inspectors observed that the water was slightly murky but there was no oil sheen. At Outfall 003, the last outfall observed, the water was clear.

EPA ended the facility walkthrough at 12:30 P.M. and went back to the conference room in the Administration Building. In the conference room, EPA discussed the cybersecurity questions with Mr. Ossmann and Mr. Gust.

EPA provided a closing conference with Mr. Metzger, Ms. Murrey, and Mr. Schenk. During the closing conference, Ms. Rogers outlined the process for receiving the inspection report and expressed this preliminary area of concern:

1. The level of aluminum in the stormwater is significantly higher than the benchmark limits.

EPA exited the facility at 1:15 P.M.

3. DOCUMENTS RECEIVED FROM FACILITY

- December 5, 2022, letter from North Star BlueScope to OEPA regarding the October 2022 Phosphorus Exceedance.
- February 8, 2023, letter from North Star BlueScope to OEPA regarding the December 2022 Phosphorus Exceedance.
- Master Overall Site Plan.
- Process Train Diagram.
- Current Stormwater Pollution Prevention Plan – Revised April 2022.
- Draft Stormwater Pollution Prevention Plan – Revised September 2024, but not completely signed.

4. AREAS OF CONCERN

a. The Permit lists an incorrect body of water as the receiving waterway for the effluent from the Facility. The Permit lists Creager Cemetery-Maumee River, but it should be the Maumee River.
b. The level of aluminum in the stormwater was significantly over the benchmark limit set by Part I.A.2. through Part I.A.4. of the Permit.
c. There are no control measures around the storm water inlets to minimize pollutant discharges as required by Part IV.A. through Part IV.C. of the Permit. There were dust and piles of process materials that could be transported with precipitation to the storm water inlets.
d. Good Housekeeping, as required by Part IV.C.2. of the Permit was not being maintained. The dust from the steelmaking process coated the ground and surfaces.
e. Neither of the electronic versions of the SWPPP were signed as required by Part IV.H.1. of the Permit.
f. The SWPPP does not identify the EAF as a Potential Pollutant Source as required by Part IV.H.3. of the Permit. The SWPPP lists the Baghouse as a Potential Pollutant Source for fugitive dust, but also points out that the EAFs generate the dust and the dust can leave the EAF Building as evidenced during the EPA inspection.
g. Part IV.C.H.3.b. of the Permit states that the Facility must list all the pollutants that have been handled, treated, stored, or disposed, and that have been exposed to stormwater in the three years prior to the date the SWPPP was prepared. But the SWPPP does not associate the aluminum that has been detected during benchmark sampling with any source.
h. Part IV.K.1. of the Permit requires Sector-Specific Requirements for Sector F. Primary Metals. In this section, the Permit requires a cleaning and maintenance program for all impervious areas of the facility where particulate matter, dust, or debris may accumulate, especially areas where material loading and unloading, storage, handling, and processing occur; and, where practicable, the paving of areas where vehicle traffic or material storage occur but where vegetative or other stabilization

methods are not practicable (institute a sweeping program in these areas too). The Facility's SWPPP does not list any cleaning or maintenance program for the dust, only that the dust is suppressed with a suppressant.

5. LIST OF ATTACHMENTS

A. Photolog