ROY COOPER
Governor
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Secretary

NORTH CAROLINA
Environmental Quality

September 23, 2021

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

IMMEDIATE ACTION
NOTICE OF VIOLATION
Docket # 2021-073

Mr. Timothy R. Basilone
Vice President – Environmental Affairs
American Zinc Products, LLC
484 Hicks Grove Road
Mooresboro, North Carolina 28114-8268

SUBJECT: Immediate Action Notice of Violation (IANOV)
Notice of Intent to Enforce
American Zinc Products, LLC
484 Hicks Grove Road
Mooresboro, North Carolina 28114
Rutherford County
EPA ID NCR000159038

Dear Mr. Basilone,

On December 18, 1980, the State of North Carolina, Hazardous Waste Section (Section) was authorized to operate the State Resource Conservation and Recovery Act (RCRA) Hazardous Waste Program under the Solid Waste Management Act (Act), N.C.G.S. 130A, Article 9 and rules promulgated thereto at 15A NCAC 13A (Rules), in lieu of the Federal RCRA program.

On July 29, 2021, American Zinc Products, LLC (AZP) notified the National Spill Response Center and the Section, to report that a release of sulfuric acid (Raffinate Solution) had been released from the facility's Raffinate Pond into the ground below the pond and that the cause and the extent of the release was yet to be determined. AZP then provided more information to this office and the U.S. Environmental Protection Agency detailing the circumstances which lead to the discovery of the release. AZP's reporting of the incident indicates that a breach in the Raffinate Pond's lower liner was suspected to be the pathway for Raffinate Solution to be released below the pond's lowest liner to the sand and clay substrate below. Samples taken below the liner identified elevated lead, cadmium and zinc concentrations as well as low pH soils, which are indicative of a release of the Raffinate Solution.

On July 30, 2021 Mr. Jeff Menzel, Environmental Specialist II, with the Section, and personnel with Division of Water Resources conducted a site visit to inspect the Raffinate Pond and to conduct field screening of surface water from an off-site spring located several hundred feet from the Raffinate Pond. During the visit, DWR personnel collected field screening data from two locations of the upper section of the spring fed branch, which revealed a pH reading of 4.5-4.6 standard units suggesting a potential off-site impact to the spring.

Statement of Facts Related to the Compliance Inspection

According to reporting by AZP, during the week of July 25, 2021, the plant initiated a program to replace the liners within the Raffinate Pond, which is one of four interconnected ponds located on the west side of the facility. AZP contracted the consulting firm, EnSafe, Inc., to investigate and sample the area beneath the liner system to determine whether there had been a release from the pond. On July 28, 2021, EnSafe, Inc. personnel collected soil samples from borings at two locations under the pond liner. Soil samples were taken from each boring at intervals from 6-inches to 3-feet in depth.

On August 4, 2021, AZP submitted analytical results from samples collected on July 28, 2021 from under the Raffinate Pond liners and documents outlining the composition of Raffinate Solution. EnSafe, Inc. personnel collected soil samples from borings at two locations under the pond liner. Results of the independent laboratory soil analysis showed low pH values and elevated metals concentration, which indicates that a release of Raffinate Solution from the pond to underlying soils has occurred. A total of eight soil samples and one liquid sample were collected from the two borings. On August 10, 2021 AZP submitted a West Ponds Investigation SAP report, which further described the sample locations, provided details of the July 28, 2021 pond sampling and included proposed surface water sampling.

The report explains that liquid was encountered at approximately 15-inches below surface and a sample of the liquid was collected and identified with lab sample ID: HA1. The liquid sample data showed elevated levels of lead (20mg/l), cadmium (240 mg/l) selenium (1.2 mg/l), and a low pH reading (1.1 standard units), indicating that D008 (lead), D006 (cadmium), D010 (selenium) and D002 (corrosive) characteristic hazardous waste was present below the pond liner. In addition, analytical results for the remaining eight soil boring samples showed that lead and/or cadmium were present in concentrations (reported in mg/kg) that could fail a RCRA TCLP analysis (Rule of 20).

The Raffinate Pond is used for the accumulation and storage of an aqueous zinc Raffinate Solution used in the facility's hydrometallurgical (solvent extraction) process in which zinc is recovered from Waelz Oxide (WOX) received from various other AZR facilities. WOX is generated from the treatment of electric arc furnace (EAF) dust, which is a K061 listed hazardous waste. Zinc Raffinate contains water, zinc, chloride, sulfate, trace SX organic, sulfuric acid, and various metals. During the solvent extraction process, zinc content decreases in the solution and the sulfuric acid content increases. Based on a technical data sheet provided by AZP, Raffinate Solution typically has a pH of less than 1 standard unit.

The Section concludes that regulated hazardous waste has been generated from within the Raffinate Pond, has been disposed through the release of hazardous waste into the environment, and is therefore subject to the closure standards as a RCRA hazardous waste surface impoundment per 40 CFR Part 264, Subpart K. AZP has historically contended that the Raffinate Pond, along with other on-site surface impoundments holding hazardous secondary materials, are manufacturing process units. However, 40 CFR 261.4(c) specifically excludes surface impoundments from the definition of a Manufacturing Process Unit (MPU).

Statutory and Regulatory Background

A. 40 CFR 261.1(a), adopted by reference at 15A NCAC 13A .0106(a), identifies those solid wastes which are subject to regulation as hazardous wastes under parts 262 through 265, 268, and parts 270, 271, and 124 of this Chapter and which are subject to the notification requirements of Section 3010 of RCRA.

B. 40 CFR 261.2(b), adopted by reference at 15A NCAC 13A .0106(a), states that materials are solid waste if they are abandoned by being [1] disposed of; or [2] burned or incinerated; or [3] accumulated, stored, or treated (but not recycled) before or in lieu of being abandoned by being disposed of, burned, or incinerated.

C. 40 CFR 261.3(a), adopted by reference at 15A NCAC 13A .0106(a), states that a solid waste, as defined in Section 261.2 is a hazardous waste if:

1. It is not excluded from regulation as a hazardous waste under Section 261.4(b); and

2. It meets any of the following criteria:

   i. It exhibits any of the characteristics of hazardous waste identified in Subpart C.

   ii. It is listed in Subpart D and has not been excluded from the lists in Subpart D under Sections 260.20, and 260.22 of this chapter.

   iii. It is a mixture of solid waste and hazardous waste that is listed in Subpart D solely because it exhibits one or more of the characteristics of hazardous waste identified in Subpart C, unless the resultant mixture no longer exhibits any characteristic of hazardous waste identified in Subpart C.

   iv. It is a mixture of solid waste and one or more hazardous wastes listed in Subpart D and has not been excluded from this paragraph under Sections 260.20 and 260.22 of this chapter.

D. NCGS 130A-290(6), defines "Disposal" as the discharge, deposit, injection, dumping, spilling, leaking or placing of any solid waste into or on any land or water so that the solid waste or any constituent part of the solid waste may enter the environment or be emitted into the air or

discharged into any waters, including groundwater.

E. 40 CFR 124.2, adopted by reference at 15A NCAC 13A .0105(a) defines "Owner" or "Operator" as the owner or operator of any "facility or activity" subject to regulation under the RCRA program.

F. NCGS 130A-290(22), defines "Person" as an individual, corporation, company, association, partnership, unit of local government, State agency, federal agency or other legal entity.

G. NCGS 130A-290(41), defines "Storage" as the containment of solid waste, either on a temporary basis or for a period of years, in a manner which does not constitute disposal.

H. NCGS 130A-290(42), defines "Treatment" as means any method, technique or process, including neutralization, designed to change the physical, chemical or biological character or composition of any hazardous waste so as to neutralize such waste or so as to render such waste non-hazardous, safer for transport, amenable for recovery, amenable for storage or reduced in volume. "Treatment" includes any activity or processing designed to change the physical form or chemical composition of hazardous waste so as to render it non-hazardous.

I. 40 CFR 260.10, adopted by reference in 15A NCAC .0102(b), defines a "Generator" as "any person, by site, whose act or process produces hazardous waste identified or listed in part 261 or whose act first causes a hazardous waste to become subject to regulation."

Violations Requiring Immediate Action

It is the determination of the Section that the generation and accumulation of hazardous waste within surface impoundments, and the subsequent release of that D002, D006, D008, D010 and K061 hazardous waste to the environment from the Raffinate Pond, constitutes the improper management of hazardous waste subject to all applicable requirements of 40 CFR Part 261 through Part 279, incorporated by reference in 15A NCAC 13A .0106 through .0119.

A. **15A NCAC 13A .0109(a).** Pursuant to NC administrative code, any person who treats, stores, or disposes of hazardous waste shall comply with the requirements set forth in this section. The treatment, storage or disposal of hazardous waste is prohibited except as provided in 40 CFR Part 264, adopted by reference in 15A NCAC 13A .0109.

   American Zinc Products is in violation of this NC administrative code in that D002, D006, D008, D010 and K061 hazardous waste has been disposed without complying with the requirement to obtain a hazardous waste permit set forth in 40 CFR Part 264, adopted by reference in 15A NCAC 13A .0109.

B. **40 CFR 261.2(b)(1), adopted by reference at 15A NCAC 13A .0106.** Pursuant to this regulation, (b) Materials are solid waste if they are abandoned by being: (1) Disposed of

AZP is in violation of this regulation in that hazardous secondary materials, used for the facility's hydrometallurgical (solvent extraction) process, are being, or have been, accumulated within surface impoundments. The placement of hazardous secondary materials within surface impoundments, and the subsequent release to the environment from the Raffinate Pond, constitutes the disposal of a solid waste; subsequently determined to be a D002, D006, D008, D010 and K061 hazardous waste

C. **40 CFR 261.4(c), adopted by reference at 15A NCAC 13A .0106.** Pursuant to this regulation, hazardous wastes which are exempted from certain regulations. A hazardous waste which is generated in a product or raw material storage tank, a product or raw material transport vehicle or vessel, a product or raw material pipeline, or in a manufacturing process unit or an associated non-waste-treatment-manufacturing unit, is not subject to regulation under parts 262 through 265, 268, 270, 271 and 124 of this chapter or to the notification requirements of section 3010 of RCRA until it exits the unit in which it was generated, unless the unit is a surface impoundment, or unless the hazardous waste remains in the unit more than 90 days after the unit ceases to be operated for manufacturing, or for storage or transportation of product or raw materials.

AZP is in violation of this regulation in that hazardous waste sediments are continually generated from the accumulation of Raffinate Solution within the Raffinate Pond and the sediments have been periodically cleaned out of the pond and disposed as a hazardous waste. In addition, D002, D006, D008, D010 and K061 hazardous waste hazardous waste was generated from within the Raffinate Pond and was disposed through a release into the environment. The Raffinate Pond is a surface impoundment and when hazardous waste is generated within the unit, the unit becomes subject to regulation as a RCRA surface impoundment. Any other surface impoundment where hazardous waste is continually generated within the unit, removed and disposed as a hazardous waste, or in which a release of hazardous waste is discovered, is also subject to regulation as a RCRA surface impoundment.

D. **40 CFR 262.17, adopted by reference at 15A NCAC 13A .0107.** Pursuant to this regulation, a large quantity generator may accumulate hazardous waste on site without a permit or interim status, and without complying with the requirements of parts 124, 264 through 267, and 270 of this chapter, or the notification requirements of section 3010 of RCRA, provided that all of the conditions in 262.17 for exemption are met.

AZP is in violation of this regulation in that the facility has generated and/or accumulated D002, D006, D008, D010 and K061 hazardous waste from within the facility's Raffinate Pond. AZP operates as a large quantity generator of hazardous waste and surface impoundments are not an allowable unit for the accumulation of hazardous waste by a large generator and the Raffinate Pond is not a manufacturing process unit. Allowable units for large quantity generators to accumulate hazardous waste, and remain exempt from permit requirements, are containers, tanks, drip pads and containment buildings. Therefore, the Raffinate Pond is not subject to generator closure requirements in 40 CFR Part 262, but is subject to surface impoundment closure requirements in 40 CFR Part 264.

E. **40 CFR 262.17(a)(9), adopted by reference at 15A NCAC 13A .0107.** Pursuant to this regulation, a large quantity generator may accumulate hazardous waste on site without a permit or interim status, and without complying with the requirements of parts 124, 264 through 267, and 270 of this chapter, or the notification requirements of section 3010 of RCRA, provided that all of the following conditions for exemption are met: (a) Accumulation. A large quantity generator accumulates hazardous waste on site for no more than 90 days, unless in compliance with the accumulation time limit extension or F006 accumulation conditions for exemption in paragraphs (b) through (e) of this section. The following accumulation conditions also apply: (9) Land disposal restrictions. The large quantity generator complies with all applicable requirements under 40 CFR Part 268.

AZP is in violation of this regulation in that D002, D006, D008, D010 and K061 hazardous waste from the Raffinate Pond were generated and land disposed, through the release of hazardous waste into the environment, without complying with the land disposal restrictions in 40 CFR Part 268. In addition, any other surface impoundment in which a release of hazardous secondary material/hazardous waste is discovered are also be subject to applicable land disposal restriction regulations.

F. **40 CFR 270.10(a)(3), adopted by reference at 15A NCAC 13A .0113.** Pursuant to this regulation, if you are required to have a permit (including new applicants and permittees with expiring permits), you must complete, sign, and submit an application to the Director, as described in this section and §§270.70 through 270.73.

AZP is in violation of this regulation in that the facility failed to complete and submit a RCRA permit application for the on-site disposal of hazardous waste.

G. **40 CFR 264.31, adopted by reference at 15A NCAC 13A .0109.** Pursuant to this regulation, facilities must be designed, constructed, maintained, and operated to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water which could threaten human health or the environment.

AZP is in violation of this regulation in that D002, D006, D008, D010 and K061 hazardous waste has been released to the environment from the Raffinate Pond. The surface impoundment has not been designed, constructed, maintained, and/or operated to minimize the possibility of an unplanned sudden or non-sudden release of hazardous waste.

H. **40 CFR 264.228, adopted by reference at 15A NCAC 13A .0109.** Pursuant to this regulation, (a) at closure, the owner or operator must: (1) Remove or decontaminate all waste residues, contaminated containment system components (liners, etc.), contaminated subsoils, and structures and equipment contaminated with waste and leachate, and manage them as hazardous waste unless § 261.3(d) of this chapter applies; or (2)(i) Eliminate free liquids by removing liquid wastes or solidifying the remaining wastes and waste residues; (ii) Stabilize remaining wastes to a bearing capacity sufficient to support final cover; and (iii) Cover

the surface impoundment with a final cover designed and constructed to: (A) Provide long-term minimization of the migration of liquids through the closed impoundment; (B) Function with minimum maintenance; (C) Promote drainage and minimize erosion or abrasion of the final cover; (D) Accommodate settling and subsidence so that the cover's integrity is maintained; and (E) Have a permeability less than or equal to the permeability of any bottom liner system or natural subsoils present.

(b) If some waste residues or contaminated materials are left in place at final closure, the owner or operator must comply with all post-closure requirements contained in §§ 264.117 through 264.120, including maintenance and monitoring throughout the post- closure care period (specified in the permit under § 264.117). The owner or operator must: (1) Maintain the integrity and effectiveness of the final cover, including making repairs to the cap as necessary to correct the effects of settling, subsidence, erosion, or other events; (2) Maintain and monitor the leak detection system in accordance with §§ 264.221(c)(2)(iv) and (3) and 264.226(d), and comply with all other applicable leak detection system requirements of this part; (3) Maintain and monitor the ground-water monitoring system and comply with all other applicable requirements of subpart F of this part; and (4) Prevent run-on and run-off from eroding or otherwise damaging the final cover.

(c)(1) If an owner or operator plans to close a surface impoundment in accordance with paragraph (a)(1) of this section, and the impoundment does not comply with the liner requirements of § 264.221(a) and is not exempt from them in accordance with § 264.221(b), then: (i) The closure plan for the impoundment under § 264.112 must include both a plan for complying with paragraph (a)(1) of this section and a contingent plan for complying with paragraph (a)(2) of this section in case not all contaminated subsoils can be practicably removed at closure; and (ii) The owner or operator must prepare a contingent post-closure plan under § 264.118 for complying with paragraph (b) of this section in case not all contaminated subsoils can be practicably removed at closure. (2) The cost estimates calculated under §§ 264.142 and 264.144 for closure and post-closure care of an impoundment subject to this paragraph must include the cost of complying with the contingent closure plan and the contingent post-closure plan, but are not required to include the cost of expected closure under paragraph (a)(1) of this section.

AZP is in violation of this regulation in that D002, D006, D008, D010 and K061 hazardous waste has been released from the Raffinate Pond and the facility must remove all hazardous waste contaminated materials or must properly close the unit according to the surface impoundment requirements for closure/post-closure required by a RCRA permit. In addition, the facility must remove all hazardous waste contaminated materials from any other surface impoundment in which a release of hazardous waste is discovered.

Compliance Schedule

American Zinc Products, LLC shall comply with the following requirements:

1. American Zinc Products, LLC must remove all waste residues, contaminated containment system components (liners, etc.), contaminated subsoils, and structures and equipment contaminated with waste and leachate, and must perform a comprehensive assessment to determine the extent of contaminated soil and/or groundwater impacted by the Raffinate Pond release, and from other onsite ponds/surface impoundments where a release has occurred. This assessment must be supervised by a qualified professional. A hazardous waste determination must be completed on all soil excavated in the areas of concern. Contaminated soil must be properly managed and disposed. Disposal options will be determined by the results of the hazardous waste determination. All of the above must be completed within 90 days of receipt of this Notice. If all waste residues, contaminated containment system components (liners, etc.), contaminated subsoils, and structures and equipment contaminated with waste and leachate, cannot be removed the facility will be subject to additional requirements including closure plans, financial assurance for closure/post-closure, and groundwater monitoring as required by a RCRA permit.

2. American Zinc Products, LLC shall no longer dispose of hazardous waste without full compliance with NC Hazardous Waste Rules. The facility must only accumulate and manage hazardous waste in units available to hazardous waste generators and must only store hazardous secondary materials in a manner consistent with how valuable product materials are managed. The following items must be considered when removing contaminated materials.

    a. If the waste is placed in containers the generator must comply with 40 CFR Part 262.17 (a)(l), or if the waste is placed in tanks, the generator must comply with 40 CFR 262.17 (a)(2). No waste piles are allowed.

    b. The date upon which each period of accumulation begins must be clearly marked and visible for inspection on each container.

    c. While being accumulated on-site, each container and tank must be labeled or marked clearly with the words, "Hazardous Waste"; and

    d. Comply with the generator requirements in 40 CFR 262.16 or 40 CFR 262.17 as applicable to the facility's generator status.

Potential Consequences of Failure to Comply

You must comply with each requirement of this Immediate Action Notice of Violation (IANOV); however, compliance will not divest the Section of its authority to issue an administrative penalty for the violations cited in this IANOV. Be advised, in accordance with NCGS 130A-22(a), the penalty shall not exceed thirty-two thousand five hundred dollars ($32,500.00) per day in the case of a first violation. Each day of a continuing violation shall constitute a separate violation.

Pursuant to NCGS 130A-18, a violation of any provision of the Act or the Rules may also result in the Section initiating an action for injunctive relief. If an injunction is obtained, you will be subject to both the civil and criminal contempt powers of the North Carolina General Courts of Justice.

For questions regarding proper waste determination procedures or questions concerning the issuance of this IANOV, you may contact Jeff Menzel at Jeff.Menzel@ncdenr.gov or at (919) 270-1967.

Sincerely,

Julie Woosley, Deputy Director, Division of Waste Management

cc:
Central Files
EPA Region 4
Richard Concepcion
Sean Morris
Brent Burch
Rutherford County Emergency Management