State of California
Regional Water Quality Control Board
Santa Ana Region
February 14, 2025

Staff Report

Item: 11*

Subject: **Waste Discharge Requirements Order R8-2025-0013 for Pilot Scale In-Situ Remediation of Deep Vadose Zone and Groundwater at All Metals Processing of Orange County, 8401 Standustrial Street, Stanton, California**

Summary

The proposed individual waste discharge requirements (WDRs) and associated monitoring and reporting program (M&RP), established pursuant to Order No. R8-2025-0013, will authorize All Metals Processing of Orange County, Inc. (AMP) to conduct in-situ remediation of contaminants of concern, primarily hexavalent chromium (CrVI), volatile organic compounds (VOCs), and per- and polyfluoroalkyl substances (PFAS), that are present in the deep vadose zone and groundwater at the facility.

Background

The All Metals Processing facility is located at 8401 Standustrial Street in Stanton, California (Site). AMP has conducted manufacturing activities at the Site since 1980 and is still in operation. Manufacturing activities at the Site have included metal plating, anodizing, and metal part inspection services.

Investigations have revealed that discharges associated with the historical operations have impacted soil and groundwater beneath and down-gradient of the anodizing line source area at Building 3 located on-Site. The detected contaminants of concern (COCs) at the Site include CrVI, PFAS, and volatile organic compounds (VOCs). Based on the available information, it appears that an off-Site release of VOCs at an upgradient facility, located north of the Site, has also impacted groundwater below the Site.

The shallow (SPa-zone) water-bearing zone (WBZ) at the Site is encountered from approximately 13 to 25 feet bgs. Investigations at the Site indicate that the SPa-zone has been impacted by CrVI, VOCs, and PFAS. The direction of groundwater flow in the SPa-zone is generally south-southwest. Based on the provided information, it appears that the deep vadose zone, specifically the capillary fringe encountered approximately 13 to 15 feet below ground surface (bgs), is also impacted by COCs and will be subject to the proposed in-situ remediation.

Therefore, in-situ chemical reduction (ISCR) has been proposed down-gradient of the anodizing line source area in the deep vadose zone and SPa-zone as an interim remedial measure (IRM) to prevent further migration of CrVI, VOCs, and PFAS.

Discussion

The ISCR covered by this Order includes:

1. The treatment area measures approximately 40 feet by 80 feet and consists of three sub-divisions. The sub-divisions are referred to as the Site-wide Treatment Area, Enhanced Treatment Area, and Permeable Reactive Barrier (PRB).

    a. The Site-wide Treatment Area will consist of six injection points with approximately 10-foot lateral spacing between points. The anticipated radius of influence (ROI) at the Site-wide Treatment Area is approximately 7.5 feet.

    b. The Enhanced Treatment Area will consist of 12 injection points with approximately 10-foot lateral spacing between points. The anticipated ROI at the Enhanced Treatment Area is approximately 7.5 feet.

    c. The PRB will consist of 42 injection points with approximately 5-foot lateral spacing between points. The anticipated ROI at the PRB is approximately 3.4 feet.

2. Amendments will be injected via direct-push technology at 60 locations within the treatment area at locations listed in Tables 1a, 1b, and 1c of the accompanying Monitoring and Report Program (M&RP) R8-2025-0013, depicted in Attachment A. The injections will target the deep vadose zone and shallow water-bearing zone (SPa-zone) from approximately 13 to 25 feet bgs.

3. Site-wide Treatment Area: Up to a total of 400 gallons of amendment solution per injection point, consisting of 180 pounds of FLUORO-SORB® Powdered (P), 12.4 gallons of Calmet® (30 percent [%] of calcium polysulfide[1] [CaSx] by weight), and 387.6 gallons of water will be injected at points 01 through 06 (Figure 1).

[1] Chemical Abstracts Service Number: 1344-81-6

4. The Enhanced Treatment Area: Up to a total of 160 gallons of amendment solution per injection point, consisting of 237.5 pounds of FLUORO-SORB® P, 12.4 gallons of Calmet® (30% of CaSx by weight), and 147.6 gallons of water will be injected at points 07 through 18 (Figure 1)

5. The PRB: Up to a total of 160 gallons of amendment solution per injection point, consisting of 237.5 pounds of FLUORO-SORB® P, 6.5 gallons of Calmet® (30% of CaSx by weight), and 153.5 gallons of water will be injected at points RB13 through RB54 (Figure 1).

6. The injections will be conducted with a maximum flow rate of 5 gallons per minute (gpm) and an injection pressure of 1 pound per square inch (psi) per foot of injection depth interval. The maximum injection pressure shall not exceed 50 psi.

The requirements for this ISCR program were developed based upon the proposed scope of work, background information, and site-specific data presented in the "Submission of WDR Permit Application Package", dated December 9, 2024.

The proposed application of amendment could affect the quality of waters of the state (i.e. groundwater) and are therefore subject to waste discharge requirements (WDRs) in accordance with California Water Code (CWC) section 13263. With proper management, as required by Order No. R8-2025-0013, the potential effects should be localized, of short duration, and are not expected to unreasonably impair any existing or prospective beneficial uses of groundwater or have any adverse environmental impacts.

Order No. R8-2025-0013 includes WDRs to regulate the specified discharge for the in-situ remediation of waste constituents in the deep vadose zone and groundwater, namely CrVI, VOCs, and PFAS. General WDRs for In-Situ Groundwater Remediation at Sites within the Santa Ana Region, Order No. R8-2018-0092, regulate in-situ groundwater remediation projects that can meet the requirements of that order. Order No. R8-2018-0092 defines Compliance Point(s) as those monitoring wells located downgradient, outside of the groundwater plume, and beyond the boundaries of a treatment zone, used for assessing the impacts to water quality and the effectiveness of the remediation. Based on a lack of appropriate locations to meet the specific requirements of the Compliance Points specified in Order No. R8-2018-0092, staff recommends that the individual WDRs in the proposed Order are necessary to regulate the discharges at the Site.

Recommendation

Staff recommends that the Board adopt proposed WDR Order No. R8-2025-0013, including the attached M&RP.