**INTRODUCTION**

The purpose of this Explanation of Significant Differences (ESD) is to explain changes made by the U.S. Environmental Protection Agency (EPA) to the remedy selected for the Genzale Plating Superfund Site (Site), located in the Town of Hempstead, Nassau County, New York.

Under Section 117(c) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA or Superfund), as amended, EPA is required to publish an ESD when, after issuance of a Record of Decision (ROD), subsequent circumstances lead to the need for significant, but not fundamental, changes in the selected site remedy.

Sections 300.435(c)(2)(i) and 300.825(a)(2) of the National Oil and Hazardous Substances Contingency Plan (NCP) set forth the criteria for issuing an ESD and require that an ESD be published if the remedy for a site is modified in such a way that differs significantly in either scope, performance, or cost from a remedy selected for a site in a ROD.

This ESD describes changes to the groundwater remedies selected in the March 1991 and September 1995 RODs. Specifically, this ESD clearly establishes numerical remediation goals for the remaining contaminants of concern (COCs) in the groundwater at the Genzale Plating property. The modifications set forth in this ESD are not considered by EPA or New York State Department of Environmental Conservation (NYSDEC) to be fundamental alterations of the remedies selected in the 1991 and 1995 RODs.

The following discussion will include a brief overview of the Site history, a description of the remedial actions selected for the Site, and an explanation of the significant differences from the remedies selected in the 1991 and 1995 RODs.

This ESD will become an important part of the Administrative Record file for this decision. The Administrative Record for the remedial decisions related to the Site is available for public review at the following locations:

Franklin Square Public Library

19 Lincoln Road

Franklin Square, NY 11010

Telephone Number:

(516) 938-0077

Hours: Monday - Friday

9:00 a.m. - 9:00 p.m.

Saturday, 9:30 a.m. - 5:30 p.m.

Sunday, 1:00 p.m. - 9:00 p.m.

and

U.S. Environmental Protection Agency

290 Broadway, 18th floor

New York, New York 10007

Hours: Monday - Friday

9:00 am - 5:00 pm

This ESD was developed by EPA, as lead agency, with support from the NYSDEC.

**SUMMARY OF SITE HISTORY, CONTAMINATION PROBLEMS, AND SELECTED REMEDIES**

The half-acre former Genzale Plating Company facility (Facility) was a metal-plating facility, which operated from 1915 to 2000. The Facility included a two-story building and an undeveloped backyard area that served as a parking lot and storage area. Operations at the Facility included the electroplating of small products such as automobile antennas, parts of ball point pens, and bottle openers.

As a result of these operations, wastewater containing heavy metals and organic contaminants was discharged into four sub-surface leaching pits at the rear of the Facility. Although the Facility was connected to the municipal sewer system in 1955, a 1981 Nassau County Department of Health (NCDH) inspection found that industrial wastewater was continuing to be discharged into the on-Site leaching pits.

The Genzale Plating Company was ordered by NCDH to cease the discharge to the on-site leaching pits. The Company subsequently began, but never completed, the excavation of sludge and contaminated soil from the pits. The NYSDEC conducted an investigation of the Site in 1983 to determine whether there was a threat to public health posed by potential migration of the contaminants to the groundwater. As a result of this investigation, the Site was included on the Superfund National Priorities List in June 1986.

In 1988, EPA initiated a Remedial Investigation (RI) to determine the nature and extent of contamination at the Site. The study indicated that groundwater and leaching pits located behind the Facility were contaminated with both inorganic and organic contaminants. These areas of the Site posed a threat to human health and the environment because of the risks associated with possible ingestion, inhalation, or dermal contact with the soils and/or groundwater.

The COCs in the soil at the site were determined to be cadmium, chromium, nickel, barium, lead, copper, arsenic, trichloroethene (TCE), bis (2-ethylhexyl) phthalate, and chrysene. The COCs in the groundwater were identified as TCE, 1,1,1-trichloroethane, 1,1-dichloroethene, tetrachloroethene (PCE), TCE, cadmium, chromium, copper, lead, and nickel.

Following the completion of a Feasibility Study (FS) which evaluated alternatives for cleaning up contamination at the Facility, a remedy was selected for the Site, which was documented in the 1991 ROD. The selected remedy, identified as the operable unit 1 (OU1) remedy, included:

* Soil vapor extraction (SVE) to address organic contaminants in subsurface soils;
* Excavation of surface soils and leaching pits;
* Extraction, treatment, and reinjection of contaminated groundwater; and
* Investigation and determination of the need for groundwater response actions downgradient of the Site (OU2 RI/FS).

The selected groundwater remedy was an interim remedy that did not constitute the final remedy for the Site.

In September 1995, following the completion of the RI/FS for OU2, EPA issued a second ROD (1995 ROD) for the groundwater, in which EPA determined that no further remedial action beyond that already required by the 1991 ROD was necessary to protect human health and the environment at the Site.

The remedial actions called for in the 1991 ROD have been constructed. The SVE treatment of contaminated soils was completed in 1996, followed by the excavation of leaching pits and soils in 1997; the groundwater extraction and treatment system was constructed in 2005. However, additional contamination found in the soils at the Site resulted in additional remedial activities. In May 2000, EPA performed sampling of the soil and groundwater underlying the vacant Facility building. The sampling data indicated elevated concentrations of chromium, hexavalent chromium, and PCE in the soil at the Site. EPA initiated a time-critical removal action, which included the installation of another SVE system at the Site. In 2003, EPA conducted vapor intrusion sampling at the Site and surrounding residences. Based on the results of this sampling activity, EPA installed indoor air treatment systems in three homes, as well as an additional SVE system at the Site (see Figure 1). These systems were operated until the contaminant levels were reduced below health-based standards. The treatment systems have been removed and no further action is required with respect to vapor intrusion.

While evaluating the effectiveness of the SVE system, EPA identified an area of recalcitrant contamination. Upon further investigation, a water production well, initially believed to be a buried tank, was located behind the former process building at the Site. In July 2004, an ESD was issued that called for the excavation of the well, referred to in the ESD as a “buried tank.” EPA remobilized to the Site in February 2005 to remove the water production well, as well as a portion of the remaining building foundation. Certain areas of the building foundation were left in place due to their proximity to an adjoining residential property and concerns that the removal of the foundation could compromise the adjacent structures. These remaining portions of the building foundation were determined to be non-hazardous.

As noted above, the groundwater treatment system was constructed and began operating in 2005. In 2010, a remedial system evaluation (RSE) of the groundwater treatment system was undertaken. The RSE resulted in pilot studies intended to enhance system operations. The Genzale Plating groundwater treatment system operations were performed by EPA for ten years as a Long-Term Remedial Action (LTRA). In September 2016, EPA completed its LTRA activities and transferred the responsibility for operation and maintenance of the system to the State of New York.

**DESCRIPTION OF THE SIGNIFICANT DIFFERENCES AND THE BASIS FOR THOSE DIFFERENCES**

As noted above, the groundwater remedy selected in the 1991 ROD was an interim remedy that did not constitute the final remedy for the Site. The 1991 ROD noted that while the RI/FS indicated the need to remediate groundwater beneath the Facility property, an additional investigation (the OU2 RI) of the nature and extent of the plume beyond the Facility property was warranted before a final remedy for the entire Site plume could be selected. The goal of the interim groundwater remedy was to address the most highly contaminated portion of the plume and to work towards aquifer restoration, until such time as a final remedy, based upon the findings of the OU2 RI/FS, could be selected. The 1991 ROD indicated the “ultimate goal of the groundwater remediation will be determined in a final remedial action for this Site.” The 1991 ROD further states that: “upon completion of the second operable unit RI/FS, [the interim groundwater remedy] may be incorporated into the design of the Site remedy specified in the final action groundwater ROD.”

In the 1995 ROD EPA determined that no further remedial action was necessary to protect human health and the environment at the Site. The 1995 ROD stated that “past, current and future cleanup activities conducted at the Genzale Plating Company property, will remediate the significant contamination present at this Site, will contribute to the cleanup by natural attenuation of the downgradient groundwater, and will result in the eventual compliance with Federal and State applicable, relevant and appropriate requirements.” However, the 1995 did not explicitly identify the numeric remediation goals for contaminants in groundwater across the Site or state that the groundwater remedy for the Site was intended to restore the aquifer. Consequently, this ESD has been prepared to identify the specific numeric remediation goals for the groundwater remedy at the Site and to document that the final groundwater remedy is a groundwater restoration remedy.

The numeric remediation goals for the COCs in groundwater at the Site are based upon the more stringent of federal or state Maximum Contaminant Levels (MCLs). TCE is still detected above its MCL in Site groundwater; the other groundwater COCs at the Site (cadmium, lead, nickel, hexavalent chromium, 1,1,1-trichloroethane, and 1,2-dichloroethane) are no longer detected above MCLs. The remediation goals for the COCs in groundwater are as follows:

* 5 parts per billion (ppb) for TCE
* 5 ppb for PCE
* 5 ppb for 1,1,1-trichloroethane
* 5 ppb for 1,2-dichloroethane
* 50 ppb for hexavalent chromium
* 5 ppb for cadmium
* 15 ppb for lead
* 100 ppb for nickel
* 1,300 ppb for copper

It should be noted that the groundwater data shows a decreasing trend in both VOC and inorganic contaminant concentrations (e.g., metals), indicating that the soil and groundwater remedies are effectively addressing Site contamination. TCE concentrations in the groundwater have decreased from 110 ppb in 2003 to 10 ppb in 2016. Hexavalent chromium concentrations during the same period have decreased from 2100 ppb in 2003 to 10 ppb in 2016.

**SUPPORT AGENCY COMMENTS**

NYSDEC, in consultation with the New York State Department of Health (NYSDOH), after careful consideration of the modified remedy, supports this ESD, as the modified remedy significantly changes but does not fundamentally alter the groundwater remedy selected in the 1991 and 1995 RODs.

**FIVE-YEAR REVIEWS**

Since hazardous substances, pollutants or contaminants remain at the Site which do not allow for unlimited use or unrestricted exposure (UU/UE), in accordance with 40 CFR 300.430 (f) (4) (ii), the remedy for the Site must be reviewed no less often than every five years until it is determined that the Site is available for UU/UE.

Two five-year reviews have been conducted at the Site. The most recent review, completed in September 2015, concluded that the remedy is functioning as intended by the decision documents and is protecting human health and the environment. It is anticipated that the next five-year review will be completed by September 2020.

**AFFIRMATION OF STATUTORY DETERMINATIONS**

EPA is issuing this ESD after consultation with the NYSDEC and NYSDOH. The NYSDEC, in consultation with NYSDOH, concurs with the approach presented in this ESD. When implemented, the remedy, as modified by this ESD, will continue to be protective of human health and the environment, and will comply with federal and state requirements that are legally applicable or relevant and appropriate to the remedial action. The modified remedy is technically feasible, cost-effective and satisfies the statutory requirements of CERCLA by providing for a remedial action that includes treatment as a principal element and, therefore, permanently and significantly reduces the toxicity, mobility and volume of hazardous substances.

**PUBLIC PARTICIPATION ACTIVITIES**

EPA is making this ESD available to the public to inform them of the change made to the remedy. Should there be any questions regarding this ESD, please contact:

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With the publication of this ESD, the public participation requirements set out in §300.4­35(c)(2)(i) of the NCP have been met.

