



Explanation of Significant Differences

Little Valley Superfund Site

TOWN OF LITTLE VALLEY CATTARAUGUS COUNTY, NEW YORK

EPA Region 2

September 2014

INTRODUCTION

In accordance with Section 117(c) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended, 42 U.S.C. §9617(c), and Section 300.435(c)(2)(i) of the National Oil and Hazardous Substances Contingency Plan, if, after the adoption of a final remedial action plan, there is a significant, but not fundamental, change with respect to the final plan, an explanation of the significant differences and the reasons such changes were made must be published.

The Environmental Protection Agency's (EPA's) August 2005 Record of Decision (ROD)¹ for the Little Valley Superfund site selected, among other things, the excavation and off-site treatment/disposal of an estimated 220 cubic yards (CY) of contaminated soil at the Cattaraugus Cutlery Area (CCA) (see Figure 1), site-wide monitored natural attenuation (MNA)² of the contaminated groundwater and the implementation of institutional controls (ICs)³ related to the utilization of groundwater at unimproved parcels that are developed in the future and at the CCA and Bush Industries.⁴ The EPA has since determined that an IC to prevent exposure to potential soil vapor intrusion⁵ at parcels overlying the groundwater contaminant plume that are developed in the future is needed to ensure protectiveness.

The EPA's September 2006 Amendment to the 2005 ROD (ROD amendment), which modified the soil remedy (as a result of an increased volume of contaminated soil), called for the treatment of approximately 3,000 CY of trichloroethylene (TCE)-contaminated soil exceeding the New York State Technical and Administrative Guidance Memorandum No. 94-HWR-4046 (TAGM) objective of 700 micrograms per kilogram ($\mu\text{g/kg}$) in the CCA with in-situ soil vapor extraction (ISVE).⁶ The ROD amendment also called for excavation and off-site treatment/disposal as a contingency remedy should operational data indicate that ISVE would not address all of the contaminated soils.

This ESD serves to document the EPA's decision to implement the contingency remedy for a portion (approximately 25 CY) of the contaminated soils, as well as the EPA's determination that an additional IC is needed to address the potential for vapor intrusion at properties that may be developed over the plume in the future.

SUMMARY OF SITE HISTORY, CONTAMINATION PROBLEMS, AND SELECTED REMEDY

The site is comprised of a plume of TCE-contaminated groundwater, which extends approximately eight miles along Route 353 between the Village of Little Valley and the northern edge of the City of Salamanca in Cattaraugus County, New York.

¹ A ROD documents the EPA's remedy decision. An amendment to a ROD makes a fundamental change to the ROD.

² Natural attenuation is a variety of *in-situ* processes that under favorable conditions, act without human intervention to reduce the mass, toxicity, mobility, volume, or concentration of contaminants in groundwater.

³ ICs are non-engineered controls, such as property or groundwater use restrictions imposed on a property by recorded instrument or by a governmental body by law or regulatory activity for the purpose of reducing or eliminating the potential for human exposure to contamination and/or protect the integrity of a remedy.

⁴ Bush Industries was identified as a localized source of groundwater contamination. The contaminant levels in this area are, however, decreasing due to natural attenuation.

⁵ Soil vapor intrusion is a process by which volatile organic compounds in groundwater migrate to the indoor air of an overlying structure.

⁶ ISVE involves drawing air through a series of wells to volatilize solvents from soils. The extracted vapors are treated in an activated carbon unit and monitored before being vented to the atmosphere.

In 1982, the Cattaraugus County Health Department (CCHD) and the New York State Department of Environmental Conservation (NYSDEC), while investigating TCE contamination in the vicinity of a small manufacturing facility on Route 353, detected TCE in nearby private wells. In 1989, CCHD and New York State Department of Health (NYSDOH) determined that the TCE contamination plume extended from the Village of Little Valley to the northern edge of the City of Salamanca. NYSDEC installed a number of monitoring wells in the area to investigate possible sources of the contamination. No sources were found.

Although CCHD issued health advisories to the exposed residents in 1989, affected well owners were not provided with alternate water sources. About six property owners independently installed granular activated carbon filter systems and others purchased bottled water.

Between 1989 and 1995, CCHD and NYSDOH sampled 74 private wells in the area; 42 of these wells had TCE concentrations equal to or greater than the federal maximum contaminant level (MCL) of 5 micrograms per liter ($\mu\text{g/l}$), which is deemed to be protective of human health.

Following the listing of the site on the National Priorities List in June 1996, the EPA evaluated the residential well sample results and concluded that, if not addressed, the contaminated wells would continue to present a threat to public health through ingestion. The EPA subsequently prepared a focused feasibility study (FFS) to develop, screen and evaluate alternatives for an alternative water supply system for the affected and potentially affected residences at the site. Based upon the findings of the FFS, the EPA issued a ROD in September 1996, providing for the installation of individual treatment units on all affected and potentially affected private wells to ensure that drinking water standards are met.

Based upon the results of a remedial investigation/feasibility study, in August 2005, a ROD was signed which called for, among other things, the excavation and off-site treatment/disposal of an estimated 220 CY of contaminated soils located on the CCA, MNA for the site-wide groundwater, ICs to prevent exposure to contaminants in the groundwater and evaluation of the potential for vapor intrusion into structures with mitigation, as necessary.

The alternate water supply, groundwater and ICs components of the 1996 and 2005 remedies have been

or are being implemented--the MNA program for groundwater has been established; the individual treatment units on the affected private wells are being maintained by NYSDEC and periodic notifications are being made to prevent exposure to contaminants in groundwater and vapor intrusion has been mitigated in four structures.⁷

In fall 2005, the EPA undertook pre-excavation soil sampling to define the boundaries of the soil contamination at the CCA. The results from this sampling effort indicated that the volume of contaminated soil was substantially greater than originally estimated in the 2005 ROD (it increased from an estimated 220 CY to an estimated 3,000 CY).

Because the EPA believed that the increased volume of contaminated soil at the CCA would impact the feasibility, effectiveness and overall cost effectiveness of the selected remedy, the remedial alternatives for the soil component of the remedy selected in the 2005 ROD were reevaluated. Based upon this revaluation and a subsequent treatability study, it was determined that ISVE would be effective in addressing the contaminated soil at the CCA.

In September 2006, an amendment to the 2005 ROD was approved, changing the soil remedy to ISVE. The ROD amendment also called for excavation and off-site treatment/disposal as a contingency remedy should operational data indicate that ISVE will not address all of the contaminated soils.

The ISVE system went into full-scale operation in fall 2006. Soil samples were collected during the course of the treatment. Based upon soil samples collected in November 2013, it was determined that while the volume of soil that was still above the TAGM objective for TCE had been reduced to an estimated 20 CY, the ISVE system appeared to have reached asymptotic levels (possibly attributable to recently discovered buried concrete slabs, footings and piping which may have hindered ISVE performance).

In January 2014, in order to evaluate how to address the remaining areas of soil with elevated TCE concentrations at the CCA, the EPA prepared *Little Valley Superfund Site—Cattaraugus Cutlery Area, Evaluation of Options for Addressing Remaining Contaminated Soil*. This document evaluated three treatment options: continued ISVE treatment of the soil; soil excavation with off-site disposal and soil excavation with on-site soil vapor extraction (SVE) treatment in an ex-situ treatment cell.

⁷ In 2006 and 2012, following the collection of vapor intrusion samples, the EPA installed subslab vapor mitigation systems in four homes where the indoor air was determined to be impacted; these systems continue to be maintained and are monitored to

ensure that the systems are operating effectively. In addition, the EPA continues to monitor and evaluate other homes for potential vapor intrusion.

Based upon this evaluation, the EPA and NYSDEC determined that excavation with off-site disposal would be the best option.

The soil excavation work, which was performed the weeks of June 16, 2014 and August 4, 2014, removed approximately 25 CY (37 tons) of soil. The excavated soil was shipped to an approved landfill in Angelica, NY. Post-excavation soil samples indicated that TCE concentrations were below the TAGM soil cleanup objective of 700 µg/kg. The ISVE system was subsequently removed and the excavated areas were backfilled with clean fill meeting the requirements of NYSDEC's DER-10, Technical Guidance for Site Investigation and Remediation, Appendix 5.

DESCRIPTION OF SIGNIFICANT DIFFERENCES AND THE BASIS FOR THOSE DIFFERENCES

The August 2005 ROD included ICs related to the utilization of groundwater at unimproved parcels that are developed in the future and at the CCA and Bush Industries. Specifically, after an initial notification, NYSDEC, NYSDOH and/or the CCHD are to periodically meet with or notify local governmental agencies to remind them that if any unimproved parcel where the underlying groundwater is contaminated with TCE above the MCL is developed, the groundwater should not be used without treatment. The EPA was to also notify the CCA and Bush Industries property owners that the underlying groundwater is contaminated and should not be used without treatment.

The EPA has determined that an IC to prevent exposure to potential soil vapor intrusion at parcels that are developed in the future is needed to ensure protectiveness. Accordingly, the local governmental agencies will be advised that if new structures are constructed over the TCE plume (including at the CCA and Bush Industries properties), vapor mitigation measures should be implemented as part of the new construction or a property-specific evaluation should be performed to demonstrate that vapor intrusion will not be a concern at the property.

After operating an ISVE system at the CCA since 2006, in 2013, it was determined that while the volume of soil that was still above the TAGM objective for TCE had been reduced from an estimated 3,000 CY to an estimated 20 CY, the system appeared to have reached asymptotic levels (possibly attributable to recently discovered buried concrete slabs, footings and piping which may have hindered ISVE performance).

In order to address the remaining areas of contaminated soil, three options were evaluated: continued operation of the ISVE system; soil excavation with off-site disposal

and soil excavation with on-site ex-situ SVE. A summary of the costs and implementation timeframes for each of these options is provided below.

(1) Continued ISVE

It is estimated that continued ISVE treatment of the soil would require ten months to complete at a cost of \$34,500.

(2) Excavation and Off-Site Disposal

Excavation and off-site disposal would cost an estimated \$40,600 and would take several days to implement.

(3) Excavation and Ex-Situ Soil Vapor Extraction

The remaining TCE-contaminated soil would be excavated, placed in an aboveground closed treatment cell (approximately 30 ft. by 30 ft.) on the CCA property and treated utilizing the existing SVE system. It was estimated that it would take three to five weeks to treat the soil to the cleanup objective using ex-situ SVE in the treatment cell. Following successful treatment, the soil would be backfilled in the areas of excavation. The estimated cost of this option was \$27,205.

Based upon an evaluation of these options, the EPA and NYSDEC selected excavation with off-site disposal (the contingency remedy in the ROD amendment) as the most effective means of addressing the remaining TCE-contaminated soils. The excavation and off-site disposal option, while somewhat more costly than the other two alternatives, was readily implementable, could be accomplished in a much shorter timeframe (days rather than weeks or months) and provided greater certainty that the TAGM objective for TCE could be met in an established timeframe.

This ESD serves to document the EPA's decision to implement the contingency remedy for a portion (approximately 25 CY) of the contaminated soils, as well as EPA's determination that an additional IC is needed to address the potential for vapor intrusion at properties that may be developed over the plume in the future.

The modified remedy remains protective of human health and the environment.

SUPPORT AGENCY COMMENTS

NYSDEC, after careful consideration of the modified remedy, supports this ESD, as the modified remedy significantly changes but does not fundamentally alter the remedy selected in the 2005 ROD, as amended by the 2006 Amendment to the ROD.

The EPA and NYSDEC are 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.

FIVE-YEAR REVIEWS

A statutory five-year review is triggered by an interim remedy. The trigger for the first five-year review for the site was the start of the installation of the point-of-use treatment units on May 14, 1997. Following the completion of the first five-year review on May 16, 2002, the 2005 ROD defined a remedy that will reduce hazardous substances to levels that will permit unlimited use of, and unrestricted exposure to, soil and groundwater, under its current land use. Because these objectives are consistent with a policy review,⁸ the second five-year review completed on May 16, 2007 was a policy review and all subsequent reviews at this site will be policy reviews. The most recent five-year review was completed on May 14, 2012.

AFFIRMATION OF STATUTORY DETERMINATIONS

The EPA and NYSDEC believe that the remedy, as modified, remains protective of human health and the environment, complies with federal and state requirements that are applicable or relevant and appropriate to this remedial action, and is cost-effective. In addition, the modified remedy utilizes permanent solutions and alternative treatment technologies to the maximum extent practicable for this site.

PUBLIC PARTICIPATION ACTIVITIES

Pursuant to NCP §300.825(a)(2), this ESD will become part of the Administrative Record file for the site. The Administrative Record for the remedial decisions related to the site is available for public review at the following locations:

Town of Little Valley Municipal Building
201 3rd Street
Little Valley, New York 14755

Salamanca Public Library
155 Wildwood Avenue
Salamanca, New York 14779

U.S. Environmental Protection Agency
290 Broadway, 18th Floor
New York, NY 10007-1866
(212) 637-3263

⁸ It is the policy of the EPA to conduct five-year reviews when remedial activities, including monitoring, will continue for more than five years. Because it will take more than five years to

attain cleanup levels at the site, reviews are required to be conducted no less often than once every five years.