Explanation of Significant Differences

BREWSTER WELL FIELD SITE

TOWN OF SOUTHEAST
Putnam County, New York

EPA
Region 2

October 2009

INTRODUCTION

In accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Section 117(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 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) 1986 Record of Decision (ROD) for the Brewster Well Field site called for the continued operation of an existing air stripper treatment system at the Brewster Well Field in order to continue to provide a safe and reliable water supply and the design and construction of a groundwater management system (GMS) to restore groundwater quality. EPA's 1988 ROD called for the excavation of the source of the contamination (the dry well of a former dry cleaner). It was the intention of the decision documents that the soil and groundwater be remediated to levels that would allow for unlimited use without restriction. Institutional controls[1] were not selected as part of the final site remedy. Since the finalization of the RODs, EPA determined that institutional controls would be beneficial at the site.

The results of soil gas samples collected beneath the slab of the former dry cleaner (now a Subaru dealership) showed elevated volatile organic compound (VOC) concentrations. Because of concerns that vapors could be impacting indoor air at the dealership, a subslab mitigation system was installed. Further investigation at the dealership indicated that a small volume of contaminated soil was present underneath the building. The subslab mitigation system was enhanced so that it could target the contaminated soil.[2]

There are no impacted private water supply wells in the vicinity of the groundwater plume. Since new wells cannot be drilled without a permit from the County Department of Health, the installation of new wells in the contaminated plume is effectively prevented. To prevent the potential exposure to the contaminated soils on the Subaru dealership property and to area groundwater, EPA notified the local planning board that EPA should be contacted prior to the approval of any construction on the dealership property and any planned development in the general vicinity of the site. The dealership was similarly notified. Periodic reminders will be issued by EPA or NYSDEC to the planning board and the dealership. The County Department of Health's restrictions related to the installation of wells and the notifications to the planning board and the dealership constitute institutional controls, which are being added to the implemented remedy.

This Explanation of Significant Differences (ESD) serves to document the above-noted changes to the remedy. The changes to the remedy are not considered by EPA to have fundamentally altered the remedies selected in the RODs. The remedy remains protective of human health and the environment.

This ESD will become part of the Administrative Record file for the Brewster Well Field site. The entire Administrative Record for the site, which includes the remedial investigation and feasibility study (RI/FS) reports, Proposed Plans, and RODs, and other relevant reports and documents related to the site are available for public review at the following location:

Brewster Village Hall
208 East Main Street
Brewster, NY 10509
Hours: 9:00 a.m. - 4:00 p.m.
Monday - Friday

The Administrative Record file and other relevant reports and documents are also available for public review at the EPA Region II office at the following location:

U.S. Environmental Protection Agency
290 Broadway, 18th Floor
New York, New York 10007

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[1] Institutional controls are non-engineered instruments, such as administrative and/or legal controls, that help minimize the potential for human exposure to contamination and/or protect the integrity of a remedy.

[2] The enhanced subslab mitigation system draws air from beneath the subslab, capturing volatilized organics from beneath the subslab and volatilizing and capturing the VOCs from the soil. The collected vapors are vented to the atmosphere consistent with the requirements of the New York State Department of Environmental Conservation's (NYSDEC's) DAR-1 Guidelines for the Control of Toxic Ambient Air Contaminants (1997).

Hours: 9:00 a.m. - 5:00 p.m.
Monday - Friday

SUMMARY OF SITE HISTORY, CONTAMINATION PROBLEMS, AND SELECTED REMEDY

The Brewster Well Field site is located on the northern bank of the East Branch Croton River and east of Interstate 84, approximately three-fourths of a mile east of the Village of Brewster, in the Town of Southeast, Putnam County, New York.

The Brewster Well Field, which supplies water to approximately 2,200 people in the Village of Brewster was found to be contaminated with VOCs in 1978. Under a cooperative agreement with EPA, the Village installed a full-scale air stripper, which is currently providing safe drinking water to the Village. The site was placed on the National Priorities List of Superfund sites in December 1982.

From 1984 to 1986, through a cooperative agreement between NYSDEC and EPA, NYSDEC's consultant performed an RI/FS at the site. Based on the results of the RI/FS, a ROD was signed by EPA in September 1986. The selected remedy included the continued operation of the existing air stripping system at the well field and designing and constructing a GMS to contain the groundwater contaminant plume and to restore groundwater quality at the site, by extracting, treating by air stripping, and reinjecting the contaminated groundwater. The ROD also called for a source control RI/FS to identify and address the source of the groundwater contamination. The construction of the GMS was completed in 1991.

In 1988, the source control RI/FS was completed by EPA. It identified a drywell located adjacent to Alben Dry Cleaners (situated at 1021 Route 22, Brewster, New York) as a significant source of the contamination present at the well field. Alben Dry Cleaners had been in operation since 1965, and dry-cleaning wastes were disposed of in the drywell at least since that time. The source control ROD, signed in September 1988 by EPA, called for the excavation, removal, and off-site incineration of the contents of the dry well and the surrounding contaminated soils. The implementation of the source control remedy was completed in 1991.

After construction of the GMS, due to operational difficulties related to the reinjection system, the remedy was modified via an ESD in December 1996. The ESD changed the final disposition of the treated groundwater from reinjection to surface water discharge.

To improve the capture of the contaminated groundwater, two new extraction wells and one combination monitoring and extraction well were installed in the source area. Also, since the air stripper was found to be nearing the end of its useful life, it was replaced. The modified GMS became operational in Fall 2007, at which time NYSDEC assumed responsibility for its operation and maintenance.[3]

DESCRIPTION OF SIGNIFICANT DIFFERENCES AND THE BASIS FOR THOSE DIFFERENCES

The 1986 ROD for the site called for the continued operation of the existing air stripping system at the Brewster Well Field and the construction of a GMS to contain the groundwater contaminant plume and to restore groundwater quality. The 1988 ROD called for the excavation, removal, and off-site incineration of the source of the contamination, which was identified as a drywell at the former Alben Dry Cleaners. Institutional controls were not selected as part of the final site remedy.

Subsequently, the GMS was constructed and the drywell was removed.

Because of the potential for the migration of volatile chemicals from the subsurface into overlying buildings at properties located near VOC-contaminated groundwater, soil gas (vapor) samples were collected from beneath the slab of the former Alben Dry Cleaners (now a Subaru dealership) in May 2006. The results of this investigation showed elevated VOC concentrations. Because of concerns that these vapors could be impacting indoor air at the dealership, a subslab mitigation system was installed in January 2007. In January 2009, a soil investigation beneath the dealership building was performed to determine if residual soil contamination was present. The results of this investigation indicated that a small volume of contaminated soil was located underneath the building. Although the removal of the contaminated soil was considered, since this would significantly disrupt the dealership's business and could potentially impact the structural integrity of the building, the subslab mitigation system was enhanced with a greater capacity blower and additional piping so that it could target the contaminated soil. It is estimated that the enhanced subslab mitigation system will reduce the contaminated soil to 4 milligrams per kilogram perchloroethylene (the soil cleanup objective called for in the ROD) in one year.

In February 2009, subslab soil gas and indoor air samples were collected from the Subaru dealership building. The results showed that the building's subslab VOC concentrations have been substantially reduced since the enhancement of the subslab mitigation system. While the majority of the indoor air contamination is in or near the acceptable range, slightly elevated indoor air levels remain in a few samples collected from a storage room. Considering the fact that the building subslab is under a negative vacuum and based upon an inventory of the products being used at the dealership, it appears that these products and/or the

[3] At Superfund sites, if after 10 years of GMS operation by EPA, groundwater cleanup goals are not achieved, states take over responsibility for the operation and maintenance of the GMS.

automobiles in the showroom are the source of the indoor air concentrations. Determining whether these products or the automobiles in the showroom are the source of the indoor air problem would likely seriously disrupt the business (they would have to be removed from the building). In a June 18, 2009 letter to the Subaru dealership, EPA suggested increasing ventilation in the building and using alternative products to the extent practicable to reduce the concentrations of VOCs in the indoor air.

There are no impacted private water supply wells in the vicinity of the groundwater plume. Since new wells cannot be drilled without a permit from the County Department of Health, the installation of new wells in the contaminated plume is effectively prevented.

To prevent the potential exposure to the contaminated soils and groundwater and to prevent any actions which might adversely impact the remedy, the Town of Southeast Planning Board was notified via a March 19, 2007 letter that EPA should be contacted prior to the approval of any construction on the Subaru dealership property. A similar letter was sent to the Subaru dealership on June 18, 2009. On July 29, 2009, a letter was sent to the Town of Southeast Planning Board requesting that EPA be contacted prior to the approval of any construction on the dealership property and to be informed of any planned future development in the general vicinity of the site[4]. Periodic written reminders will be issued by EPA or NYSDEC to the planning board and the dealership. These actions constitute an "informational device" institutional control. In addition, on an annual basis, the site will be inspected to determine whether any intrusive activities have been performed at the site (*i.e.*, at the Subaru dealership).

The County Department of Health's restrictions related to the private wells and the notifications to the Planning Board and the dealership constitute institutional controls, which are being added to the implemented remedy.

SUPPORT AGENCY COMMENTS

NYSDEC supports the modified remedy due to its environmental, public health, and technical advantages, and due to the fact that the modified remedy significantly changes but does not fundamentally alter the remedy selected in the RODs with respect to scope, performance, protectiveness, or cost.

FIVE-YEAR REVIEW

Upon completion of remedial activities at the site, hazardous substances will be reduced to levels which will permit unlimited use of, and unrestricted exposure to, soil and groundwater, under its current land use. It is the policy of EPA to conduct five-year reviews when remedial activities, including monitoring, will continue for more than five years. Since it will take more than five years to attain cleanup levels at the site, reviews are being conducted every five years.

The second five-year review for the Brewster Well Field Superfund site, which was completed in April 2007, raised concerns about vapor intrusion potentially impacting indoor air at the Subaru dealership and the nearby Brady Stannard Chevrolet dealership; potential residual source material underneath the Subaru dealership building; contaminated groundwater capture; and the overall performance of the GMS. As a consequence of these concerns, a protectiveness determination for the site could not be made until additional information was obtained.

Based upon the collection and assessment of additional data, a five-year review addendum was completed in September 2009. The addendum concluded that the implemented remedial actions protect human health and the environment in the short term. Currently, there are no exposure pathways that could result in unacceptable risks (the enhanced subslab mitigation system installed at the Subaru dealership is functioning properly and is addressing the residual source area and the indoor air concentrations at the Chevrolet dealership are in the acceptable range). In order for the remedy to be protective in the long term, additional data needs to be collected to ensure that the GMS is effectively capturing the groundwater plume and that the enhanced subslab mitigation system is addressing the contaminated soil.

AFFIRMATION OF STATUTORY DETERMINATIONS

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

EPA and NYSDEC are making this ESD available to the public to update them on the progress made at the site and to inform them of the changes made to the remedy. Should there be any questions regarding this ESD, please contact:

Lisa Wong
Remedial Project Manager
Central New York Remediation Section

[4] On September 10, 2009, a representative of the Town of Southeast Planning Board confirmed that the July 29, 2009 letter was filed in the Town Planning Board's office and that EPA will be notified of any planned construction or development on the dealership property and in the general vicinity of the site.

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