Explanation of Significant Differences

VOLNEY LANDFILL SITE

TOWN OF VOLNEY
Oswego County, New York

EPA
Region 2

October 2001

MARK YOUR CALENDAR

February 20, 2002 at 5:30 p.m.: Public availability session to discuss this Explanation of Significant Differences.

Volney Town Hall
1445 County Route 6
Fulton, New York 13069

INTRODUCTION

Section 117(c) of the Comprehensive Environmental Response, Compensation, and Liability Act and Section 300.435(c)(2)(i) of the National Oil and Hazardous Substances Pollution Contingency Plan require an explanation if, after the selection of a remedial action plan, a component of the action differs in any significant respect from the original action. Any such significant difference, and the reasons for such changes, must be published.

The 1987 Record of Decision (ROD) for the Volney Landfill site, as modified by a 1989 Post-Decision Document (PDD) and a 1997 Explanation of Significant Differences (ESD), called for the capping of the landfill side slopes[1], groundwater extraction and treatment, on an as-needed-basis, to address the intermittent groundwater contamination impacting areas immediately downgradient from the landfill, and long-term monitoring. In addition, institutional controls (*i.e.*, deed restrictions, property acquisition, and/or local government controls) will be implemented to protect the integrity of the landfill cap and to prevent the use of contaminated groundwater downgradient from the landfill.

The ROD also called for a supplemental investigation to evaluate the potential for the migration of contaminants in the groundwater and to the surface water and sediments of the adjacent Bell Creek and wetlands surrounding the site. Based upon the results of this supplemental investigation, it has been determined that the above-described groundwater remedy will adequately address the site-related groundwater contamination. Moreover, natural attenuation[2] appears to be occurring between the landfill and downgradient residential wells, thereby providing further protection to these wells. In addition, it has been determined that the surface water and sediments located in Bell Creek and the surrounding wetlands do not pose a threat to public health or an ecological threat. Therefore, it has been concluded that the remedy for the site is protective of human health and the environment and complies with federal and state requirements that were identified in the ROD. The findings noted above are being documented by this ESD.

This ESD will become part of the Administrative Record file for the site. The entire Administrative Record for the site, which includes the remedial investigation (RI) report, feasibility study (FS) report, ROD, PDD, Contamination Pathways Investigation Report, Contamination Pathways Investigation Human Health and Ecological Risk Assessments, the 1997 ESD, this ESD, and other relevant documents are available for public review at the following location:

Fulton Public Library
160 South First Street
Fulton, NY 13069

Hours: 10:00 A.M. - 5:00 P.M. (Monday, Friday, and Saturday), 10:00 A.M. - 8:00 P.M. (Tuesday - Thursday)

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:

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1 The top of the landfill was capped in the early 1980s.

2 Natural attenuation is the use of natural processes, such as degradation, dispersion, and dilution, to reduce contaminant concentrations to levels that are protective of human health and the environment.

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

Hours: 9:00 A.M. - 5:00 P.M. (Monday - Friday)

SUMMARY OF SITE HISTORY, CONTAMINATION PROBLEMS, AND SELECTED REMEDY

The 85-acre Volney Landfill is located in a rural area of the Town of Volney, New York. Bell Creek, which flows north to south, is located to the east of the landfill and wetlands are located to the north, east, southeast, and southwest of the landfill.

Landfilling operations were conducted in a 55-acre unlined disposal area from 1969 to 1983. Most of the waste materials disposed of at the landfill consisted of residential, commercial, institutional, and light industrial wastes; however, approximately 8,000 drums from Pollution Abatement Services, a hazardous waste incineration facility located in Oswego, New York, were approved for disposal at the landfill by the New York State Department of Environmental Conservation (NYSDEC). While the approval applied only to discarded drums containing known and limited chemical residues, it was later reported that approximately 50 to 200 of these drums contained liquid waste of unknown volume and composition. The physical condition and locations of these drums in the landfill are unknown.

After groundwater quality standards were contravened in monitoring wells located near the site, in 1979, NYSDEC entered into a consent order with the current owner of the landfill, Oswego County. The consent order required capping the landfill top with a liner and soil, capping the side slopes with compacted soil, installing a gas collection system, and installing a leachate[3] collection system. This work was performed between 1979 and 1985. Off-site leachate disposal and groundwater monitoring have been performed since the completion of the closure activities.

In October 1984, the Volney Landfill site was included on the Superfund National Priorities List.

An RI/FS was conducted from 1985 to 1987 by NYSDEC, and a ROD was signed by EPA on July 31, 1987. The selected remedy included capping of the landfill side slopes with an impermeable membrane, installation of a more extensive leachate collection drain system and a subsurface groundwater containment barrier (slurry wall), treatment of the collected leachate either on- or off-site, and long-term monitoring. The ROD called for a supplemental investigation to evaluate the potential for the migration of contaminants in the groundwater and to the surface water and sediments of the adjacent Bell Creek and wetlands surrounding the site.

After the signing of the ROD, it was learned that a quality assurance/quality control review of the analytical data associated with the RI had not been performed. EPA re-sampled the site in 1988 and, based upon the sampling results, concluded that hazardous substances were present at the site at levels that posed a risk to public health and the environment. On September 29, 1989, EPA issued a PDD, which reaffirmed the remedy selected in the ROD. In response to comments received during the public comment period, the PDD also called for a re-evaluation of the cost-effectiveness of the slurry wall called for in the ROD and a determination as to whether to provide for on- or off-site leachate treatment.

Studies conducted from 1989 to 1990 provided information about off-site leachate treatment and updated the construction costs for the site remedy. The studies concluded, however, that before any final decisions related to the slurry wall or leachate treatment could be made, additional testing was needed to resolve several critical issues concerning the site hydrogeology (*i.e.*, possible artesian conditions, groundwater flow issues, and no reduction in contaminated leachate collection volume since the 1985 capping of the landfill).

An Administrative Order on Consent was signed in 1993 for the performance of a pre-design study by a group of Potentially Responsible Parties (PRPs). Based upon the results of the pre-design study, which was completed in 1997, EPA determined that there is no definable contaminant groundwater plume, only intermittent increases in contaminant concentrations. It was also determined that natural attenuation is occurring in a sizable buffer zone between the landfill and eight downgradient residential wells. This conclusion was based upon the fact that contamination has not been found in the downgradient private wells, with the closest well being located approximately 450 feet from the landfill. In addition, it was determined that the installation of a slurry wall and a more extensive leachate collection drain system would not offer a significant protective benefit when considering its relatively high cost and the relatively low contaminant concentration of the leachate that is generated. Also, off-site treatment and disposal of the leachate would be more cost-effective than on-site treatment and disposal (due to the low concentration of leachate that is generated and the significant cost to construct and operate an on-site treatment facility). Based upon these findings, an ESD was issued by EPA in 1997, which concluded that a slurry wall should not be installed, the intermittent groundwater contamination should be extracted on an as-needed-basis, and the collected contaminated groundwater should be treated off-site.

Negotiations with 40 PRPs for the performance of the

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[3] Leachate is the liquid that trickles through or drains from the land filled waste, carrying soluble components from the waste.

design and construction of the remedy resulted in the PRPs signing a consent decree in May 1998. The design began shortly thereafter, and was completed in September 1999. The construction commenced in the Summer of 2000, and was completed in late September 2001.

The supplemental (Contamination Pathways) investigation called for in the ROD to evaluate the potential for the migration of contaminants in the groundwater and to the surface water and sediments of the adjacent Bell Creek and wetlands surrounding the site was initiated in 1990 under an Administrative Order on Consent with the PRPs. The investigation was, however, delayed while the pre-design study noted above was completed. The investigation was reactivated in 1998 (at the same time as the initiation of the design). The resulting Contamination Pathways Investigation Report and Contamination Pathways Human Health and Ecological Risk Assessments were completed in September 2001.

DESCRIPTION OF SIGNIFICANT DIFFERENCES AND THE BASIS FOR THOSE DIFFERENCES

The 1987 ROD for the Volney Landfill site, as modified by the 1989 PDD and 1997 ESD, calls for groundwater extraction and treatment, on an as-needed-basis, to address the intermittent groundwater contamination located downgradient from the landfill[4]. In addition, institutional controls will be implemented to prevent the use of contaminated groundwater downgradient from the landfill. The ROD also called for long-term monitoring and a supplemental investigation to evaluate the potential for the migration of contaminants in the groundwater and to the surface water and sediments of the adjacent Bell Creek and wetlands surrounding the site. Based upon the results of that investigation, it has been determined that intermittent groundwater extraction and treatment, in combination with natural attenuation, will adequately address the site-related groundwater contamination and a supplemental groundwater remedy does not need to be implemented.

While the levels of contaminants in the groundwater in the immediate perimeter of the landfill intermittently exceed drinking water standards (*e.g.*, the levels of total volatile organics have varied from 170 to over 2,000 µg/l) in one well located within 30 feet of the limit of waste and from nondetectable concentrations to levels marginally above drinking water standards in several wells located within 200 feet of the limit of waste), there are no drinking water wells in this area.

To avoid future risk to human health, institutional controls will be established to prevent the use of contaminated groundwater. The institutional controls will include deed restrictions, property acquisition, and/or local government controls. Oswego County will be responsible for the implementation of the appropriate institutional controls, following EPA approval (after consultation with NYSDEC and the New York State Department of Health). The County will also be responsible for enforcing the institutional controls. It is anticipated that the institutional controls will be in place by mid-2002. Once the institutional controls are effectuated, the County will be responsible for annually certifying that the institutional controls are still in place. The institutional controls will remain in effect until groundwater standards are met.

Long-term monitoring of the groundwater will consist of collecting samples from eight residential wells and from eighteen monitoring wells located in the immediate perimeter of the landfill and in the area between the landfill perimeter and the downgradient residential wells. It is anticipated that the residential wells will be sampled quarterly and the monitoring wells will be sampled semi-annually for two years and annually, thereafter. The specific details of the long-term monitoring program will be included in the final Operation, Maintenance, and Monitoring Manual. A draft of this document is currently under review by EPA.

During the supplemental investigation, seven surface water samples (five from Bell Creek and an adjacent wetland and one each from tributaries feeding into Bell Creek and Black Creek) and 11 sediment samples (six from Bell Creek and an adjacent wetland, one each from tributaries feeding into Bell Creek and Black Creek and three from other drainage areas) were analyzed for a total of 22 inorganic and 99 organic compounds. There were no site-related organic compounds identified as contaminants of potential ecological concern in the surface water and sediment samples. The levels of inorganic compounds present in the surface water and sediments do not exceed NYSDEC's inorganic sediment screening values[5]. Based upon these findings and the fact that there is no visible evidence of ecological effects (*e.g.*, no stressed vegetation), it has been concluded that the levels of contaminants that are present in the surface water and sediments in the creeks and wetlands and other areas in the vicinity of the site do not pose an ecological threat. Also, the levels of contaminants that are present in the surface water and sediments do not pose a public health threat. Consequently, the surface water and sediments do not require remediation.

SUPPORT AGENCY COMMENTS

NYSDEC supports the findings of this ESD.

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[4] If groundwater samples from monitoring wells located in the immediate perimeter of the landfill exceed 100 micrograms per liter (µg/l) of total volatile organics, the well will be pumped until the level is met. For monitoring wells located in the area between the landfill perimeter and the downgradient residential wells, groundwater from these wells will be extracted if volatile organics exceed drinking water standards.

[5] Division of Fish and Wildlife, Division of Marine Resources, *Technical Guidance for Screening Contaminated Sediments*, November 1999.

AFFIRMATION OF STATUTORY DETERMINATIONS

Considering the results of the supplemental investigation, EPA and NYSDEC believe that the remedy 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 or provides justification for a waiver, and is cost-effective. In addition, the remedy utilizes permanent solutions and alternative treatment technologies to the maximum extent practicable for this site.

PUBLIC PARTICIPATION ACTIVITIES

EPA and NYSDEC rely on public input to ensure that the concerns of the community are considered in selecting an effective remedy for each Superfund site. Toward this end, a public availability session will be held at the Volney Town Hall, Volney, New York on February 20, 2002 at 5:30 p.m. to discuss the ESD. Questions or comments related to this ESD or the planned construction activities can also be directed to:

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