



**FIVE-YEAR REVIEW REPORT
HOOKER (102ND STREET) LANDFILL SUPERFUND SITE
NIAGARA FALLS, NEW YORK**

**U.S. Environmental Protection Agency
Region 2
New York, New York**

August 2001

**U.S. Environmental Protection Agency
Region 2
Emergency and Remedial Response Division
Five-Year Review (Type I)**

**Hooker (102nd Street) Landfill Superfund Site
Niagara Falls, New York**

I. INTRODUCTION

Authority Statement

The U.S. Environmental Protection Agency (EPA) Region 2 conducted this statutory Five-Year Review pursuant to §121(c) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended (CERCLA), §300.430 (f) (4) (ii) of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) and OSWER Directives 9355.7-02 (1991), 9355.7-02A (1994) and 9355.7-03A (1995). The purpose of a Five-Year Review is to ensure that a remedial action remains protective of public health and the environment and is functioning as designed. This document will become part of the site's Administrative Record file. This review (Type I) is applicable to sites at which remedial action activities have been completed. Ongoing monitoring of the response actions implemented at the site indicate that the remedy continues to be protective of public health and the environment.

Site Background

The Site is located on Buffalo Avenue in Niagara Falls, New York. It borders on the Niagara River, and lies less than one-quarter of a mile directly south of the Love Canal Superfund Site, separated from the Love Canal Site by the LaSalle Expressway, and Buffalo and Frontier Avenues. The Site consists of approximately 22.1 acres, 15.6 acres are owned by Occidental Chemical Corporation (OCC) formerly the Hooker Chemicals & Plastics Corporation and 6.5 acres are owned by Olin Corporation (Olin).

Since the mid-1940s, the Site was used as an industrial waste landfill. In the early 1970s, landfilling operations at the Site were stopped. OCC and Olin remain as the current owners of the Site. During the period of active waste disposal at the Site, these companies deposited at least 159,000 tons of wastes, in both liquid and solid forms, into the landfill. These deposits included approximately 4,600 tons of benzene, chlorobenzene, chlorophenols, and hexachlorocyclohexanes, all of which are hazardous substances.

In December 1970, the Buffalo District of the U.S. Army Corps of Engineers (COE) inspected the Site and subsequently notified OCC and Olin that their disposal practices were in violation of the Rivers and Harbors Act of 1899 (RHA) and that any construction or landfilling at the Site must cease until a dike or

bulkhead was installed along the Niagara River shoreline under a permit issued by the COE. A bulkhead was completed in 1973, and no subsequent construction or landfilling occurred.

On December 20, 1979, a complaint pursuant to the Resource Conservation and Recovery Act (RCRA), the Clean Water Act (CWA), and the RHA was filed by the United States of America, on behalf of the Administrator of the EPA, against OCC and Olin seeking injunctive relief and civil penalties for an imminent and substantial endangerment to the public health and welfare. On November 18, 1980, a complaint pursuant to the New York State Conservation Law and the state's common law of public nuisance was filed by New York State (NYS) against OCC and Olin in the U.S. District Court for the Western District of New York, seeking injunctive relief and civil penalties. The two complaints were consolidated.

II. DISCUSSION OF REMEDIAL OBJECTIVES

Remedial Investigation & Feasibility Study

The Site was listed on the National Priorities List on September 8, 1983. In 1984, the EPA and NYS, working with OCC and Olin, prepared a Remedial Investigation (RI) Work Plan for the Site for a study of the nature and extent of contamination.

The RI was conducted by OCC and Olin pursuant to a Stipulation filed with the U.S. District Court on June 26, 1984. This Stipulation was noteworthy in that it required a CERCLA-type RI to be conducted in partial satisfaction of the injunctive relief requested in a case brought prior to the enactment of CERCLA pursuant to the RCRA, the CWA, and the RHA.

The 1984 Stipulation also obligated OCC and Olin to "...undertake a Feasibility Study for the 102nd Street Landfill Site, wherein the data and conclusions of the Remedial Investigation will be utilized to develop and evaluate alternative remedial actions for the site as provided for under Section 300.68 [superseded] of the National Contingency Plan..."

While OCC and Olin were compiling the RI data, the EPA and NYS were preparing a Feasibility Study (FS) Work Plan. OCC and Olin performed the FS as set forth in this Work Plan pursuant to a Stipulation and Decree entered with the U.S. District Court on May 15, 1989.

The RI/FS was completed in July 1990, and the EPA released a Proposed Plan to the public for comment on July 25, 1990. On September 26, 1990, the EPA's Regional Administrator issued a Record of Decision (ROD) for the EPA's selected remedy for the Site.

Record of Decision Findings

The major components of the selected remedy included the following:

- capping the Site with a synthetic liner;
- consolidation of all contaminated soils beneath the cap;
- construction of a slurry wall surrounding the Site's perimeter to contain the plume of non-aqueous phase liquids (NAPL) emanating from the Site;
- recovery and treatment of leachate to maintain an inward gradient across the slurry wall;
- recovery of NAPL and destruction of any NAPL recovered;
- removal of contaminated river sediments;
- incineration of sediments with high levels of contaminants and reconsolidation of excavated sediments with lower levels of contaminants beneath the cap (the ROD was amended on June 9, 1995 to eliminate the incineration contingency - all excavated sediments have been consolidated below the cap);
- refurbishing of an existing City of Niagara Falls's storm sewer which transects the Site (on September 30, 1993, the EPA issued an Explanation of Significant Differences [ESD] to notify the public that the then-existing storm sewer would be plugged and a new storm sewer would be rerouted around the eastern perimeter of the Site);
- post-remedial monitoring; and,
- institutional controls.

Remedial Design & Remedial Action Activities

On May 24, 1991, the EPA sent Special Notice letters under Section 122(e) of CERCLA to OCC and Olin offering the companies the opportunity to perform the Remedial Design/Remedial Action (RD/RA) as set forth in the ROD for the Site. The Special Notice provided for a moratorium of 120 days during which the EPA agreed not to conduct the RD/RA pending the outcome of negotiations for OCC and Olin to conduct the RD/RA. This letter also included a demand for the reimbursement of the EPA's past costs of \$3,047,706.88 plus interest. On July 16, 1991, OCC and Olin responded to the EPA's Special Notice and Demand Letter with a "good faith offer" of willingness to perform the RD/RA. Negotiations however, were not successful.

In the absence of an agreement on the RD/RA, the EPA, pursuant to Section 106(a) of CERCLA, issued a Unilateral Administrative Order (UAO) to OCC and Olin on September 30, 1991, for them to conduct the RD/RA for the Site. Counsel for OCC and Olin indicated that their clients intended to comply with the terms of this UAO.

The Remedial Design for the project was performed by the PRPs' consultant, Fluor Daniel, Inc. The Risk Assessment was completed for the EPA by Gradient Corp. The Remedial Action was carried out by Smith Environmental Technologies Corporation.

The first construction activity at the Site began in April 1996.

The rerouting of the Sewer Line began in July 1996 and the construction was completed in September 1996.

The consolidation of all contaminated soils which started in June 1996, was finished in August 1996. Beginning in July 1996, a cofferdam was built around the portion of the embayment which contained contaminated sediments. After the embayment area was dewatered, the process of removing the contaminated sediments, placing them on top of the landfill, and then positioning clean fill into the excavated embayment, was completed in November 1996.

The circumferential slurry wall was started in August 1996, and was completed in May 1997. The construction of the cap began in November 1996, and was completed in November 1997.

No hazardous materials were transported off-Site except for a small quantity of NAPL (less than 75 gallons) which was collected during the development of the dedicated NAPL recovery wells. This material was transported to a permitted facility in Texas where it was incinerated.

Only leachate is being collected at the Site. No ground water is being collected.

The overburden outside the slurry wall will be monitored quarterly for the first two years, semi-annually for the next eight years, and once every year thereafter. There are three bedrock- monitoring wells positioned on the southern, northern, and eastern sides of the Site. These bedrock wells will be monitored in the same manner as the overburden wells.

All leachate collected at the Site is being transferred via a forcemain system to the nearby Love Canal Treatment Facility (LCTF) where the leachate is treated and discharged. The LCTF is permitted to discharge to the Niagara Falls municipal sewerage system for final treatment at the Niagara Falls Publicly Owned Treatment Works. During steady-state operations, the Site is expected to generate approximately 5,000 to 6,000 gallons of leachate per day. The LCTF has the capacity, and is also permitted, to accept this volume of leachate. The average monthly discharge of the LCTF is 800,000 gallons.

Institutional controls in the form of deed restrictions were filed on January 25, 2000 in the County Recorder's Office by the two PRPs, OCC and Olin, who are the owners of the real property which comprises the Site. The filing of the deed restrictions was effectuated under the terms of a settling Consent Decree, which was lodged with the Court on July 19, 1999 and which was entered into judgement by the Court on October 1, 1999. This Consent Decree also allowed the EPA to recover past response costs and allowed the federal Natural Resources Trustees to recover claims arising out of releases from the Site.

At all times since the entry of the UAO on September 30, 1991, OCC and Olin have been in compliance with the terms and conditions of the UAO. At present, construction of the remedy defined in the ROD is complete. The final element of the remedy, the construction of which was completed on March 6, 1999, is the forcemain system that is presently transferring the leachate from the Site to the existing treatment facility at the neighboring Love Canal Site.

Monitoring Results

The forcemain system which carries the leachate from the Site to the LCTF was completed on March 6, 1999. Leachate pumping operations began on March 6, 1999. Since that time, the system has shown excellent integrity in that the four wet wells are recharging properly and the leachate level within the landfill dropped steadily. The transient-phase plans called for a pump-down to about 562 feet a.m.s.l. (above mean sea level) which would be one (1) foot below the average level of the Niagara River which is about 563.6 feet a. m.s.l. As of November 28, 2000, the leachate level was lowered to its target level of 562 feet a.m.s.l. Accordingly, as of such date, the EPA regards the transient phase as having been terminated, the inward gradient as having been achieved, and the steady-state phase as having begun. During steady-state operations, enough leachate will be removed from the landfill so as to maintain the inward differential (gradient) of one (1) to two (2) feet.

Document Review

The following documents, data, and information were reviewed in completing this Five-Year Review:

- Remedial Investigation, Final Report, July 1990;
- Feasibility Study, Final Report, July 1990;
- Superfund Proposed Plan, released to the public for comment on July 25, 1990;
- Record of Decision for the 102nd Street Landfill Superfund Site, September 1990;
- Unilateral Administrative Order for Performance of Remedial Design and Remedial Action, September 1991;
- Explanation of Significant Differences, September 1993;
- Record of Decision Amendment, June 1995;
- Consent Decree, April 1999;
- Remedial Action Report, August 1999;
- Preliminary Closeout Report, September 1999;
- Operation and Maintenance Plan, November 2000; and,
- EPA Guidance for conducting Five-Year reviews and other guidance and regulations to determine if any new applicable, or relevant and appropriate requirements relating to the protectiveness of the remedy have been developed since the EPA issued the Record of Decision for the Site.

There are no requirements promulgated or modified after the Record of Decision was issued that are applicable, or relevant and appropriate, and that pertain to the remedy selected at this site.

III. RESULTS OF THE FIVE-YEAR REVIEW

Since the completion of the remedial action activities, the following Site conditions relating to the implementation of the remedy have been achieved:

- the leachate collection system which consists of four wet wells, as well as the forcemain system whereby the leachate is pumped from the Site to the Love Canal Treatment Facility, is operating properly;
- the inward gradient across the slurry wall has been achieved and is being maintained;
- the security fence around the Site is properly in place and in good repair;
- the monitoring wells installed around the perimeter of the Site, as well as the dedicated NAPL collection wells on the Site, are intact;
- the re-vegetated embayment has fully recovered and is a functioning wildlife resource area;
- the various grasses planted on the cap covering the Site have fully matured as a functioning wildlife resource area;
- the climbing vines installed along the portion of the security fence running along Buffalo Avenue have grown into place; and,
- there is no evidence that any trespassing or vandalism has occurred at the Site.

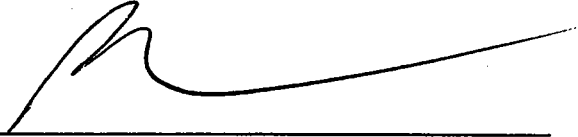
IV. NEXT FIVE-YEAR REVIEW

In accordance with 40 CFR §300.430(f)(4)(ii), the lead agency shall review the remedial action for the Site at least once every five years. CERCLA and the NCP require that the Five-Year Review period begin with the initiation of the selected remedial action. The remedial action for the Site was initiated in April 1996. This review evaluates the protectiveness of all remedial actions conducted at the Site to date.

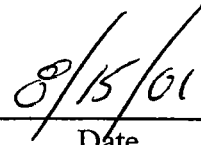
Because hazardous substances, pollutants, or contaminants which remain at the Site, do not allow for unlimited use or unrestricted exposure, the EPA will conduct another Five-Year Review on or before April 2006.

V. STATEMENT OF PROTECTIVENESS

Based upon observations from visits to the Site by Paul Olivo and a review of Site-related data and documents, it has been concluded that the response actions implemented at the Hooker (102nd Street) Landfill Superfund Site are in accordance with the remedy selected by the EPA and that the remedy continues to be protective of human health and the environment.



Richard L. Caspe, P.E., Director
Emergency and Remedial Response Division



Date