

Maywood Chemical Company

New Jersey

EPA ID#: NJD980529762

EPA REGION 2

Congressional District(s): 05,09

Bergen

Maywood, Lodi, Rochelle Park

NPL LISTING HISTORY

Proposed Date: 12/1/1982

Final Date: 9/1/1983

Deletion Date: 12/30/2008

Site Description

The Maywood Chemical Company site consists of three connected areas: the Stepan property, the Sears and adjacent commercial properties, and the Maywood Interim Storage Site (MISS) owned by the federal government. The site also includes certain vicinity residential and commercial properties. It is located in a highly developed commercial and residential area that includes portions of the Borough of Maywood, Lodi, and Rochelle Park.

From 1916 through 1955, the Maywood Chemical Company processed radioactive thorium ore. The residues or tailings from the process operation, clay-like dirt, contained significant quantities of low-level radioactive materials. In addition, other processing operations generated various types of waste products (such as lanthanum, lithium compounds, detergents, alkaloids, essential oils, and products from tea and cocoa leaves). Maywood Chemical pumped process wastes to diked areas west of the plant. In 1932, State Route 17 was built through the disposal area. Process wastes subsequently migrated onto adjacent properties in Rochelle Park. Some of the waste materials were excavated and used as fill dirt and mulch for nearby properties in Maywood and Lodi. Waste materials were also transported via the old Lodi Brook stream channel (later replaced by a storm water drainage system). The result was chemical and radioactive contamination over much of the local area. The Maywood Chemical Company was bought by the Stepan Chemical Company (later, the Stepan Company) in 1959. The Stepan Company is currently the owner/operator of a portion of the original Maywood Chemical Company property. Many of Maywood Chemical's operations were discontinued in the 1960s. The Stepan Company currently focuses on the production of specialty chemicals.

Between 1963 and 1968, the Stepan Company undertook several on-site remedial actions. Contaminated material from west of Route 17 and on-site building rubble and debris were buried on the site (with the knowledge of the Atomic Energy Commission - predecessor to the Nuclear Regulatory Commission and Department of Energy). Subsequent to these actions, areas adjacent to Stepan were thought to be clean. However, in 1980, radiological contamination was accidentally discovered by an area resident on property formerly owned by the Stepan Chemical Company. From 1980 to 1983, radiological testing by the State, EPA and DOE revealed extensive low-level contamination on several locations. These studies were the basis for the site being added to the National Priorities List in 1983.

In 1986, in conjunction with DOE's radiological characterization of the Sears and adjacent properties, EPA performed a preliminary study of chemical, non-radioactive pollutants. EPA's study indicated the presence of elevated concentrations of volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), metals, pesticides, and other hazardous substances. In late 1987 through the spring of 1988, still in conjunction with DOE's studies and investigations, EPA collected split samples of soil and groundwater on the Stepan Company property. The data indicated the presence of radiological contaminants in the soil and non-radiological contaminants in the soil and groundwater.

The Energy and Water Development Appropriations Act of 1998 (PL 105-62) provided appropriations for the U.S. Army Corps of Engineers (USACE) to administer and execute DOE's "Formerly Utilized Sites Remedial Action Program" (FUSRAP). The purpose of the FUSRAP program was to clean up contaminated sites where work was performed as part of the Nation's early atomic energy program. Because environmental concerns at the Maywood site were similar to those of FUSRAP sites, DOE assigned the Maywood site to FUSRAP. Responsibility for cleanup of the Maywood site subsequently transferred from DOE to USACE in October 1997.

Site Responsibility: This site is being addressed through Federal (USACE) and potentially responsible party (Stepan Company) actions, with EPA oversight.

Threat and Contaminants

Groundwater at the Maywood site has been contaminated with elevated concentrations of volatile organic compounds. Soil on various parts of the site is contaminated with radioactive wastes (primarily thorium), as well as VOCs, SVOCs, and metals. Drinking or otherwise coming into contact with contaminated groundwater, inhaling contaminated dust, or ingesting contaminated soil are concerns being evaluated by EPA.

Cleanup Approach

The USACE and Stepan Company are responsible for cleanup actions at the site with EPA oversight, as follows:

1. U.S. Army Corps of Engineers

USACE, under its FUSRAP program, will remediate that portion of the Maywood Chemical Company site contaminated with radiological material above site-specific risk-based action levels. USACE is also responsible for all contamination (radiological and non-radiological) at the MISS. Through an Interagency Agreement entered into by EPA and DOE (September 1990), EPA is overseeing USACE's remedial investigation and feasibility study (RI/FS) activities and will oversee the resultant remedial actions.

Soil and Debris: Several removal actions were undertaken by DOE and USACE to excavate contamination while the longer-term remedial process took place from 1984 through 2002, as described in the Cleanup Progress section. The DOE RI report was finalized at the end of 1992. The investigation identified the nature and extent of contamination and formed the basis for recommending the final cleanup strategies at the MISS and all site areas exhibiting contamination above action levels. A final draft feasibility study and proposed plan addressing contaminant source areas (groundwater contamination will be addressed in a separate proposed plan) was submitted to EPA in May 1993. EPA formally entered into dispute with DOE in late June over the cleanup levels proposed by DOE. The dispute was resolved in March 1994 when EPA and DOE agreed to base the site cleanup criteria on the reasonably expected land use. EPA and DOE agreed that if the assumed land use on a particular property changed such that the original exposure assumptions became invalid, DOE would re-evaluate that location and make a determination, together with EPA, on the need for further remediation.

In January 1998, USACE submitted a draft feasibility study and proposed plan for remediation of those properties not addressed by the ongoing removal action. This information was presented to EPA's National Remedy Review Board in March 1998, and comments were provided to USACE for incorporation into the final documents. A Record of Decision for the FUSRAP soils and buildings cleanup was signed in August 2003. The remedy addresses the FUSRAP contamination at the site and calls for the excavation, removal and off-site disposal of contaminated materials above the remedial action objectives. The remedy also calls for the implementation of institutional and land use controls for areas where inaccessible contamination remains at levels higher than the release criteria, as well as for properties cleaned up to meet commercial criteria.

Groundwater: USACE has undertaken a separate investigation of groundwater to address the nature and extent of contamination downgradient of the MISS (to the west of the MISS) which may be related to former thorium processing operations. This investigation began in the summer of 2000. Under the terms of the Federal Facilities Agreement, USACE is responsible for addressing those radioactive and non-radioactive contaminants associated with former thorium processing operations and are defined as FUSRAP waste. VOCs and some metals occur in groundwater at the MISS and downgradient. The former retention ponds located on the MISS and Ballod properties have been identified as possible sources of groundwater constituents of concern (COCs). Radioactive COCs occurring in soils have not been detected in groundwater except for one well located to the east of the Sears property. The groundwater RI and risk assessment were completed in July 2005. USACE recently submitted a draft groundwater FS to EPA for review and is presently responding to EPA comments. A groundwater remedy will be selected with public input following the finalization of the FS.

2. Stepan Company

The Stepan Company, acting as a potentially responsible party (it presented a good faith offer to EPA in early 1987), is performing the RI/FS involving non-radiological, chemical contamination at the Maywood Chemical Company site (the Stepan Company property and Sears and adjacent commercial properties - not the MISS) under EPA oversight. The Stepan RI/FS is being performed through two different legal vehicles: (1) on the Sears and adjacent commercial properties, the RI/FS is being conducted in accordance with an Administrative Order on Consent entered into in September 1987, and (2) on the Stepan Company property, the RI/FS is being undertaken in accordance with a Unilateral Administrative Order signed in May 1991.

In late summer of 1992, with EPA oversight, Stepan completed the initial remedial investigation field work to characterize the nature and extent of non-radiological chemical contamination at the site. EPA completed the risk assessment for the site in June 1993. The most significant risk concern is the potential future ingestion of contaminated groundwater (no one is believed to be currently drinking contaminated groundwater from the site, due to the availability of a public water

supply). Stepan's draft RI report was submitted to EPA in March 1993. To address the significant groundwater contamination at the site, Stepan performed additional work in the summer/fall of 1993. This work included an additional sampling round of all monitoring wells (performed in conjunction with DOE) and soil borings to determine possible groundwater contamination source areas. The final draft RI and draft FS were submitted to EPA in November 1994. Additional limited groundwater sampling was performed in 1996 and the results provided to EPA for review in 1997. Based on this data, Stepan performed a pilot treatability study for groundwater contamination which began in the fall of 1997 and was completed in the fall of 1998. Follow-up groundwater samples were collected in 1999. A draft FS addendum was submitted in October 2000 which incorporated the treatability study findings. A final FS for soil and source areas was submitted in February 2002; a draft final FS for groundwater was submitted in June 2003. Stepan collected additional groundwater samples in 2006 and is currently working on the final FS for groundwater. A remedy for soil, source areas and groundwater will be selected with public input following the finalization of the FS.

Cleanup Progress

Between 1984 and 1985, DOE, acting under its authority through the 1984 Energy and Water Appropriations Act (PL 98-50) which specifically addressed the Maywood site, investigated and removed over 35,000 cubic yards of soil and debris from the Ballod commercial property (the former location of diked disposal areas west of Route 17) and 25 residential properties in Maywood, Lodi, and Rochelle Park. Due to the limited commercial disposal capacity for radiological wastes at the time, the excavated materials from these cleanups were stockpiled on 11.7 acres of land that was part of the original Maywood Chemical Works processing site. DOE acquired this property from the Stepan Company and named it the Maywood Interim Storage Site or MISS. A time-critical removal action was conducted in the summer of 1991 when, because of high radiation exposure readings at a home in Lodi, DOE dismantled a portion of the structure and took the debris to the MISS. During a cleanup action conducted by DOE from 1994 to 1996, these stored materials consisting of more than 35,000 cubic yards were removed from the MISS and shipped by rail to a licensed commercial facility in Utah for permanent disposal.

In addition, DOE initiated the cleanup of 31 residential properties, four municipal properties (three parks and a fire station), and one commercially zoned property in 1995. These property cleanups were implemented as removal actions as proposed in DOE's September 1995 Engineering Evaluation and Cost Analysis (EE/CA) under CERCLA. These interim cleanup actions were completed in 2001 by USACE.

A time-critical removal action was completed by USACE during the winter of 2000 involving the excavation of 400 cubic yards of contaminated sediments from portions of Lodi Brook and a drainage swale. This removal action re-established the hydraulic grade of the brook and swale, prevented additional flooding, and prevented the transport or migration of contaminated soil by flooding water.

In January 2002, USACE began a non-time critical removal action to address contaminated soils impacted by the New Jersey Department of Transportation's roadway improvement program. USACE continues to clean up the remaining FUSRAP contaminated soils and buildings in accordance with the 2003 Record of Decision. This work is scheduled for completion in 2014.

To date, more than 240,000 cubic yards of contaminated materials have been permanently removed from the site, significantly reducing the potential for exposure to contamination.

Site Repositories

Maywood Public Library 459 Maywood Avenue Maywood, New Jersey 07607

Maywood FUSRAP Public Information Center, 75A West Pleasant Avenue Maywood, New Jersey 07607
www.fusrapmaywood.com

USEPA Records Center 290 Broadway, 18th floor New York, NY 10007 (212) 637-4308