



Long-Term Stewardship Inspection Report

Merck Sharp & Dohme Corporation

EPA ID#: PAD002387926

West Point, PA

Introduction

Long-term stewardship (LTS) refers to the activities necessary to ensure that engineering controls (ECs) are maintained and that institutional controls (ICs) continue to be enforced. The purpose of the EPA Region 3 LTS program is to periodically assess the efficacy of the implemented remedies (i.e, ECs and ICs) and to update the community on the status of the RCRA Corrective Action facilities. The assessment is conducted in twofold, which consists of a record review and a field inspection, to ensure that the remedies are implemented and maintained in accordance to the final decision.

Site Background

The Merck Sharp & Dohme Corp. (Merck) facility is a 400 acre site is located in West Point, Pennsylvania one mile south of Lansdale in Upper Gwynedd Township. This facility operates Merck's primary vaccine business and conducts research for new product development.

Merck is currently under an Administrative Order of Consent Order (Order) with the United States Environmental Protection Agency (EPA) to monitor and remediate groundwater contamination and to maintain the cap of the former onsite landfill. The contaminants of concerns (COCs) are volatile organic compounds (VOCs) that include chloroform, tetrachloroethylene, and trichloroethylene in groundwater. Merck operates 12 production wells with activated carbon systems to treat the groundwater and to sustain hydraulic control of the groundwater plume. The treated groundwater is recycled through the facility and is used for manufacturing and potable water purposes.

Merck maintains the cap for the former onsite landfill. In 1999, Merck replaced the original soil cap with asphalt and converted the area to a parking lot for truck trailers. The cap eliminates any direct exposures to the wastes in the former landfill. The existing network of production wells maintain hydraulic control of the groundwater in the area of the former landfill.

In addition to the groundwater remediation, Merck offered to connect the surrounding residences with groundwater wells to public water. Fifty-eight local residences agreed to connect to public water. Residents who chose to remain on well water continued to have their wells tested quarterly by Merck to confirm that the water from these wells meet the Federal drinking water standards.

Current Site Status

Merck will continue to monitor the groundwater plume and the offsite residential wells to ensure that the current network of production wells continue to control and remediate the groundwater

contamination. Merck will continue to maintain the cap of the former onsite landfill. Merck distributes a yearly Information Bulletin that updates the community on the progress and status of the groundwater remediation during the past year.

Long-term Stewardship Site Visit

On November 18, 2014, EPA conducted a long-term stewardship site visit with Merck representatives to discuss and assess the status of the implemented remedies at the site.

The attendees were:

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Khai M. Dao	USEPA	dao.khai@epa.gov	(215) 814-5467
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The remedies implemented at the site include engineering controls and institutional controls. The status and specifics for the respective controls, and a summary of a variety of topics discussed during the meeting and field inspection are presented in the subsequent sections.

Engineering Controls (ECs)

Engineering controls (ECs) encompass a variety of engineered and constructed physical barriers (e.g., soil cap, subsurface venting systems, fences, groundwater pump and treat) to contain and/or prevent exposure to contamination.

ECs implemented at the site include groundwater monitoring and remediation, and the maintenance of the asphalt cap (i.e., trailer parking lot) above the former landfill. Merck will continue to operate the production wells and monitor the groundwater to ensure that the implemented corrective action effectively remediates and controls the groundwater plume. Furthermore, Merck continues to submit progress reports to EPA that assess the effectiveness of the implemented remedies and to ensure to that the remedies continue to meet the requirements of protection of human health and the environment.

Institutional Controls (ICs)

Institutional controls (ICs) are administrative or legal instruments (e.g., deed restrictions/notices, easements, covenants, zoning) that impose restrictions on the use of contaminated property or resources. ICs are also used to identify the presence of ECs and LTS requirements.

ICs at the facility include land use and groundwater use restrictions. Land use at the site is limited to non-residential use. Any proposed changes in land use beyond the current designated non-

residential use will require the approval of EPA and must meet the required cleanup standards for the specific land use. The groundwater beneath the facility must be treated to the Federal drinking water standards prior to use for manufacturing and potable water purposes. Any new groundwater well installation will require EPA approval. Currently, the legal instruments that enforce ICs at the facility are the EPA Order and the local zoning ordinance.

During the LTS site visit, EPA and Merck discussed the possibility of unifying the ICs into an environmental covenant in accordance to the Pennsylvania Uniformed Environmental Covenant Act (UCEA). The environmental covenant will simplify the enforcement of the ICs and will be a public document that is readily available and easily accessible by the community.

Financial Assurance:

Merck will continue to submit its annual financial assurance to EPA to ensure that there are sufficient funds to implement and maintain the remedies at the site.

Field Inspections:

After the meeting, EPA and some of the Merck representatives conducted a field inspection of the facility. The areas of the field inspection included the groundwater remediation system, observations of some of the monitoring and production wells and the asphalt cap at the former landfill. The implemented remedies are operational and continue to be effective in remediating and containing the groundwater plume. Observations of the capped area of the former landfill, which currently serves as a parking lot for truck trailers, indicate that the cap is intact and stable.

Community Contact

Subsequent to the LTS site visit, EPA contacted the Upper Gwynedd Township Manager to inform the Township the purpose of the LTS site visit and the status of the groundwater remediation. EPA also informed the Township that Khai M. Dao is the point of contact at EPA and provided Mr. Dao's contact information if the Township has any questions regarding the implemented remedies at the Facility. The Township continues to receive the annual Information Bulletin, which provides a yearly update on the status and progress of the corrective action activities at the facility.

Follow-up Activities:

Over the past decade the groundwater remediation has been effective in cleaning up and controlling the groundwater plume at the site. Such that Merck will reassess the current groundwater monitoring network to determine ways to improve the efficiency of the groundwater monitoring program. In the coming months Merck will submit its proposal to enhance the groundwater monitoring network to EPA for approval. Merck will also look into the possibility of unifying the legal instruments that enforce the ECs and ICs into an environmental covenant.

Conclusion:

EPA concludes that the implemented remedies are effective in meeting the objectives of protection of human health and the environment. Merck will continue to implement the remedies set forth in the Order. To ensure that ICs and ECs are consistent and continued to be enforced, Merck will look into the possibility of unifying the legal instruments that enforce the ECs and ICs into an environmental covenant.