

Operable Unit 3 (old city dump)

Executive Summary

Riverfront Superfund Site New Haven, Missouri

The U.S. Environmental Protection Agency (EPA) has initiated a remedial investigation and feasibility study (RI/FS) for Operable Unit 3 (OU3) at the Riverfront Superfund Site in New Haven, Missouri. The RI/FS process is the methodology authorized by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980 as amended by the Superfund Amendments and Reauthorization Act (SARA) of 1986 (i.e., Superfund program) for characterizing the nature and extent of risks posed by uncontrolled hazardous waste sites and for evaluating potential remedial options.

Site History, Contamination, and Risk

The town of New Haven (population 1,600) is located along the southern bank of the Missouri River in Franklin County, Missouri. In 1986, the volatile organic compound (VOC) tetrachloroethene (PCE) was detected in two public-supply groundwater wells (Wells W1 and W2) in the northern part of New Haven. Subsequent investigations in New Haven found PCE in the groundwater and soils at several locations within the City of New Haven. The site became known as the Riverfront Site, and in December 2000, the PCE contamination prompted the listing of the Riverfront Site on the National Priorities List (NPL) for environmental clean-up under Superfund.

The Riverfront Superfund Site consists of six OUs within the City of New Haven. OU1, known as the Front Street Site, encompasses approximately 2 acres and is an industrial area in downtown New Haven. OU3, known as the Old City Dump, encompasses approximately 3-acres and is located just north of State Highway 100 on the eastern side of New Haven. The scope of this FS addresses only OU1, the Front Street Site, and OU3, the Old City Dump Site. OU3 is discussed exclusively in this volume (Volume 2) of the FS. Discussion of OU1 can be found in Volume 1 of this FS.

OU3 is located in the southeastern portion of New Haven along the north side of State Highway 100. Between the mid-1950s and 1974, OU3 was used for the disposal of household, industrial, and demolition wastes. The dump is located at the upper end of a steep ravine. Wastes were pushed into the ravine until the entire ravine was filled. The surface of the dump is covered with demolition debris.

During the RI, sampling was conducted by the U.S. Geological Survey (USGS) for EPA. Sampling consisted of vegetation sampling, groundwater sampling, and surface

water sampling of seeps and drainages adjoining the dump. Results of vegetation sampling at OU3 indicated that trees around OU3 were up-taking only minor amounts of PCE. PCE and its degradation products were not detected at levels that exceeded groundwater MCLs. Groundwater seeps adjacent to the dump contained elevated concentrations of inorganic constituents that are characteristic of sanitary landfill leachate.

Risk assessments were performed to determine the effect of contamination at OU3 on human health and the environment. Exposure to contaminated water from the seeps at OU3 was found to pose unacceptable excess non-carcinogenic risks. However, the groundwater seeps are intermittent and are not used as a drinking water source. The ecological risk assessment for the Riverfront Site found that OU3 poses minimal risk to ecological receptors.

Remedial Action Objectives

To satisfy CERCLA requirements, remedial action objectives were developed for OU3 at the Riverfront Site. Remedial action objectives were used to develop general response actions for the Site. The remedial action objectives developed for the contaminated groundwater at OU3 are presented in Table ES-1.

Remedial actions must comply with applicable or relevant and appropriate requirements (ARARs) of federal laws and more stringent, promulgated state laws. In addition, the guidance also identifies non-promulgated advisories or guidance documents issued by federal or state governments as “to-be-considered” materials (TBCs) for the site. Chemical-specific, action-specific, and location-specific ARARs for OU3 have been preliminarily identified, including a preliminary listing of TBCs.

General response actions were identified for groundwater contamination. Remedial technologies and process options were identified for each general response action. Remedial technologies refer to general categories of technology types, and process options refer to specific processes within each technology type. The remedial technologies and process options identified were screened on the basis of technical implementability, effectiveness, implementability specifically at OU3, and cost.

Remedial Alternatives

Combining individual process options develops possible solutions for the contamination problem, which are referred to as remedial alternatives. The remedial alternatives technologies address groundwater contamination at OU3. Because risk levels at OU3 were found to be minimal, many process options were eliminated during the screening process because they were felt to be unnecessary.

The goals in developing the preliminary remedial alternatives are to provide both a range of cleanup options and sufficient detail to adequately compare alternatives.

Alternative 1—No Action. Alternative 1 would not involve any remedial actions, and the site would remain in its present condition. This alternative, required by the National Contingency Plan and CERCLA, is a baseline alternative against which the effectiveness of the other alternatives can be compared. Under the no action alternative, the site is left "as is" and no funds would be expended for monitoring, control, or cleanup of the contaminated groundwater and soils. However, a 5-year review of the site would be required under CERCLA, so funds would have to be expended to conduct the review.

Alternative 2—Institutional Controls. Alternative 2 would use institutional controls to address potential health risks associated with contaminated groundwater and seep (surface) water. Institutional controls would consist of deed and zoning restrictions, permits, and public education. Restrictions and permitting could prevent contact with contaminated groundwater by restricting well drilling at OU3. Public education could alert the public about the health risks associated with using contaminated groundwater from seeps for bathing, cooking, and drinking.

Alternative 3—Institutional Controls and Monitoring. Alternative 3 would use groundwater monitoring and institutional controls to address the potential health risks associated with the contaminated groundwater. Monitoring of the groundwater would involve the installation of monitoring wells and periodically sampling those wells. Sampling allows contamination to be monitored. Thus, Alternative 3 would provide a means for changes in groundwater contamination to be watched and periodically evaluated. Institutional controls, as described in Alternative 2, would also be implemented to prevent human contact with contaminated water.

Comparison of Alternatives

A detailed comparative analysis of the eight alternatives against seven of the nine criteria required by the National Contingency Plan was performed. These criteria include: protection of human health and the environment; compliance with ARARs; long-term effectiveness and permanence; reduction of toxicity, mobility, or volume through treatment; short-term effectiveness; implementability; and costs. The two remaining criteria, state acceptance and community acceptance will be addressed in the Record of Decision after the public comment period. Table ES-2 provides a summary of the detailed comparative analysis.