Riverbank Army Ammunition Plant NPL

Size: 172 acres
Mission: Manufacture grenades, projectiles, and steel cartridge casings
HRS Score: 63.94; placed on NPL in February 1990
IAG Status: IAG signed in April 1990
Contaminants: Chromium, cyanide, and zinc
Media Affected: Groundwater and soil
Funding to Date: $41.1 million
Estimated Cost to Completion (Completion Year): $45.7 million (FY2015)
Final Remedy in Place and Response Complete Date for All Sites: FY1998

Riverbank, California

Restoration Background

In 1942, the Army constructed what is now the Riverbank Army Ammunition Plant as an aluminum reduction plant to supply military requirements. Since 1951, the installation has manufactured steel cartridge cases for the Army and the Navy. Other manufactured products include grenades and projectiles, which are shipped to other ammunition plants for loading operations.

In FY85, chromium was detected in drinking water wells at residences west of the installation. As an Interim Action, the installation began a quarterly groundwater monitoring program. The Army provided alternative water supplies from deeper groundwater wells to five residences with contaminated wells. A Preliminary Assessment and Site Inspection identified the following sites: an industrial wastewater treatment plant, an abandoned landfill, and four evaporation and percolation ponds located north of the plant near the Stanislaus River. Chromium, cyanide, and zinc are the primary contaminants affecting groundwater and soil.

A FY90 Interim Action included construction of a groundwater extraction and treatment system. In FY92, the Army constructed a water distribution system for 70 nearby residences. In FY93, the regulatory agencies approved the final Remedial Investigation and Feasibility Study (RI/FS) report, and the Army presented the Proposed Plan to the public for review. The plan recommended (1) expansion of the groundwater extraction and treatment system to provide complete capture of the contaminated groundwater plume and (2) placement of a final cap over the abandoned landfill.

In FY94, the installation completed a Removal Action at the four evaporation and percolation ponds and received approval from EPA and the state regulatory agency for the first installationwide Record of Decision (ROD).

The installation formed a technical review committee (TRC), which meets monthly to discuss outstanding issues. To accelerate cleanup, the TRC developed a process for concurrent preparation and review of documents. The process allowed the Army, EPA, and the state regulatory agency to review the draft FS report while the Army began preparing the ROD. In FY95, the installation completed construction of the landfill cap and awarded the Remedial Action (RA) contract for expansion of the groundwater extraction and treatment system.

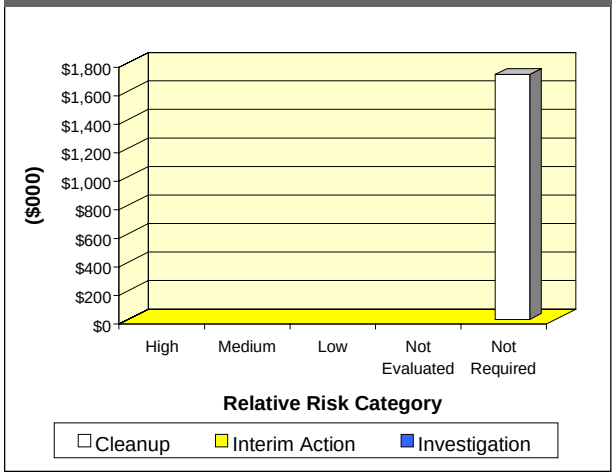
In FY96, the off-site groundwater extraction system was installed and placed on-line to minimize migration of the plume and to demonstrate capture of the plume. The installation initiated a maintenance program for the landfill cap. The Army petitioned EPA Region 9 to remove the installation from the National Priorities List (NPL) in September 1996, the first request for NPL deletion for an entire Army installation.

In FY97, the installation completed expansion of the groundwater extraction and treatment system and began long-term monitoring. The petition to delist the installation from the NPL was submitted as scheduled. EPA approved the preliminary Closeout Report and the Remedial Action Completion Report. Riverbank became the first DoD installation to reach construction completion under the EPA Superfund 900 by 2000 initiative.

FY98 Restoration Progress

The installation eliminated chemical usage at the interim groundwater treatment system by using an ion exchange system for removing chromium and cyanide contaminants from the groundwater. This change is expected to reduce long-term operating costs by 40 percent in FY99.

Plan of Action

- Complete closeout of the RA by FY03
- Achieve NPL deletion by FY03

FY99 Funding by Phase and Relative Risk