

4.0 Scope and Role of the On-Post Operable Unit

The On-Post Operable Unit is one of two operable units at RMA (Figure 1.0-1). The On-Post Operable Unit addresses contamination within the fenced 27 square miles of RMA proper. The contaminated areas include approximately 3,000 acres of soil, 15 groundwater plumes, and 798 remaining structures. The most highly contaminated sites are located at South Plants (Central Processing Area, Hex Pit, Buried M-1 Pits, Chemical Sewers), Basins A and F, Lime Basins, and the Army and Shell disposal trenches. The primary contaminants at these sites are pesticides, solvents, heavy metals, and agent byproducts, which are found in soil and/or groundwater. The soil in these areas poses a principal threat to human and ecological receptors. The potential exposure pathways through which a threat would be posed to humans are identified in Section 6.1 and for wildlife in Section 6.2.

At RMA, groundwater contamination is moving principally to the north and northwest, but it is intercepted before it flows off post by the boundary groundwater treatment systems west, northwest, and north of the major source areas. At these systems, the groundwater is treated to established CSRGs (see Section 9). Ongoing monitoring of n-nitrosodimethylamine (NDMA) will be used in support of design refinement for the groundwater treatment systems. Possible ingestion or dermal contact with the groundwater is not a threat to human health on post because the use of groundwater for domestic purposes is restricted by the FFA. Nonpotable uses of on-post groundwater were not anticipated and risk was therefore not considered in the human health risk characterization portion of the Integrated Endangerment Assessment/Risk Characterization for such uses. A risk evaluation would be performed prior to any future nonpotable use to ensure that such use would be protective of human health and the environment.

The purpose of the on-post remedial action is to prevent current or future excessive exposure to contaminated soil or structures, to reduce contaminant migration into the groundwater, and to treat contaminated groundwater at the boundary to meet remediation goals. Remedial measures for on-post groundwater will augment the soil remedy and facilitate long-term remediation of groundwater. In addition, it addresses the arrangement for provision of potable water to the South Adams County Water and Sanitation District (SACWSD). The selected remedy described in this ROD will permanently address the threats to human health and the environment by using a combination of containment (as a principal element) and treatment technologies to reduce the toxicity, mobility, or volume of contaminants in groundwater, structures, or soil; comply with applicable or relevant and appropriate requirements (ARARs); and be cost effective.

The Off-Post Operable Unit addresses contamination in the groundwater north and northwest of RMA. The area impacted by this contamination is referred to as the Off-Post Study Area (see Figure 1.0-1). The final ROD for the Off-Post Operable Unit was issued in December 1995, the major components of which are summarized in Table 4.0-1.

Record of Decision for the On-Post Operable Unit

The selected remedy for the On-Post Operable Unit, integrated with the IRAs and the selected remedy for the Off-Post Operable Unit, will comprehensively address all contamination at RMA. The ROD for the On-Post Operable Unit will be the final response action at RMA.

Component	Description
1	Continued operation of the Off-Post Groundwater Intercept and Treatment System.
2	Natural attenuation of inorganic chloride and sulfate concentrations to meet remediation goals for groundwater in a manner consistent with the on-post remedial action.
3	Continued operation of the NWBCS, NBCS, and ICS as specified in Section 7.2 of the ROD for the On-Post Operable Unit.
4	Improvements to the NBCS, ICS, NWBCS, and the Off-Post Groundwater Intercept and Treatment System as necessary.
5	Long-term groundwater monitoring (including monitoring after groundwater treatment has ceased) to ensure continued compliance with the CSRGs.
6	Five-year site reviews.
7	Exposure control/provision of alternate water as detailed in the ROD for the Off-Post Operable Unit.
8	Institutional controls, including deed restrictions on Shell-owned property, to prevent the use of groundwater exceeding remediation goals.
9	Closure of poorly constructed wells within the Off-Post Study Area that could be acting as migration pathways for contaminants found in the Arapahoe aquifer.
10	Continuation of monitoring and completion of an assessment by the Army and Shell of the NDMA plume by June 13, 1996 using a 20 ppt method detection limit.
11	Preparation of a study that supports design refinement for achieving NDMA remediation goals at the RMA boundary. The study will use a 7.0 ppt preliminary remediation goal or a certified analytical detection level readily available at a certified commercial laboratory (currently 33 ppt).
12	Tilling and revegetation of approximately 160 acres in the southeast portion of Section 14 and the southwest portion of Section 13 by the Army and Shell.
13	Treatment of any contaminated extracted groundwater prior to discharge or reinjection so that it meets the CSRGs that meet or exceed the water quality standards established in the CBSGs and CBSMs.