

ROCKY FLATS STEWARDSHIP COUNCIL

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Rocky Flats History, Cleanup and Ongoing Management

The History of Rocky Flats and the Cleanup (1995 – 2005)

Rocky Flats operated from 1951 until 1989 and served as the nation's primary nuclear weapons trigger production facility. Production of triggers (known as pits) and other classified work resulted in widespread contamination within the buildings and throughout portions of the 6,200-acre site, with the greatest contamination and thus hazards within the 384-acre core industrial area. Site operations and fires in the production buildings also spread contamination to off-site lands and into off-site water supplies.

Production ceased in 1989 after the FBI and Environmental Protection Agency (EPA) raid on the site, yet DOE did not announce an end to the nuclear weapons production mission until 1993. Cleanup, which began in earnest in 1995 and was closely regulated by both the EPA and the Colorado Department of Public Health and Environment (CDPHE), took 10 years and cost \$7 billion. Local governments and community organizations closely tracked site issues and engaged on numerous issues, including cleanup levels and future use determinations.

The cleanup focused on four principal activities:

1. Stabilizing materials
2. Decontaminating and demolishing buildings
3. Shipping all waste to off-site receiver sites (note: the two landfills that were used during production were capped in place)
4. Remediating contaminated soils and contaminated groundwater, and protecting surface water quality

The overarching goals for the cleanup project included:

1. Ensuring waters leaving the site are available for any and all uses – at Rocky Flats the surface water standard for plutonium is 100 times cleaner than the federal drinking water standard
2. Demolishing all buildings and removing foundations to 6' below grade
3. Remediating soils to levels that support a wildlife refuge – in fact, most of the site is clean enough to support residential and/or industrial use
4. Developing and implementing a comprehensive post-closure stewardship plan

DOE, EPA and CDPHE determined off-site lands were not contaminated to levels that warranted remediation. Cleanup activities ended in October 2005, and in late 2006 and early 2007, DOE, EPA and the CDPHE declared the cleanup complete. The former buffer zone and off-site lands were removed from the Superfund list and 4000 acres of the former buffer zone were transferred to the Department of the Interior to be protected as the Rocky Flats National Wildlife Refuge.

Ongoing Management

Cleanup, however, did not eliminate all risk. The core production areas, settling ponds and two landfills hold the greatest hazards and thus remain under DOE's jurisdiction. Contamination is found along old building foundations, in pond sediments, in old underground process waste lines, in two landfills, and in other areas. This contamination, which is at or, in nearly all cases, below all federal and state regulatory standards, includes radioactive materials, chemical solvent wastes and heavy metal wastes. DOE's responsibility is to ensure the cleanup remedies are working as designed and to protect the remedies from human intrusion.

This remaining contamination poses no immediate threat to human health and the environment, but it does require ongoing management by DOE and regulatory oversight by CDPHE and EPA. Accordingly, DOE, CDPHE and EPA entered into a post-closure regulatory agreement, the Rocky Flats Legacy Management Agreement (RFLMA). The RFLMA identifies each party's management/oversight responsibilities. DOE's responsibilities include:

1. Monitoring and maintaining the two landfills and four groundwater treatment systems.
2. Conducting environmental monitoring, including surface water and groundwater monitoring, and repairing systems as necessary.
3. Maintaining legal and physical controls, including but not limited to:
 - a. Prohibiting excavation, drilling, tilling and other such intrusive activities except for remedy-related purposes and in conjunction with plans approved by CDPHE and EPA.
 - b. Ensuring surface water and groundwater on-site is not used for drinking water or for agricultural purposes.
 - c. Maintaining groundwater wells and surface water monitoring stations.
 - d. Prohibiting activities that may damage or impair the proper functioning of any engineered control, including treatment systems, monitor wells, landfill caps and/or surveyed benchmarks.
 - e. Maintaining signs and fencing demarcating the Rocky Flats National Wildlife Refuge lands from the DOE-retained lands.

Perhaps the best barometer to gauge whether the remedies are performing as designed is water quality, both surface water and groundwater. Per the RFLMA, water leaving the site must meet stringent standards, which in the case of plutonium is 100 times below the federal standard for drinking water. The current standard for uranium is two times more stringent than the state standard, although the site specific standard will likely be changed in 2009 to conform with state standards.

To determine whether water standards are being met, DOE uses an extensive water quality monitoring network. This network, which is found throughout both the DOE lands and the Rocky Flats National Wildlife Refuge, includes approximately 20 surface water monitoring

stations and nearly 100 groundwater monitoring wells. Changes to the network require approval by the state of Colorado. Water in the terminal pond system (two terminal ponds on Walnut Creek; one on Woman Creek) is tested by both DOE and CDPHE prior to releasing the water. That data is also shared with downstream communities prior to the releases.

The RFLMA can be found at:

http://www.lm.doe.gov/documents/sites/co/rocky_flats/rflma/RFLMA_200702.pdf

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