Fact Sheet

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U.S. DEPARTMENT of ENERGY | Office of Legacy Management

Rocky Flats Site, Colorado

A CERCLA/RCRA SITE

This fact sheet provides information about the **Rocky Flats Site in Colorado**. This site is managed by the **U.S. Department of Energy Office of Legacy Management** under the **Comprehensive Environmental Response, Compensation, and Liability Act**.

Site Information and History

In 1951, the U.S. Atomic Energy Commission acquired a parcel of land located 16 miles northwest of Denver, Colorado, on a plateau at the eastern edge of the Rocky Mountains Front Range, at an elevation close to 6,000 feet. Construction of the plant began that same year and production began in 1952. Additional parcels acquired in 1974 and 1975 increased the site size to approximately 6,500 acres. Most of the property was used as a security buffer surrounding the plant's 385-acre industrial area.

From 1952 to 1994, the plant's primary mission was producing nuclear and nonnuclear weapons components for America's arsenal. The key component produced was the plutonium pit, or "trigger," for nuclear weapons. Most of the triggers in the U.S. nuclear weapons stockpile were manufactured at the former Rocky Flats Plant. The plant worked with a variety of chemicals and metals, including plutonium, uranium, beryllium, and stainless steel. The former Rocky Flats Plant also processed plutonium for reuse and for the space program and manufactured depleted uranium defense-related components.

The former plant was divided into three geographic areas, each fenced and safeguarded by security forces. The industrial area contained more than 800 structures, including approximately 150 permanent buildings, 90 trailers, temporary structures, sheds, tanks, and annexes to larger buildings. A heavily fenced and guarded complex of plutonium production facilities, known as the protected area, was located within the northern portion of the industrial area. The industrial area and the protected area were surrounded by a 6,000-acre security buffer zone.

In June 1989, the FBI and the U.S. Environmental Protection Agency (EPA) opened an investigation into the Rocky Flats Plant for alleged environmental crimes. In December of the same year, nuclear production work was halted to address environmental and safety concerns.

In 1990, management formulated plans to resume operations in the plutonium buildings. After the Cold War ended, President George H. W. Bush canceled the W-88 Trident Warhead Program in 1992 and the former Rocky Flats Plant production mission terminated. The Secretary of Energy formally announced the end of nuclear production at the plant the following year. Soon after, nonnuclear production work at the site ceased, and the last shipment of defense-related materials was sent out in 1994.

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The decades of operations left contamination at the site. After production ended, the facility's mission changed to cleanup and closure, and it was renamed the Rocky Flats Environmental Technology Site.

In 2005, U.S. Department of Energy (DOE) and its contractor completed a 10-year, $7 billion cleanup. Cleanup required decommissioning, decontaminating, demolishing, and removing more than 800 structures, including six plutonium-processing and fabrication building complexes. DOE removed more than 500,000 cubic meters of low-level radioactive waste, primarily generated by decontaminating and demolishing contaminated buildings.

The DOE Office of Legacy Management (LM) assumed partial site operation and maintenance on Oct. 13, 2005. LM accepted the physical completion of the closure project on Dec. 7, 2005.

Rocky Flats Site prior to final cleanup (June 1995).

Rocky Flats Site (June 2014).

Regulatory Setting

The former Rocky Flats Plant was added to EPA's National Priorities List in 1989 because environmental investigations indicated that plant operations released materials defined as hazardous substances, contaminants, and pollutants by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). Operations also released materials defined as hazardous wastes and waste constituents by the Resource Conservation and Recovery Act and the Colorado Hazardous Waste Act.

Under CERCLA, and in accordance with Executive Order 12580, *Superfund Implementation*, DOE is responsible for long-term stewardship of the site. The Colorado Department of Public Health and the Environment (CDPHE) and EPA are the regulators that oversee the site and ensure its safety.

The final remedy was selected in the Sept. 29, 2006, Corrective Action Decision/Record of Decision, which was based on the results of the July 2006 Remedial Investigation/ Feasibility Study, Comprehensive (Human Health and Ecological) Risk Assessment, and Proposed Plan.

The former Rocky Flats Plant property was divided into two operable units:

Central Operable Unit (COU), also known as the Rocky Flats Site.

- 1,309 acres.
- Continued remediation.
- Institutional controls.
- Physical controls.

Peripheral Operable Unit (POU), also known as the Rocky Flats National Wildlife Refuge.

- 4,883 acres.
- Former security buffer zone surrounding the site.
- Released for unlimited use and unrestricted exposure.

The POU was transferred to the U.S. Department of the Interior in July 2007, to be managed by the U.S. Fish and Wildlife Service as the Rocky Flats National Wildlife Refuge. An additional 745 acres of DOE-administered lands associated with private mineral rights transferred to the refuge in 2014.

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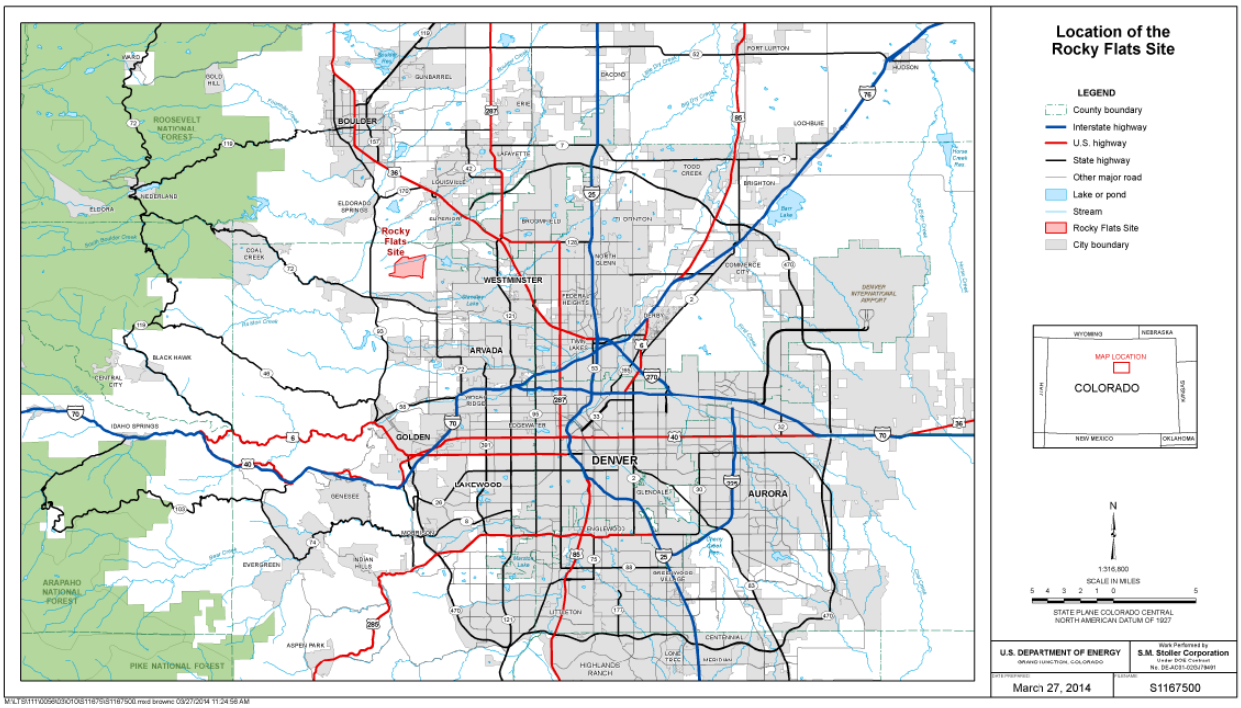

Location of Rocky Flats Site, Colorado.

Rocky Flats Legacy Management Agreement

On March 14, 2007, DOE, EPA, and CDPHE entered into the Rocky Flats Legacy Management Agreement (RFLMA). The agreement establishes the regulatory framework for implementing the final remedy for the Rocky Flats Site (i.e., the COU), ensuring it protects human health and the environment.

The COU includes:

- Landfill containing asbestos, construction debris, hazardous waste constituents, trash, and some depleted uranium contamination.
  - Landfill covers are designed and engineered with precipitation run-on and runoff controls, and wells are installed to monitor the groundwater.
- Landfill seep water containing volatile organic compounds (VOCs).
  - A passive treatment system uses aeration to treat the collected seep water.
- Limited subsurface soil areas with VOCs, metals, or radionuclide contamination and former building and infrastructure components, debris, and incinerator ash containing low levels of uranium, plutonium, or americium contamination.
- Limited areas where surface soil is contaminated with low levels of plutonium-239/240 and americium-241, which could affect surface water quality if the soils were disturbed to the extent that erosion could mobilize the contaminants.
- Limited subsurface soil areas contaminated with nitrates, uranium, or VOCs that contribute contaminants to groundwater, which may affect surface water quality.
- Limited subsurface areas where VOC contamination levels preclude occupied buildings because volatilization could lead to unacceptable VOC levels in indoor air.

Wildlife at the Rocky Flats Site, Colorado.

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- Groundwater contaminant plume areas that may affect surface water quality because of nitrates, uranium, or VOCs at levels above surface water standards and, in some cases, above maximum drinking water contaminant levels.
    - Three groundwater collection and three treatment systems, including the passive treatment system previously mentioned, remove these constituents to reduce groundwater contaminant loading to surface water.

Institutional controls prohibit unapproved soil disturbances, activities that could damage landfill covers or other remedy components, and non-remedy-related surface water or groundwater use. Physical controls include signs at COU access points listing institutional controls and COU perimeter signs prohibiting access. Monitoring requirements include routinely inspecting and maintaining landfill covers, treatment systems, priority areas of the COU, and institutional controls and obtaining scheduled groundwater and surface water samples from specific locations for analysis. Results of these activities are published in quarterly and annual reports that are posted to the Rocky Flats website.

CERCLA requires reviews at least every five years to determine whether COU remedial actions continue to protect human health and the environment.

Legacy Management Activities

LM is responsible for long-term surveillance and maintenance of the approximately 1,300 acre COU. LM is also responsible for approximately 200 acres of former buffer zone land, which is now associated with an active gravel mine and will be transferred to the U.S. Department of Interior as mining permits expire and reclamation required by Colorado law is completed.

LM is responsible for the long-term stewardship of the site in perpetuity to continually protect human health and the environment. LM's activities include maintaining controls designed to contain or prevent exposure to residual contamination, record-keeping, inspecting surface features, monitoring groundwater and surface water, treating groundwater, and posting signs.

Monitoring and maintenance responsibilities at the Rocky Flats Site include two closed landfills, four groundwater collection systems, three groundwater treatment systems, and more than 100 water monitoring locations and stations. In addition to complying with RFLMA requirements, LM manages and maintains three surface water retention ponds, erosion controls, and revegetated area.

Contact Information

In case of an emergency at the site contact 911.

LM toll-free emergency hotline: **(877) 695-5322**

Site-specific documents related to the Rocky Flats Site, Colorado, are available on the LM website at **www.energy.gov/lm/rocky-flats-site-colorado**.

For more information about LM activities at the Rocky Flats Site, Colorado, contact:

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