

Rocky Flats Site Department Activities

The Colorado Department of Public Health and Environment (the Department) has been overseeing activities at Rocky Flats since the late 1970's. Various levels of involvement and different roles evolved over time. Cleanup activities have been completed, but oversight of post-closure monitoring and maintenance activities continues.

Assessing environmental conditions

Throughout cleanup and post closure periods, Department activities have focused on determining the impact that Rocky Flats has had on human health and the environment. The following discussions address each of the contaminated media.

Air

The primary sources of past air contamination were releases from accidental fires in 1957 and 1969, and windblown dust coming from an area of contaminated soil known as the 903 Pad.

The Department has authority over air emissions at Rocky Flats through the Colorado Air Pollution Prevention Act. As the Site was being cleaned up, management activities were conducted under an air permit, which provided for routine reporting and inspections of air emissions by State air inspectors. After several years of measuring levels that showed plutonium well below standards set to provide public safety, the Department discontinued particulate monitoring in 2001. Because of the significant amount of data and analysis collected at Rocky Flats over the years, the state concluded that soil and air no longer are pathways for plutonium to pose a risk to the public at this site, and no further routine air or soil sampling was necessary. The air at and around Rocky Flats today is typical of a rural environment and relatively free of contaminants.

Surface Water

Surface water at Rocky Flats typically meets stream standards. Trace amounts of organic and inorganic compounds and radioisotopes can be detected in surface water and have occasionally exceeded on-site stream standards. However, at no time has surface water leaving Rocky Flats exceeded health standards. Surface water is diverted around nearby water supplies as a precautionary measure. The US Department of Energy (DOE) has replaced or protected these water supplies.

Standley Lake, a municipal water supply, is directly southeast of Rocky Flats. A pipeline was built in 1990 to divert water from a Rocky Flats holding pond away from Standley Lake. As an additional measure of protection, the Woman Creek Reservoir was completed in 1996 to capture Rocky Flats water and divert it from the lake.

Great Western Reservoir, a municipal water supply for Broomfield until January 1998, is located directly east of Rocky Flats. Stream runoff from Rocky Flats is usually diverted around Great Western Reservoir. Broomfield has developed a new water source from northern Colorado and has not used Great Western Reservoir as a drinking water supply since 1997.

According to the Site's post-closure agreement with the State and EPA, monitoring of groundwater and surface water continues on a regular schedule. This monitoring helps ensure that contamination is not leaving the site, and is useful in establishing a baseline of data by which environmental changes can be analyzed. Monitoring results are reported quarterly and annually and are available at: http://www.lm.doe.gov/Rocky_Flats/Documents.aspx.

Ground Water

Shallow ground water at Rocky Flats is contained in a thin geologic layer called the alluvium. This ground water is contaminated in several places beneath the former industrial area with volatile organic

compounds, nitrate, and radionuclides. Ground water at the site boundary, or off the site property, does not appear to be contaminated. Site cleanup and ongoing treatment systems, combined with the slow movement of ground water, should continue to prevent contaminated ground water from leaving the site.

Deeper ground water in the Laramie-Fox Hills Formation is separated from the shallower ground water by a barrier of several hundred feet of claystone.

Soil

Soil contamination around Rocky Flats was the result of airborne contamination caused by past releases. These past releases included emissions from plant building exhausts during routine operations and during two major fires in 1957 and 1969, and windblown releases from an area of highly contaminated ground known as the 903 Pad.

The amount of soil contamination decreases at greater distances from the former plant. The soil contamination off site of Rocky Flats is too low to impact public health or the environment, and does not require removal. That conclusion was reached in 1996 by DOE, EPA and the Department after years of environmental studies.

Millions of individual soil data points were analyzed to initiate soil removal and remediation projects. Additional soil samples have been taken as needed, typically to support ongoing maintenance during post-closure.

Oversight of environmental cleanup

The Department and EPA shared oversight for decisions on environmental cleanup at Rocky Flats. The regulatory framework for this oversight was contained in the 1996 Rocky Flats Cleanup Agreement between the state, EPA and DOE.

The approach to cleanup was based on historic information and site-wide sampling. Both the Department and EPA reviewed and approved procedures for sampling and for remediation activities. Confirmation sampling has demonstrated that the site is safe for its intended future users - wildlife refuge workers and visitors.

Oversight of building decommissioning

As lead regulatory authority in the former Industrial Area of Rocky Flats, the Department provided oversight of building decontamination and decommissioning. There were over 700 facilities on the Rocky Flats site, some of which were heavily contaminated.

Decommissioning of the larger plutonium buildings began once all weapons grade material and hazardous chemicals were removed from the building. Remaining equipment and duct work, including glove boxes in some buildings, remained highly contaminated. State regulators were assigned as Building Project Managers, who reviewed and approved the decision documents that governed the decommissioning activities, and inspected the buildings during decommissioning activities.

Regulation of hazardous wastes

The Department has authority over the management of hazardous and mixed (radioactive and hazardous) wastes through the Resource Conservation and Recovery Act and the Colorado Hazardous Waste Act. Management activities at Rocky Flats were conducted under a hazardous waste permit, which provided for routine reporting and inspections of hazardous waste management activities by State hazardous waste inspectors.

The Hazardous Waste Act also provided state authority to regulate the closure of former hazardous waste management units and corrective action for releases of hazardous wastes to the environment. These

authorities were incorporated into the Rocky Flats Cleanup Agreement in the oversight of environmental cleanup.

Emergency preparedness and response planning

While the site was still in production and during cleanup, the Department had a major role in the state's emergency response planning for potential incidents at Rocky Flats that could result in off-site releases of radioactive or toxic materials. The planning effort included development of procedures, evaluation of potential effects of an incident, and training of state and local emergency response personnel. The state conducted annual emergency response exercises with the site.

Health Studies

Public Health Study: The Department began historical public exposure studies in 1990 to identify the potential health effects of past chemical and radionuclide releases from Rocky Flats to surrounding communities. The studies were conducted by an independent contractor, overseen by a Health Advisory Panel of stakeholders and local and national experts, and administered by the Department. The panel concluded that past public exposures to contaminants from Rocky Flats were relatively small.

Worker Study: A 7-year study of cancer incidence and mortality among Rocky Flats workers began in 1993. This epidemiological study compared estimates of radiation and chemical exposures to rates of disease from cancer as recorded on death certificates and reported to the Colorado Central Cancer Registry.

Public involvement and information

The Department encourages the distribution of information to the public and the participation of the public in Rocky Flats decision making processes. During the cleanup period, the Department routinely interacted with and supported the Citizens Advisory Board (CAB) and the Coalition of Local Governments (CLOG). Since closure of the Site, the Department continues to interact with the public - individually and through the Rocky Flats Stewardship Council.

[Rocky Flats Stewardship Council](#)