

## WHY ROCKY FLATS SHOULD REMAIN CLOSED TO THE PUBLIC (July, 2017)

1. Rocky Flats is among the nation's most polluted places. Its name is synonymous with plutonium, a laboratory-developed, radioactive chemical element that was used at the facility to produce nuclear triggers for almost 40 years during the Cold War.
2. Agents of the FBI, led by Jon Lipsky with investigators from the EPA raided and closed Rocky Flats in 1989 based on a two-year investigation into operators' mismanagement and misconduct. The facility was never reopened.
3. During the three decades between the plant's shutdown and the present, Congress created the Rocky Flats National Wildlife Refuge (the "Refuge") in the "buffer zone" around Rocky Flats' highly contaminated central operable unit (the "COU"). The U.S. Fish and Wildlife Service ("FWS") now wishes to open the Refuge to the public with hiking, biking and equestrian trails, and a major visitors' center, despite evidence that the plutonium has migrated.
4. "Over the course of almost forty years, manufacturing activities, spills, fires, and waste disposal released plutonium and other radionuclides, [...] were dispersed by wind and rain into the soil and water systems in the Buffer Zone [now, primarily, the Refuge]."<sup>1</sup>
5. Two federal decisions at the beginning of the decade found that plutonium had migrated. *WildEarth Guardians v. U.S. Fish and Wildlife Service*, 784 F.3d 677, 681 ("As a result of the weapons work, some of the land became polluted by various hazardous materials, including plutonium."); *Town of Superior, et al. v. U.S. Fish and Wildlife Service*, 913 F. Supp. 2d at 1099 ("... over the course of forty years, manufacturing activities, spills, fires, and waste disposal released plutonium and other radionuclides, which were dispersed by wind and rain into the soil and water systems in the buffer zone.").
6. Such migration may be linked to the massive amount of plutonium that went missing during the years the Rocky Flats Plant was producing nuclear triggers. See *Cook v. Rockwell Int'l Corp.*, 580 F. Supp. 2d 1071, 1145–46 (D. Colo. 2006) ("It is undisputed that the cumulative MUF [material unaccounted for] during Defendants' operation of Rocky Flats is more than 2,600 pounds.").
7. In 1989, the EPA placed the entire Rocky Flats Plant site on the National Priority List ("Superfund") due to plutonium and other radionuclides contamination.
8. The plutonium contaminated building materials in the COU are covered with little more than dirt. Such dirt is continually brought to the surface by burrowing animals, where winds of up to 90 mph can suspend surface contaminants and deposit them onto Rocky Flats' visitors, and throughout the region. Subsequent analysis suggests that the plutonium sampling used to justify a finding that the Refuge is safe for "unrestricted use" was inadequate, possibly as a result of a successful effort to remediate the site at 20% of its originally estimated cost (\$7.7 billion vs. \$37 billion).<sup>2,3</sup>
9. Significantly, a jury found that plutonium from Rocky Flats' operations had contaminated a wide area of land beyond Rocky Flats' borders, and that such plutonium would "continue to be present" on these neighboring properties "indefinitely." *Cook v. Rockwell International Corporation, etc.*, Civ. 90-cv-181-JLK (Jury Verdict Form, Feb. 14, 2006) at ¶¶ A(1-3) and B(1-3). The jury found the plaintiffs would suffer "increased risk of health

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<sup>1</sup> *Town of Superior v. U.S. Fish and Wildlife Service*, 913 F.Supp.2d 1097, 1099 (D.Colo. 2012).

<sup>2</sup> U.S. Department of Energy, Legacy Management, "CERCLA/RCRA Fact Sheet, Rocky Flats, Colorado Site," p. 2, (2016).

<sup>3</sup> *Id.*

problems as a result of this exposure.” *Id.* at C(1) and D(1). A settlement was achieved between the parties in 2016 for \$375,000,000. *Cook v. Rockwell International Corporation, etc.*, Civ. 90-cv-181-JLK (Settlement Agreement, May 18, 2016) at p. 4.

10. The area experienced a 1000-year rainfall in September, 2013, with upwards of 10 inches of rain upstream of the Refuge, with “runoff from outside the Refuge flowing onto the Refuge [that] caused fast moving water and debris of over 2-3 feet in the drainages to impact roads and embankments... The dike embankment of Lindsay Pond #1 [on the Refuge] was breached causing the loss of the outlet structure....”<sup>4</sup> Damages to the dike, roads and monitors were assessed at \$3 million.
11. Similarly, between May and July, 2015 there was “over 20 inches of precipitation” (it was the wettest May in Colorado’s recorded history).<sup>5</sup> This caused the plutonium contaminated “Original Landfill” in the COU to “subside” and the “ground surface [] to move.”<sup>6</sup>
12. The sampling methodology excluded plutonium samples taken more than 8 feet below the surface,<sup>7</sup> even though the major sources of plutonium, such as building, tunnels and duct work, are buried below this depth.<sup>8</sup>
13. The U.S. Government Accountability Office (GAO) disparaged the cleanup in 2006 for “DOE’s failure to conduct independent assessments.”<sup>9</sup> The methodology ultimately lowered the confidence level from 100% to 90% which reduced the likelihood of finding “hot spots” of plutonium.<sup>10</sup>
14. The sampling minimized attempts to detect alpha particles, although plutonium is primarily “an alpha emitter.”
15. The sampling methodology rejected the potential impacts from prairie dogs and other burrowing animals, although independent scientific research states that 18 species of burrowing animals present at Rocky Flats dig down to as much as 16 feet, constantly redistributing soil and its contents, and disturb as much as 10 to 12 percent of the surface soil at the site annually.<sup>11</sup>
16. Disturbingly, surveys compiled in 2016 by Metropolitan State University (“Metro State”) of Denver of individuals who lived downwind of Rocky Flats from 1952 to 1996 found that of the 1,745 surveys, there were 848 reports of cancer, with 414 of those cancers designated as “rare,” typically occurring in 15 out of 100,000 people.<sup>12</sup>
17. The Colorado Dep’t of Public Health & Environment response to the Metro State surveys conceded that there are significant elevations of lung, esophagus, colorectal, or prostate cancer in some of the communities surrounding Rocky Flats for 1990 – 2014.”<sup>13</sup>

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<sup>4</sup> U.S. Fish & Wildlife Service, pamphlet on 2013 “Flooding Effects.”

<sup>5</sup> U.S. DOE, Rocky Flats Site Regulatory Contact Record, 2015-06 at 1.

<sup>6</sup> U.S. DOE, Rocky Flats Site Regulatory Contact Record, 2015-03 at 1.

<sup>7</sup> CRA Facility Investigation – Remedial Investigation/Corrective Measures Study – Feasibility Study Report for the Rocky Flats Environmental Technology Site (“CRA”), Vol. 2 (“Methodology and Data Description”) at 8, 4, and 11, n.5. *See also* CRA, ES at 4.

<sup>8</sup> U.S. DOE, Rocky Flats Site Regulatory Contact Record, 2011-07 at 2.

<sup>9</sup> United States Government Accountability Office, GAO-06-352, NUCLEAR CLEANUP OF ROCKY FLATS: DOE Can Use Lessons Learned to Improve Oversight of Other Sites’ Cleanup Activities, p. 48-9 (2006).

<sup>10</sup> *Id.* at 101.

<sup>11</sup> K. Shawn Smallwood, “Animal Burrowing Attributes Affecting Hazardous Waste Management,” 22 *Environmental Management* 831 (1998); Morrison, Smallwood and Beyea, “Monitoring the dispersal of contaminants,” at 293 (1997).

<sup>12</sup> Rocky Flats Downwinders Health Survey, Metropolitan State University of Denver, Carol Jensen, Professor, Principle Investigator. *See* <http://rockyflatsdownwinders.com/health-survey>.

<sup>13</sup> Colorado Department of Public Health & Environment, “Summary, Ratios of Cancer Incidence in Ten Areas around Rocky Flats, Colorado Compared to the Remainder of Metropolitan Denver, 1990-2014,” p. 1-2, (2017).