


To: Rocky Flats Stewardship Council

From:  Jon Lipsky, M.A.S.

Date: February 1, 2016

Subject: Rocky Flats National Wildlife Refuge (RFNWR) and
Transportation Right-of- Way

Reference my email to Carl Spreng, CDPHE, Vera Moritz, EPA, Scott Surovchak, DOE/LM, and Michael Silverstein, CDPHE, among others, dated January 17, 2016. I have yet to receive a reply from Carl Spreng or Vera Moritz. Ms. Jeannie Gueretta, DOE/LM, replied for Scott Surovchak, Edwin Parks and Tamara Wilson directing me to file a Freedom of Information Act request on January 19, 2016.

The purpose of this communication is to request the Rocky Flats Stewardship Council (RFSC) to transmit to appropriate officers and employees of the Department of Energy my questions regarding closure and post-closure operation and maintenance of the CERCLA [and RCRA] remedy at the DOE Retained Lands of the Rocky Flats site as well as the former Buffer Zone (RFNWR). (DOE/LM: 2012: page 1ⁱ).

1. 1999 CDPHE Buffer Zone Contamination Review

On August 23, 1999 David Kruchekⁱⁱ prepared the Colorado Department of Public Health and Environment (CDPHE), Rocky Flats Oversight Unit Technical Report on the Buffer Zone Contamination Review (Review). The Review identified 36 Areas of Concern (Figure 2) and 74 Areas of Interest (Figure 1) within the Rocky Flats Buffer Zone. The Review included two diagrams with circled numbers ostensibly correlating to the Areas of Concerns/Interest. Appendix 1 lists the documents reviewed however:

1. The Review did not include, among other important documents, a reference to the April 6, 1987 Waste Stream Identification and Characterization (WSIC) report. The WSIC report was mandated (civil enforcement action) by CDPHE and its predecessor agency for the Rocky Flats Nuclear Weapons Plant (RFNWP) to obtain a Resource Conservation and Recovery Act (RCRA) Part B operating permit. The RCRA Part B operating permit was granted in part with the material submission of the 1987 WSIC report. The 1987 WSIC report was a vital document that not only detailed waste characterization of operations and activities but also disposition of the radioactive, mixed hazardous waste, hazardous wastes and other contaminants at Rocky Flats.

On January 10, 2001 the Rocky Flats Environmental Technology Siteⁱⁱⁱ (RFETS) submitted its first publicly available response to the August 23, 1999 CDPHE Buffer Zone Contamination Review. RFETS indicated they reviewed documents or consulted with persons knowledgeable in Rocky Flats operations.

1. It should be noted that RFETS also did not consult the 1987 WSIC report.

2. It should be noted that CDPHE Areas of Concern numbers 17 and 18, were excused due to activities prior to U.S. Government purchase of the property.
 - a. The Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and Superfund Amendments and Reauthorization Act (1986) provide for contamination liability and innocent landowner defenses to the current owner of property. The U.S. Government is not otherwise excused from liability for acquiring existing contaminated property. A copy of the communications dated December 21, 1999 and March 15, 2000 detailing the innocent landowner information is not publicly available. The public should have otherwise been properly informed.
3. Based on instant review, RFETS determined that eight (8) of the 36 areas of Concern identified by CDPHE either have work currently associated with them or designated for follow up. The remaining 28 areas did not require further action.
4. The December 21, 1999 letter from Joe Legare, DOE, to Steve Gunderson and Steve Tarleton, CDPHE, is not publicly available.
5. The March 15, 2000 David Kruchek, CDPHE, email memorandum to Tom Greengard, RFETS is not publicly available.
6. Areas of Interest, numbers 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 14, 15, 16, 19, 20, 21, 22, 24, 25, 26, 30, 31, 36, 37, 38, 39, 40, 41, 42, 47, 48, 49, 51, 52, 53, 54, 55, 56, 57, 58, 61, 62, 63, 64, 66, 67, 69, 72, 74 (49 Areas) were addressed by RFETS and Areas of Interest numbers 11, 12, 13, 17, 18, 23, 27, 28, 29, 32, 33, 34, 35, 43, 44, 45, 46, 50, 59, 60, 65, 68, 70, 71, and 73 (25 Areas) were not addressed by RFETS in publicly available documents.
7. Area of Interest number 23 was described by CDPHE in 1999 as Pond 8-South operated prior to October 1964 to mid-1970s that received cooling tower overflow/blowdown as well as flow from Building 881 footing drains:
 - a. The 1987 WSIC identified Building 881 as a general chemistry lab consisting of radiochemistry, atomic absorption, X-ray spectroscopy, emissions spectroscopy, special chemistry, reagent specification, water analysis, organic analysis, total element analysis, gas chromatography, and chemical standards laboratory.
 - b. The 1987 WSIC identified waste number 5020 as Building 881 cooling tower blowdown aqueous hazardous waste. The blowdown was transported via sanitary drain with final disposal at the sewage treatment plant. Building 881 generated approximately 600,000 gallons of cooling tower blowdown per year.
 - c. In the late 1980s the Rocky Flats sewage treatment plant (primarily Building 995) filtered and aeriated approximately 80 million gallons per year and discharged its effluent to Pond B-3 on South Walnut Creek. Pond B-3 effluent was then spray irrigated to the East Spray Field which was comprised of the North Spray Field, located north of the B-Series ponds (in the Walnut Creek drainage), and the South Spray Field, located primarily south of the Access Road (in the Woman Creek drainage).

- d. On March 26, 1992 the Rocky Flats contract operator pled guilty to federal Clean Water Act criminal violations for releasing significant amounts of toxic or hazardous substances from Rocky Flats to waters of the United States. The Rocky Flats' sewage treatment plant was intended to receive and treat only sanitary waste, it was not designed to receive and treat industrial or hazardous wastes nor did it have a RCRA permit. (U.S. District Court for Colorado case number 92-CR-107, Count 5). In June 1992 a Federal Judge accepted the plea.

In April 2003 Jeb Love prepared the CDPHE Buffer Zone Contamination Review^{iv} (Additional Assessment).

1. "Essentially, all site disturbances still exist and restoration of the specific areas are not covered by any plan or site activities as yet and are an issue separate from this report." (Id. page 1).
2. Of the 36 Areas of Concern, 14 (39%) were characterized with "No further investigation."
3. Of the 25 outstanding Areas of Interest (numbers 1-74), none of the areas of Interest were mentioned in the publicly available documents.
4. The report itemized four (4) additional areas not itemized: 1) 19 cylindrical objects North of Pond A2 and West of the cut for the A3 dam; 2) Constructed water holding area west of the present landfill; 3) Two (2) disturbed areas due east of the present landfill and slightly south; and 4) two (2) dark mounds of material one north and one west of the present landfill were noted that need clarification or investigation and documentation. The resolution of these items is not publicly available.
5. South of Woman Creek within the Buffer Zone (Refuge) Areas of Concern numbers 13, 18 and 34 were not sampled and Areas of Interest numbers 5, 6, and 22 were resolved by no further action. These six (6) identified Areas could potentially have been within the spring 2015 U.S. Fish and Wildlife Service (FWS) Prescribed Burn area.
 - a. Area of Interest number 5 was identified by the CDPHE as "[D]isturbed ground" immediately north of the former small arms range was resolved with Area of Concern number 34 with no further investigation;
 - b. Area of Interest number 6 was identified by the CDPHE as "[E]xcavated/disturbed/filled area" not previously recognized nor investigated and possibly borrow and/or disposal area resolved with Area of Concern number 13 with no further action;
 - c. Area of Concern number 13 was identified by CDPHE as "Disturbed area consisting of several spots possibly related to a Tower resolved by no further investigation;
 - d. Area of Concern number 18 was identified by CDPHE as "a possible homesite" resolved by no further investigation. With the rationale that "since no site activities occurred at this location and the Government acquired the property in 1974, the State will accept the 'letter" (Legare to Gunderson and Tarleton, 12/21/1999) as documentation of site

condition. DOE rationale – absolving itself from CERCLA liability – similar to Area of Concern number 17 resolution. The “letter” is not publicly available;

- e. Area of Interest number 22 was identified by CDPHE as “[L]arge excavation” identified by CDPHE as a possible gravel excavation resolved with Area of Concern number 18 with no further investigation.
- f. Area of Concern number 34 was identified by CDPHE as “[D]isturbed area” that should be included in IHSS 209 resolved that though samples were collected no contaminants of concern were present, no further investigation.

2. Land Management of the Refuge (Allegedly Non-LSO activity)

In July 2014 the U.S. Fish and Wildlife Service (FWS) applied for a CDPHE Smoke Management permit – authorized to conduct Prescribed Burns – at the Refuge. The Smoke Management Permit was subsequently approved by CDPHE and a 701 acre prescribed burn was planned in the spring of 2015 by FWS along the southern portion of the Refuge along the Candelas housing fence line. By early February 2015, FWS cancelled the prescribed burn.

During the February 19, 2015 Colorado Air Quality Control Commission meeting a CDPHE representative responded to a Commissioner’s question that the Refuge has not been analyzed for contaminants since 2004. On January 11, 2016 Gordon Pierce, Technical Services Program Manager, CDPHE, Air Quality Control Division communicated the action of the Colorado Air Quality Control Commission meeting of February 19, 2015: 1) that the FWS Smoke Management permit expired at the end of 2015; and, 2) until this “discussion in advance of any future scheduled burn” has occurred, no new permit for 2016 (or future year) would be reviewed, put out for any comment, or issued. (Gordon Pierce email available upon request).

In September 2013 the Rocky Flats Superfund Site and Refuge experienced sheet-flow runoff as a result of severe weather that rendered Rocky Flats Superfund Site contaminant monitoring equipment inoperable and flooding on the Refuge. The massive Original Landfill, located on the south side of the Rocky Flats Superfund Site and north of Woman Creek, “to subside” as a result of recent storm events through May 2015. (Regulatory Contact Record 2015-03: page 1).

A Prescribed Burn at the Refuge has the capacity to release fugitive plutonium-239 respirable dust, other radionuclides and hazardous contaminants to the air and water. The Refuge is without air or water monitoring devices. Walnut Creek on the north side of the Refuge and Woman Creek on the south side of the Refuge are capable of moving contaminants downstream to the South Platte River confluence.

Under the Clean Air Act “emissions of radionuclides to the ambient air from DOE facilities shall not exceed amounts that would cause any member of the public

to receive in any year an effective dose equivalent of 10 mrem/yr." (Title 40, CFR, Section 61.92). Likewise, federal facilities other than DOE owned or operated facilities also have the 10 mrem per year effective dose. (Title 40, CFR, Section 61.102). Arguably the radioactive contamination is not from a currently operating federal facility however Rocky Flats left an indelible radioactive footprint with longevity that a FWS Prescribed Burn would promote further contamination to the air and water.

Instead, the U.S. Environmental Protection Agency (EPA) employs 'qualified' science to estimate its annual Wildlife Refuge Worker (WRW) effective dose standard. The WRW effective dose standard of less than 1 mrem per year is possibly a result of the official U.S. Government position with the Rocky Flats National Wildlife Refuge Act that the Buffer Zone has "generally remained undisturbed" (P. Law 107-107, Section 3172(a)(2)). The above cited CDPHE Buffer Zone Contamination Review with incomplete responses by RFETS in 2001 and 2003 calls into question the EPA extrapolation for the Refuge effective dose standard.

The properties adjacent to the Refuge are also without air and water monitoring equipment. Established residences and businesses are immediately east of the Refuge. The recent Candelas planned residential neighborhood is occupied and immediately south of the refuge.

3. Independent Verification of the Refuge (LSO and alleged Non-LSO Activities)

The 1999 CDPHE Buffer Zone Contamination Review and RFETS responses along with the February 19, 2015 CDPHE revelation at the AQCC meeting that the Refuge has not been sampled since 2004 is disconcerting. With the knowledge of the legendary occasional severe weather in the area of the Refuge, that surrounds the Rocky Flats Superfund Site, necessitates consistent and ongoing protection of human health and the environment. The active Rocky Flats Superfund Site and any monitoring of Rocky Flats radioactive, mixed radioactive and hazardous wastes and hazardous wastes or contaminants should be reasons enough to keep the Refuge closed to the public.

FWS has afforded guided public tours at the Refuge that began in July 2015. FWS has targeted 2017 for full public access and the U.S. Department of Energy (DOE) has represented that the Refuge Visitor Center will also be publicly available. The Jefferson Parkway, the transportation Right-of-Way along the eastern side of the Refuge, appears to remain a viable construction project. These cited activities are lagging behind the potential movement of Rocky Flats contaminants. For example, during the summer of 2015 the City and County of Broomfield completed repairs of the Walnut Creek culvert at Indiana Street:

1. On January 13, 2016 John Hilgers, Planning Director, City and County of Broomfield responded to my request: "There are no City Land Use standards regarding radiation."

2. On January 15, 2016 Katie Allen, Broomfield Engineer, advised “[T]he project was discussed with the Colorado Department of Health and Environment (CDPHE) prior to work, and the portion of the site under construction was de-listed and no longer considered to contain any risk to human health and the public, and therefore radiation was not monitored.”
3. For information, Jefferson County, Colorado employs Radiation Regulations for Land Development (27 – Radiation^v). Jefferson County would have required a radiation assessment prior to construction and repair of the Walnut Creek culvert at Indiana Street.

On December 28, 2001 the Rocky Flats National Wildlife Refuge Act (Refuge) was signed into law. The Act mandated several Refuge purposes to include “providing opportunities for compatible scientific research.” (Pub. L. 107-107 at Section 3177(e)(2)(D)). I will emphasize that “compatible scientific research” is recognized with Refuge Administration and Purposes, with parity and not reduced priority, with the other Refuge purposes.

An independent verification of Refuge contamination by the National Academy of Sciences (NAS) should be legally binding for the DOE, Regulators and the public. DOE should be directed to utilize Legacy Management (LM) appropriations for the NAS Independent Verification. An additional condition to this request is that DOE, EPA and NAS utilize and accept the Multi Agency Radiation Survey and Site Investigation Manual (MARSSIM). Both the DOE and EPA along with the Department of Defense (DOD) and Nuclear Regulatory Commission (NRC) subscribe to MARSSIM for regulatory compliance when contaminated sites are restored however at Rocky Flats DOE did not utilize MARSSIM.

In its July 2008 “Lessons Learned from Independent Verification Activities, DCN 0476-TR-02-0” prepared by E.N. Bailey^{vi} for Oak Ridge Institute for Science and Education (ORISE) several troubling observations were reported:

1. RFETS utilized a cleanup contractor instead of MARSSIM though some elevated areas of radioactivity on building surfaces and in open land were identified. The need was partially met. Independent verification of open land was implemented after excavations had been filled. No corrective action plan addressed the independent verification findings. (Id. at page iv).
2. Regarding “Soils – 903 Lip Area” (Id. at pages 19-21) in sum, ten (10) areas in the Outer Lip survey unit measured elevated gamma radiation levels; Pu-239/240 were detected greater than the soil action level of 50 pCi/g; and, during a second survey nine (9) judgmental samples exceeded the maximum hot spot criteria of 150 pCi/g. (Id. at page 20).

In the 1999 CDPHE Buffer Zone Contamination Review with 2001 and 2003 RFETS responses for Area of Concern number 34 and Area of Interest number 5 appear to be in the area of the 903 Pad and Lip Area. RFETS reported that Area of Concern number 34 and Area of Interest number 5 were resolved with no additional study is

planned as no evidence of a spill, release or disposal was noted. It is unknown if Area of Concern number 34 and Area of Interest number 5 or portions thereof exceeded the maximum hot spot criteria of 150 pCi/g.

In an undated MACTEC review of the Oak Ridge Institute for Science and Education (ORISE) MARSSIM of the Kaiser Hill soil cleanup at Rocky Flats, in sum, the following was noted:

1. Kaiser Hill (DOE contractor) needs to show compliance with the Rocky Flats Cleanup Agreement (RFCA);
2. Kaiser Hill refers to soil samples at 6 inch depth, the RFCA standard was 3 feet;
3. Kaiser Hill statement of their risk assessment exceeding MARSSIM requirements is not true;
4. MARSSIM demarcates survey units, depending on the contaminant present while Kaiser Hill does not differentiate, but averages over a larger area.

In his March 1, 2001 official statement then-Congressman Mark Udall^{vii} reintroduced his and Senator Allard's bill to designate Rocky Flats as a National Wildlife Refuge and documented the Congressional Intent of the bill:

1. It [the Bill] will convert Rocky Flats into a National Wildlife Refuge, but only AFTER the site has been cleaned up and closed and a final Onsite Record of Decision has been submitted by the EPA under the Superfund rules. And it includes specific provisions to make sure that the bill will not result in a less thorough cleanup.
2. Allow the owners of any water-related easements on the site to do any needed surveys.
3. Under "The bill will not:" portion, allow for the reduction of the extent of cleanup based on the creation of a refuge.
4. With regard to water rights, the bills protect existing easements and allow water rights holders access to perfect and maintain their rights.
5. The Bill has been drafted to ensure that the cleanup is based on sound science, compliance with federal and state environmental laws and regulations, and public acceptability.

For the protection of human health and the environment:

Based on the above information and publicly-available unknown disposition of the CDPHE Buffer Zone Contamination Review Areas of Concern and Interest it is respectfully being requested that the Refuge remain closed to public access during the pendency of the Rocky Flats Superfund Site activity; that FWS employ unobtrusive Land Management techniques, in conformance with Colorado AQCC as well as other concerns, at the Refuge that prohibits smoke, dispersal of dirt or dust, or encourages contaminant migration; and, statutory implementation of compatible scientific research facilitated by independent verification to conduct specialized environmental sampling and analysis throughout the Refuge and Transportation

Right-of-Way. Equally important are the air and water quality of the adjacent property neighbors and their environmental quality. It is also inappropriate that Rocky Flats stakeholder comments are not officially considered during the Regulatory Contact Record (RCR) and Five (5) Year Review processes.

ⁱ Department of Energy/Legacy Management. (2012). Rocky Flats Stewardship Council: DE-FG01-06LM00080. Last accessed on January 31, 2016 at http://www.lm.doe.gov/cercla/documents/rockyflats_docs/PD/PD-A-000450.pdf.

ⁱⁱ Kruchek, David. (1999). Colorado Department of Public Health and Environment, Hazardous Materials and Waste Management Division, Rocky Flats Oversight Unit, Technical Report, Buffer Zone Contamination Review: A Review of Information Related to Contamination of the Rocky Flats Buffer Zone. Accessed on January 25, 2016 at http://www.lm.doe.gov/cercla/documents/rockyflats_docs/BZ/BZ-A-000932.pdf.

ⁱⁱⁱ Rocky Flats Environmental Technology Site. (2001). CDPHE Buffer Zone Report: Rocky Flats Response to Concerns. Accessed on January 25, 2016 at http://www.lm.doe.gov/cercla/documents/rockyflats_docs/BZ/BZ-A-000902.pdf. (Please note that the publicly available document has 24 pages however contains handwritten pagination on the first page with "1/24" and the last page with "25/25.")

^{iv} Love, Jeb. (2003). An Assessment of Site Disturbances at RFETS, April, 2003, prepared by Jeb Love. Accessed on January 25, 2016 at http://www.lm.doe.gov/cercla/documents/rockyflats_docs/BZ/BZ-A-000935.pdf.

^v Jefferson County, Colorado. (2016). Section 27 – Radiation. Accessed on January 25, 2016 at <http://www.jeffco.us/Planning-and-Zoning/Documents/Land-Development-Regulation-Documents/Land-Development-Regulation-Sections/Section-27-Radiation/>.

^{vi} Bailey, E.N. (2008). Lessons Learned from Independent Verification Activities. ORISE for DOE. Accessed on January 25, 2016 at <https://www.ornl.gov/documents/ivhp/survey-projects/lessons-learned-from-independent-verification-activities.pdf>,

^{vii} Udall, Mark. (2001). Introduction of Rocky Flats National Wildlife Refuge Act – Hon. Mark Udall (Extension of Remarks – March 01, 2001). Library of Congress. Accessed on January 26, 2016 at <http://thomas.loc.gov/cgi-bin/query/R?r107:FLD001:E00256>.