

**Rocky Flats Citizens Advisory Board  
Meeting Minutes  
March 7, 2002  
6 to 9:30 p.m.**

**Jefferson County Airport Terminal Building, 11755 Airport Way, Broomfield**

**FACILITATOR:** Reed Hodgkin

Jeff Eggleston, the Board's chair, called the meeting to order at 6 p.m.

**BOARD / EX-OFFICIO MEMBERS PRESENT:** Suzanne Allen, Joe Downey, Jeff Eggleston, Maureen Eldredge, Tom Gallegos, Shirley Garcia, Noelle Stenger Green, Victor Holm, Bill Kossack, Tom Marshall, LeRoy Moore, Nancy Peters, Earl Sorrels / Steve Gunderson, John Rampe, Tim Rehder, Dean Rundle

**BOARD / EX-OFFICIO MEMBERS ABSENT:** Robin Byrnes, Jim Kinsinger, Mary Mattson / Jeremy Karpatkin

**PUBLIC / OBSERVERS PRESENT:** Lane Butler (KH); Roman Kohler (RF Homesteaders); Nanak Valeja (former RF worker); Mark Sattelberg (USFWS); John Corsi (KH); Don Owen (DNFSB); Alan Trenary (citizen); Kathleen Rutherford (CDPHE); Rick DiSalvo (DOE-RFFO); Melissa Anderson (RFCLoG); Anna Martinez (DOE-RFFO); Jerry Henderson (RFCAB staff); Ken Korkia (RFCAB staff); Deb Thompson (RFCAB staff)

**PUBLIC COMMENT PERIOD:**

**Comment:** Alan Trenary: The fact that the Superfund trust fund is having problems is a very sobering thought, considering the Rocky Mountain Arsenal is a trust fund site. With the Fish and Wildlife Service now taking over Rocky Flats, it may become encumbered with a very expensive proposition.

**APPROVAL OF BYLAW CHANGE:** Two proposed changes to the bylaws were submitted for the Board's approval. The first was to add a representative from the U.S. Fish and Wildlife Service as an ex-officio member on the Board. The second revision was to change the bylaws to reflect the correct title of the Colorado Department of Public Health and Environment. The eleven members present during this portion of the meeting voted unanimously to change the bylaws, with an absentee vote from Mary Mattson also in favor of the bylaw change.

**CO-CHAIR FOR END-STATE DISCUSSION STEERING COMMITTEE:** Shirley Garcia has resigned as co-chair of the End-State Discussion Steering Committee. Victor Holm has volunteered to serve as co-chair. The Board members voted unanimously to approve Victor as the new co-chair for this committee.

**REGULATOR UPDATE – DEFENSE NUCLEAR FACILITIES SAFETY BOARD (DNFSB):**

Don Owen presented a quarterly update on Rocky Flats issues:

- DNFSB recently issued its annual report, which talks about its activities complex wide during 2001. That report is available online at [www.dnfsb.gov](http://www.dnfsb.gov).
- The Safety Board continues to follow stabilization and packaging of metals and oxides in the Plutonium Stabilization and Packaging System (PuSPS). DOE-RFFO has informed Headquarters that the May 2002 milestone to complete metal and oxide packaging would not be met. In that notification, October 2002 was set as a more realistic time frame. This new time frame assumes that some lower purity oxides may be packaged to go to WIPP. However, some changes have been made and continue to be made, and now the October date is also in question because of issues about the low purity oxides.
- Repackaging of plutonium residues is still on track. The site began with around 106 metric tons, and now has just a few metric tons left to repackage. The site expects to finish repackaging of plutonium residues in May, and recently finished repackaging the ash and fluoride residue streams.
- Regarding integrated safety management, DNFSB suggested mentoring of work planning personnel in early 2000. During 2001 there was some conversation about this issue, but mentoring, coaching, and assisting wasn't really committed to until the Site Safety Improvement Plan was approved last spring. Through the fall, DNFSB still did not see those activities being implemented; however, since that time there has been a little more effort in adding mentoring systems to the planning process.
- DOE has committed to doing detailed system assessments. Some of those are now underway, specifically for the Building 371 fire protection and ventilation systems. It is hoped the assessments will be completed within the next week or so.
- There has been a startup of third generation inner tent chambers in Building 771. The first gloveboxes were put into the chambers to begin D&D work on them last week. These chambers provide a greater reduction in hazards to personnel. Other engineered controls also help in the area of risk reduction, such as a new confinement tent for disassembly and dismantlement. Overall, the recent experience with decontamination of gloveboxes continues to be positive.
- DNFSB members from Headquarters visited Rocky Flats on February 20 and discussed issues with site management, toured the PuSPS, and were able to watch PuSPS operations.

**EMSSAB GROUNDWATER WORKSHOP RECOMMENDATIONS:**

At the EMSSAB Groundwater Workshop held in early February at the Savannah River Site, members from the SSABs around the nuclear weapons complex had approved a set of statements to be forwarded to DOE Headquarters. Each SSAB was asked to either approve or disapprove of those statements. RFCAB members present voted unanimously to approve the groundwater workshop statements, with an absentee vote by Board member Mary Mattson also in favor of the statements.

**PRESENTATION ON EXTENT OF CONTAMINATION, PATHWAYS FOR EXPOSURE, AND CURRENT REMEDIATION STRATEGIES FOR SURFACE SOIL AT ROCKY FLATS:**

Rick DiSalvo with DOE-RFFO gave a presentation on surface soil. Surface soil is generally defined as the upper six inches of soil at Rocky Flats. Thin layers of asphalt, concrete pads, or slabs cover the surface soil in some areas. It is possible for soils to be considered surface soil at depths lower than six inches, since sediments may also be considered where appropriate. Surface soil is the media that humans and animals are most likely to come into contact with, thus it presents an easier pathway to exposure. Contamination in surface soil can be exposed or mobilized by wind and water erosion.

Rick explained some of the regulatory terms associated with soil contamination: RFCA Action Levels, Tier I and Tier II. He noted the Tier I and Tier II Action Levels were based on projected future uses for the site back in the early 1990s. Tier I was calculated based on a projected office worker in the industrial area, and a restricted open space user in the buffer zone. Tier II levels reflected the possibility of a hypothetical future resident. With Tier II, surface water is considered a part of the calculation because of its impact on soil via runoff. Ecological risks, the impact on plants and animals, are also considered. Rick also briefly discussed the background of the process for setting RSALs and the re-evaluation that is still underway.

The goal of investigation and characterization into areas of soil contamination is to develop satisfactory information about where the contamination is located, what the contamination consists of, and how much information is needed to determine the impacts of contamination and make good decisions that will prevent or minimize impacts. Sources for the characterization and investigation include many documents and reports, investigations performed under past agreements and orders, as well as surface soil gamma surveys and sampling and analysis results. Sampling and analysis performed to date has been done at 3,700 surface and subsurface locations in the buffer zone, consisting of 10,700 samples and 25,000 analyses. Similarly, 550 surface locations have been sampled in the industrial area, with a total of 5,600 samples and 20,000 analyses.

Detailed surface maps have been prepared based on information collected from sampling and analysis. What these maps show is that the main surface soil concerns at the 903 Pad are plutonium, americium, and uranium. For the pad itself, contamination does go much deeper than six inches. The contamination in the "Americium Zone," the plume just east of the 903 Pad, basically involves just the top six inches of soil. Uranium is the primary contaminant at the Ash Pits, the Original Landfill, and at the surface near Building 444. The surface underneath and near Building 779 slab shows both plutonium and americium. Both radionuclides and chemicals in sediments are of concern at the B-series ponds.

There are many uncertainties related to surface soils. Some of those uncertainties include the definition of spatial boundaries, limiting sampling and the "white spaces" that exist between samples, what exists underneath slabs and asphalt, the extent of hot spots, and the extent of the area that may exceed action levels. The site has in place the Industrial Area Sampling and Analysis Plan, and is in the process of finalizing the Buffer Zone Sampling and Analysis Plan. Both plans will help to determine how best to go forward with cleanup plans, and are designed to address some of the uncertainties. The plans

have specific data quality objectives that give direction on what the site is sampling for, and why it is being sampled. The plans show the location, the number, and the types of samples and types of analyses to be performed.

### **PRESENTATION ON CURRENT SURFACE WATER REGULATORY FRAMEWORK AT ROCKY FLATS:**

Steve Gunderson with CDPHE gave this presentation. He began by discussing the regulatory documents related to surface water. The Action Level Framework identifies Points of Evaluation (POEs) and Points of Compliance (POCs), and lists surface water standards. Another important document is the Integrated Monitoring Plan, which describes POEs and POC in detail and the process for collecting and measuring water samples, and delineates other surface water sample locations. The other key document is NPDES (National Pollutant Discharge Elimination System Permit), the permit for discharge of water from the site wastewater treatment plant. This document is required under the Clean Water Act. Since Rocky Flats is a federal facility, the permit was issued by EPA and then certified by the state for compliance with state standards. The other document is the Pond Operations Plan, which tells how retention ponds will be managed and operated, including measures to take in the event of upset. The Colorado Water Quality Control Commission (WQCC) establishes surface water standards through a formal rulemaking process; the governor appoints its members.

Points of Compliance are where surface water is sampled and measured against standards. Exceedences trigger a source evaluation and may trigger penalties. EPA imposes the penalties under CERCLA regulations. POCs for Rocky Flats are located at the base of the terminal ponds – the most downstream ponds in a series – and at the site's boundary on Walnut and Woman Creeks. There are a total of five POCs. Points of Evaluation are where surface water is sampled and measured against standards. However, in this case any exceedence triggers an evaluation, not a penalty. The POEs are located above the retention pond systems and at the outfall of the wastewater treatment plant.

For non-radionuclides, the standards are either basic statewide standards or site-specific standards. Plutonium and americium standards were established by the WQCC in 1997. The standards are risk-based, and were set using the cancer slope factors in place at that time. The assumption was based on a 30-year exposure to drinking two liters of water per day, resulting in a one in a million chance of developing cancer. The cancer slope factors have changed in the past couple of years, but the standard right now remains at .15 pCi/liter. The uranium standard is an ambient monitoring standard for Walnut Creek (10 pCi/l) and Woman Creek (11 pCi/l). Radionuclides standards are based on a 30-day moving average. A 30-day average is the standard methodology used for organic compounds. Finished drinking water radionuclides are measured quarterly and then calculated on an annual basis. The POCs will remain where they are unless the terminal ponds are removed. If the ponds are removed, new compliance points will be designated.

### **PRESENTATION ON EXTENT OF CONTAMINATION, PATHWAYS FOR EXPOSURE, AND CURRENT REMEDIATION STRATEGIES FOR SURFACE WATER AT ROCKY FLATS:**

John Rampe with DOE-RFFO gave a presentation on the specifics of surface water at the site. There are five streams that cross Rocky Flats: Rock Creek, North and South Walnut Creeks, Woman Creek, and the Smart Ditch Drainage. Three of these (both Walnut Creeks and

Woman Creek) drain the industrial area and/or known areas of contamination in the buffer zone. There are ponds in all the drainages, about 15 total. Eleven of the ponds are actively managed by Rocky Flats, meaning that water levels are monitored and water in the ponds is transferred or released downstream purposely. The terminal ponds are managed through batch-and-release, which means the ponds are allowed to fill, a sample is taken, and then the water is released after sample results are returned. Sometimes terminal ponds fill with water before the lab results are received. In that case, water must be released to maintain the integrity of the dams.

Rock Creek and the Smart Ditch Drainage have no sources of contamination from Rocky Flats. North Walnut Creek drains the northern part of the industrial area, including the Solar Ponds and its associated groundwater plume. Also affecting North Walnut Creek drainage are the PU&D yard, the present landfill, and industrial area groundwater plumes, but none of these have had an impact on surface water in that drainage. South Walnut Creek drains the central and largest portion of the industrial area, including the Mound and East Trenches groundwater plumes. This creek receives effluent from the sewage treatment plant, via the B-series ponds. Woman Creek receives drainage via the South Interceptor Ditch and Pond C-2. It drains a small portion of the south side of the industrial area, including most of the 903 Pad surface contamination, the Old Landfill, and the Ash Pits. There is some groundwater contamination from the 903 Pad plume and the 881 Hillside.

Monitoring for radionuclides is done on a continuous basis via automated samplers. The samplers are connected via telemetry, providing staff with remote data access. John noted that at the Points of Compliance downstream of the ponds, the site has a good record of complying with the standard of .015 pCi/l. For instance, at Woman Creek and Indiana Street, the average concentration since 1997 has been .005 for plutonium and .004 for americium. The average concentration at Walnut Creek and Indiana Street is .015 for plutonium and .011 for americium. Upstream of the ponds, concentrations of plutonium and americium can be higher. The ponds are effective in reducing radionuclide concentrations.

The site is working on a number of studies that will define water management after closure, with an eye toward controlling contaminants. The flows are likely to be reduced at closure because: 1) the site will no longer import water, and no longer discharge through the sewage treatment plant; and 2) areas such as roads, buildings, and parking lots will be replaced by grassland, making the industrial area more like a sponge and less like a tabletop. This effect will be more noticeable in the Walnut Creek Drainage than in Woman Creek. Although there will still be a need for controls such as the ponds and ditches, the site hopes that reduced flows will allow those controls to be effective in a passive operating mode.

### **BOARD DISCUSSION AND QUESTIONS AND ANSWERS RELATED TO PREVIOUS PRESENTATIONS:**

The goal for this meeting was for the Board to become educated on surface soils and surface water so that there is a common level of understanding. To help enhance their understanding of the issues presented, Board members spent the remainder of the evening asking questions of clarification. The majority of the questions focused on surface water issues such as exceedences, the impacts of extremely dry or wet seasons, the frequency and methods of sampling for surface water contamination, whether site activities

may cause more exceedences in the future, and long-term stewardship issues. Some of the questions regarding surface soil addressed issues such as the impact of the buffer zone sampling and analysis plan, the extent of characterization of the site, and what future sampling is planned.

**NEXT MEETING:**

*Date: April 4, 2002, 6 to 9:30 p.m.*

*Location: Jefferson County Airport Terminal Building, Mount Evans Room, 11755 Airport Way, Broomfield*

*Agenda: Regulator update by CDPHE; status report on plutonium disposition; presentation and discussion on subsurface soil contamination*

**MEETING ADJOURNED AT 9:20 p.m. \***

(\* Taped transcript of full meeting is available in the RFCAB office.)

RESPECTFULLY SUBMITTED:

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Shirley Garcia, Secretary  
Rocky Flats Citizens Advisory Board

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The Rocky Flats Citizens Advisory Board is a community advisory group that reviews and provides recommendations on cleanup plans for Rocky Flats, a former nuclear weapons plant outside of Denver, Colorado.

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