

# ROCKY FLATS STEWARDSHIP COUNCIL

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League of Women Voters -- Rocky Flats Cold War Museum -- Rocky Flats Homesteaders  
Nancy Newell

## Monthly Status Report – September 2015

### Board meeting summary

#### *Initial Review of 2016 Work Plan*

The Board conducted the initial review of the 2016 work plan. One addition was offered concerning USFWS' conservation plan for the Rocky Flats National Wildlife Refuge. The plan will be adopted at the October 26<sup>th</sup> meeting.

#### *Initial Review of the 2016 Budget*

The Board reviewed the draft 2016 budget. No changes were offered. The budget will be adopted at the October 26<sup>th</sup> meeting.

#### *DOE Quarterly Update*

The Stewardship Council hosted DOE's update for the first quarter of 2015. Updates included:

- groundwater monitoring;
- surface water monitoring;
- ecological monitoring; and,
- surveillance, maintenance and site operations.

Some of the highlights included:

- At the Original Landfill, all sampling results met water quality standards during the calendar year.
- At the Present Landfill, routine quarterly sampling showed that vinyl chloride concentrations were above the applicable RFLMA standards, triggering increased sampling frequency (monthly) per RFLMA evaluation protocols.
- All RFLMA Point of Evaluation (POE) analyte concentrations were non-reportable throughout the quarter.
- At the Points of Compliance (POC's), reportable 12-month rolling average uranium concentrations were initially observed at WALPOC on October 31, 2014. Uranium was no longer reportable at WALPOC as of January 31, 2015.
- DOE continues to address slumping at the Original Landfill. (Note: These issues have been discussed at prior meetings and are captured in prior Stewardship Council monthly updates.)

### *CDPHE Briefing on Cleanup Levels at Rocky Flats*

Carl Spreng provided an overview of cleanup levels and resulting risk. Highlights of the briefing include:

- The RI/FS process examined nearly 7 million records for all environmental media at the site, including 1,300,000 soil samples from 7,200 locations onsite. A Comprehensive Risk Assessment made up the bulk of the RI/FS.
- The RI/FS included a detailed evaluation of the contaminants that were found onsite, which was narrowed down to identify the primary contaminants of concern for the various media.
- The target risk range for these cleanups was between 1 in 10,000 excess risk of contracting cancer to 1 in 1,000,000.
- Once cleanup was complete, the average residual plutonium contamination in surface soil in the Refuge area was 1.1 pCi/g; in the DOE-controlled area the average concentration was 2.3 pCi/g. In terms of individual surface soil concentration samples after cleanup, the highest found in the refuge was 19 pCi/g; and in the DOE-controlled area, it was 49 pCi/g.
- The final decision for the Refuge portion was based on an abundance of data and risk assessments demonstrating that risks to future refuge visitors and workers were extremely low.

### *Anne Fenerty & Jon Lipsky Briefing*

Anne and Jon chose to rebut what they saw as deficiencies and inaccuracies in DOE's April 2015 presentation to the Stewardship Council. Highlights of their briefing include:

- Plutonium-239 is considered the most toxic substance known, with a half-life of over 24,000 years.
- They discussed the criminal investigation, initiated by the FBI and EPA in 1989, which began with a raid at Rocky Flats for U.S. environmental law violations.
- They criticized the use of 'Accelerated Action' decisions, as well as the concept of 'Adaptive Management'. Many of these practices were not usually used at nuclear sites and not at places where the worst contamination was found.
- They discussed various areas of contamination on-site and their concerns with the cleanup plans and final cleanup levels.

Their presentation and accompanying information can be found at [http://rockyflatssc.org/public\\_comment/20150914%20RFSC%20-%20Fenerty%20Lipsky%20Rebuttal%20Cover%20Letter.pdf](http://rockyflatssc.org/public_comment/20150914%20RFSC%20-%20Fenerty%20Lipsky%20Rebuttal%20Cover%20Letter.pdf)

### Legacy Management monthly site inspection summary

DOE reports that in addition to routine monitoring and maintenance activities, site personnel conducted the following activities in August.

#### *Surface water and groundwater monitoring*

- Continued periodic maintenance in groundwater wells. The maintenance improves performance and reliability by removing excess silt and clay from the well filter packs.
- Completed 3<sup>rd</sup> Quarter 2015 groundwater sampling—sampled Original Landfill (OLF) and Present Landfill (PLF) wells.

- Collected and processed several surface water composite samples.

#### *Groundwater Treatment Systems*

- DOE reports that except as noted, all treatment systems were operating as expected, and that flows at all treatment systems remain well above average.
- East Trenches Plume Treatment System (ETPTS): DOE reports flows remain well above the maximum design flows (currently over 5.5 gpm, while the maximum design flow is 4 gpm), and the air stripper is running 12 hours/day.
- Solar Ponds Plume Treatment System (SPPTS): DOE reports the big box media continues to experience flow issues from bio fouling. An interim project is being developed for early federal fiscal year 2016 to address the issues. (More below)

#### *Ecology*

- Completed weed mapping of diffuse knapweed in revegetation areas within the Central Operable Unit (COU), the DOE-managed lands.
- Conducted Preble's mouse mitigation monitoring at various mitigation locations, and photopoint monitoring.
- Conducted the August 2015 wetland weed surveys.
- Began installation of GeoRidges in Functional Channel 1 area on the western edge of the COU.
- Conducted wetland mitigation monitoring.
- Conducted prairie dog town survey.

#### *Miscellaneous*

- The subsidences associated with former Building 881 were filled.
- The 3<sup>rd</sup> Quarter 2015 former building area inspections were completed.

#### *Landfills*

- Continued observation of the cracks and subsidence at the OLF.
- The interim repair work at the OLF began on August 17. Several pieces of concrete and pipe were found and will be disposed of as solid non-hazardous waste.

## Contact Record 2015-08

### *Solar Ponds Plume Treatment System Interim Design and Implementation*

The Solar Ponds Plume Treatment System (SPPTS) treats groundwater contaminated with uranium and nitrate. The SPPTS has been the focus of extensive study since site closure in 2007. Contact Records 2007-02, 2008-03, 2008-06, 2008-08, 2009-01, and 2014-08 have addressed management issues with the system. As DOE notes in the record, the "primary objective has been to improve collection and treatment of contaminated groundwater, and has included repairs, subsurface exploration, treatability studies (laboratory, bench-scale, and pilot-scale), and the design and construction of system upgrades." Annual reports 2011-2014 have discussed further options to optimize the effectiveness of the SPPTS.

As discussed in this contact record,

The current focus has shifted to a more extensive reconfiguration of the system. Design of this reconfiguration was scheduled to begin in 2016. However, due to the condition of the media and the overburden within the large original treatment cell structure (the “Big Box”) and the fact that the Big Box has become clogged, this component needs to be emptied sooner. The heavy precipitation in the first 6 months of 2015 (greater than a typical year) has increased the need to empty the system and improve treatment of influent water. Evaluation of the best long-term configuration of the system is in progress, requiring further testing and alternatives analysis. Simply replacing the treatment media in the Big Box would not be appropriate or adequate due to the flow rates, the treatment targets, and the substantial waste that would result for such a short-term operation. Therefore, a different configuration is necessary in the interim period.

The following interim configuration was proposed and discussed:

1. Empty the Big Box material (overburden and treatment media) and dispose of the material as discussed below.
2. Take the Phase II uranium treatment cell out of service and remove and dispose of its contents as discussed below.
3. Create a lagoon in Cell 1 and a settling tank in Cell 2 of the Big Box. Cell 1 is the larger of the two cells and can provide a residence time for the entire SPPTS groundwater flow similar to the residence time that currently is used in the pilot-scale lagoons. The pilot-scale lagoons have been successful in removing nitrate (see the 2014 Annual Report). The pilot-scale lagoons also remove substantial uranium from the influent (generally 30 to 50 percent, sometimes more). No additional full-scale uranium treatment component will be installed in the interim system.
4. Install an insulated roof over the Big Box to reduce temperature fluctuations in the lagoon, which will help to maintain a healthy population of denitrifying bacteria.
5. Continue to test approaches for treating uranium, focusing primarily on the lagoon effluent. These tests will be performed on only a small portion of the effluent volume.

This SPPTS interim configuration will be implemented starting in October 2015 when the Big Box will be emptied. Further, as provided in the record, “while the Big Box is offline, untreated SPPTS influent will be pumped upgradient of the collection trench as previously approved in Contact Record 2008-06.”

Finally, “Going forward, the Big Box lagoon will be operated and monitored for a minimum of four full seasons to evaluate nitrate and uranium removal efficiency, sludge buildup, factors that affect removal efficiency, optimization needs, and operation and maintenance requirements and costs. Results will inform the consideration and design of a longer-term SPPTS configuration.”

The contact record can be found at: [http://www.lm.doe.gov/Rocky\\_Flats/ContactRecords.aspx](http://www.lm.doe.gov/Rocky_Flats/ContactRecords.aspx)

## DOE-LM 2016-2025 Draft Strategic Plan

DOE’s Office of Legacy Management (LM), which manages, among other sites, Rocky Flats, is inviting public comment on its draft 2016-2025 strategic plan. The comment period closes December 4, 2015.

Two additions DOE is proposing to add to the plan that are applicable to the management of Rocky Flats are:

**Goal 6: Engage the public, governments, and interested parties.**

1. Engage the public in our program, project, and site activities.
2. Work effectively with local, state, and Federal governments and non-profit organizations.
3. Consult, collaborate, and partner with tribal nations.

**Climate change** – DOE is evaluating “the potential impacts of climate change on remedy performance and the management of natural resources on LM sites.” Another section of the document includes the following: “Understand regional predictions of climate change and evaluate potential impacts of these changes on the performance of remedies and facilities at LM sites.”

For more information, see the DOE-LM June-September 2015 Program Update:

[http://energy.gov/sites/prod/files/2015/10/f27/2015\\_Q3\\_final.pdf](http://energy.gov/sites/prod/files/2015/10/f27/2015_Q3_final.pdf)

### DOE-LM Management Contract

(quoting from the DOE-LM quarterly update): “On October 1, 2015, Navarro Research and Engineering, Inc. became the U.S. Department of Energy (DOE) Office of Legacy Management (LM) nationwide support contractor. The contract is a five-year contract (two-year base and three-year option) at approximately \$50 million per year. The contract was successfully transitioned from Stoller Newport News Nuclear, Inc. (formerly S.M. Stoller Corporation) on September 30, 2015. LM is responsible for ensuring that DOE’s post-closure responsibilities are met for long-term surveillance and maintenance, records and information management, benefits continuity, property management, and land reuse. LM is responsible for the long-term care of 90 sites in 28 states and Puerto Rico. LM contractor staff primarily work out of offices in Grand Junction and Westminster, Colorado; Monticello, Utah; Tuba City, Arizona; Morgantown, West Virginia; Fernald, Ohio; Weldon Spring, Missouri; and Pinellas, Florida.”

### Stewardship Council update

Next meetings:

October 26

February 1, 2016