

ROCKY FLATS STEWARDSHIP COUNCIL

Monday, May 3, 2021

8:30 – 10:15 AM

Virtual Meeting via WebEx

Board members in attendance: Nancy Ford (Arvada), Sandra McDonald (Alternate, Arvada), Claire Levy (Director, Boulder County), Sam Weaver (Director, City of Boulder), Deven Shaff (Director, Broomfield), Heidi Henkel (Alternate, Broomfield), David Allen (Alternate, Broomfield), Jim Dale (Director, Golden), Andy Kerr (Director, Jefferson County), Pat O’Connell (Alternate, Jefferson County), Joyce Downing (Director, Northglenn), Shelley Stanley (Alternate, Northglenn), Mark Lacin (Director, Superior), Jan Kulmann (Director, Thornton), James Boswell (Alternate, Thornton), Kathryn Skulley (Director, Westminster), Rich Seymour (Alternate, Westminster), Trea Nance (Alternate, Westminster), Jeannette Hillery (Director, League of Women Voters), Kathleen Bacheller (Rocky Flats Homesteaders), Murph Widdowfield (Rocky Flats Cold War Museum), Ken Freiberg (Rocky Flats Cold War Museum), Kim Griffiths (Director/Citizen)

Stewardship Council staff members and consultants in attendance: David Abelson (Executive Director), Melissa Weakley (Technical Program Manager), Barb Vander Wall (Seter & Vander Wall, P.C)

Attendees: David Shafer (DOE-LM), Andy Keim (DOE-LM), Gwen Hooten (DOE-LM), Nicole Lachance (RSI Entech), Dana Santi (RSI Entech), John Boylan (RSI Entech), George Squibb (RSI Entech), Jody Nelson (RSI Entech), Padraic Benson (RSI Entech), Patti Gallo (RSI Entech), Yvonne Deyo (RSI Entech), Luke Carelo (RSI Entech), Faith Anderson (RSI Entech), Lindsey Archibald (CDPHE), Lindsey Masters (CDPHE), Lindsay Archibald (CDPHE), Laura Dixon (CDPHE), Laura Hubbard (Broomfield), Cathy Shugarts (Westminster), Shirley Garcia, Lynn Segal, Chris Allred, Neshama Abraham

Convene/Agenda Review: Joyce Downing convened the meeting at 8:30 am. She noted that the Executive Committee met to discuss today’s agenda.

Public Comment: Lynn Segal noted that her mother was living in Denver during the 1957 fire at Rocky Flats and died of leukemia. She does not believe people should be allowed on the Rocky Flats property because it is a superfund site, not a refuge. Chris Allred with Rocky Mountain Peace and Justice Center spoke about the Rocky Mountain Greenway project. He did not like how Boulder had approached this process and said they were not taking public opinion into account. Neshama Abraham is a 25-year Boulder resident and business owner and mother. She said she was here to request signage at the entrances to Rocky Flats that that identifies there is plutonium in the soil and precautions that people should take. She visited with Dr. Harvey Nichols, who gave her protocols for safely visiting Rocky Flats, such as visit when soil is wet, stay away during wind, wear a mask and eye covering, and rinse off shoes when you leave. She would like the Stewardship Council to discuss recommending right-to-know signage.

Consent Agenda: The consent agenda included approval of the minutes from the February 1, 2021, meeting and the checks written since that meeting.

Jeannette Hillery moved to approve consent agenda. The motion was seconded by Jan Kulmann. The motion to accept the minutes and checks passed 14-0.

Executive Director's Report: David Abelson reported on new Board members from member governments -- Claire Levy (Boulder County Commissioner), and Taylor Reimann (City of Boulder staff).

Next, David next noted that the 2020 audit will be presented at the June 7th meeting. He said that while an audit is not required by the DOE grant or state law, annually the Stewardship Council contracts for an audit to ensure that the finances are being conducted in accordance with the applicable laws and regulations.

Finally, David reminded the Board that one of the key roles he and Melissa Weakly play is to help them understand the history of the cleanup and ongoing management. He encouraged the Board to reach out to them. David said he raised this point as staff continues to see information emailed or presented to the Board or presented to the community that is misleading or excludes key facts. It is one of the real challenges of this work, and one of the reasons why the Stewardship Council has staff—to help the Board wade through the information.

Climate Adaptation and Resilience: David Abelson opened the conversation by explaining that this presentation and discussion stemmed from the Board work plan sessions in Fall 2020. Addressing the impacts of climate change is a priority for most, if not all, member governments, so the discussion is an extension of their ongoing work at their councils and commissions.

David noted this briefing was not the first time these issues have been directly addressed at the Stewardship Council, but instead are a continuation of a conversation that began with a largely different board. He expressed his thanks for DOE for revisiting this topic and expressed his confidence that the conversation would benefit both the local communities and DOE and the regulatory agencies.

Climate Adaptation and Resilience: Programs and Activities: David S. Shafer, Ph.D., Deputy Director for Field Programs

David Shafer began by providing a brief background on the Office of Legacy Management. This office within the Department of Energy (DOE) was created in 2003 to manage long-term stewardship and maintenance responsibilities at sites formerly used for nuclear weapons production and energy research. It also provides the pension and benefits program oversight for former workers. DOE-LM currently oversees more than 100 sites across the country.

Dr. Shafer summarized DOE's climate change commitments. He said DOE recognizes that climate change and extreme weather events have already affected its sites, mission and operations. Its mission includes actively increasing resilience to climate change risks. DOE is updating policies and assessing internal risks and vulnerabilities to climate change, including performing vulnerability assessments. As vulnerable sites are identified, information will be shared with local communities and tribes.

President Biden issued two Executive Orders on January 27, 2021. Executive Order 14008, "Tackling the Climate Crisis at Home and Abroad," establishes climate considerations as an essential element of U.S. foreign policy and national security. It also addresses management of federal procurement, real property, public lands and waters, and financial programs. Finally, it integrates climate adaptation and resilience across agency programs.

Executive Order 13990, “Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis,” directs all agencies to review existing regulations, orders, guidance documents, and policies adopted between January 2017 and January 2021 to determine consistency with the policy set forth in this Order.

A 2020 GAO report provided recommendations to address LM’s environmental liabilities by developing plans to assess the effect of climate change on LM’s sites and to mitigate any significant impacts. In 2021, LM secured an agreement with Lawrence Berkley National Laboratory to complete this assessment and use these findings to better inform long term stewardship and maintenance responsibilities and refine its environmental liability estimates for managing the sites. This activity is scheduled to be completed in September 2022.

Nancy Ford asked about DOE’s financial abilities to address climate impacts. Dr. Shafer noted that they are looking at frequency of events in the context of long-term budgeting. They are working with Energy Solutions site in Utah to project potential events and actions to adequate funds for these future needs. Shelley Stanley asked if DOE was also considering frequency, duration and seasonal pattern changes in long-term planning. Dr. Shafer said they were indeed looking at this and added that they also know that conditions will be different at different locations throughout the country.

Ecosystem Overview: Jody Nelson, Lead Ecologist

Jody began the Rocky Flats portion of the presentation by noting that extreme events happen regardless of climate change. Jody shared the conclusions of the 2018 U.S. Global Change Research Program. These included:

- Climate change impacts are expected to be widely distributed across the U.S.
- Impacts will affect various regions differently
- Assessment identifies increased frequency of extreme events (including flooding, droughts, intense precipitation or windstorms, wildland fires, erosion and vegetation mortality)

Jody discussed climate model predictions for the Colorado Front Range:

- Temperatures are expected to increase by 2-6.5 degrees F by 2050
- Precipitation may or may not change
- Storm intensities are likely to increase

Jody noted that ecosystems constantly change and respond to changes in environmental conditions. Any long-term changes in the plant communities are not likely to happen quickly and may take years or decades to become evident.

Rocky Flats ecosystems may experience different implications. In wetlands ecosystems:

- Wetland plant species are dependent on water
- Under normal variability, wetland margins expand and contract
- Warmer temperatures and reduced precipitation may result in reduced wetland areas in the Central Operable Unit (COU)

- Warmer temperatures and increased precipitation may result in no change in wetland areas or perhaps a smaller decrease in area
- Decrease in wetlands could lead to shift in upland grassland areas as grasses replace wetland plant species

In riparian areas:

- Reduced water flows due to increased temperatures and decreased precipitation may result in smaller or narrower riparian areas at the site, increase in grasslands along streams, loss or reduced abundance of species adapted to drier conditions along the streams
- Increased precipitation may result in no changes or less of a change

In grassland ecosystems:

- Potential shifts in species composition
- Potential for increased weed infestations
- Potential reduction in the amount of xeric tallgrass prairie because they require more moisture
- Potential shift from cool season species to more warm season species.
- Could benefit the site by reducing abundance of smooth brome

Jody discussed the question of whether Rocky Flats could become a Dust Bowl. He said this was not likely because they have planted a diverse mix of deep-rooted native grasses, mimicking the surrounding native undisturbed prairie. They also are not plowing up the land. There is an abundance of plant material available with a wide range of tolerance and genetic variability.

Jody next discussed the increased wildland fire potential. He said this would benefit the grassland ecosystem. Grassland species are adapted to fire and need it to maintain a healthy plant community. Because fires have been extinguished in the Rocky Flats area for over 70 years, an unnaturally large accumulation of plant litter is now present, which stresses the grassland ecosystem.

Jody said climate change will probably not affect ecosystem management at the Rocky Flats site. He said these changes cannot be stopped and that Rocky Flats is just a small piece in the larger ecosystems of the Front Range. Trying to prevent ecosystem responses to climate change is not a realistic option. He said the best strategy is to continue what they are already doing. They are already addressing seed mixes with high range of tolerance and genetic variability, installing and managing erosion/sediment controls, and conducting weed control and vegetation management to maintain a diverse habitat and monitoring plant communities.

Groundwater Overview: John Boylan, Groundwater Lead

John began by explaining that any climate effects on the groundwater regime will be gradual and episodic, not sudden. Protocols and processes are in place to discuss observations and events. Groundwater volume and quality are highly variable. A network of monitoring wells adequately monitors the site. Also, CERCLA five-year review reports will continue.

John displayed a few examples of hydrographs that show how deep groundwater levels were over time, including during a drought year and wet year. He also showed a depiction of VOCs in groundwater during the same events.

Groundwater collection and treatment systems at the site are off the grid, which has forced a much deeper consideration of 'what-ifs' than might normally be the case. The site maintains a supply of replacement components to enable quick replacement. Power supplies are flexible. Designs incorporate wind loading requirements. The treatment systems are designed for flexibility and can accommodate a large range in flows. Even the existing flows are quite variable. Power systems are designed with excess capacity, and more can be added if necessary. More precipitation would be accommodated by existing design, and less precipitation would not be a problem for the systems. Also, systems are automated and can be remotely operated.

At the landfills onsite, inspections are done routinely and added based on weather conditions. The OLF has recently received structural reinforcements; the PLF has not needed reinforcement.

Surface Water Overview: George Squibb, Surface Water Lead

George said that the design of surface water infrastructure and management of monitoring programs have always considered the probability and effects of weather variability. Dams are not part of the CERCLA remedy and will be breached at some point in the future. They were designed to withstand extreme events by passing high flows through emergency spillways without damage.

George next spoke about functional channels onsite, which were designed to adequately convey the 100-year event runoff flows with adequate freeboard. During 2013 heavy precipitation, they sustained no damage. Surface water monitoring can measure a wide range of flow rates, including peak flow rates that are more than 1,000 times higher than the base flow. These structures can also be modified or reconstructed at moderate cost to handle larger events. Secondary automated samplers were added after the 2013 flood and trigger when the primary flow-paced sample carboy fills due to high flow rates. The monitoring network uses automated equipment that is programmable to adapt to changes in water quantity and quality.

George concluded that large-scale events of climate change will be gradual. Extreme weather events will occur regardless of overall climate trends. Adjustments will be made in accordance with the RFLMA. Quarterly, annual and five-year review reports and briefings will continue to communicate and inform stakeholders.

CERCLA Five Year Review: Lindsay Masters, CDPHE

Lindsay said she agreed with previous presenters that the Rocky Flats regulatory framework (primarily RFLMA) allows for flexibility, adaptation and change. Among the potential effects of climate change, what she's most interested in as a regulator at Rocky Flats is monitoring and keeping on top of potential changes to the water table. The RFLMA agreement is the primary way to stay on top of this. The CERCLA five-year review is another mechanism to stay involved and informed on these issues.

Shelley Stanley asked John whether he expected that groundwater modeling would capture changes to pollutant concentrations in the plumes. John said that modeling uses data they have collected, so if the

data reflected these changes, they would see it in the modeling. Shelley asked Lindsay about her comments related to possible options for updating monitoring to meet future conditions and asked whether there would be public involvement in this process. Lindsay said it would probably depend on the size and scope of the changes. David Allen asked George whether there were any immediate plans to breach the dams. George said he did not know of any specific plans, and DOE should be asked. David then asked about what the public process would be related to this. David Abelson noted that the NEPA process for these plans had already been completed and that DOE had taken local government input into account and that is probably part of the reason that the breaching has not already happened.

Deven Shaff asked what kind of additional air monitoring would be added to ensure future conditions were not leading contamination to be exposed or leave the site. George said that if information were collected in the future that indicated that air monitoring would be needed, they would address it at that time. Nancy Ford asked if there would be any air monitoring if a major fire occurs. Lindsay said air monitoring is not currently required and was not sure if any would be done during a fire, since they cannot be predicted in advance. She noted that a previous study related to past fires and models indicated that fires would not produce conditions that would be of regulatory concern. David Abelson noted that a test burn was conducted during cleanup with air monitoring; that study concluded that plutonium particles would not move very far. He noted that while prescribed burns could help prevent uncontrolled wildfires, there has been strong community opposition to this option. George noted that surface water monitoring would be very informative after a fire, even more so than air monitoring, since the transport mechanisms are connected. Trea Nance requested that the City of Westminster be kept in the loop on any plans for dam breaching, Shelley Stanley requested the same for Northglenn. Shelley asked Lindsay whether PFAS and PFOA compounds would be considered during the CERLA Five-Year review. Lindsay said yes.

Public Comment on Climate Adaptation and Resilience: Chris Allred referred to concerns by Dr Gale Biggs about previous air monitoring protocols at the site and suggested more needed to be done in terms of determining proper air monitoring methodologies. He asked how long DOE was planning to maintain stewardship at Rocky Flats. He said DOE used poor judgement about opening the site to the public. He also referred to the dam breaches and suggested these discussions should take place in public. David Abelson pointed out that the dam breaches have been the subject of extensive public discussions over the years. Lynn Segal spoke about her concerns about the safety of allowing people onsite at Rocky Flats.

Board Roundtable: Nancy Ford asked for a future discussion about DOE long-term stewardship funding issues. She also followed up on the request from Shelley Stanley to allow municipalities to access the slump report with cost and design data removed.

Big Picture/Additional Questions/Issue Identification

June 7, 2021

Business Items

- Accept 2020 Financial Audit

Briefing Items

- DOE Annual Report

September 13, 2021*Business Items*

- Review draft 2022 work plan
- Review draft 2022 budget

Briefing Items

- DOE Quarterly Update
- Overview of CERCLA Five Year Review

November 1, 2021*Business Items*

- Adopt 2022 work plan
- Adopt 2022 budget
- New member interviews

Briefing Items

- DOE Quarterly Update

Issues to watch:

- Changes at SPPTS
- Status of OLF
- Uranium exceedances in surface water
- Trichloroethylene (TCE) exceedances in groundwater
- North Walnut Creek slump

The meeting was adjourned at 11:28 am.

Respectfully submitted by Erin Rogers.