Rocky Flats Coalition of Local Governments

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September 9, 2002

Mr. Tim Rehder
United States Environmental Protection Agency, Region 8
US EPA, 8EPR-F
999 18th St., Suite 300
Denver, CO 80202-2466

Dear Mr. Rehder:

On behalf of the Board of Directors of the Rocky Flats Coalition of Local Governments, I am submitting the following comments on the *Draft Environmental Restoration RFCA Standard Operation Protocol for Routine Soil Remediation, FY02 Notification #02-09* (903 Pad Notification). The Coalition appreciates the opportunity to provide feedback on this important document and we look forward to receiving your written reply.

We understand the Site is looking at the 903 Pad and Lip Area remediation project in several pieces: first, radionuclide contamination under the Pad, followed by radionuclides in the Lip Area and volatile organic compounds in both the Pad and Lip Area subsurface. As evidenced by the conversation at our August Board meeting, however, the Board is looking at the 903 Pad and Lip Area remediation project as a whole. Thus, while the Board is commenting at this point on the first phase of the 903 Pad remediation, we expect to be involved in the planning process for the next phases of the 903 Pad and Lip Area remediation as well. Issues that must be addressed in the near future include remediation of volatile organic compounds (VOC) in subsurface soils and groundwater not addressed in the 903 Pad Notification.

The Coalition considers itself a partner with the Department of Energy, Kaiser-Hill, CDPHE, and the EPA in achieving the safe cleanup and closure of Rocky Flats. We appreciate the RFCA parties' continuing commitment and willingness to working with us on this document and others. This draft of the 903 Pad Notification provides much of the required information for how the remediation will be conducted. We offer comments, however, on the following issues.

General Comments

The accelerated action remediation goals are listed for the 903 Pad in Section 2.6, and include removal of soil with contaminant concentrations greater than RFCA Tier I action levels (AL). We understand the difficulties of needing to comply with RFCA while anticipating changes to the radionuclide soil action level (RSAL) with the current RSAL review. Nevertheless, it is the Board's understanding that DOE intends to clean the 903 Pad subsurface to 50 pCi/g of plutonium, with a sum-of-ratios (SOR) less than one. Will the 903 Pad Notification be modified to reflect this cleanup goal once the end-state discussions are finalized? If not, where will this cleanup goal be captured?

Secondly, long-term stewardship considerations are an intrinsic part of each remedy, and we appreciate the efforts to which DOE has gone to include a stewardship evaluation in the ER RSOP. We are concerned, however, that the application of this stewardship analysis to the 903 Pad Notification is quite thin and is a cut and paste from earlier ER RSOP notifications. While we recognize the specific level of cleanup will not be known until after remediation has been completed, we still believe that at the time the 903 Pad Notification is drafted the Site has a general idea of the target cleanup level. Thus, there should also be a general idea of the long-term controls that will be required. As is, it is not clearly stated in the 903 Pad Notification what the purpose of the long-term stewardship requirements are and what they are protecting.

For instance, the only long-term actions cited in the 903 Pad Notification are the institutional controls of federal ownership and land use restrictions to prevent soil excavation, as well as the potential need for groundwater wells for long-term monitoring. There is no mention of the long-term need for physical controls, such as signs, to be used in conjunction with the institutional controls.

Additionally, post-remediation long-term monitoring is not specifically addressed in the 903 Pad Notification (one sentence in Section 2.5.3 states that certain groundwater monitoring wells will be evaluated after remediation to determine if they will be needed for long-term monitoring). If, as the document states, land use restrictions will be required post-closure (Section 2.5.4), it can be inferred that there will be something to protect in the 903 Pad area after remediation. What interest are you trying to protect? Future user? Water quality? What contaminants will remain in sufficient quantities post-closure that will require monitoring? What is the pathway that long-term stewardship needs to protect?

Furthermore, the post-remediation monitoring locations are not clearly outlined in the 903 Pad Notification. We understand the exact post-closure monitoring needs may not be known at this time. What, then, is the process and timeline for identifying monitoring program needs? Will these program needs be captured in the closeout report and how will they be enforced?

There is also an important question from the stewardship and ALARA process overview in the ER RSOP (Figure 8 in the ER RSOP) missing from this stewardship evaluation, as well as the stewardship evaluations in all previous ER RSOP notifications. As per the ER RSOP, the stewardship evaluation in the notifications should also include the question, "Will additional engineered or institutional controls be needed after remediation?" This question should be

routinely considered with each stewardship evaluation to determine if additional remediation is warranted.

As a final note, we believe the Stewardship Toolbox would be of great benefit in evaluating long-term stewardship actions in conjunction with the ER RSOP stewardship evaluation. DOE recognizes the Toolbox is a valuable resource and would help address issues such as the need for long-term physical controls and the purpose of long-term monitoring.

Specific Comments

Section 1.0 – Introduction

In the fourth paragraph of this section, it is stated that plutonium, americium, and VOCs are contaminants of concern (COC) for the 903 Pad. As presented in Table 3 in the 903 Pad Notification, uranium is also present above Tier I ALs. Why is uranium not a COC for this accelerated action?

Section 2.1 – Contaminants of Concern

In Figure 4 (Native Soil Horizon 3 Approximately 12" to 18" Existing Sampling Data Greater Than Background Plus 2 Standard Deviations), the maximum americium concentration appears to be around 9 pCi/g. As per the June 2000 "Characterization Report for the 903 Drum Storage Area, 903 Lip Area, and Americium Zone" (903 Pad Characterization Report), Section 4.2.1.3, the maximum radionuclide activity at depths greater than 12 inches of native soil is 54 pCi/g of americium (Am), in Native Soil Horizon 3. This concentration for americium is not in the 903 Pad Notification. Does the Site have newer data that show this hot spot does not currently exist?

Section 2.3 – Remediation Plan

1) Paragraph 1
"In accordance with the ER RSOP, removal of soil with contaminant concentrations greater than RFCA Tier I ALs, by removing the depth of soil described herein, is required."

If this sentence is true, VOCs must be remediated. Please clarify this sentence if it is not true. If the remedial action objectives (RAO) in the ER RSOP are not applicable, please caveat the above sentence in this Notification. Note this issue is also pertinent to Section 2.6 (Accelerated Action Remediation Goals), in which it is stated that the accelerated action remediation goals for the 903 Pad include removing all soil with contaminant concentrations greater than RFCA Tier I ALs.

2) Paragraph 2
"Results from all of the 25 sampling locations indicate that the maximum plutonium radionuclide activity at depths greater than 12 inches of native soil is 48 pico curies per gram (pCi/g) and is likely in the top of Native Soil Horizon 3. Therefore, using mechanical excavation equipment, the top 12 inches of native soil below the footprint of the pad will be removed…."

As mentioned earlier, the 903 Pad Characterization Report shows the maximum radionuclide activity at depths greater than 12 inches of native soil to be 54 pCi/g of americium (Am), in Native Soil Horizon 3. If, in fact, Am is present at 54 pCi/g from 12 – 18 inches below the surface, removing the top twelve inches of soil will not achieve an SOR of less than one, assuming a cleanup goal of 50 pCi/g of plutonium. If this area with elevated Am below 12 inches exists, will it be targeted for characterization and/or remediation to ensure a cleanup level of 50 pCi/g of plutonium with an SOR of less than one?

3) Paragraph 3

"Soil excavations will be conducted within a 90-foot x 110-foot tent that will be used to protect the excavation from weather conditions and to mitigate possible weather-related delays."

It is our understanding that an important function of the tents will be to protect against the further spread of contamination during remediation, as well as protect the excavation and mitigate weather-related delays. Will the tents protect against the further spread of contamination? If not, what steps will be taken to ensure contamination is not spread?

4) Paragraph 4

Bullet 3: "Groundwater from the 903 Pad is captured on the north by the Mound and East Trenches barrier and treatment systems. Current data do not indicate that there is a pathway from groundwater to surface water on the south."

Does contaminated groundwater flow to the east of the Pad? Is it captured? If not, is there a pathway to surface water? If there is a pathway to surface water, is the surface water quality degraded by the groundwater from the 903 Pad? What measure of confidence does the Site have that that it can meet existing RFCA water quality standard?

Bullet 3: "… VOC source removal may not be necessary."

This statement seems presumptuous at this early stage in the remediation planning process. We are concerned a push is being made by the Site to not remediate VOCs, although it does not appear that a sufficient evaluation has been conducted. There are many factors to consider when determining if VOC remediation will be necessary, and we do not believe sufficient information exists at this point to make that determination.

<u>Section 2.5.2 – Surface Water Protection</u>

1) Paragraph 3

"The closest surface water monitoring station is GS39…."

Where is GS39? How close is it to the 903 Pad? From which other IHSSs does GS39 receive runoff? Will the 903 Pad be distinguishable as a separate source if elevated concentrations of a contaminant are detected at GS39 at some point in the future?

Section 2.5.3 – Monitoring

In Table 5 (Groundwater Exceedances Associated With IHSS Group 900-11, IHSS 112-903 Pad), the maximum result for Am-241 is shown as 21.32 pCi/L, well above the Tier I AL for groundwater (14.5 pCi/L). The maximum result for plutonium (0.812 pCi/L), on the other hand, is much less than the Tier I AL for groundwater (15.1 pCi/L). Why is the Am result so high? As per most available data from the Site, Am is generally associated with plutonium (Pu) and thus takes on the characteristics of Pu, which is mostly insoluble. Does this more soluble Am negatively impact surface water?

Additional Comments

To the extent that the 903 Pad Notification has long-term value in the face of changing personnel onsite post-closure, it is important to have certain fundamental information in the document. For instance, in Section 2.3 (Remediation Plan), paragraph 4, it is stated that "the highest concentrations of VOCs are at or near the bedrock surface." As per the 903 Pad Characterization Report, it appears a significant pocket of VOCs resides in the northeastern corner of the Pad, with some Tier I exceedances less than four feet deep. Does this pocket of VOCs still exist? If so, its existence should be noted in the 903 Pad Notification. If not, please acknowledge the pocket's degradation/migration in this Notification to eliminate potential confusion.

Additionally, in Section 2.5 (Stewardship Evaluation), the document states, "It is also anticipated that after 1 foot (depth) of soil is removed, most contamination above RFCA Tier II ALs will be remediated." Does this sentence mean that more soil will be remediated after 1 foot of soil is removed to remove soil above Tier II ALs, or that removal of the top 1 foot of soil will result in most soil above Tier II ALs being removed? Although someone intimately involved with Rocky Flats will know what is meant by this sentence, someone less familiar now and in future years may not.

Also, in Section 2.5.2 (Surface Water Protection), paragraph 2, it is written that "…uranium-238 activity is greater than RFCA Tier II ALs in surface soil." As per Table 3 in the 903 Pad Notification, the maximum result for U-238 is 780 pCi/g, which is greater than both the Tier II (103 pCi/g) and Tier I (586 pCi/g) ALs. Please clarify in the document whether or not the high uranium concentration will be addressed by the proposed remedial actions.

Lastly, it would be helpful to list the depths at which the maximum surface and near-surface soil characterization results are found in Table 3 (Surface and Near-Surface Soil Characterization Summary). While this information can be found in Figures 2, 3, and 4, it would be helpful to include it in the table as well so that someone looking back at the document will be better able to tell how much contamination was targeted by the remediation.

Thank you for the opportunity to comment on this document and for your continuing commitment to work with the Coalition on the safe and timely closure of Rocky Flats. If you have any questions about the Coalition's comments, please call me at (303) 412-1200.

Sincerely,

/s/

David M. Abelson
Executive Director

cc: Joe Legare, DOE
Norma Castaneda, DOE
John Rampe, DOE
Lane Butler, Kaiser-Hill
Steve Gunderson, CDPHE
Rocky Flats Coalition of Local Governments
Rocky Flats Citizens Advisory Board