Rocky Flats Coalition of Local Governments

Boulder County City and County of Broomfield Jefferson County
City of Arvada City of Boulder City of Westminster Town of Superior

8461 Turnpike Drive, Suite 205
Westminster, CO 80031

(303) 412-1200
(303) 412-1211 (f)
www.rfclog.org

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Mr. Gene Schmidt
U.S. Department of Energy
Rocky Flats Field Office
10808 Highway 93, Unit A
Golden, CO 80403

Mr. Doug Benevento
CDPHE
4300 Cherry Creek Dr. South
Denver, CO 80246

Mr. Jack McGraw
EPA
999 18th Street, Suite 500
Denver, CO 80202

Dear Mr. Schmidt, Mr. Benevento, and Mr. McGraw:

As you are well aware, as part of the RFCA parties' process for revising the end-state for Rocky Flats, the Board of Directors of the Rocky Flats Coalition of Local Governments has been asked to offer its thoughts on the parties' proposed end-state.

The RFCA parties have proposed modifying the current RFCA remediation strategy and pursuing instead a risk-based approach. Under this approach, we understand, all surface soil above a certain concentration of radionuclides will uniformly be removed. Subsurface soil will be analyzed based on the human and ecological risk of exposure and remediated only if an exposure pathway exists. This letter captures our thoughts.

General Comments

The Coalition generally supports the RFCA parties' risk-based approach, provided Congress provides sufficient funding for long-term stewardship. Our support is rooted in the understanding, based on information supplied by DOE and Kaiser-Hill, that the greater current risk to human health and the environment from radionuclides, including impacts to water quality, is due to surface soil contamination. Nonetheless, the Coalition also agrees with the RFCA parties' approach that a minimally compliant cleanup or straight risk-based approach is insufficient for Rocky Flats. There are critical factors that necessitate conducting additional remediation beyond a straight risk-based approach. These additional remediation requirements must be written into the RFCA.

Further, in revising the end-state, the Coalition trusts DOE's assertion that the funds available for the cleanup of Rocky Flats are limited to an amount roughly equal to the current contract between DOE and Kaiser-Hill, currently valued at $3.963 billion. This limitation, we understand, necessitates developing a new end-state configuration that will not result in a net change to the overall target cost of the closure contract (hereafter called "revenue neutral").

We continue to struggle with what changes could be made so that the revised end-state will be revenue neutral. While the answer remains unclear, we expect that the individual cost of each remediation project shall be provided to us detailing the actual cost versus the estimated costs and any cost savings realized. If the cost of remediation for the entire site cost less than target costs, the federal government's share of such savings should be used for additional remediation at Rocky Flats.

In addition, this document should not be read as a statement of what the Coalition or individual governments believe should be the final end-state should additional monies become available, nor does it resolve all of our concerns regarding uncertainty and potential exposure pathways. Instead, the following positions capture how the remaining dollars under the contract should be prioritized so that long-term risks to human health and the environment shall be minimized. The health and safety of our communities is our primary concern, and we expect that mechanisms will be in place post-closure to address potential remedy failure, control failure, incorrect assumptions regarding the rates of mobility of contaminants, and changes in exposure pathways.

The Coalition offers these comments with the good faith understanding that the existing dialogue shall continue throughout closure, and that the end-state shall be clarified as the issues and uncertainties become clearer and options for addressing them become better known. We expect to offer additional comments on these and other issues as additional characterization is completed and we in turn gain a clearer picture of the details of the end-state.

Furthermore, for the issues addressed in this letter, our guiding end-state principles are reducing risk to a future user, protecting water quality, addressing uncertainty, developing and implementing a strong and comprehensive post-closure monitoring regime, and developing mechanisms to become aware of and address problems as they arise. The Coalition recognizes that the long-term success of the cleanup depends on the development and implementation of a comprehensive, federally funded long-term stewardship plan. The current absence of an approved stewardship strategy or plan for the Site and guaranteed funding strategy heightens our concern about what a safe and protective cleanup entails.

Finally, this paper does not have the support of either Boulder County or the City of Boulder. While the County supports a number of issues, concerns, and positions expressed in this paper, they disagree on others and are withholding judgment on still others. Moreover, the County believes local governments should not be opining about issues where they do not know all of the facts nor have all of the necessary information, and the County lacks complete confidence in the facts and information they do have.

Surface Cleanup Levels

The Coalition supports the RFCA parties' proposal to establish a minimum surface cleanup level for plutonium of 50 pCi/g, and to define surface as 0 - 3 feet below current grade. The existing six-inch standard for defining surface is inadequate as it does not take into consideration differing rates of erosion across the Site nor challenges either DOE or U.S. Fish & Wildlife Service (USFWS) would have in enforcing access restrictions below such a shallow depth. As

an example, Dean Rundle (USFWS) noted at the April 1, 2002 Coalition Board meeting that revegetation requires disturbance of the upper twelve inches of soil.
In addition, given the substantial contamination in the B-series ponds and DOE's anticipation that little surface water will flow through these ponds post-closure, the sediments in the B-series ponds and associated ditches must be remediated as surface soils.

Finally, while we support the above surface cleanup approach, we believe it may only address part of the surface soil problem. This approach may be inadequate in areas where volatile organic compounds (VOCs) were spilled or released, because a surface expression of contamination may not exist. A method needs to be in place to address potentially high concentrations of VOCs that may exist in soil down to three feet below grade, but may not have a surface expression.

Subsurface
Despite our general support for remediating additional surface soil in lieu of subsurface soil, the Coalition remains apprehensive about leaving in place high concentrations of subsurface contamination. This concern stems from the high degree of uncertainty regarding subsurface contaminants, concentrations, exposure pathways, and plans and means to implement a comprehensive long-term stewardship plan after the Site is closed.

Some of the uncertainty stems from the fact that the subsurface remains largely uncharacterized, especially in the Industrial Area. In many cases, the RFCA parties do not know what contaminants exist and at what concentrations and depths. For example, the Actinide Migration Evaluation group recently concluded in the "Actinide Migration Evaluation Pathway Analysis Report" (April 2002) that a significant data gap exists regarding subsurface actinide data in the Industrial Area, including potential actinide solubility in subsurface process waste lines. If plutonium and americium are found to be associated with acids in the subsurface, these compounds may be more mobile than currently thought. Another example of this uncertainty is that Kaiser-Hill found process waste lines (PWL) under the northern portion of the Building 123 foundation that were shallower than anticipated. They expected all PWLs to be 4 - 6 feet below grade, but piping was found between 0.5 - 1 foot below grade.

In addition, it is unclear whether or not the RFCA parties will incorporate a worst-case scenario of potential treatment unit/remedy or related stewardship control failure in their risk assessment calculations. The consequences of such a failure need to be fully understood in order to account for all possible exposure pathways.

Lastly, there is uncertainty about surface soil erosion rates, especially in the drainages. Surface soil may erode more quickly in a drainage than on a plateau, thus exposing subsurface contamination more quickly than anticipated.

The Coalition will accept leaving contamination in the subsurface if the pathway analysis shows with a 95% certainty that the 10^{-5} risk is not exceeded and that the following, including protection of water quality and development of a comprehensive stewardship program (discussed below), are met:

1. Completely remediate the ash pits, trench 7, and trenches 3 and 4 "burrito"

The Coalition supports the RFCA parties' proposal to completely remove the ash pits, trench 7, and trenches 3 and 4 "burrito". Removal of these Individual Hazardous Substance Sites is warranted as these remedial actions will decrease risk to water quality and reduce overall risk should controls fail.

2. Original Process Waste Lines

The Coalition accepts the RFCA parties' proposal to remove all original process waste lines (OPWL) in the top three feet of soil. However, based on the aforementioned comments regarding uncertainty in the subsurface, we believe that should a decision be made to not remove lines below this depth, further investigation and discussion with the Coalition would be warranted. We do, however, support the characterization methodology proposed for these lines, including extensive characterization of known and suspected leaks and detailed sampling of three leaks to study actinide migration. We also support the Site's proposal to remove all valve vaults, and grout/foam OPWL that are not removed.

3. Establish a maximum allowable concentration of subsurface contamination. If exceeded, remediation of the given area would be necessitated.

Because there are ample instances of human intrusion into the subsurface at contaminated sites, even in the presence of institutional controls, we believe the possibility of human access to the subsurface must be considered when determining a cleanup level for the subsurface. Establishing a threshold concentration limit for the subsurface will help mitigate potential human and ecological risk resulting from exposure in the event of control failure.

The most recent Radionuclide Soil Action Level (RSAL) review conducted by the RFCA parties concluded that a surface soil plutonium concentration of approximately 780 pCi/g would result in a 25 mrem dose to a wildlife refuge worker. We understand the probability of accessing subsurface soil is lower than that for surface soil. Therefore, we support setting a threshold level of 1 nCi/g in the subsurface between 3 - 6 feet below current grade.

Below six feet, the Coalition supports using a graded approach. At this time, however, we are not prepared to offer a detailed recommendation, but expect the RFCA parties will continue to discuss such an approach with us.

We recognize that the RFCA parties are considering establishing a threshold limit of 3 nCi/g for the 3 - 6 feet range. We also recognize there is a great deal of uncertainty as to the extent, if any, of contamination between 1 nCi/g and 3 nCi/g in the 3 - 6 feet below grade level. Consequently, we trust the RFCA parties will work with us on developing strategies to bridge this potential gap.

Surface Water Quality Protection

Protection of water quality has been and remains a priority for the Coalition. Post-closure, water leaving Rocky Flats as measured at the existing Points of Compliance (POC) at the Site boundary must continue to meet the 0.15 pCi/L standard measured over a 30-day average.

The Coalition supports the RFCA parties' proposal to change the compliance period of the onsite standard of 0.15 pCi/L from a 30-day average to an annual average provided:

a. Points of Evaluation (POE) are established upstream of the ponds;
b. "Annual" means a 365-day calendar year regardless of flow;
c. Sampling frequency and technique will remain the same post-closure as it currently exists in the Integrated Monitoring Plan;
d. On-site POCs and the POEs are developed with the Coalition governments, and in particular the affected municipalities; and
e. At the onsite POCs and POEs, in addition to circumstances when there are regulatory violations of the water quality standard, evaluations shall also be triggered when:
    i. Water at a POE or POC onsite is greater than 0.15 pCi/L standard over a 30-day average; or
    ii. There are spikes in excess of 0.60 pCi/L.

In addition, the RFCA parties must maintain and upgrade as necessary the existing pond systems in both the Woman Creek and Walnut Creek drainages, develop the water monitoring and reporting program in consultation with the Coalition governments (and in particular the affected municipalities), and include a mechanism to address major storm events. The RFCA parties must also prove natural attenuation of groundwater contamination is occurring and, should contaminant concentrations increase, reevaluate the groundwater strategy as necessary.

We recognize we have not defined "major storm event". We hope to work with the RFCA parties to determine a suitable threshold and appropriate response action.

Long-term Stewardship

Despite assurances DOE has provided regarding its confidence in managing the stewardship program, the Coalition is concerned about the enormity of the challenge facing future management of residual contamination. Our trepidation about leaving contamination in the subsurface is exacerbated by the lack of clarity on steps that will be taken and programs that will be implemented as part of a comprehensive stewardship plan.

We believe DOE-RFFO has made great strides over the past year to elevate the importance of stewardship. In particular, DOE's draft RFCA stewardship section, if modified and approved, would help meet many of the interests and needs raised in this letter. However, much more can and must be done.

More specifically, the Coalition needs to know with sufficient certainty the controls that would be used, measures to enforce the controls (e.g., provisions in the Record of Decision, state environmental covenant, etc.), clarity on who can enforce the controls, the details of the operational and performance monitoring program, frequency of CERCLA reviews, communication mechanisms with the community, and frequency of reporting monitoring and maintenance information to the local communities.

As the Coalition has argued, a stewardship analysis must be integral to the development of remedies, but stewardship also goes beyond this analysis. Stewardship also includes DOE taking

all necessary steps to ensure controls are enforced, and developing and implementing monitoring and reporting mechanisms so that as problems arise they are quickly and summarily addressed. Proactive stewardship planning also necessitates the RFCA parties selecting remedies that will reduce long-term requirements, such as operations monitoring and maintenance, and the risk associated with the failure or malfunction of a treatment unit and/or an institutional control.

In addition, the Coalition supports the following:

1. Adequate funding for long-term stewardship must be ensured.

The Coalition remains concerned about funding long-term stewardship through annual appropriations. The most certain way to ensure Congress provides sufficient stewardship funding is to develop a dedicated fund. The Coalition needs to know which specific mechanisms DOE intends to use to ensure reliable funding for the indefinite periods of times contemplated by long-term stewardship analyses. We also need to know how such mechanisms will be protected from the normal ups and downs of the annual budget process that may cause a raid on line items by temporary demands for funding.

While this question is most appropriate for Congress, DOE plays a significant role in stewardship funding and thus knowing DOE's commitment and strategies remains pivotally important.

2. DOE must have onsite personnel assigned to Rocky Flats post-closure to conduct long-term stewardship activities.

Management from afar, such as out of the Grand Junction office, without employees assigned to work at or near Rocky Flats post-closure is unacceptable.

3. Long-term stewardship must be legally enforceable by third parties. The RFCA must also state how the federal government will enforce access restrictions, and specify in detail which stewardship controls will be enforceable and which will not.

We understand the Defense Department is questioning the enforceability of implementing, operating, maintaining and reviewing land use controls, as well as the EPA enforcement authority. Enforcement of controls remains a key ingredient of managing contamination. If a control is not enforceable, then its value to the long-term protection of human health and the environment is compromised. It is imperative the RFCA parties agree on how enforcement would be implemented prior to approving amended RFCA language.

4. CPDHE and EPA must have a continuing regulatory role post-closure.

Due to the enormity of implementing and maintaining a stewardship program, it remains imperative that CDPHE and EPA have a continuing role post-closure. We understand DOE, CPDHE, and EPA are exploring various options, including a post-closure RFCA-type agreement. We support such an approach.

With respect to CDPHE, the Coalition also supports the applicability of the state of Colorado's environmental covenants bill (SB 145). Arvada and Broomfield lobbied for SB 145 with the expectation that it would be applied to Rocky Flats. Should DOE resist its applicability, DOE must provide an account of its position to the Coalition prior to final approval of the revised RFCA language.

5. Controls must be layered in order to reduce uncertainty, and contingency plans must be developed in the event of a failure or malfunction of a remedy.

The Coalition is concerned about DOE's reticence to layer controls, despite the National Research Council's recommendation to that end to DOE in its August 2000 report. There is ample evidence in Colorado of stewardship controls failing. One way to mitigate any potential problems resulting from the failure or malfunction of a control is to layer controls. Another way is ensuring there are strong enforcement provisions.

6. Frequency of CERCLA reviews must be established.

In addition to regular operational and performance monitoring, and maintenance of the remedies, the Coalition recognizes periodic reviews of remedies are required by CERCLA. For the first nine years following closure, however, the review shall take place every three years, and every five years thereafter.

While not all of the aforementioned stewardship needs must be captured in the RFCA, they remain critical to the Coalition's support of the cleanup of Rocky Flats.

Final Thoughts

Clearly, not all of the Coalition's end-state and related stewardship issues are presented in this letter. For instance, per the parameters outlined by the RFCA parties, we have not addressed the critical question of remediating the original landfill and the solar ponds, nor the need for mineral acquisition. We trust that we will continue to work with the RFCA parties on these issues.

If you have any questions about this letter, please contact David Abelson, Coalition executive director, at (303) 412-1200.

Sincerely,

/s/

Sam Dixion
Chairwoman

Cc: Senator Wayne Allard
Representative Mark Udall
Governor Bill Owens
Assistant Secretary Jessie Roberson, DOE-HQ
Alan Parker, Kaiser-Hill
Rocky Flats Coalition of Local Governments
Rocky Flats Citizens Advisory Board