Rocky Flats Citizens Advisory Board
Meeting Minutes
June 6, 2002
6 to 9:30 p.m.
Jefferson County Airport Terminal Building, 11755 Airport Way, Broomfield

FACILITATOR: Reed Hodgin

Jeff Eggleston, the Board's chair, called the meeting to order at 6:05 p.m.

BOARD / EX-OFFICIO MEMBERS PRESENT: Jeff Eggleston, Maureen Eldredge, Shirley Garcia, Victor Holm, Bill Kossack, Mary Mattson, LeRoy Moore, Nancy Peters / Rick DiSalvo, Steve Gunderson, Joe Legare, Tim Rehder, Dean Rundle

BOARD / EX-OFFICIO MEMBERS ABSENT: Suzanne Allen, Joe Downey, Tom Gallegos, Noelle Stenger Green, Jim Kinsinger, Tom Marshall, Earl Sorrels / Jeremy Karpatkin

PUBLIC / OBSERVERS PRESENT: Mark Sattelberg (USFWS); Tom Stewart (CDPHE); Alan Trenary (citizen); Anne Fenerty (Boulder Sierra Club); Melissa Anderson (RFCLoG); George Goddu (citizen); Rob Henneke (EPA); Scott Woodard (AlphaTRAC); Earl Gunia (citizen); Anna Martinez (DOE-RFFO); Jerry Henderson (RFCAB staff); Ken Korkia (RFCAB staff); Patricia Rice (RFCAB staff); Deb Thompson (RFCAB staff)

COMMENTS FROM KIM CHANEY: Kim Chaney attended the meeting to introduce herself and give brief remarks to the Board. She is the new deputy manager for the Rocky Flats Field Office and has been at the site about six weeks. Ms. Chaney said she is looking forward to working with the Board, DOE staff, and Kaiser-Hill to achieve a safe closure at Rocky Flats by 2006. She noted it is a difficult project with many site and national issues to consider. She commended the Board and staff for its work on Rocky Flats issues and said both DOE and Kaiser-Hill rely on and welcome the Board's input. Ms. Chaney said she has an open-door policy and invited Board members to contact her at any time. The Board extended an invitation to Ms. Chaney to attend any Board meeting.

PUBLIC COMMENT PERIOD: A new feature during the Board's public comment period will include a staff report on public comment received through its comment line, email, and periodic surveys.

Comment: Deb Thompson, RFCAB staff: First, Deb explained the outreach effort being made as part of the end-state discussion this year. She reported on the results of surveys done over the past four months. Detailed reports are available at the RFCAB office. Next, she summarized for the Board public comments received over the past few months.

- An anonymous caller asked that the government do all it can to clean up elevated soil contamination levels.

- An individual from Boulder commented that all the environmental problems at the site will never be

known so long as the grand jury report remains sealed, which hinders everyone's ability to make wise decisions about cleanup.

- A Jefferson County resident is concerned about the choice of evapotranspiration covers for caps and would prefer to see the site use a different method: flexible membrane linings. He is eager to talk to anyone who would like more information about this method.

- A Broomfield citizen commented that Rocky Flats is being turned into a wildlife refuge to pacify the public. He believes there will be a lot of contamination left behind, although primarily near the industrial area. He believes most of the buffer zone land is probably safe to open to the public. He suggests a "loop" road with pullouts similar to what is found in many state parks. According to him, opening buffer zone areas to the public would help alleviate any fears about contamination in those areas.

- Another Broomfield resident expressed concerns about security and hopes the site is doing all it can to prevent terrorist attacks.

- An anonymous caller left a message about Kaiser-Hill's performance measures. He expressed his concerns about the company receiving bonus dollars for reducing costs, when one of the ways this is accomplished is by laying off workers. The caller is concerned that the site will never be able to reach its 2006 closure date if it keeps getting rid of workers. And he feels that rewarding a company for laying off its own workers is unfair, unethical, an insult to the workers, and that it will negatively impact the clean closure of the site.

- Two callers have requested that horse trails be included as part of the wildlife refuge.

- Three individual writers mentioned that soil cleanup depths should be dependent on the amount of contamination, its location, and what kind of impact the cleanup would have in terms of cost, environmental impacts, and future use concerns. Also, one person suggested that the site use the data it already has to map the areas that need the most cleanup, and determine a depth based on that information. These people did not seem to approve of setting a uniform depth.

- An anonymous writer expressed concern about rainwater and runoff that has soaked through contaminated soil and any corresponding water contamination in the area.

- A gardener in Boulder believes the cleaned soil depth should be in line with plants and their roots and suggests an appropriate depth would be 3 to 6 feet below the surface.

- A Jefferson County resident mentioned that since there won't be much digging going on in a wildlife refuge, one foot of clean surface soil is enough. He is more concerned about subsurface contamination that may migrate to the groundwater, or that in very wet conditions might reach surface water. He mentioned contamination that exists under several buildings at the site. He does not believe adequate sampling has been done under any of those buildings. He also feels that the EPA has a poor track record with Superfund cleanups, and that DOE should be held to higher standards. "If Rocky Flats is to be an example of D&D and cleanup, let's make it a good example," he said.

- From Jefferson County, a resident feels that any contamination of soil that Rocky Flats created should be cleaned up, whether it is six inches, one foot, six feet, or more.

- Finally, one caller thought the idea of asking the public these types of questions was stupid.

Comment: Alan Trenary: I'm not satisfied with how the contamination at subsurface levels is being addressed. A lot of contaminants getting into the subsurface soil are solvents. If it's a solvent, it will travel. I would like to once again suggest that more emphasis be placed on phytoremediation along the line of what is being done by the Ukrainians at Chernobyl. I feel this would be an effective way to address contamination at other places as well, such as the arsenal and other sites that have difficult soil contamination problems. I would also like to hear from the international nuclear regulatory commission about what other countries are doing at their sites.

REGULATOR UPDATE – EPA: Tim Rehder with EPA gave a quarterly briefing on Rocky Flats Issues.

- End-State Discussions. Talks are ongoing, but much work remains to be done in the areas of subsurface contamination and institutional controls. Also, discussion needs to focus on contaminated areas where the risk may not be as high but where other factors may indicate that action is needed (for instance, a desire to minimize DOE's footprint and to decrease stewardship costs). Another key element that needs to be completed is the ecological risk assessment. Work on this assessment is expected to be complete by the end of July.
- Conceptual Design of Current Landfill Cover. EPA provided extensive comments to the site on this document.
- Alternatives for the Old Landfill. The site recently presented alternatives it believes should be considered for the Old Landfill. Their alternatives include no action, buttressing in place, and removal.
- 903 Pad Planning. The site has started discussions with the regulators on cleanup of the 903 Pad (just the asphalt pad). Assumptions being made in initials plans are: the use of large tents to keep out the weather, with tents being kept under negative pressure using HEPA filters; workers operating with supplied air; and using a remedy that involves removal of radiation-contaminated dirt (the top one to two feet beneath the asphalt pad) but leaves underlying VOC contaminated dirt. Groundbreaking on this project is tentatively scheduled for October 2002. The estimated completion of this project is March 2003.

Board members expressed interest in 903 Pad cleanup plans. Questions and comments focused on where the waste would be sent (it will probably be sent to Envirocare); whether the tent will be sealed at the surface of the soil or the pad (might not be completely airtight, but the negative pressure within the tent addresses some problem); the rationale for not removing the VOCs (discussions are currently underway between individuals who must develop options for cleaning up VOCs under the 903 Pad, and they are focusing on the same question, what makes more sense in terms of effectiveness and efficiency of the remedy); and whether one proposed treatment option, using lactic acid, addresses a groundwater contamination or soil contamination problem (soil contamination). A question was also asked about the next steps for the Old Landfill (the site's schedule is to try and get a decision document out for public comment this summer).

RECOMMENDATION TO FORM WILDLIFE REFUGE TECHNICAL REVIEW GROUP: The Executive Committee recommended, and the Board approved, establishing a Wildlife Refuge Technical Review Group. This group will be modeled after the Board's existing Actinide Migration Evaluation Technical Review Group and will coordinate the Board's involvement in refuge planning issues that will take place over the next two years and beyond. The group will recruit members from a variety of community and environmental groups such as homeowner associations, environmental organizations, natural resource interest groups, and possibly academic professionals involved with wildlife management. Board members volunteering to serve are Bill Kossack and Shirley Garcia. Staff will continue to recruit members and will return to the Board at its July meeting with more formal details and a proposal for the technical review group.

APPROVAL OF RECOMMENDATIONS AND COMMENTS ON THE FIRST FIVE-YEAR REVIEW REPORT FOR ROCKY FLATS: The Board's first recommendation for this year was submitted by the Environmental Restoration Committee, and approved at this meeting. This recommendation addresses DOE's Five-Year Review Report on Rocky Flats. DOE is accepting public comment on this report through June 12. The recommendation addresses the following issues:

- Technology Review. The Board recommends further remedial actions be taken in order to reduce reliance on institutional controls. Evaluation of recent technological advances should be a part of all periodic reviews. The Board also recommends adding a section on technology review in the report to ensure this issue will be addressed in future reports.
- Community Involvement. RFCAB suggested that all supporting data used in the report be more readily available to the public. References to where and how this data can be accessed should be clearly identified in the report. In addition, interested citizens and members of the public should be invited to participate on the five-year review team.
- Rationale for Evaluating the Remedy. The Board recommends that DOE perform predictive modeling so that milestones for remedy performance can be established. DOE should also establish a corrective action plan to use in the event a remedy fails. In addition, RFCAB recommends that DOE consider using the MIKE SHE model (which was used in the Site-Wide Water Balance Study) as a potential model for evaluating plume treatment systems.
- Comprehensibility of the Report. Data in the report was not presented in a consistent manner. DOE should present numerical monitoring data in the form of tables for more clarity. Also, cleanup levels and sampling results should be numerically stated for every contaminant addressed as part of each remedial action.
- Review Process. Future periodic reviews should include, at a minimum, interviews with nearby residents, frequent visitors to the refuge, and the U.S. Fish and Wildlife Service. The report should also document criteria used by site inspectors and give narrative descriptions of conditions encountered in the field. This would help to better understand the site inspection process.

END-STATE DISCUSSION (BOARD DISCUSSION AND SUMMARY): The objective for this agenda item was for the Board to provide informal feedback to DOE on its risk-based approach to remediation, and also to develop a foundation for preparing formal Board comments on modifications to RFCA attachments. To stimulate discussion, this was posed in the form of two questions:

1) Imagine the end-state of Rocky Flats in 2006 where surface soil has been cleaned up to 50 pCi/g and based on the results of the pathways analysis subsurface contamination has been left in place. Is this

acceptable?

2) If this approach is unacceptable, are there special considerations you would like to add that would make it more acceptable to you?

Board Member Comments:

- There is some confusion about the public's perception of the surface soil problem. Most contamination is on or near the surface; 90% is found in the top few inches. Earth moving equipment will naturally remove six inches, and if more is needed that will be done. In the industrial area, more contamination is likely and needs to be dug up as far down as it may go. Supports 50 pCi/g, but also continues to support RFCAB's recommendation with 10^{-6} as a point of departure. The difficulty in the industrial area is not what is known, but the unknown contamination. The site needs to look seriously at the first six feet at least. If we know it's there, go get it. We know where the process lines are, so take them out.
- Highest risk contamination should be removed first, and that is surface soil. It's okay to leave subsurface as long as pathway analysis shows it can't get to the public. Funding issues make it impossible to do much more. We can't look at the site holistically. The industrial area and the buffer zone are very different with different problems. Post closure funding for stewardship is important. Six feet would be an acceptable cutoff between surface and subsurface. May need to look at process waste lines individually and go after those that carried TRU waste, with less emphasis on those on the south side that only carried organics.
- Can live with 50 pCi/g, and can live with six inches, except if the soil is disturbed for any reason. If you take off the top six inches and then find more, you need to remove that too. If you remove a slab or a street, would want to look for and go after contamination under it. In favor of removing all process waste lines, unless you can prove that a line is empty and that it never leaked. Can live with leaving some subsurface contamination in place. Concerned that we only talk about TRU waste and are not discussing non-radiation waste. The buffer zone and industrial area are different in how one needs to approach them.
- The issue isn't necessarily the 50 pCi/g. I'm concerned about having to face the public and tell them it's appropriate to leave subsurface contamination in place. I don't believe that should be left behind. People have mentioned six feet, but prairie dogs can burrow down to 12 feet. We need to consider how much soil animals move. Not satisfied with the pathway analysis methods being proposed, so not comfortable in leaving stuff behind based on such analysis.
- More concerned about leaving subsurface contamination in place. Process lines are disturbing, and it bothers me to think of what might happen to them in 25 years or more. Need to have something more specific to take care of that problem.
- RFCAB has asked for best possible cleanup, and has stated its belief that the site eventually be cleaned up to background when that is possible. RFCAB recommended that the site be cleaned to 10^{-6} for a wildlife refuge worker in the short term, and for a future resident over the long term. If that is not accomplished, RFCAB asked the site to explain why they won't be able to clean to that level. Cleaning up to 50 pCi/g and leaving subsurface contamination in place does not meet the previously stated requirements of RFCAB. Characterization is inadequate. Legally binding agreements need to specify a few things: stakeholder participation in the management of the site; monitoring of the site; assured funds to characterize and keep improving the site; review of new technology, with an assurance that such technology will be used to eliminate future need for

controls; and periodic reviews to evaluate whether additional measures are needed.

- Don't have a problem with 50 pCi/g – we can't keep arguing over numbers. Have a real problem with the subsurface contamination issue. First is because of the pathways. The site has not discussed pathways in any way other than human activities. Animals are going to dig, and not follow the rules. Will the animal activity cause problems with water in the future? If we leave it in place and it becomes disturbed by wildlife, what type of risks are we willing to then take? Long-term stewardship needs to address funds for something we didn't expect.
- Not happy with the 50 pCi/g, would like to see something more protective (later clarified as being closer to 10^{-6}). More concerned with subsurface soil. Soil cleanup depth is an issue. I don't think we should leave anything in the subsurface that we wouldn't approve of having at the surface. There is no way to tell what will happen with these substances over tens of thousands of years. We shouldn't leave anything in the subsurface that we wouldn't be willing to leave on the surface, because of future uncertainty in what pathways might be available.

Board Roundtable Discussion:

- There was a discussion between Board members about the actual decay time of plutonium. AME didn't find a pathway for plutonium to leave the site. A small amount is blowing offsite, but not much. Believes in 200 to 300 years the surface soil will be near background. Dirt from area west of the site is blowing in and depositing, and covering contamination there.
- If the material is leaving the site rather than being covered up by soil, that is not comforting to residents of the metro area.
- Monitors at the fence line show trace elements that may indicate plutonium is leaving the site.
- Important to have statements in stewardship documents that request they look at new technologies in the future.
- There is not that much difference between the subsistence farmer scenario and the rural resident scenario. The rural resident scenario being talked about by the RSAL group is very conservative.
- Budget is too closely linked with cleanup. Afraid that the actual cleanup level we are going to get is driven simply by budget and nothing else. Don't want a phony cleanup. Need to break the link between the discussion of budget and cleanup. If it can't be cleaned up to safe limits, then be honest and say that. Would rather have the site off-limits with strong institutional controls, and have the public be safe, than have a cleanup that is not truthful and that we will end up paying for later.
- It's up to this group and others to pressure the government to give us the best cleanup we can, and not to clean it up based on budget then call it good.
- Post closure funding needs to be addressed.

Summary of End-State Discussions:

- **Surface soil:** The buffer zone and industrial area should be treated differently in how you approach contamination. There seems to be general acceptance with 50 pCi/g, but 10^{-6} is still under consideration.
- **Subsurface soil:** Contaminated process lines should be removed. Most Board members seem to not agree with leaving subsurface contamination in place. Incomplete characterization is a problem. Pathway analysis does not seem to address subsurface problems adequately, especially

when considering future pathways. Don't want to treat the site as a whole but rather look at individual contamination sites. Pathway analysis needs to be more rigorous and needs to consider wildlife activities, not just human activities. How deep to dig should be determined on a case-by-case basis.

- **Stewardship issues:** Continued surveillance is necessary. Need a good public involvement program. Funding must be assured. Need to continue technology development for better cleanup. Need some type of commitment to do more in the future.

PUBLIC COMMENT PERIOD FOR END-STATE DISCUSSION: Alan Trenary, local resident, made a comment advocating use of phytoremediation as a remediation tool.

END-STATE DISCUSSION (DOE AND REGULATOR COMMENTs): At the end of the evening, DOE representatives and regulators were asked to comment on what they had heard from the Board, and to clarify issues. Following is a summary of their comments.

- EPA: Budget and political pressures are a reality, and the desire of DOE to have a cleanup example are strong pressures on the site. The site won't be pronounced to be something more than what it is at the end. There will be a very specific outline of what is left at the site. Government has to make priorities about where it puts its dollars.
- DOE: Didn't hear a recognition of some of the underlying assumptions that have been discussed lately. As for 50 pCi/g cleanup in the buffer zone, most of the area is well below 1 pCi/g or close to background, and 50 pCi/g is the highest. It rapidly decreases the further away you are from the industrial area. In the industrial area, what we've heard from you aligns with DOE's path forward. We are trying to prioritize the resources that we have support for and need to plan the work so resources are well spent. That does include a lot of cleanup in the industrial area. Don't make the assumption that a lot will be left in place in the industrial area because that is not the case. Post closure funding should not be used as a crutch to defer cleanup activities until later. There will not be cleanup to background but it will be safe and in compliance. What we need to address is how we get the most with what we have. We have to consider whether you can spend more on characterization and have less to clean up what you find with the characterization. The money will likely disappear after 2006, and that's reality.
- CDPHE: Legally the government will have to do a cleanup that meets regulatory laws, both federal and state. We have been questioning what to do with the funding available, and where to do more cleanup and get more for our money. Regulators are working on an ecological risk assessment to determine impacts to a variety of animals. We have to protect ecological health as well as human health, especially now that the site will definitely become a refuge. The site and regulators are now working on discussions of soil cleanup depths, about what to do with the seven miles of process waste lines, and sorting out how depths impact process waste lines, etc. We are comfortable that plutonium doesn't move in the subsurface. There will be a monitoring program in place so that they know when plutonium migrates and when it will start to become a problem. There isn't as much plutonium and americium contamination as was originally thought. We definitely need a good stewardship plan in place and that will be a critical component of the cleanup.
- USFWS: They are comfortable with 50 pCi/g and believe 10^{-5} is protective. That's a higher level

than what was agreed to at the arsenal. They are concerned about the ecological risk assessment. They are very concerned about non-radiation contaminants in places like the landfill. We want to make sure that is addressed by DOE especially because of its location near a watershed. Important to address long-term stewardship adequately. It's unlikely that any site as large as Rocky Flats will ever be cleaned to 10^{-6}.

At the next meeting Board members will hear a presentation from the site that gives more detailed information about subsurface contamination and remediation options. A discussion session is also scheduled for that meeting, in order to continue the dialogue with DOE and the regulators.

NEXT MEETING:

Date: July 11, 2002, 6 to 9:30 p.m.
Location: Jefferson County Airport Terminal Building, Mount Evans Room, 11755 Airport Way, Broomfield
Agenda: Regulator update by DNFSB; presentation and discussion of subsurface process waste lines and potential contamination; proposal for Wildlife Refuge Technical Review Group; proposal for Board member orientation program

MEETING ADJOURNED AT 9:20 p.m. *

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

RESPECTFULLY SUBMITTED:

Shirley Garcia, Secretary
Rocky Flats Citizens Advisory Board

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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