



**Rocky Flats Citizens Advisory Board
Recommendation 2006-1**

Recommendation on the Rocky Flats Proposed Plan

Approved March 2, 2006

Letter to:
Frazer Lockhart, Manager
U.S. Department of Energy
Rocky Flats Project Office
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Broomfield, CO 80021

Carl Spreng
Colorado Department of Public Health and Environment
Hazardous Materials Waste Management Division
HWC-B2
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Mark Aguilar
U.S. Environmental Protection Agency
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Dear Mr. Lockhart, Mr. Spreng, and Mr. Aguilar:

Below please find our comments and recommendations related to the upcoming Proposed Plan. Because it is likely that the actual draft document will be released for public comment after the Board disbands later this Spring, we are basing our comments on the Plan vis a vis the alternatives as presented in the Remedial Investigation / Feasibility Study (RI/FS). Parts of this recommendation may be appropriate to the Corrective Action Decision/Record of Decision (CAD/ROD) or the Rocky Flats Closure Agreement (RFCA 2). In that case, please apply these recommendations to the appropriate document. Our recommendation concludes with thoughts on public involvement, both near-term and for the future.

We request that a response to these recommendations be sent to the Board before it disbands so Board members do not have to wait until the responsiveness summary is released to the public.

First, we thank the RFCA parties for their willingness over the years to listen and respond to the concerns of our Board. We believe the cooperation among us has led to an unprecedented level of stakeholder involvement in the cleanup of a major Superfund site and the first cleanup of a nuclear weapons plant in the DOE complex. Working together, we have brought about an historic cleanup and one that is better than anyone had expected

could happen.

Some on our Board do have reservations about the level of protectiveness afforded at the site. However, we thank Kaiser-Hill for its tenacity in forging ahead on this project, DOE for its partnership with the community, and the regulators from CDPHE and EPA for their cooperation in removing bureaucratic roadblocks that might have otherwise prevented a swift resolution to cleanup problems. We applaud all of you for this outstanding accomplishment.

The first part of our recommendation will address alternatives for further cleanup, institutional controls, physical controls, monitoring, and future scientific research.

In the second part of this recommendation, the Board will offer its comments on public involvement and suggest a course of action to educate the public on the risks presented by the site.

I. Proposed Plan

A. Choice of Alternative. The Proposed Plan will examine one of three alternatives presented in the Remedial Investigation / Feasibility Study (RI/FS). The Board is concerned that Alternative No. 1 - No Further Action with Monitoring - would not provide sufficient security to protect the remedies and monitoring equipment or public health and environment. Alternative No. 3 would call for removal of all plutonium-contaminated soil with a concentration greater than 9.8 picocuries per gram (pCi/g), which represents an excess lifetime cancer risk of one in a million to a wildlife refuge worker. Our Board believes it is a very expensive alternative that may be disruptive to the environment without providing a significant increase in protection of public health and the environment. While we prefer Alternative No. 2, we believe the institutional and physical controls in the RI/FS should be improved.

The Board recommends that a modified Alternative No. 2 be chosen as the preferred alternative in the Proposed Plan. The Board proposes changes to the institutional and physical controls outlined in the RI/FS. These changes are explained in paragraphs I.B. and I.C. below.

B. Institutional Controls. The Board in the main agrees with the controls set forth in the RI/FS; however, we think they should be strengthened. For instance, one institutional control would prevent construction in a "contaminated area." However, the Board feels it would be difficult to determine with any precision where all of the contamination in the DOE-retained land is located.

The Board is also concerned that the controls placed on drilling and use of groundwater are not stringent enough in that they do not apply to the entire site. The main concern is that the use of groundwater anywhere on site could affect groundwater flow in other areas and potentially mobilize contaminants into these areas. We understand that the U.S. Fish and Wildlife Service cannot accept into the refuge any lands upon which there is a restriction or covenant. However, for the reason stated above, we encourage the Service not to use the groundwater under refuge land.

The Board, therefore, recommends DOE adopt the following institutional controls:

- prohibition on construction and use of buildings in the DOE-retained lands;
- prohibition on the use of groundwater in the DOE-retained lands;
- prohibition on the use of surface water in the DOE-retained lands;
- prohibition on excavation anywhere in the DOE-retained lands with the exception of digging where necessary to erect a fence or installing or removing monitoring equipment; and
- prohibition on activities in the DOE-retained lands that have the potential to cause erosion, especially in areas where there is surface soil contaminated with plutonium.

We understand the state and DOE are negotiating the provisions in a state Covenant for the Present Landfill and it is the intention to apply a covenant to all the DOE-retained lands. We encourage the state and DOE to negotiate and develop a covenant for the DOE-retained lands as quickly as possible.

C. Physical Controls. Board members think a fence and signs around the DOE-retained lands make ultimate sense. These controls would prevent most people from entering DOE land, where they could unintentionally or purposefully damage remedies or monitoring equipment or expose themselves to contamination. A fence would also bar cattle from moving onto DOE lands, should the U.S. Fish and Wildlife Service allow grazing at the refuge. These and other physical controls were mentioned in a letter dated June 7, 2004, from Refuge Manager W. Dean Rundle to the RFCA parties.

The Board, however, is troubled that fences and signs will fail in the long term, and believes more permanent monuments would better control access in the long term, as well as to help perpetuate the history of Rocky Flats in the public mind (please see recommendation below on information management).

The RFCAB, therefore, recommends that DOE build a fence around the DOE-retained lands and post signs around the perimeter of the DOE-retained land to prevent access. The fence should be constructed to allow the free movement of wildlife across the barrier. We ask that, in consultation with the community, DOE and the U.S. Fish and Wildlife Service decide on the message to be inscribed on the signs.

We also recommend DOE should comply with requests from the U.S. Fish and Wildlife Service on physical controls, as expressed in a June 7, 2004, letter from W. Dean Rundle to the parties to the Rocky Flats Cleanup Agreement.

We urge DOE to monitor and maintain physical controls well into the future. However, in the long term, we know fences and signs will fail or fall apart. We, therefore, urge the DOE to install durable "permanent" monuments made of sturdy materials around the DOE lands and at Individual Hazardous Substance Sites (IHSSs). These markers should have a dual purpose - one, to prohibit access to the DOE retained lands and, two, to convey information about the site to future generations. Please see below for our recommendation on Information Management. We also think these monuments should be installed as quickly as possible and in no case later than 10 years hence.

D. Surface Water Standards. With respect to the choice of an alternative above, the Board is concerned that plutonium in the soil in the Windblown Area and other areas could lead to runoff of radioactive contamination in surface water, where ultimately the plutonium standard in surface water could be exceeded. In the past, this problem has arisen when surface water standards in Woman Creek were exceeded due to runoff from the hillside.

The Board requests that if surface water standards are exceeded for plutonium in any of the waterways on site, the DOE notify the community of the event and investigate the cause. We ask DOE to provide updates to the public on its investigation. If an exceedance reoccurs, then DOE should develop a plan to correct the problem. If it is so indicated, DOE should consider removing soil from the area from which the runoff originates, including but not limited to the Windblown Area, where there remains a large area of surface soil contamination.

E. Inspections. With regard to inspections at Rocky Flats, the Board wants to reiterate its concern about preventing human intrusion into the DOE portion of the site.

The Board recommends that the Department of Energy inspect physical controls at least once a week. Inspection reports should be made available on the DOE's web site and in quarterly or annual written reports and presentations.

F. Vegetation Management. Management of the vegetation is a major component of the remedy. Without vegetative cover, radionuclides on the surface could erode into watersheds or become airborne. We think there should be an emphasis in the Proposed Plan and in the Corrective Action

Decision/Record of Decision (CAD/ROD) on maintaining and inspecting vegetation.

We recommend that DOE incorporate a vegetation management plan into the Proposed Plan. We also recommend DOE develop a plan to detect and stop potential erosion of the soil at Rocky Flats, particularly in areas where there is residual plutonium contamination on the surface. To that end, we advise that a monitoring plan for vegetation also be incorporated into the Proposed Plan with frequent inspections of the plant life at Rocky Flats. We understand DOE develops an annual vegetation management plan and we encourage the Office of Legacy Management to continue this practice into the future.

G. Scientific Research. Basic research can provide answers to help remediate other DOE sites and eventually eliminate more contamination at Rocky Flats in a cost-effective manner. The Board urges DOE to commit some of its scientific resources to solving the problems of cleanup and to study the effects of contaminants on the general population and the environment at all DOE sites.

The Board recommends DOE either fund research projects or conduct its own research into health studies and uptake and migration of contaminants that would benefit the environment and public health, as follows:

- **We recommend DOE conduct research on ecologically sensitive cleanup technologies at other DOE sites that would help to remove additional contamination from soil and water at Rocky Flats.**
- **We know that in the past researchers have investigated the uptake and fate of radionuclides in the environment. However, we urge the DOE at the five-year review to verify that the results of these studies continue to hold true. Specifically, we ask DOE to conduct an onsite research program to monitor contamination in plants and animals as well as to determine how radionuclides are migrating in the environment.**
- **Finally, we ask that DOE continue to study the health effects of low-level radiation.**

We recommend DOE establish and publish a list of research activities that would benefit the public health and environment at Rocky Flats at each five-year review and include a legally enforceable provision in the Corrective Action Decision/Record of Decision (CAD/ROD) that the research results of the five-year review be used to further clean up Rocky Flats, if the results are cost-effective and environmentally sensitive.

We request that this recommendation be sent to the DOE Office of Science and Technology.

II. Public Involvement

A. Future Public Meetings. One of the major objectives of the Citizens Advisory Board has been the dissemination of information on Rocky Flats to the public. We are keenly aware of the need for the public to be kept informed about monitoring data and other information. To that end the Board, as it has in other guidance, reiterates the following advice.

We recommend that all Legacy Management meetings be held in the evening for the convenience of the largest number of people. We also ask that the meetings and events be advertised in community news media.

B. Risk Communication and Public Education. Having been involved in the cleanup, CAB members have confidence that contamination risks at Rocky Flats have been reduced and, as long as certain controls are maintained, the site should be safe. Unfortunately, this confidence may not be shared among members of the broader public whose knowledge of the site comes from sometimes sensationalized newspaper headlines. If the public desires to learn about the risks of residual contamination at the site, they either must accept at face value the promises of government officials or they must try to comprehend for themselves the thousands of pages of highly technical cleanup documents.

Late in 2005, the Rocky Flats Citizens Advisory Board requested funding from the Department of Energy to develop a risk communication program.

The members proposed hiring a risk communications expert who would assist the Board in developing written materials with easy-to-understand maps and graphics to explain the risks from any residual contamination left at the site. These materials would be made available in both hard-copy and electronic formats. In addition, the Board proposed a public workshop where outside experts would be brought in to present this information and to answer community members' concerns. DOE decided not to provide funding to the Board for this program. The Citizens Advisory Board still believes, however, that this program is necessary and would well serve the Department of Energy in better communicating the monumental efforts in cleaning up the site.

Therefore, the Board recommends the Department of Energy develop a risk communication program of its own as part of the public involvement process for the Proposed Plan and release of the final Corrective Action Decision/Record of Decision (CAD/ROD). To gain greater credibility with the public, DOE should employ independent consultants to conduct the program. This program must go beyond what is regulatorily required. While the Proposed Plan and CAD/ROD will be written and released following guidelines that meet the needs of the regulators, they will not meet the needs of the general public who likely will not understand or trust them.

The risk communication program must include written materials that are user-friendly to explain the cleanup and remaining risks. We recommend that maps or graphics be developed that show historical site features and place the site in context with the surrounding community. With these standard features in place, different maps can then be produced that show areas of residual surface and subsurface contamination, with a focus on plutonium, americium, uranium, volatile organic compounds, and metals. Subsurface features such as remaining building foundations and process waste lines should be shown. Maps of groundwater contamination plumes also need to be included. It is important that these maps and graphics be put into context with skillfully developed text that explains the risks. The value of these materials is that they can be distributed to future persons who might contact the site regarding concerns about safety or the effectiveness of the cleanup. In addition, these materials should be posted electronically on the Rocky Flats website.

Finally, the site should conduct a public workshop inviting outside experts with knowledge in risk communication to educate the community about the cleanup and any remaining risks. This workshop should be held as part of or an adjunct to any required public meetings for the Proposed Plan and the CAD/ROD.

C. Ongoing Community Involvement. The Board thinks the public should continue to be made aware of Rocky Flats into the future. To that end, we support the continuing education of the public on a regular basis.

We recommend that the site develop a public information program that updates the public on the results of scientific research, monitoring of physical and institutional controls, water monitoring, and vegetation management in the DOE-retained lands. The program could include:

- updates at public meetings
- a community newsletter
- press releases
- postings on the DOE web site
- a public meeting schedule for the year published at the beginning of the year

D. Information Management. The memory of Rocky Flats cannot be allowed to lapse in the public consciousness. The Board fervently believes the history of Rocky Flats should be preserved so that future generations can learn about the nuclear weapons plant, the cleanup, and the location, and amount of residual contamination. We believe these memories hold lessons for all in the future and will also assure the present generation that descendants will know where contamination is located.

We recommend that DOE develop a program to educate future generations about Rocky Flats, including its existence as a nuclear weapons plant, the cleanup, and the location and amount of all residual contamination.

To aid in the education of future generations, we encourage DOE to place permanent monuments near all former major Individual Hazardous Substance Sites (IHSSs), such as Building 771 and the 903 Pad, to inform and remind the public of what was once located at these sites and any contamination that was left behind.

We thank you for the opportunity to comment on the Proposed Plan and public involvement. The Rocky Flats Citizens Advisory Board stands proud of its record of recommendations over the past 12 years. Our Board has been motivated by our desire to make Rocky Flats healthier and safer for present and future generations.

Sincerely,

Gerald L. DePoorter
Chair

cc: Dean Rundle, USFWS

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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