

ROCKY FLATS CITIZENS ADVISORY BOARD

MINUTES OF WORK SESSION

May 1, 1997

FACILITATOR: Reed Hodgin, AlphaTRAC

Mary Harlow called the meeting to order at 6:05 p.m.

BOARD / EX-OFFICIO MEMBERS PRESENT: Alan Aluisi, Susan Barron, Jan Burda, Tom Clark, Eugene DeMayo, Paul Grogger, Mary Harlow, Victor Holm, Susan Johnson, Sasa Jovic, Bob Kanick, Jim Kinsinger, Beverly Lyne, Linda Murakami-Sikkema, David Navarro / Mike Konczal, Frazer Lockhart, Tim Rehder, Steve Tarlton

BOARD / EX-OFFICIO MEMBERS ABSENT: Tom Davidson, Tom Gallegos, Tom Marshall, Todd Saliman, Gary Thompson

PUBLIC / OBSERVERS PRESENT: Jim Stone (RFCC); Kenneth Werth (citizen); Purna Halder (DOE/RFFO); Russell McCallister (DOE/RFFO); Larry Helmerick (DOE/RFFO); Mariane Anderson (DOE); Hank Stovall (Broomfield); Joe Goldfield (citizen); Forrest Shoemaker (COMRAD); W. H. Schierkolk (citizen); Sam Dixion (City of Westminster); Eileen Guyer (citizen); Ray Guyer (citizen); Ken Korkia (CAB staff); Erin Rogers (CAB staff); Deb Thompson (CAB staff)

PUBLIC COMMENT PERIOD: No comments were received.

BRIEFING BY PARKER-HALL, INC. ON THE PROGRESS OF ENVIRONMENTAL MONITORING CONTRACT RESEARCH PROJECT: In March, the Board contracted with the firm Parker-Hall, Inc. (PHI) to conduct a comprehensive review of the environmental monitoring systems at and around Rocky Flats. Dorothy Hall and Saiid Dabestani of PHI attended the Board meeting to give an update on the results of their work to date. Much of their work has focused on the first task given them, to research and report on the monitoring systems currently in place. PHI found the following environmental monitoring programs to be in place at RFETS: air monitoring, limited soil monitoring, monitoring of surface and groundwater, ecological monitoring, and project-specific monitoring.

- **Air monitoring:** The goals/purpose are to assess impacts of operations on air quality, and to protect site workers, the public and the environment from potential impacts. The data gathered is used to identify and quantify air contaminants; evaluate air contaminant emissions from sources; determine how contaminants travel and disperse; and monitor remedial and D&D actions. Contaminants and parameters monitored include radiological pollutants (plutonium, americium, uranium and tritium); non-radiological pollutants (nitrogen oxides, ozone, particulates and 30 VOCs); and meteorological data. The program includes air monitoring systems such as meteorological stations, the Rocky Flats Monitoring Network (RFMN), Radioactive Ambient Air Monitoring (RAAMP), onsite radiation monitoring,

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Community Radiation Monitoring (COMRAD), and building effluent monitoring:

- The meteorological stations consist of two towers located in the western buffer zone, which are used for modeling, routine assessments and emergency response. They measure atmospheric stability, wind direction, wind speed, temperature, precipitation, humidity, and solar radiation.
- RFMN has five ambient air monitoring stations along the outer site perimeter. The stations monitor gaseous pollutants and suspended particulates. Each station is equipped with a meteorological tower.
- RAAMP has a total of 39 samplers - 24 onsite, 12 along the site boundary, and three offsite. They collect continuous samples of airborne radioactive materials in coarse and fine particulates.
- Onsite radiation monitoring consists of 15 particulate samplers and two rainfall collectors located onsite in the buffer zone, along the site perimeter. This includes eight ground-level samplers and seven elevated samplers. All samples are analyzed for a range of radioactive components.
- COMRAD has a total of five stations located in communities: one in Broomfield, two in Arvada, one in Westminster, and one in Northglenn/Thornton. The stations are equipped to measure meteorological parameters and environmental radiation exposure.
- Building effluent monitoring is done on 22 significant point sources, and 41 additional ducts or vents. The same sample location may measure several emission point sources. The monitoring measures radionuclide emissions; five of the 22 point sources are sampled for tritium.
- **Soil monitoring:** No formal sitewide monitoring program is currently in place. Soil monitoring is performed on a project-specific basis. Two earlier soil monitoring programs evaluated and compared plutonium concentrations in the soil. The programs evaluated spatial and vertical extent of plutonium and americium in soils; monitored annual changes in plutonium concentrations in soil; and evaluated the physiochemical association of plutonium and americium.
- **Surface water monitoring:** The goals/purpose of this program are regulatory compliance, to establish monitoring parameters, and to assess surface water quality. The data is used for regulatory reporting; to assess impacts on surface water from Industrial Area activities (including spill events and remediation); to characterize and evaluate new waste streams and suspect contamination sources; and to detect where any contaminant discharge, both onsite and offsite, has exceeded regulatory levels. Contaminants and parameters monitored are radiological, water quality parameters, metals, VOCs, and nutrients. There are four surface water monitoring stations and nine gauging stations. Twelve monitoring stations are linked by radiotelemetry to provide real-time monitoring. The stations collect a continuous record of stream stage and discharge, water quality parameters, and representative water samples. Stations may be equipped with a flow meter linked to a portable automated sampler and a dedicated multiparameter water quality probe. Monitoring networks are in place for

sitewide monitoring, Industrial Area monitoring, Industrial Area discharge to ponds, water leaving the site, and offsite community monitoring.

- **Groundwater monitoring:** The goals/purpose are to comply with regulations, to protect surface water, and to reduce risks to the public and the environment. The data is used to identify potential contaminants and sources, identify contaminant pathways, monitor contaminant concentrations, monitor contaminants plume migration, monitor impacts from remediation and D&D activities, and evaluate contaminated groundwater impact to surface water. Contaminants and parameters monitored are radiological, non-radiological, and hydrological characteristics. There are 262 monitoring wells; all 262 wells measure water level, and 89 of these are sampled and analyzed for contaminants. Those 89 wells encompass six groundwater well networks.
- **Ecological monitoring:** The goals/purpose of the program are regulatory compliance, to conserve the viability of existing ecosystems, to protect unique natural resources and special concern species, and to monitor negative ecosystem impacts from RFETS activities. Ecosystems which are monitored are vegetation communities (xeric tallgrass prairie, mesic mixed grassland, high quality grassland, tall upland shrublands, and riparian woodlands); and animal communities (such as the Preble's meadow jumping mouse). Sitewide monitoring activities are performed to study species richness, habitats and diversity, and to monitor noxious weeds. Project-specific monitoring is done to protect threatened and endangered species, and protect site wetlands.

PHI's next task is to begin writing a critical analysis of the programs listed above. CAB members, as well as those agencies participating in the research for this project, will be provided a chance for input into the report being prepared by PHI.

Q&A / Comment Session:

Air monitoring:

Question: Susan Barron: Without a map, it's difficult to tell if there's overlap that's unnecessary.

Answer: Dorothy Hall: There is some unnecessary monitoring, not much. Rocky Mountain has a redundant set of monitors. RFETS' primary meteorological station should be enough for that. Monitoring for VOCs at the fence line doesn't make a lot of sense. You need to be closer to the source. Some of the locations are excellent. Except for the reporting, the air monitoring system is good. There are problems with data gaps.

Question: Susan Johnson: Is your project limited to ambient standards? Are you doing emissions monitoring?

Answer: Dorothy Hall: Yes, the building emissions. We're just now getting information on that.

Question: Susan Johnson: Would building effluent include a process emission?

Answer: Dorothy Hall: Yes, and those are identified.

Question: Susan Johnson: To what extent is there any dioxin emission?

Answer: Dorothy Hall: We haven't seen any monitoring for dioxin at all. Saiid Dabestani: The existence of dioxin in this type of facility is not really established, so monitoring for dioxin may not be necessary.

Question: Joe Goldfield: I was amazed at some of the sampling systems you talked about. What happens to the information? Another thing that should be looked at, when you run particle size measurements six feet off the ground thousands of feet away from the stacks, and the effluent you're worried about is submicron, by what mechanism does that submicron material get to the samplers on the ground?

Answer: Dorothy Hall: By the meteorology, air transport. Some of it is settled and it resuspends. They are collecting good information about the particle size.

Question: Kenneth Werth: The monitoring system now will have flaws in it because the damage was done for 40 years before they shut the place down. I wonder if you have looked at the data on plutonium leaching off the site into Standley Lake? Have you looked at data from Rocky Flats for the last 40 years?

Answer: Dorothy Hall: No, we are relying on some of the historical reports and their interpretation. We have looked at some data, but have only been working on this for six weeks so it's not comprehensive yet. But air transport is an effective way to pollute any media. With D&D and remediation efforts, there will be additional concerns.

Comment: Mary Harlow: The City of Westminster and DOE work together to protect the supply of water to Standley Lake with the Woman Creek Reservoir. It's an important containment measure. If you come to City Hall, we can give you specific information.

Comment: Steve Tarlton: We agree with the importance of getting out information on the particle sizing. We're working on that report, and are still getting some data back from our lab. We hope to have that report ready in about a month.

Soil monitoring:

Question: Beverly Lyne: Have you received any of the maps we've been told about where the soils have been characterized for contamination?

Answer: Saiid Dabestani: There has been a tremendous amount of work done on soil regarding radiological constituents. The results have been published in papers as recently as 1995. The historical study is extremely important. We have the most recent contour map showing plutonium and americium, from the study published in 1995. Dorothy Hall: All we have are historical maps. If you have more recent maps, that would be very helpful. We've seen recommendations for DQOs that a soil monitoring program be put in place. We've been told that a soil monitoring program is difficult to implement, but I don't agree. They focus on a project-by-project basis, so if they're not going to look for it, they're not going to find it. Some of the soils have been contaminated by all media. You need make sure they sample to appropriate depths.

Question: Kenneth Werth: Has your report shown anything on soil monitoring up to 1993, on a yearly basis for 40 years? Is there any data collected from 1951 to 1993, and if so, how do you look at it during a 40-year period?

Answer: Saiid Dabestani: Formal soil monitoring started because of the 1969 fire. A tremendous amount of study was done by scientists from the AEC, and they collected a wealth of information. That kind of study had been going on from 1970 until 1993. Dorothy Hall: Soil monitoring is important, and it shouldn't be neglected. It's going to migrate, and it can react. We haven't seen a lot of studies or monitoring of sediment.

Surface water monitoring:

Question: Tom Clark: A lot of us are interested in what will happen when the buildings are demolished. Can you give us some idea of what improvements you expect to be made in the monitoring system?

Answer: Dorothy Hall: When they start tearing down the buildings, they are going to change the entire hydrology and the ways things flow. Flows are controlled by manmade structures; there is not natural flow there. I don't know the answer to your question as far as deficiencies.

Question: Kenneth Werth: I'd like to know if the monitoring set up now includes Standley Lake. I think most of the heavy particulates have leached offsite already in the last 40 years. If you're monitoring ditches and rivers and reservoirs, why not monitor Standley Lake by using sump pumps?

Answer: Dorothy Hall: Standley Lake may be monitored by the cities, but not by RFETS. The site does not monitor the sediments, or Standley Lake. There is some concern with that. You don't want to resuspend the sediments, but we should know what's there. Right now the monitoring focuses on what is going into the water as it's flowing.

Question: Jim Stone: Do you have any idea the impact of broken or corroded lines?

Answer: Dorothy Hall: They do have a lab set up there, and they are pretty careful. I haven't looked into what they do to check the lines.

Question: Frazer Lockhart: It seems from the information you presented that this is a fairly comprehensive program, and yet your generalization is that it's a minimal program at best. It doesn't strike me that way.

Answer: Dorothy Hall: A lot of the monitoring points you saw are used dually in these different programs. That was my first impression too, and it may be comprehensive, but I need more information from RFETS to evaluate. The material I have was in some cases vaguely stated and difficult to figure out what they are actually doing in the program.

Groundwater monitoring:

Question: Susan Johnson: I'd like to see information on where exactly the plumes are, and how they go offsite, and whether they are connected to other offsite plumes.

Answer: Saiid Dabestani: We do have a map that identifies different types of plumes with the different contaminant limits. There is no offsite groundwater monitoring. All the aquifers are connected. There were two wells that were monitored just outside the boundary of RFETS in 1994/95. The results showed some contamination. At this time there is no indication of problems with Laramie/Fox Hills. Dorothy Hall: I haven't seen any offsite plumes. The majority of the wells are in the uppermost water bearing unit. There doesn't appear to be any hydraulic connection, but that's questionable. We've only looked at the immediate area, and those water bearing units extend under the communities. As far as I know, Laramie/Fox Hills is under Denver, but we haven't looked at the entire region. Paul Grogger: Laramie/Fox Hills goes across all of the Denver basin, which extends south from Colorado Springs, up beyond Denver and out east toward the Kansas border. The two upper water bearing bodies pinch out a short distance beyond the plant. They do not go out underneath Westminster or the other areas.

Question: David Navarro: You said there was only one D&D monitoring well, a project-specific one related to Building 886. One priority is to bring Building 881 to closure. Has there been some pre-planning as to what changes will take place in both surface and groundwater due to the large size and depth of some of the building foundations? Will there be D&D project wells put in place prior to the projects being started?

Answer: Frazer Lockhart: Some of the planning is just starting. Part of Kaiser-Hill's intent in having the well by Building 886 is to gather data in preparation for future D&D projects.

Question: Susan Barron: When you have that many wells, will you run into a problem of having enough water to sample?

Answer: Saiid Dabestani: You may, depending on the time of year, or if it is dry. Reed Hodgin: The amount of water being sampled is minute compared to how much exists in the water table.

Question: Ray Guyer: The groundwater comes out as springs on this upper level, doesn't that impact Broomfield's water supply?

Answer: Saiid Dabestani: Broomfield's water supply comes from two sources: Denver, and from Great Western Reservoir. The groundwater does have an impact on that surface water.

Question: Jim Stone: From your investigation of the contaminants of concern and the wells that have been drilled, are those wells deep enough to get the heavy constituents?

Answer: Saiid Dabestani: The wells should go a little deeper. Some monitoring was done in the past, and indicated some contamination. The present monitoring program does not.

Question: Jim Stone: Has there been any survey of the domestic wells east of Indiana?

Answer: Saiid Dabestani: To the best of my knowledge, no.

Ecological monitoring:

Question: Jim Stone: There is a plan now to burn the grass. If we do that, we are eliminating the protection that we have for preventing resuspension of the material on the

surface? We need something to contain the plutonium that is in the surface, and to prevent it from blowing toward the Platte Valley.

Answer: Dorothy Hall: I believe the burning is being done for weed control, and the grasses require intermittent burning to perpetuate.

Question: Joe Goldfield: Is there any attempt to see if there is an increase in the concentration of radionuclides in the food chain?

Answer: Dorothy Hall: There was an ecological risk assessment performed a few years ago by Kaiser-Hill. That identified all the pathways. I haven't looked at that yet. Also, EG&G did an extensive ecological risk assessment that would show those occurrences. They are not doing that type of sampling now. Right now they are basically monitoring populations.

PUBLIC COMMENT PERIOD:

Comment: Ray Guyer: I saw something in the paper about extending C470 northward out of Golden, and it looked like it was going to cut east by northeast near Highway 72. If that happens, they're going to move a lot of highly contaminated dirt as they pass through that side of Rocky Flats.

Response: Steve Tarlton: The Future Site Use Working Group looked at whether it made sense to have W470 cross the Rocky Flats site. It was generally agreed by that group that a corridor crossing the northwest corner of the site should be reserved. That is the part of the site that is least contaminated, close to background levels of plutonium. Eugene DeMayo: The W470 idea is still being floated around, mostly by Arvada and Jefferson Center people because they wish it to happen. Jefferson Center won't succeed as an industrial development without it. It doesn't seem to have any community support. It was voted down a number of years ago. The proposed northwest buffer zone route is highly questionable. The preferred route is about 500 feet from the industrial area of Rocky Flats. Any proposal like that will meet a lot of resistance. The only route that has been proposed as not stirring up contamination is up Highway 93 to Highway 128 and across. That adds millions of dollars to the cost of the highway and doesn't put the highway where they want it.

RECOMMENDATION: REGARDING ASSESSING AND MONITORING THE PERFORMANCE-BASED CONTRACT AT ROCKY FLATS (Susan Johnson): The Site Wide Issues Committee prepared a recommendation for CAB's review and approval regarding implementing the performance-based contract between Kaiser-Hill and DOE. The recommendation asks that DOE assess the contract between Kaiser-Hill and DOE, nearing the end of its second year in place. The recommendation requests DOE review the contract specifically for its effects on the progress of cleanup at Rocky Flats, the deployment of innovative technologies, and public/worker participation in decision making. Specific items to be addressed include: 1) does the contract adequately address nuclear safety concerns, issues and occurrences; 2) is there efficient use of available financial and work force resources; 3) does the performance measure system adequately reflect site priorities; 4) if language in the contract compromises DOE's ability to place priorities on work at the site; and 5) whether contract administration and oversight has been effective in ensuring safe and thorough cleanup. The recommendation asks that assessment of the contract be handled by DOE's Office of Environment, Safety and Health, with input from outside sources and stakeholders.

Decision: Approve recommendation, with changes to the text as agreed by the Board.
APPROVED BY CONSENSUS.

RECOMMENDATION: REGARDING RETENTION OF ORGANIZATION TO PERFORM REVIEW OF SOIL ACTION LEVELS (Mary Harlow): The Plutonium and Special Nuclear Materials Committee prepared a draft letter for the Board's review. The letter will be sent to Secretary Federico Peña, Al Alm and EPA-Headquarters asking those agencies to contract with an independent, unbiased, scientifically-based organization such as the National Academy of Sciences to perform a review of the Soil Action Levels for radioactive contamination that were approved last fall by DOE, CDPHE and the EPA as part of the Rocky Flats Cleanup Agreement. The letter notes that members of the community have questioned the wisdom of the decision to set the Soil Action Levels. CAB previously issued recommendations stressing that national standards must be in place before site-specific standards were set for Rocky Flats, and many members of the Board and the community feel that the plutonium in soil level set at 650 pCi/g is too high. In this letter, CAB also questioned the use of the RESRAD model to determine the standard. If DOE accepts the recommendation to perform this study, a process must be established that would allow for active stakeholder involvement in the design and conduct of the study.

Decision: Approve recommendation, with changes to the text as agreed by the Board.
APPROVED BY CONSENSUS.

COMMITTEE CO-CHAIR (Mary Harlow): The Plutonium and Special Nuclear Materials Committee recommends that Victor Holm be approved to serve as co-chair of that committee.

Decision: Approve Victor Holm as co-chair of the Plutonium and Special Nuclear Materials Committee. **APPROVED BY CONSENSUS.**

BOARD BUSINESS:

- Spring mini-retreat. The Board will hold a half-day mini-retreat on Sunday, June 8. Based on everyone's schedules, this was the date most people could attend. The retreat will be held from 12-3 p.m. Staff will find a location and make arrangements for the meeting.
- Response from CAB regarding Military Production Network (MPN) letter. The Military Production Network wrote a letter to Secretary Peña, which criticized DOE's public involvement record and stated that some advisory boards, specifically CAB, had not received documents from DOE in a timely manner. Tom Marshall, Board chair, represents the Rocky Mountain Peace and Justice Center in its position as a member of the MPN. Some CAB members were concerned that this letter may be construed as representing the position of the Rocky Flats CAB, and wished to send a letter clarifying that CAB was not involved in drafting the MPN letter. DOE-RFFO had responded to MPN's letter requesting specific details from CAB on which documents had not been received. Board members discussed both sending the clarification letter to DOE-HQ, and a response to DOE-RFFO noting which documents had not been received. The Board was unable to reach agreement on either letter, and tabled the issue at this time.

- Policy regarding letters from CAB co-chairs; and draft letter of recommendation.
Beverly Lyne, CAB's Health Committee chair, asked the Board:

1) To consider adopting a policy that states CAB committee chairs may draft letters on CAB letterhead, provided the Executive Committee has the opportunity to review and approve such letters on behalf of the Board.

Decision: Board members did not agree to adopt this policy.

2) To review and approve a draft letter on CAB letterhead from Beverly Lyne to Kathleen May supporting Nancy Brown's nomination for an American Public Health Association Award.

Decision: Draft letter was approved by consensus, with abstentions.

NEXT MEETING:

Date: June 5, 1997, 6 - 9:30 p.m.

Location: Westminster City Hall, lower-level Multi-Purpose Room, 4800 West 92nd Avenue, Westminster

Agenda: * *Recommendation on waste transportation issues; presentation on designation of two temporary storage areas at Rocky Flats for wastes produced by cleanup activities*

ACTION ITEM SUMMARY: ASSIGNED TO:

1. Revise and forward recommendation regarding assessing and monitoring the performance based contract at Rocky Flats - Erin Rogers
2. Revise and forward recommendation regarding retention of organization to perform review of Soil Action Levels - Ken Korkia
3. Organize details for June 8 mini-retreat - Deb Thompson

MEETING ADJOURNED AT 10:00 P.M. *

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

RESPECTFULLY SUBMITTED:

Tom Gallegos, 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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