

## Rocky Flats Citizens Advisory Board

### 12/7/95 Minutes Part II

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#### Q/A Session:

Comment: Ralph Coleman: Regarding groundwater, you seem to think there is no way pathway existing at the present time, but the Arapahoe Sands outcrops around Rocky Flats. With snow and heavy rains, water charges those sands and there are around 40-50 water wells now in use just south and east of Rocky Flats. On my property, I've drilled five wells in the Arapahoe Sands. We have three wells now in use for stock water and household/drinking water. So there is a pathway now; there is a possibility that a lot of the contaminants are filtered out as the water goes through the sands. Also, the sands outcrops on the bottom of Standley Lake, so there is a pathway from Rocky Flats to Standley Lake through the groundwater.

Response: FL: I've heard this comment several times. I would really like for us to be able to put that to rest, or to find out how real it is and pursue it. The analysis that's been done at the site for decades has made us believe there is no groundwater leaving the site at contaminated levels. The deep aquifers travel underneath the site, but we don't think the plutonium or other contaminants migrate down enough to get to those. I realize that's all work done by site personnel and contractors. I wonder if we could find a way to work with the School of Mines or another university to get an independent look at that, and involve you.

Question: Jack Kraushaar: What estimates have you made on the number of lung cancer cases that have occurred due to the release of plutonium in the fires and the release from the 903 Pad?

Answer: JL: I don't know of any study which has clearly demonstrated a link between releases from Rocky Flats and cancer cases. The Health Advisory Panel is pursuing reconstruction of the history from Rocky Flats - in particular how much plutonium and other materials were released over time, and what kinds of exposures people living in the vicinity may have received. From that, we may be able to provide some indications of the kinds of risks that may have been present at the times of those releases and afterwards.

But we won't be able to correlate any of our findings with lung cancer cases in the area. NS: The workers are going to have far greater exposure than people in the environment. There is a study that has been published by the American Journal of Epidemiology, February 1987, which showed some indication that there were cancers to the lymph system and blood system. As far as I remember, no lung cancers showed a significant

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increase. But it was just a beginning study. With that kind of data, you don't expect to find specific cancers in the population due to the exposures that we think have been manifested. We're hoping to come up with an estimate of risk and what we'd expect from the Health Advisory Panel in about two years. My belief is we will not be able to separate out the effects of Rocky Flats from the effects of living in an urban area. **FL:** I think the changing demographics presents a real challenge too. Also, a lot of the releases have now been covered over or are largely stable and not impacting as much. **DN:** They don't have results yet, but the Colorado Cancer Registry is trying to figure out the answer to that question. **JL:** It's probably worthwhile to recognize that there are things other than cancer to be worried about. For example, about 45 have been sensitized to beryllium, and I believe there are 14 active cases of berylliosis among Rocky Flats workers. **NS:** In addition to other contaminants, there are other end points for plutonium and radionuclides. Cancer is not the only end point of disease - anywhere from life-shortening in general to heart disease. It's a mistake to focus on cancer.

Question: David Navarro: Regarding events caused by human error, we would like to see the existing workforce be utilized in D&D cleanup. There's the historical site knowledge above and beyond classification or job knowledge. The question I have is have there been any studies to look at the direct correlation between work experience and also sites and historical plant experience and the potential for accidents or incidents - using workers who have been there for a long time versus utilizing workers who are imported or go from site-to-site? There's no guarantee there will be no accidents, incidents or mishaps, but I do believe there's a direct correlation. I would hope at some point there's an analysis done on that based on the risk.

Answer: **DN:** I don't know about any study that's tried to correlate those two. Common sense tells you maybe there is a relationship. **FL:** I am aware of some studies that looked at human behavior in general. The positive effect is that accumulated knowledge and experience comes into play in tasks in familiar surroundings and familiar conditions. The bad news is that humans have a habit of starting to ignore things that are the same. To the extent they can become too familiar, there's some danger on repetitive tasks that they fall into a pattern and start to not see the hazards any more. That's not a work study, but on human behavior in general. It offers some cautions to make sure that we try to do what is necessary to keep the awareness up, so that the positive training and experience aspects are not lulled into insensitivity.

Question: LeRoy Moore: I was surprised to hear Diane say the state had opposed the Town of Superior's plan to construct a big development near Rocky Flats. I wonder on what basis the state opposed Superior's development. Also, I'm interested in the relationship between what the state was doing and the state's plutonium in soil standard. How can the state, which adopted this kind of standard, oppose what Superior wants to do? Evidently the land around Superior meets the state standard.

Answer: **Steve Tarlton:** Our opposition to that development was based largely on emergency preparedness concerns, not on plutonium in soil standard. That development is within the four-mile emergency planning zone for Rocky Flats, and we try to discourage all development within those areas to at least low density developments. A high density development like the one proposed creates problems for us in administering off-site emergency preparedness activities. As you know, we have no control over local land use.

Comment: Beverly Lyne: Regarding epidemiological studies, there are problems with the Cancer Registry. There isn't enough specific kinds of information available in terms of geographic locations to correlate health effects with risks. The health subcommittee of CAB will look at the geocoding of the data and how we can do environmental monitoring that can be correlated with health information. It seems DOE is making a commitment to continuing the funding of the Cancer Registry and the Birth Defects Registry, which is a beginning. There are so many unknowns in terms of what happens: low-level exposure to plutonium, what kind of future accidents or releases might there be, future land use, groundwater. Spending time and energy and money on doing definitive risk assessment may not be the best way to go at protecting the public and worker health, but look at doing it some other ways.

Response: **JL:** I agree there are a number of different approaches. The most effective risk assessments one were when there were both risk and exposure information, and some information from the human population. You can use all that information together to design a remediation. Those studies are extremely costly, they take a long time to do, and they are not necessarily more cost effective. They may give you a better answer overall, but I would caution about the uncertainties of starting with health effects and trying to work back to a source.

Question: Tom Marshall: One thing I got from your presentation is that risk assessment is difficult because of the level of uncertainty and the assumptions you need to make. Now that we are looking at plans for cleaning up the site, how can we possibly come up with a credible estimate of risk? The risk estimates are based largely on the fact that you can use a combination of technical and institutional controls. I'm wondering how risk then comes into play.

Answer: **FL:** That's the hard part of the question. One of the reasons we are so anxious to discuss this in a public forum is because we see those kinds of trade-offs of the risks and difficulties and uncertainty start to translate into value judgments. It's nearly impossible to get total agreement, but if we can get a sense of agreement or a sense of where those values lie relative to the risk, that gives us some data on where to base decisions. **JL:** In an attempt to be informative, we've scared a lot of people by saying there are uncertainties in risk assessment. But you can live with big uncertainties, and we make perfectly good decisions in the face of those uncertainties. If you have 1-in-10 or 1-in-1,000 cancer risk, you're going to make pretty much the decision. The key to understanding the usefulness of

risk assessment is understanding that it's a tool to describe the severity of the problem, not a tool to tell you precisely what the risk is or will be in the future. You can't do that, and it's not necessary to make reasonable decisions about cleanup. Also, sometimes you make a decision on the uncertainty rather than on the risk number. **NS:** If you're thinking about something happening in the future at Rocky Flats, you can say: what happens if you have this much release? The exposure pathways are fairly straightforward. The piece we are uncertain about is what is the factor? The question is how do you assess a person's chances of getting a disease earlier than they might otherwise. That is something that will get much better in the future.

Question: Jim Stone: I just finished reading GAO's report on the standard for plutonium contamination, and the conclusion was between DOE, EPA and NRC, there was no consensus on what a standard should be. Are we doing anything locally to tie down a plutonium standard?

Answer: **DN:** Right now, with the vision negotiations for Rocky Flats, I believe they are trying to come up with soil cleanup standards for plutonium for Rocky Flats, as well as for both surface and groundwater. **FL:** The standard setting has been going on for more than just a year or two. The debate does seem to be narrowing, although there isn't yet agreement, and most of the numbers that are being debated are in the range of one or two times to as much as 10 or 20 times higher than the current Colorado standard.

Question: John Barton: Today I witnessed a management decision that scared me. Kaiser-Hill chose not to man Building 886's control with a Stationary Operating Engineer 24 hours a day. My concern is that you have 4,000 liters of highly enriched uranium nitrate and solution in three different densities in liquid form that if the temperature of the building reaches 20 degrees they come together and go critical. Kaiser-Hill's management made a decision not to staff that building with an operator who controls the alarms in response to emergencies of the heating and ventilation of that building. Provide me a risk assessment, if it's going to go critical or not during the winter months.

Answer: **DN:** I don't think anybody could do that off the top of their head. **NS:** I interpreted the question as rhetorical but it requires a response. The anecdotal stories I've heard since spring have been consistent and they've been disturbing to me personally and to other people on the Health Advisory Panel. I'm not sure what the answer is. But I think I'd have to turn to people such as the workers who are on plant who have a point of comparison to management in the past and management now, to make clear statements about what the dangers they perceive in these decisions. **Leanne Smith:** I'm concerned by the statement you made. DOE still has full responsibility for providing worker safety. I'm not aware of how the absence of this systems operations engineer actually impacts Building 886. But one of the critical factors in maintaining the safety margin of Building 886 is that we also maintain the temperature. That's part of one of limiting conditions of

operation for that building. I will make the commitment that I will follow up with our facility representative.

Question: Kenneth Werth: The panel has failed to address the number one issue at the site. I question your conceptual vision for RFETS when there is one overriding factor that will impede this project. That is the old Leyden coal mine that has over 50 miles of tunnels winding under RFETS, and stores over 1.5 billion cubic feet of natural gas. What would be the possibility of an earthquake or a terrorist using a small nuclear device to set off the natural gas in an underground explosion, creating an unanticipated phenomenon to the Rocky Flats plutonium storage vault? That could blow the Front Range off the map. I suggest you go to the Jefferson County archives and look at the configuration of the old Leyden coal mine.

Answer: FL: I would offer the same thing as before - to have an independent group that you deem to be credible, perhaps somewhere in the university system, to look at that issue. We have looked at that issue on the site. I can't recall the exact reports but I know the Leyden mines and the geology have been analyzed and have been found to not impact the site, even from a terrorist standpoint. But if an independent look would be helpful, that can be pursued.

Question: Joe Rippetoe: I live next to Standley Lake, which I believe is a Superfund site. A lot of fishing and water sports happen there. Recently we had a severe drought and the water level was low. I didn't see any testing of soil. Has there been a recent risk assessment associated with Standley Lake?

Answer: FL: Yes.

Question: Chuck Patterson: A couple of years ago at Savannah River, it was shown that americium was traveling in groundwater in a colloidal state rather than dissolved. Normally to take a groundwater sample, you filter out colloidal material. Is that being accounted for in the groundwater pathway?

Answer: DN: Yes. Usually when human health risk assessments are done on groundwater or drinking water, the assessment is done on the total sample, which includes the dissolved solvents. FL: We've also spent some research funding specifically on colloidal transport of plutonium and americium on the site. Dr. Litaor was involved in some of those studies several years ago. Those are published and could be made available.

**PRESENTATION: AGENCIES' VISION FOR ROCKY FLATS** (Jackie Berardini, CDPHE): The vision has two stages: 1) interim site condition, which includes completion of plutonium consolidation, major environmental remediation, decontamination and decommission and all other activities except SNM removal; and 2) final site condition,

where nothing exists at Rocky Flats but open space, industry, and monitored/capped areas (landfills). CAB is asked to comment on a couple of specific areas. First, the cleanup levels are tied to reasonably anticipated use of the resources - are those uses correct? Second, should there be any onsite waste disposal; if so, what types, and should that include retrievability? The agencies have developed a strategy that includes having the community help decide final site use, which will drive the cleanup standards; leaving some contamination onsite in restricted/capped areas; and minimizing migration of contamination; and integrating the cleanup needs of buildings, soil, surface and groundwater. Plutonium and SNM are expected to be removed from the site by 2015.

**Q/A Session:**

Comment: Lloyd Casey: I like ASAP and the vision. CAB has been around for two years, and we have discussed these issues numerous times. I'm ready for ASAP, to get going and get it done. Answer: JB: We are too.

Comment: David Navarro: I endorse and embrace the concept of the vision. ASAP, the vision and SWESA all had interesting parallels. I wonder if there wasn't a cart before the horse, so to speak. All three documents were saying the same thing and one should have precluded the other. In this vision, I did not see a description of the parameters and process for continuing public input. I would like to see that further defined and clarified.

Comment: Gary Thompson: I have to agree, we have spent a tremendous amount of time discussing these things. It's good to have a goal to clean everything up, but that's impractical. When we do make up our minds on our issues, I think we should include minority opinions. We need a more balanced approach.

Question: Beverly Lyne: Regarding the statement in the vision on cleanup levels and open space use: there is a statement that the creeks will form hydrologic barriers to contaminant migration. One of the big problems is airborne contamination, and the creeks aren't going to stop that. That should be addressed somewhere. Answer: JB: The notion here is that the creeks form hydrologic barriers to contaminant transport through the water, not through the air. There is a team of individuals from EPA, CDPHE, DOE and Kaiser-Hill discussing cleanup levels for surface and groundwater and soils to protect human health and the environment in the context of what are reasonably expected use of resources.

Question: Beverly Lyne: What about beyond the boundary and how are we going to do the monitoring as cleanup goes on to see what is happening? I'm not sure that's addressed in the vision statement. Answer: JB: We don't talk about monitoring in the vision, but it is part of the Agreement in Principle - we must come up with an integrated monitoring approach.

Question: Mike Freeman: Regarding regulations, where are the lines going to be drawn?

Answer: JB: The vision doesn't discuss that. The Agreement in Principle is dedicated to completing the regulatory agreement. The vision is our roadmap to do the regulatory agreement and the stabilization and consolidation activities that are necessary. The regulatory agreement is more focused on the how.

Question: Tom Clark: What are some of the community groups you've been presenting to?

Answer: Jeremy Karpatkin: We've already presented to the Jefferson County Commissioners and Congressman Schaefer. We will meet with staff of Colorado's Congressional delegation and members of RFLII, and are working on setting up individual briefings with municipalities in the area. There is a public meeting December 13 at the Arvada Center. Mike Konczal: We can get you a list of groups who were sent a copy of the Vision.

Question: Beverly Lyne: Wouldn't it be appropriate that a CAB member or a CAB staff person be a part of the environmental monitoring discussion? I'd like to see that. Answer: JB: Let me speak with my colleagues.

Question: Tom Marshall: The Agreement in Principle listed a number of work groups, most of them have a product to be produced by mid-December. Are they on schedule? And how soon after you get those can we see those? Answer: JB: I was hoping to have it in my hands by the close of business on December 8; I don't think that will happen. But mostly we're on track. We haven't had a discussion yet about when to release the information. It won't be secret, but I need to discuss with my colleagues first.

#### **PUBLIC COMMENT PERIOD:**

Comment: Jim Stone: I see you presenting ASAP as a plan. I don't see it as a plan. There must be a dozen different concepts in ASAP. No one can agree until all the issues have been analyzed and you see the bottom line. Also, regarding this document - the radiation site cleanup summary - give me a standard to work by.

Comment: Leanne Smith: I'd like to respond back to a concern expressed earlier by John Barton. What he brought up was the potential absence of systems operations engineers in Building 886. Building 886 is the retired criticality lab at Rocky Flats. It is outside of the protected area, and although it has its own protected area, it houses 2,700 liters of highly enriched uranium nitrate. There is a concern that if you reach the temperature of 32 degrees, and if the liquid that suspends the highly enriched uranium begins to solidify then you start precipitating out the highly enriched uranium and there could be a criticality. There is a concern. I called the individual who is DOE's facility representative and has responsibility for overseeing the progress of activities in that building. She told me she was aware of how the control room in 886 is housed. It is housed with a systems operations engineer during normal operating hours. But on off hours and holidays,

weekends and the alternative work schedule (every other Friday), it's manned by an alarm will be set off either in Building 881 or 771. Also, she said an alarm goes off in the fire department; I need to verify this. There is a systems operations engineer who is on call, 24 hours a day, who has a responsibility for responding within a five-minute period when the temperature in 886 reaches 55 degrees, which allows us another 23 degrees to respond. We feel we have an adequate safety margin, and no compromise to building or worker safety. I'd like to go back and double check; I've agreed with David Navarro that I would do that tomorrow.

Response: David Navarro: There was some conflicting information that went out to what degree and levels of safety. I would request that at our next Board meeting we can get a report back with verification of the situation.

Question: Kenneth Werth: Is there a backup system? Answer: Leanne Smith: I believe there is a backup system.

Question: LeRoy Moore: To Nancy Tuor, at our last meeting there was a discussion about Iggy Litaor's relationship to Kaiser-Hill. Niels Schonbeck had written a letter, and there was to be an answer before this meeting. Answer: Nancy Tuor: You haven't received that yet. Since you raised a question about research funds, we decided to work on getting a joint DOE/Kaiser-Hill response. We have a draft now, and I hope to have that sent out next week. You will get a copy as soon as it's available.

#### **CAB BUSINESS:**

**Summit Update:** A facilitator was chosen: Reed Hodgins. Reed is interviewing several key participants from different groups to get a sampling from the interests that would attend. A location has not yet been identified, hopefully that will be worked out this week. A draft invitation letter has been prepared. It will be sent to everyone on the invitation list. The committee is taking suggestions for persons who should be included. Approximately 120-140 people will participate - probably a few more than last year. There will be some kind of gathering on Friday evening, January 19. The Summit meeting will be all day Saturday, January 20. The focus will be on the vision and the path forward for Rocky Flats. Co-sponsors of the Summit include RFLII, CAB, EPA, CDPHE, and the League of Women Voters. The next meeting of the organizing committee is December 15, 9 a.m. at RFLII. If you have ideas on background materials, let them know.

#### **Letter to Thomas Grumbly re: Changing Date of Workout Session.**

**Recommendation:** Send letter to Tom Grumbly asking that the date for the next workout session be delayed until after the Rocky Flats Summit is held on January 20, 1996.

**Action:** Motion to accept. APPROVED BY CONSENSUS.

**Letter to Mark Silverman re: ASAP Process/Schedule.**

**Recommendation:** Send a letter to Mark Silverman requesting that the ASAP schedule be modified to allow adequate time for review and input.

**Action:** Motion to accept. APPROVED BY CONSENSUS.

**Plutonium and Special Nuclear Materials Committee Approval of Recommendation to Thomas Grumbly:** The committee brought a recommendation to CAB at last month's meeting on plutonium consolidation. After hearing a presentation at its November meeting, the committee determined that no changes should be made to the recommendation. It was approved to be sent to Thomas Grumbly in the same form as CAB approved last month.

**Board Comment on Future Agendas:** Would like Board member comments on what they would like to have presentations on for the future. Suggestions included: 1) broader and in-depth presentation on radiation and health - the human element; 2) British Nuclear Fuels, have them share their experiences with D&D work (suggest a written presentation to distribute to CAB members instead of a formal one on the agenda); 3) Kaiser-Hill performance measures; 4) decommissioning/methods and issues surrounding building removal.

**Update - National SSAB Chairs Meeting:** The meeting was held November 29 in Denver. The chairs of SSABs came together to collaborate and address the need for a national dialogue on waste issues. The boards agreed that a dialogue is important, they should be involved to a degree, and they will continue to collaborate and work with other national groups such as EMAB and STGWG.

**New National Issues Committee:** The Executive Committee recommends that a new committee be formed to deal with national issues: 1) to keep CAB abreast of what is going on nationally, 2) to see what impact CAB recommendations have on other sites and look at impact of other sites' recommendations on Rocky Flats.

**Recommendation:** Form new committee to deal with national issues.

**Action:** Motion to accept. APPROVED BY CONSENSUS.

**EXECUTIVE SESSION:**

- The Board authorized Don Scrimgeour to serve as interim project administrator for a period of time no longer than through June 1, 1996. Don submitted a proposal for the Board to consider on future activities. An agreement was made to allocate \$5,500 for his services for the next month. He will return to the next meeting with a document explaining outcomes/expectations for his service as interim project administrator, and with suggested goals/direction for the Board.

- The Board authorized expending up to \$25,000 for the purchase of new computers for the office.
- The Board authorized the Executive Committee to consider salary increases for staff.
- The Board approved Mary Harlow and Susan Johnson as new Board members.

**NEXT MEETING:**

Date: January 4, 1996, 6:30 - 9:30 p.m.

Location: Westminster City Hall, Multi-Purpose Room

Agenda: Recommendations: Rocky Flats Conceptual Vision; and Rocky Flats Accelerated Site Action Project

**ACTION ITEM SUMMARY: ASSIGNED TO:**

- 1) Report back on Building 886 safety issues - at next month's Board meeting Leanne Smith
- 2) Forward letter to Thomas Grumbly re: workout session date Staff
- 3) Forward letter to Mark Silverman re: ASAP schedule Staff

**MEETING ADJOURNED AT 10:10 P.M.**

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

MINUTES APPROVED BY:

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Secretary, Rocky Flats Citizens Advisory Board

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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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