

**RFCA Stakeholder Focus Group  
January 31, 2001  
Meeting Minutes**

**INTRODUCTION AND ADMINISTRATIVE**

A participants list for the January 31, 2001 Rocky Flats Cleanup Agreement (RFCA) Stakeholder Focus Group meeting is included in this report as Appendix A.

Reed Hodgkin of AlphaTRAC, Inc., meeting facilitator, reviewed the purpose of the RFCA Stakeholder Focus Group and the meeting rules for this group. Introductions were made.

Reed reviewed the meeting agenda, which included:

- Radioactive Soil Action Levels (RSALs) Workshop design team report back and discussion
- Regulatory Analysis questions for peer reviewers
- Land Use Scenarios discussion
- Definition of Resident Rancher Land Use scenario

Reed asked the Focus Group if there were any changes or additions / corrections to the January 17, 2001 meeting minutes.

A member of the Focus Group remarked on the reference to "dose and other physical forces" on page 9 of the minutes and asked if "other physical forces" had been defined. The Colorado Department of Public Health and Environment (CDPHE) responded that the reference was from the Risk Assessment Corporation (RAC) report.

A member of the Focus Group asked that the minutes be modified to clarify that the RFCA Agencies do not believe that the Resident Rancher Land Use scenario as presented in the RAC analysis is not realistic and that this is not an opinion attributed to the Focus Group as a whole. Reed Hodgkin and Christine Bennett of AlphaTRAC, Inc. agreed to modify the minutes for this clarification.

A member of the Focus Group noted that the discussion on comparison of versions of the RESRAD model on page 4 should reference the following model versions: 5.61, 5.8, and the RAC or 6.0.

**RSAL WORKSHOP DESIGN TEAM REPORT BACK AND DISCUSSION**

Reed introduced the topic by summarizing that a working group had been formed at the January 17, 2001 RFCA Focus Group meeting to draft a detailed design for

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workshops for consideration by the group as a whole. He turned the discussion over to Gerald DePoorter for presentation of the Working Group's results.

Gerald introduced the members of the working group:

- Gerald DePoorter
- Ken Brakken
- Victor Holm
- John Marler

He credited Ken Brakken for helping to lead the group to results.

He then presented a summary of the working group's recommendations (Appendix B). The presentation addressed four topics:

- Assumptions
- Workshop 1: RSAL Modeling Workshop
- Workshop 2: RESRAD 6.0 Input Parameters Scenarios and Numbers
- Workshop formats.

The members of the focus group then discussed the purpose and content of the workshops at length. Key issues identified during the discussion included:

- What experts would be appropriate to teach the first workshop (on the RESRAD model)?
  - The authors of Version 6.0 (and possibly other versions)
  - Independent third party experts (possibly completely independent of DOE, possibly just independent of the Rocky Flats application)
  - Three specific experts were suggested -
    1. John Till,
    2. Version 6.0 authors from Argonne National Laboratory, and
    3. Kathleen Higley
- What should the focus of Workshop 1 be (strong proponents for each approach)?
  1. Assume that RESRAD 6.0 will be used in the RSAL analysis and focus on learning about this version - do not address other versions or historical applications (such as the RAC study),
  2. Learn about RESRAD 6.0 but also have a strong focus on a comparison among the versions of RESRAD with the intent to determine if the planned application

(RESRAD 6.0) incorporates the most appropriate features and approaches for the Rocky Flats RSAL review. One member of the Focus Group suggested that the comparison include side-by-side model runs for a benchmark scenario.

- What level of information (prior audience knowledge) should be assumed?
  - The portion of the community already knowledgeable about the RSAL Review and the RESRAD versions (essentially the RFCA Stakeholder Focus Group),
  - The interested community, many of whom may have little knowledge of the process or the RESRAD model.

With insufficient time to resolve these issues and still address the rest of its agenda, the Focus Group decided to expand the working group to include all strongly held perspectives and create a revised proposal for the next Focus Group meeting. The following Focus Group members agreed to work on the next draft:

- Shirley Garcia
- Ken Korkia
- Joe Goldfield
- Tom Marshall
- Mary Harlow
- Victor Holm
- Kent Brakken

Reed asked the members of the working group to bring back a workshop design that they really felt would meet the interests of all members of the Focus Group. He suggested that thoughts and draft designs be shared with all members via email between meetings so that broad input could be obtained during the drafting process.

Reed closed the discussion by thanking Gerald and the other members of the working group for their time and effort in drafting the current version of the workshop design.

## **REGULATORY ANALYSIS QUESTIONS FOR PEER REVIEWERS**

Reed summarized the review process for the Regulatory Analysis Report (Task 1) of the RSAL Review project. He noted that Draft 2 of the report had been circulated to the Focus Group and the Peer Reviewers. The next step is for the members of the Focus Group to compile a list of questions to serve as guidance for the Peer Reviewers in their evaluation of the report.

Individual members of the Focus Group proposed questions which were then discussed among the group. Reed committed to submit all of the questions, along with overall guidance to the Peer Reviewers, by February 1, 2001. He captured the guidance and questions as follows:

1. The Peer Reviewers should conduct an overall evaluation of the draft report. This overall evaluation should address the questions:
  - Is the regulatory approach described in the report appropriate for developing RSALs for the Rocky Flats Environmental Technology Site (RFETS)?
  - If the approach is inadequate in any way, why is it inadequate and what approaches would be appropriate?
  
2. Given that the primary focus is the overall evaluation described above, the Peer Reviewers should answer any of the following questions that they feel qualified to address and for which they have sufficient effort available within the scope of the peer review commitment.
  - Is the regulatory approach used for setting RSALs at RFETS (as described in the draft document) consistent with that used elsewhere (best industry practice)?
  - What is the relevance of the U. S. Environmental Protection Agency (EPA) Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) guidance to the specific cleanup at RFETS?
  - Is the Nuclear Regulatory Commission (NRC) rule actually an Applicable or Relevant and Appropriate Requirement (ARAR) for this application - does the 25 mrem dose level under NRC rule meet the CERCLA risk requirement?
  - Is the NRC rule appropriate for the specific conditions at RFETS (a cleanup action rather than a nuclear reactor or active production facility)?
  - Which method of health impact evaluation- dose assessment or risk assessment - will be most protective of human health?
  - Is the dose level chosen for the analysis appropriate and adequately protective?
  - Is the risk range chosen for the analysis appropriate and adequately protective - is a specific value in the risk range considered most appropriate?
  - Is there a regulatory requirement to maintain institutional controls in the future if such controls are used to meet CERCLA requirements?
  - Is the As Low As Reasonably Achievable (ALARA) principle being applied properly in this cleanup approach?
  - Does the document adequately address the role of community acceptance in setting RSALs?

- Does the wildlife worker scenario described in the document meet the CERCLA criterion for protection of the reasonably maximally exposed individual, especially with regard to the long-term stewardship period?

## LAND USE SCENARIOS DISCUSSION

Steve Gunderson, CDPHE, introduced presenters for the five land use scenarios being considered in the RSAL review:

- Office Worker, Mark Aguilar
- Open Space User, Rick Roberts,
- Wildlife Refuge Worker, Diane Niedzwiecki,
- Rural Resident (replacing Suburban Residential), Jim Benetti
- Resident Rancher, Jim Benetti

### Wildlife Refuge Worker Scenario

Diane Niedzwiecki, CDPHE, briefed the Focus Group on the Wildlife Refuge Worker Land Use scenario (see Appendix C for briefing slides). This scenario is based primarily on information from two sources:

- Interviews over the phone with Carl Mackey, Shell at the Rocky Mountain Arsenal (RMA) and Mark Sattelberg, U.S. Fish and Wildlife Service, and
- Document prepared by Shell for the RMA risk assessment, which was based on a survey that they did: *Wildlife Refuge Worker* in three different wildlife refuges around the country.

In summarizing this scenario, Diane indicated that the Wildlife Refuge Worker scenario may be the most likely land use when institutional controls are in place.

A member of the Focus Group noted that the inclusion of direct radiation as a pathway was important and often not considered in previous studies. In response, it was noted that direct radiation would be considered in evaluating each of the land use scenarios.

### Office Worker Scenario

Mark Aguilar, EPA, briefed the Focus Group on the Office Worker Land Use scenario (see Appendix D for briefing slides). He indicated that this scenario was being considered as a requirement under the terms of the RFCA, and that it was not

considered a likely scenario. He stated that the scenario would be defined in a very similar manner to that developed for the 1996 RSAL study.

This scenario will feature a typical office worker, working 8 hours a day, 5 days a week. These individuals will be indoors all the time, knowing that on occasion they're going to go out for lunch. They drive in and out of the site every morning and every evening. These individuals will not be in direct contact with soil.

A member of the Focus Group asked if radioactive gases would be considered in the modeling analysis. The response was that none of the radioactive parent or daughter products involved with the Rocky Flats cleanup are gases.

### **Open Space User Scenario**

Rick Roberts, Kaiser-Hill, briefed the Focus Group on the Open Space User Land Use scenario (see Appendix E for briefing slides). He indicated that this scenario was being considered as a requirement under the terms of the RFCA, and that it had been examined over the past five to six years. The anticipated use is the type of open space activity typically conducted in the area around Rocky Flats. Information about open space use in Jefferson County will be a focus, but information from Boulder County will be used as well. Parks, access roads, and trails will be addressed.

Both adult and child open space users will be considered in the analysis.

### **Rural Resident Scenario**

Jim Benetti of EPA briefed the Focus Group on the Rural Resident Land Use scenario (see Appendix F for briefing slides). He indicated that this scenario was being developed for two reasons:

1. To pick the scenario that is most likely to drive the setting of the RSAL in the event that there are no institutional controls on the site, and
2. To make sure that our scenario is the most conservative of the realistic future resident scenarios.

Because this scenario is new and of particular interest to the Focus Group, Mr. Benetti's briefing is reproduced verbatim in Appendix F.

## Resident Rancher Scenario

Jim Benetti of EPA briefed the Focus Group on the Resident Rancher Land Use scenario (see Appendix F for briefing slides).

He indicated that this scenario would be based on the Resident Rancher scenario described in Task 5 of the RAC report, modified as necessary for input to RESRAD 6.0. This scenario describes what could be considered to be the hypothetical extreme exposure. The resident rancher is living on the Rocky Flats mesa 100% of the time, 365 days a year. They spend a much higher fraction of time outdoors and have a higher breathing rate because they're working on the site, growing their own meat, drinking their own milk, and drinking shallow groundwater.

Because this scenario is of particular interest to the Focus Group, Mr. Benetti's briefing is reproduced verbatim in Appendix F.

A group question-and-answer session followed the briefings. When it became apparent that the group's focus was on the Resident Rancher Scenario, a further briefing was provided by Mr. Benetti (see Appendix F) after which the discussion continued. Key discussion points are summarized below.

- A member of the Focus Group noted that the amount of vegetables produced and eaten on the Rocky Flats mesa should account for the poor growing qualities at the site. Mr. Benetti noted that contaminated dust on the leaves of the plants should be considered as well as direct root uptake.
- A member of the Focus Group asked if horses or other dust-raising activities would be considered in the scenario. Mr. Benetti responded that raising horses and the associated dust had not been considered, but that it was a reasonable expectation and would be examined. He indicated that other dust-raising activities should be postulated and examined.
- CDPHE asked about a statement in the background paper that stated "Although this approach is not comparable with the RAC approach, it is likely to be more conservative." Mr. Benetti responded:

"What RAC did, when they were calibrating their mass loading to the air sampling data, they used meteorological data and the entire wind rose. That has not just wind frequency of velocity, but different directions. And then they calibrated in all the

different compass points, or at least a significant number of them. What we'd be doing is almost like a linear version of this. We're going to be taking the velocity distribution of the winds, but not considering the direction, because the algorithm in RESRAD assumes that they're always downwind. If the wind is blowing 100% in your direction, that's the same case. You can only go downhill if the wind varies in direction."

- A member of the Focus Group asked about the effect of Rocky Flats' elevation on the air sampling results that were used in the wind tunnel analysis of wind erosion. A discussion developed with the end result that the lower atmospheric pressure and air density at Rocky Flats are accounted for in the way that air volume is calculated.
- A member of the Focus Group asked if the effects of swirling winds, including dust devils, would be included in the estimation of wind erosion. The possibility that the wind tunnel results, which focused on straight-line winds, could have underestimated this effect was raised. Mr. Benetti responded that the results from the wind tunnel tests which examined changing mass loading with wind speed could help with this issue.
- A member of the Focus Group asked how the probability of a fire occurring would be addressed in the RESRAD analysis. Mr. Benetti responded:

"Preliminarily, you could construct in the way I've just described, if you have a frequency versus velocity diagram taken from wind rose data, and then you had next to it a mass loading versus velocity curve for both the vegetated and the fire case. You could construct through mapping two different distributions; one is vegetated and the other is unvegetated, and presumably the probability and the values of mass loading would be higher in the unvegetated case. If you then knew with a reasonable amount of certainty what the probability of a fire was, you can do a weighted sum of those two curves. The one curve you multiply by the probability of a fire, which is maybe one in five, like every five years you had a fire. The vegetated curve would be multiplied by one minus that probability, which is the remainder. Then you'd add the two together, and what you'd have is a single curve that maybe would have a shoulder on the high up. If that was reasonable and thought to be a conservative approach, it would be a much-simplified way of getting at this, and yet, at the same time, bounding both the vegetated and unvegetated case complete with probability altogether."

- A member of the Focus Group noted that there was a child exposure value considered for the Open Space scenario and asked if a child should be considered for the Office Worker or Wildlife Refuge Worker scenarios (possibly through an

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onsite daycare center). A discussion determined that such a possibility should be considered. It was noted that, for the Wildlife Refuge Worker scenario, the child would be outdoors less than the worker.

- A member of the audience asked if pregnant women would be included as exposure receptors in all scenarios. The agencies agreed to examine this question and return with an answer at the next meeting.

## **RSAL REVIEW SCHEDULE**

DOE provided an updated RSAL review schedule to the Focus Group (Appendix G). It was noted that the schedule needs to be updated further and brought back again.

A member of the Focus Group noted that there was no opportunity in the schedule for the Focus Group to discuss the comments from the Peer Reviewers on the Task 1 report. The agencies asked that the Focus Group discuss this need and resolve it with the Agencies.

## **AGENDA FOR NEXT MEETING**

The Focus Group agreed on the following topics for the February 14, 2001 meeting:

- Review of RESRAD 6.0 approach to air pathway
- Regulatory Analysis Report, Revision 2 - Discussion
- Report-back from Workshop Design Group

## **ADJOURNMENT**

The RFCA Stakeholder Focus Group meeting was adjourned at 6:30 p.m.

### Summary of Actions and Commitments

- If and how pregnant females are considered in RSAL risk / dose calculations - all land use scenarios (CDPHE - Gunderson)
- Revised / detailed design for RSAL Workshops (Workshop Design Group)
- Revised RSAL schedule (DOE)
- Schedule an agenda item in 4-6 weeks: discussion on ALARA (AlphaTRAC)

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**Appendix A  
Participants List**

V.P.

**Appendix B  
Gerald DePoorter: RESRAD 6.0 Working Group Report**

**Appendix C  
Diane Niedzwiecki: Wildlife Refuge Worker Scenario**

**Appendix D  
Mark Aguilar: Office Worker Scenario**

**Appendix E  
Rick Roberts: Open Space User Scenario**

**Appendix F  
Jim Benetti: Rural Resident and Resident Rancher Scenarios**

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**Appendix G  
Joe Legare: RSALs Schedule**