

**RFCA Stakeholder Focus Group**  
**September 27, 2000**  
**Meeting Minutes**

**Introduction and Administrative**

Reed Hodgkin began the meeting explaining that the meeting room would be again be arranged as an open square table to foster better communication among the participants. Those who wished to join the conversation were asked to sit around the table; those who attended the meeting to answer technical questions or to observe were seated behind and around the square.

A participants list for the September 27, 2000 RFCA Stakeholder Focus Group meeting is attached (Appendix A).

Reed reviewed the Focus Group purpose.

Reed reviewed the agenda for this meeting.

The September 13, 2000 RFCA Stakeholder Focus Group meeting minutes were reviewed and approved with the following modification: Leroy More requested at the meeting that a peer review process be established for the Rocky Flats Radioactive Soil Action Level (RSAL) Review.

Leroy submitted to the Focus Group a paper describing the peer review process as recommended (Appendix B).

Reed reminded the Focus Group and the RFCA Agencies that two actions from the Agencies would be due at the next Focus Group meeting:

- The Path Forward for the Focus Group – Key Policy Questions to Be Addressed and the Time Frame for Discussion, and
- Report-back to the Focus Group on How Its Input is Influencing Decision-Making by the Agencies.

DOE, CDPHE, and EPA agreed to make these reports at the October 11, 2000 Focus Group meeting.

### **Clean up Alternatives Exercise**

Reed Hodgkin began the discussion by reviewing the Focus Group process for an initial evaluation of alternatives for the 903 Pad clean up. DOE presented a qualitative evaluation of four bounding alternatives for clean up of the 903 Pad at the last meeting. The members of the Focus Group left the meeting with a homework assignment to individually conduct their own qualitative evaluations of these and other alternatives. The group was to compare and discuss their results at the current meeting.

Reed had placed enlarged versions of the evaluation matrix on the walls around the room. One chart was provided for each of the original four bounding scenarios identified by DOE. He asked the members of the Focus Group to identify additional clean up alternatives and evaluation criteria and write them on blank charts.

Kathy Schnoor had identified two additional scenarios at the September 27, 2000 meeting:

- Soil excavation and removal to RSAL (Tier 1) plus engineered barriers except new pond at Indiana Ave.
- Soil excavation and removal to 10 pCi/g plus engineered barriers except new pond at Indiana Ave.

Leroy More identified two additional scenarios:

- Soil excavation and removal to 10 pCi/g plus engineered barriers plus Nearby or On-site Retrievable Monitored Storage (NORMS),
- Ultimate goal of long-term stewardship – technological development for cleanup to average background level.

Leroy provided a written description of the NORMS concept to the group (Appendix C).

CDPHE identified an additional evaluation criterion for the exercise:

- Secondary benefits.

This criterion was intended to capture spin-off benefits of an alternative, such as creation of wildlife habitats or recreational opportunities.

Leroy More also identified an additional evaluation criterion:

- Technology development.

This criterion was intended to evaluate the potential that an alternative would promote development of new technology for future "final" cleanup of the site.

After this activity was completed, the list of eight alternatives considered in the exercise was:

- Soil excavation and removal to RSALS (Tier 1) only,
- Soil excavation and removal to RSALS (Tier 1) plus engineered barriers,
- Soil excavation and removal to 10 pCi/g only,
- Soil excavation and removal to 10 pCi/g plus engineered barriers,
- Soil excavation and removal to 10 pCi/g plus engineered barriers plus Nearby or On-site Retrievable Monitored Storage (NORMS),
- Ultimate goal of long-term stewardship – technological development for cleanup to average background level,
- Soil excavation and removal to RSAL (Tier 1) plus engineered barriers except new pond at Indiana Ave.,
- Soil excavation and removal to 10 pCi/g plus engineered barriers except new pond at Indiana Ave.

The revised list of evaluation criteria included:

- Threshold Criteria
  - Protect human health and environment
  - Protect local off-site residents
  - Protect future on-site land user
  - Protect site workers
  - Protect transportation worker and public
  - Protect disposal site worker
  - Meet surface water quality standard – onsite
  - Meet surface water quality standard – offsite
  - Protect environment
  - Comply with ARARs (including Endangered Species Act)
  
- Balancing Criteria
  - Long-term effectiveness
  - Reduction of toxicity, volume, mobility
  - Short-term effectiveness
  - Implementability
  - Capital Cost (Remediation)
  
- Modifying Criteria
  - State acceptance
  - Community acceptance
  - Stewardship
  - Secondary benefits
  - Technology Development

Reed invited the members of the Focus Group to fill in the blanks in the wall charts, using the results of their individual evaluations. He defined four symbols to be used in the plotting exercise:

- Up arrow represents probable success in meeting the criterion,
- Down arrow represents probable failure in meeting the criterion,
- Horizontal arrow indicates that there is insufficient information to predict success at this point, and
- Question mark indicates a need for significant new information in order to have the discussion.

Before conducting the exercise, the group held a short discussion.

Mary Harlow indicated that there was as yet insufficient information about the alternatives for her to participate in the exercise – her arrows would all be “down” as a result.

Hank Stoval suggested that many criteria should be considered from both a short term and long term perspective. The process was changed to include two arrows in each box of the matrix – one for short term success in meeting the criterion and one for long term success in meeting the criterion.

It was emphasized that engineered barriers will eventually fail.

Leroy More was asked if the NORMS alternative would include storage of just waste generated as a result of remediation or other waste as well. Leroy responded that the alternative would include just remediation waste.

Hank Stoval indicated that he considered Monitored Retrievable Storage to be disposal and that the City of Broomfield would not support this option. Leroy responded that Monitored Retrievable Storage was intended as a temporary remedy only – until permanent action such as treatment could be taken.

Victor Holm indicated that modification of the water standard should be considered by the group. Hank Stoval responded that the City of Broomfield would not support changing the water standard and that the Water Quality Control Commission was the venue in which it should be considered.

Members of the Focus Group expressed concern that their answers would represent commitments and that the answers would be used out of context at later times. The representatives of the RFCA agencies emphasized that the inputs to this exercise would be considered "preliminary for discussion only" and would not be used out of context or construed as commitments from the members. They further stated that the agencies' evaluations were also "preliminary for discussion only" and did not represent commitments.

Members of the Focus Group asked Reed to review the purpose of the exercise. Reed responded that the exercise would help to prioritize the issues for discussion by the group and would identify areas needing more information to allow the discussion.

CDPHE indicated that explanatory comments were available for the agency's matrix evaluation. Those comments are included in Appendix D.

The members of the Focus Group then assembled around the wall charts and began filling in the matrices with their evaluations.

### **Discussion of Exercise and Path Forward**

Following the exercise the group discussed how to proceed. Members of the group asked that the matrices be documented and analyzed. Reed Hodgkin accepted the action to transcribe the results of the group evaluation and take a first shot at analyzing the results. He committed to try to have the matrices out via email by the end of the week.

Mary Harlow asked why ground water protection was not included in the evaluation criteria. John Rampe of DOE responded that the discussion to date had focused on plutonium migration and ground water in the vicinity of the 903 Pad was not a

contributor. Ground water will be a significant player when volatile organic compound contamination is discussed.

Victor Holm suggested that a method should be created to determine the level of confidence that a selected alternative will really work as designed.

It was suggested that more information is needed to evaluate worker risk and transportation risk.

Some members of the group indicated that the evaluation criteria did not have enough specificity to allow a good evaluation and asked that the criteria be better defined.

It was suggested that the group begin looking at the most conservative alternative and work from there.

A member of the group suggested that a round-robin discussion be held on each issue as defined by the individual boxes on the matrix.

It was suggested that the group examine the question: will increased excavation produce increased risks to workers?

It was suggested that the group examine the question: What will the status of public health protection be at closure under different alternatives?

Some members of the group stated that a better understanding of the candidate engineered controls is needed in order to continue the discussion.

Reed agreed to propose an agenda for the next Focus Group Meeting based on the Focus Group's comments and his analysis of the matrix results.

## **Radioactive Soil Action Level Update**

Jeremy Karpatkin of DOE announced a RSAL conference call for Wednesday, October 4, 2000 at 3:00 p.m. MDT. He stated that there was not yet a call-in number, but that one would be announced before the call.

Jeremy briefed the group on the current activity to map out the public involvement process for the RSAL review. He stated that a plan and schedule would be available in the next few days.

## **Actions**

The following actions were identified by the Focus Group:

- Definition of "Waters of the State" (Rich Horstmann, CDPHE)
- Briefing on Recovery and Revegetation after the Hanford Fire (Mary Harlow – City of Westminster)
- Briefing on Path Forward for the RFCA Focus Group (RFCA Agencies)
- Briefing on Influence of the RFCA Focus Group on Decision-Making (RFCA Agencies)
- Transcription of Matrix Exercise (Reed Hodgkin)
- Analysis of Matrix Exercise (Reed Hodgkin)

## **Adjournment**

The meeting was adjourned at 6:35 p.m.

**RFCA Stakeholder Focus Group  
September 27, 2000  
Meeting Minutes**

**Appendix A  
Participants List**

**RFCA Stakeholder Focus Group  
September 27, 2000 Meeting  
Participants List**

<b>Name</b>	<b>Company / Organization</b>	
Christine	Bennett	AlphaTRAC, Inc.
Ray	Betts	RFCAB
Laura	Brooks	Kaiser-Hill Company, LLC
Lane	Butler	Kaiser-Hill Company, LLC
John	Corsi	Kaiser-Hill Company, LLC
Rick	DiSalvo	US DOE - RFFO
Debra	Feyh	
Shirley	Garcia	City of Broomfield
Sonja	Geoghegan	Citizens Concerned about Nuclear Waste Impacts
Joe	Goldfield	RFSALOP
Tom	Greengard	SAIC
Steve	Gunderson	CDPHE
Mary	Harlow	City of Westminster
Reed	Hodgin	AlphaTRAC, Inc.
Victor	Holm	
Jeremy	Karpatkin	US DOE - RFFO
Paul	Kilburn	JCNA
Ken	Korkia	RFCAB
William	Kossack	RFCAB
Ann	Lockhart	CDPHE
Carol	Lyons	Rocky Flats Coordinator / City of Arvada
Russell	McCallister	DOE-RFFO
Dan	Miller	Office of Attorney General Ken Salazar
LeRoy	Moore	RMPJC
Diane	Niedzwiecki	CDPHE
Steve	Paris	RMRS
Karen	Reed	US EPA
Tim	Rehder	US EPA
Joel	Selbin	
Dave	Shelton	Kaiser-Hill Company, LLC
Ken	Starr	TCAT / RFSALOP
Honorable Hank	Stovall	
Kathy	Wahlberg	CDPHE
Jyoti	Wind	Citizens Concerned about Nuclear Waste Impacts
Margaret	Wood	

**RFCA Stakeholder Focus Group  
Attachment B**

Title: Meeting Minutes for September 27, 2000 Focus  
Group Meeting

Date: October 4, 2000

Author: C. Reed Hodgins  
AlphaTRAC, Inc.

Phone Number: (303) 428-5670

Email Address: [cbennett@alphatrac.com](mailto:cbennett@alphatrac.com)

ADMIN RECORD



**RFCA Stakeholder Focus Group  
September 27, 2000  
Meeting Minutes**

**Appendix B**

**LeRoy Moore Memo: "Peer Review for the Rocky Flats RSALs"**

**RFCA Stakeholder Focus Group  
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**Appendix C**

**LeRoy Moore Paper "Nearby or On-site Retrievable Monitored  
Storage (NORMS) for Contaminated Soil Excavated at Rocky  
Flats"**

**RFCA Stakeholder Focus Group  
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**Appendix D  
CDPHE  
Explanatory Comments on CDPHE Evaluation Matrix**

**RFCA Stakeholder Focus Group  
Attachment C**

Title: Definition of "Waters of the State"

Date: October 4, 2000

Author: Rich Horstmann  
CDPHE

Phone Number: (303) 692-3377

Email Address: rich.horstmann@state.co.us

ADMIN RECORD

**Alternative Remediation Strategy:**

**Soil Excavation and Removal to 10 pCi / g Plus Engineered Barriers Except No Dam at Indiana St.**

	Threshold Criteria										Balancing Criteria					Modifying Criteria	Non-CERCLA Criteria				
	Protect Human Health and Environment	Protect Local Off-site Residents	Protect Future On-site Land User	Protect Site Workers	Protect Transportation Workers and Public	Protect Disposal Site Workers	Meet Surface Water Quality Standard On-site	Meet Surface Water Quality Standard Off-site	Protect Environment	Comply with ARARs (including Endangered Species Act)	Longterm Effectiveness	Reduction of Toxicity, Volume, Mobility	Shortterm Effectiveness	Implementability	Capital Cost (Remediation)	Operation and Maintenance Cost (Stewardship)	State Acceptance	Community Acceptance	Stewardship	Secondary Benefits	Technology Development
DOE																					
CDPHE	∅	□	∅	∅	∅	∅	□	∅	∅	∅	∅	□	□	□	∅	┘	∅	∅	∅	∅	
EPA	□	□∅	□	□	□	□	□∅	□∅	□	□	∅	□	□	□	□	∅					
COMMUNITY																					
□	11	11	11	01	01	01	11	11	11	11		11		11	01	11	11	11			
┘	00	00	00	00	00	00	00	00	00	00		00		00	00	00	00	00			
∅	00	00	00	10	10	10	00	00	00	00		00		00	10	00	00	00			
?	0	0	0	0	0	0	0	0	0	0		0		0	0	0	0	0			

<b>Legend:</b>	□	Alternative probably WILL meet criterion	∅	Not enough information yet to evaluate success	Left Arrow: Short Term Evaluation
	┘	Alternative probably WILL NOT meet criterion	?	Need key information to have discussion	Right Arrow: Long Term Evaluation

**PRELIMINARY QUALITATIVE ANALYSIS**  
**BY THE ROCKY FLATS CLEANUP AGREEMENT STAKEHOLDER**  
**FOCUS GROUP**  
**OF**  
**ALTERNATIVES FOR REMEDIATION OF THE 903 PAD AREA AT**  
**THE ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE**

C. Reed Hodgkin, Facilitator  
AlphaTRAC, Inc.

October 5, 2000

ADMIN RECORD

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# Preliminary Qualitative Analysis of Alternatives for Remediation of the 903 Pad Area

PRELIMINARY FOR DISCUSSION ONLY

# Preliminary Qualitative Analysis of Alternatives for Remediation of the 903 Pad Area

## INTRODUCTION

This document presents the results of an exercise conducted by the Rocky Flats Cleanup Agreement (RFCA) Stakeholder Focus Group to evaluate example remediation options for the 903 Pad Area at the Rocky Flats Environmental Technology Site (RFETS). The analysis was conducted to identify areas of agreement and disagreement among the members of the Focus Group and between the Focus Group and the RFCA agencies. The exercise also served to identify areas in which significant questions must be answered before a remediation approach can be selected. The results will be used to identify issues for detailed examination by the Focus Group and to prioritize its discussion topics.

The evaluation exercise was conducted at a very early stage in the decision-making process, when only limited information about evaluation criteria and potential alternatives was available. Thus the results are preliminary and for discussion only. The results do not represent commitments, decisions, or final opinions of either the Focus Group members or the participating agencies.

The direct products of the exercise – preliminary evaluations of remediation alternatives by RFCA agencies and Focus Group Members – are presented in this report. Also provided is a subjective analysis of the implications of the evaluations, conducted by the Focus Group facilitator.

## BACKGROUND

The RFCA has been established to provide a regulatory framework for the cleanup of the RFETS. The RFCA represents a regulatorily enforceable commitment among the U. S. Department of Energy (DOE), the U. S. Environmental Protection Agency (EPA), and the Colorado Department of Public Health and Environment (CDPHE).

The RFCA Stakeholder Focus Group was formed by the three RFCA agencies to provide early and continuing input to the cleanup decision-making process by interested members of the community surrounding RFETS.

The purpose of the RFCA Stakeholder Focus Group is for the RFCA parties to work collaboratively with the community to discuss the wide range of environmental cleanup actions and decisions needed to safely close Rocky Flats. The Focus Group addresses

## **Preliminary Qualitative Analysis of Alternatives for Remediation of the 903 Pad Area**

issues holistically, exploring the implications and interrelationships among issues, provides a focal point for in-depth discussion of specific decision documents, and provides a forum for communication and information sharing between and among the agencies and the public.

The RFCA Stakeholder Focus Group is not a decision-making body – no votes are taken and consensus is not an objective. Rather, the Focus Group serves as a forum to bring issues before the community early in the process of options evaluation and decision-formulation. This allows the community to participate directly in the policy forming dialog with the RFCA parties. Public input to cleanup decisions will thus contribute to and help formulate these decisions throughout the process, rather than in the tradition of review and comment after decisions are drafted.

The Stakeholder Focus Group is intended to principally involve members of the interested public that are technically knowledgeable and prepared to devote substantial time to this process. The Stakeholder Focus Group is not intended as a mechanism to reach out to the broad public or solicit broad public input on these issues. The RFCA Parties will use other existing or new mechanisms to achieve this broader public input on RFCA decisions.

## **EVALUATION OF REMEDIATION STRATEGIES FOR THE 903 PAD AREA**

The evaluation exercise conducted by the Focus Group was part of a discussion aimed at helping the RFCA parties choose the right strategy for cleaning up the 903 Pad area. Two key issues associated with this strategy are water quality protection--approaches to meet the Surface Water Quality Standard and risk reduction--the Radioactive Soil Action Levels (RSALs). Seven overall steps were in the Focus Group process for crafting the strategy (Figure 1). To this point in their discussion, the Focus Group had defined the problem to be remediated (Plutonium and Americium contamination in the 903 Pad area). They had also worked to understand the implications of the problem (increased health risk from radiation dose and impacts on surface water quality). The Focus Group had also worked with the RFCA agencies to define the objectives of remediation (maintain health risk at acceptable levels and meet the surface water standard onsite and offsite). The evaluation exercise was part of the Focus Group activity to identify alternatives, define strategies, and to evaluate those strategies.

## THE EVALUATION EXERCISE

DOE initiated the exercise at the September 13, 2000 Focus Group Meeting by presenting to the group the idea of an evaluation matrix for use in qualitative evaluation of cleanup alternatives for the 903 Pad area. Evaluation criteria were listed as columns in the matrix and were extensions of the nine remedy evaluation criteria specified in the Comprehensive Environmental Restoration, Cleanup and Liability Act (CERCLA). Alternative cleanup strategies were listed as rows in the matrix. DOE

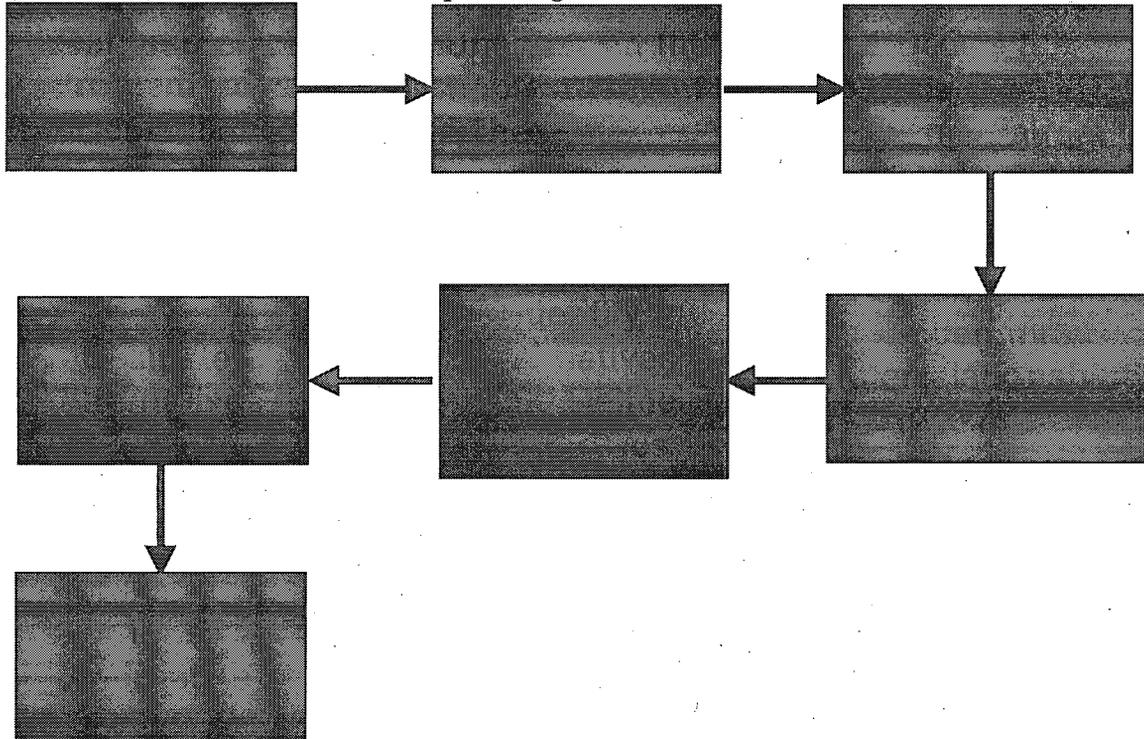


Figure 1. The Process Followed by the Focus Group in Evaluating Cleanup Strategies for the 903 Pad Area

presented four bounding cleanup alternatives as examples in its analysis. Each box in the matrix was filled with an arrow to qualitatively indicate the expected success for each alternative to satisfy each evaluation criterion.

Following DOE's presentation, the members of the Focus Group conducted a "homework" activity to identify additional alternatives for discussion, determine additional evaluation criteria to apply to the alternatives, and to conduct their own initial qualitative evaluation of the alternatives.

### RESULTS OF THE EVALUATION EXERCISE

The Focus Group met to combine its results at its September 27, 2000 meeting. There were some reservations about combining and presenting the results of the members' analyses. Members expressed concern that their answers would represent commitments and that the answers would be used out of context at later times. The representatives of the RFCA agencies emphasized that the inputs to this exercise would be considered "preliminary for discussion only" and would not be used out of context or construed as commitments from the members. They further stated that the agencies' evaluations were also "preliminary for discussion only" and also did not represent commitments. Some members also expressed concern that the exercise was being conducted so early in the decision-making process that little hard information was available to support the evaluation.

The Focus Group identified eight alternatives for 903 Pad Area remediation to be considered in the exercise (the four bounding cases presented by DOE and four others added by Focus Group members):

- Soil excavation and removal to RSALS (Tier 1) only,
- Soil excavation and removal to RSALS (Tier 1) plus engineered barriers,
- Soil excavation and removal to 10 pCi/g only,
- Soil excavation and removal to 10 pCi/g plus engineered barriers,
- Soil excavation and removal to 10 pCi/g plus engineered barriers plus Nearby or On-site Retrievable Monitored Storage (NORMS),
- Ultimate goal of long-term stewardship – technological development for cleanup to average background level,
- Soil excavation and removal to RSAL (Tier 1) plus engineered barriers except new pond at Indiana Ave.,
- Soil excavation and removal to 10 pCi/g plus engineered barriers except new pond at Indiana Ave.

A total of twenty evaluation criteria were identified, including those originally proposed by DOE and others added by agencies and Focus Group members:

- Threshold Criteria
  - Protect human health and environment
  - Protect local off-site residents

## Preliminary Qualitative Analysis of Alternatives for Remediation of the 903 Pad Area

- Protect future on-site land user
- Protect site workers
- Protect transportation worker and public
- Protect disposal site worker
- Meet surface water quality standard – onsite
- Meet surface water quality standard – offsite
- Protect environment
- Comply with ARARs (including Endangered Species Act)
  
- Balancing Criteria
  - Long-term effectiveness
  - Reduction of toxicity, volume, mobility
  - Short-term effectiveness
  - Implementability
  - Capital Cost (Remediation)
  
- Modifying Criteria
  - State acceptance
  - Community acceptance
  - Stewardship
  - Secondary benefits
  - Technology Development

Symbols were placed in the boxes of the matrices to indicate the subjective chance of success that each alternative would satisfy each requirement:

- Up arrow represents probable success in meeting the criterion,
- Down arrow represents probable failure in meeting the criterion,
- Horizontal arrow indicates that there is insufficient information to predict success at this point, and
- Question mark indicates a need for significant new information in order to have the discussion.

## **Preliminary Qualitative Analysis of Alternatives for Remediation of the 903 Pad Area**

Two symbols were placed in each box of the matrix – the left most symbol indicated the probability of success in meeting the criterion in the short term while the right most symbol represented the probability of meeting the criterion over the long term.

The Members of the Focus Group combined their qualitative evaluations on large matrix charts placed on the walls around the meeting room. Approximately 2,100 individual evaluations (represented by individual arrows) were indicated by arrows placed on the charts.

Tables 1 – 8 at the end of this report present the compiled results of the Focus Group evaluations.

### **FACILITATOR ANALYSIS OF THE EVALUATION MATRICES**

The facilitator for the RFCA Stakeholder Focus Group performed a qualitative analysis of the evaluation matrices. The purpose of the evaluation was to identify areas of significant agreement or disagreement in the Group's initial perspectives about the cleanup alternatives. The results would be used to prioritize future Group discussions about the alternatives.

Four of the alternatives had input from 6 – 9 focus group members, and were analyzed in some detail by the facilitator:

- Soil excavation and removal to RSALS (Tier 1) only,
- Soil excavation and removal to RSALS (Tier 1) plus engineered barriers,
- Soil excavation and removal to 10 pCi/g only, and
- Soil excavation and removal to 10 pCi/g plus engineered barriers.

The other four alternatives had input from one to three Focus Group members, a sample considered too small by the facilitator for detailed analysis. These alternatives were considered in the overall conclusions.

The facilitator separated the evaluation criteria into four groups for each alternative:

- Those that the Focus Group members felt would probably be satisfied by the alternative,

## **Preliminary Qualitative Analysis of Alternatives for Remediation of the 903 Pad Area**

- Those that the Focus Group members felt would probably NOT be satisfied by the alternative,
- Those where the expectation of success varied significantly among the Focus Group members, and
- Those where the Focus Group members were in general disagreement with the Agencies.

These results are shown in Tables 9 – 16.

## **FACILITATOR CONCLUSIONS**

Following are conclusions derived from the alternative-by-alternative evaluations. Only results where there was general agreement by the members of the Focus Group are listed. For all other evaluation criteria there were varying opinions among the members.

## Preliminary Qualitative Analysis of Alternatives for Remediation of the 903 Pad Area

### Alternative: Soil Excavation and Removal to RSAL (Tier 1) Only

- Most Focus Group members expected this alternative to adequately protect site workers. DOE and EPA agreed. CDPHE was not sure.
- Most Focus Group members expected this alternative to adequately protect disposal site workers over the long term. DOE and EPA agreed. CDPHE was not sure.
- Most Focus Group members expected this alternative would fail to meet the surface water quality standard onsite in either the short term or long term. The agencies agreed.
- No Focus Group members felt confident that this alternative would meet the surface water quality standard offsite in either the short term or long term. The agencies were in agreement.
- No Focus Group members felt confident that this alternative would comply with ARARs over the long term. The agencies were in agreement.
- Most Focus Group members felt that this alternative would not be long term effective. DOE and CDPHE agreed, while EPA was not certain.
- Most Focus Group members felt that this alternative was implementable. The agencies agreed.
- No members of the Focus Group felt that this alternative was untenable from a cost perspective. DOE and EPA agreed while CDPHE was not certain.
- No Focus Group members felt confident that this alternative would achieve state acceptance. CDPHE was not certain.
- No Focus Group members were confident that this alternative would achieve community acceptance over the short term. DOE agreed.
- No Focus Group members were confident that this alternative would meet stewardship needs. DOE agreed while CDPHE was uncertain.

## **Preliminary Qualitative Analysis of Alternatives for Remediation of the 903 Pad Area**

- No Focus Group members were confident that this alternative would produce secondary benefits. DOE felt there would be secondary benefits, while CDPHE was uncertain.

### **Alternative: Soil Excavation and Removal to RSAL (Tier 1) Plus Engineered Barriers**

- No Focus Group members were confident that this alternative would meet the surface water quality standard onsite. The agencies were not certain.
- No Focus Group members were confident that this alternative would protect the environment over the long term. DOE felt that the environment would be protected, while EPA and CDPHE were uncertain.
- No Focus Group members were confident in the long term effectiveness of this alternative. The agencies agreed.
- Most Focus Group members felt that this alternative was implementable. The agencies agreed.
- No Focus Group members felt that the cost of this alternative would probably be unachievable in the short term. EPA felt that the cost would probably be achievable, while DOE and CDPHE were uncertain.
- No Focus Group members felt that the operation and maintenance costs would probably be unachievable in the short term, and no members felt confident that such costs could be maintained in the long term. CDPHE felt that operation and maintenance costs would probably not be achievable, while DOE and EPA were not certain.
- No Focus Group members were confident that community acceptance could be achieved in the short term. DOE was uncertain.
- No Focus Group members were confident that stewardship needs could be met by this alternative in the long run. DOE felt that stewardship needs could be met, while CDPHE was uncertain.

### **Alternative: Soil Excavation and Removal to 10 pCi/g Only**

## **Preliminary Qualitative Analysis of Alternatives for Remediation of the 903 Pad Area**

- No Focus Group members were confident that this alternative would meet the surface water standard in the short term. DOE felt that the water standard would be met, CDPHE felt that the standard would not be met, and EPA was uncertain.
- No Focus Group members were confident that community acceptance would be gained in the short term. DOE felt that community acceptance could be achieved.
- No Focus Group members were confident that stewardship needs could be met by this alternative. Both DOE and EPA were uncertain.

### **Alternative: Soil Excavation and Removal to 10 pCi/g Plus Engineered Barriers**

- Most Focus Group members expected this alternative to be effective in the short term. CDPHE and EPA agreed, while DOE disagreed.

### **General Facilitator Observations**

- Focus Group members usually felt that they had enough information to make a preliminary evaluation of the alternatives
- There was a significant divergence of initial opinions among the members of the Focus Group at this early stage of the investigation.
- The agencies were also divided in their initial opinions on many criteria, though they were more often in agreement with each other than were the members of the community.
- When the members of the Focus Group were in agreement, their opinions were in alignment with the agencies as well.
- More members of the Focus Group felt that excavation to 10 pCi/g plus engineered barriers would protect offsite residents and future land users than the other alternatives.
- More members of the Focus Group felt that excavation to RSAL (Tier 1) would protect the site workers than would excavation to 10 pCi/g.

## **Preliminary Qualitative Analysis of Alternatives for Remediation of the 903 Pad Area**

- There was no significant confidence among the Focus Group members that any of the four alternatives would meet surface water standards, although confidence went up some as excavation thresholds went down and as engineered barriers were added to the strategy.
- There was no significant confidence among the Focus Group members that any of the four alternatives would be effective over the long term. Confidence in long-term effectiveness increased markedly as the cleanup threshold was lowered and engineered barriers were added in.
- Expectations of implementability were high for the higher cleanup threshold, and moderate for the lower threshold.
- The Focus Group members felt that the capital cost was more achievable for the higher cleanup threshold.
- The Focus Group members were pessimistic about community acceptance of all alternatives except for cleanup to 10 pCi/g plus engineered barriers.

## **RECOMMENDED PATH FORWARD**

There is no clear feeling among the members of the focus group about what level of cleanup will be necessary to protect human health, meet water quality standards, and reach community acceptance.

It is the recommendation of the facilitator that definitive answers be obtained regarding human risk, water quality impacts, cost, and stewardship implications for a range of cleanup levels. These data should be determined for a continuum of cleanup levels, rather than a few discrete values, in order to avoid the tendency to declare and defend positions.

Engineered barriers should be added in as incremental changes in risk, water quality impact, cost, and stewardship implications where possible, so that short term and long term effectiveness with and without the barriers can be assessed by the Focus Group.

The facilitator recommends the following actions by the Focus Group:

- Work with the agencies to clearly and specifically define (numerically where possible) the meaning and application of the evaluation criteria,

## Preliminary Qualitative Analysis of Alternatives for Remediation of the 903 Pad Area

- Work with the agencies to understand the engineered barriers in more detail,
- Work with the agencies to gather the detailed, justified data on human risk, water quality impacts, cost, and stewardship implications needed to fully evaluate the options, and
- As the hard data become available, work with the agencies to evaluate the continuum of cleanup levels and engineered barriers to select the best overall strategy for cleanup of the 903 Pad Area.

**TABLES**

## RFCA Stakeholder Focus Group Attachment D

Title: Analysis of Focus Group Matrix Exercise

Date: October 5, 2000

Author: Reed Hodgkin  
AlphaTRAC, Inc.

Phone Number: (303) 428-5670

Email Address: cbennett@alphatrac.com

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**RFCA Stakeholder Focus Group  
Attachment E**

Title: Memo: Draft Public Process for RSALs

Date: October 5, 2000

Author: Jeremy Karpatkin  
DOE

Phone Number: (303) 966-8392

Email Address: Jeremy.Karpatkin@rf.doe.gov

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### DRAFT RSAL Public Process Proposed Scheduled

Tasks	First Draft Distributed	Focus Group Meeting	Second Draft	Focus Group Meeting	Draft to Principals
Review process		CAB Meeting: 10/5/00 Focus Group: 10/25/00			
Task One (Regulatory Analysis)	10/27/00	11/8/00 and 11/29/00	1/3/01	1/17/01	2/15/01
Task Two (Model Evaluation)	11/20/00	12/13/00	1/3/01	1/31/01	2/15/01
Task Three (Parameter Evaluation)	1/26/01	2/7/01 and 2/21/01	4/6/01	4/19/01	5/2/01
Task Four (New Science)	11/3/00	12/13/00	1/3/01	1/31/01	2/15/01
Task Five (Cleanup levels at other Sites)	10/25/00	11/8/00	12/1/00	1/3/01	1/17/01

#### Focus Group Meetings:

10/25/00:	11/8/00:	11/29/00:	12/13/00:	1/3/01:
➤ Review and discuss RSAL process	➤ Regulatory Analysis 1 ➤ Cleanup Levels 1	➤ Regulatory Analysis 2	➤ Model Evaluation 1 ➤ New Science 1	➤ Cleanup Levels 2
1/17/01:	1/31/01:	2/7/01:	2/21/01:	4/5/00
➤ Regulatory Analysis 3	➤ Model Eval. 2 ➤ New Science 2	➤ Parameter Evaluation 1	➤ Parameter Evaluation 2	➤ Outline of Report to Focus Group
4/19/00	5/2/00			
➤ Parameter Evaluation 3	➤ Draft Report to Focus Group			

#### Formal Public Comment Period for RSAL Report:

5/16/00	7/16/00	8/15/00
➤ Public Comment begins	➤ Public Comment Ends	➤ Final Report Released

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October 5, 2000

TO: RFCA Project Coordinators, RFCA staff, RFCA Stakeholder Focus Group participants, other interested stakeholders and members of the public

FROM: Jeremy Karpatkin, DOE Rocky Flats

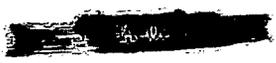
RE: Public Process for RSALs

Below is a draft public process and agency project schedule for the RSAL review. The General Principles below explain the assumptions and strategy behind the schedule. The schedule is also available in a chart form (below).

Public Process General Principles

- 1) This schedule is an attempt to lay out a useful and substantive public process for discussing RFCA agency deliberations on the RSAL review prior to the initiation of formal public comment. There is nothing magical about these dates. They are a first attempt to lay out a schedule that shows the amount of time it takes to do this right but no more time than is necessary. For site cleanup purposes, we do not need to have closure on RSALs by the end date of this schedule; we only need it before we begin developing the IM/IMRA on the 903 pad.
- 2) We will maximize use of the RFCA Focus Group. This will mean devoting a great deal of time of the Focus Group for this topic. In general, we should use the Focus Group for technical and policy discussions focused on preliminary drafts of discreet parts of the review. We have made a commitment to share with the Focus Group these drafts before they go to the agency principals. Some of the topics will require one full meeting of the Focus Group; some will require more than one. In all cases, our goal will be to have these documents in the Focus Group packet and on the Rocky Flats Home Page at least a week prior to the Focus Group meeting.
- 3) We will use the technical sessions to provide regular technical briefings and updates on the progress of the review. These sessions should be focused on a specific technical topic that should preferably be advertised – through the RFCA FG packet mailing – in advance. Some written document should be distributed in the packet as well to support these discussions. Technical sessions will also be used to continue discussions from Focus Group meetings (although these are not reflected in the calendar below.)
- 4) The conference calls will continue as a means to keep stakeholders informed of progress. The schedule of conference calls is not included in the schedule below.
- 5) For each discreet topic, we will be flexible to allow other meetings as needed. These can either be specific follow on technical or policy discussions or even a public meeting more

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widely advertised on a topic considered important for a full public review. These discreet meetings will be scheduled as needed. We will not establish a new set of meetings nor will the schedule below reflect these meetings. The schedule does not reflect formal briefings of CAB, RFCLOG, local governments or other stakeholder groups. The agencies will conduct and support such meetings on request, but they are not specifically reflected in this schedule.

- 6) We will continue to encourage individual stakeholders to interact directly with technical and project leads, via telephone, e-mail and personal visits. This is not intended as a substitute for public process. Rather, it is intended to satisfy the appetite for technical information shown by some of our stakeholders without diverting the general public process into technical discussions inaccessible or not of interest to a broader (although still focused) stakeholder audience.
- 7) The schedule below assumes that the first draft of each Task will be a product of the RFCA PCs, and not just of the individual staff authors. This means that the lead for each document will have to work and collaborate with staff of other agencies in developing their first draft. Also, the schedule reflects some time between the due dates of the documents and when they are first presented to the RFCA FG. These Rev. 1's will describe the issue, outline the options and the pros and cons of each option. To the extent it is known, the first draft will describe different agency positions. To the extent there are unanswered policy questions, the first draft will list and discuss them. These first drafts will be written as first drafts of the RFCA report on RSALs, not as issue papers. These Task reports will then be discussed with the RFCA Focus Group. Tasks 1 and 3 each have two FG meetings devoted to the first draft. The other Tasks have one Focus Group meeting. After this initial round of Focus Group meetings the agency staffs will consider the comments and discussion and develop a Rev. 2 of each Task. These will reflect the community comments and how the PCs propose to resolve them. Where resolution on issues has not been reached, the Rev. 2s will record the different agency positions. These are drafts of documents that will go to the Principals for review and decision. (Only Tasks 1 and 3 are described here as requiring substantive public process for Rev. 2. It is assumed that the Rev. 2's of Tasks 2, 4 and 5 will only require a report back to the RFCA FG.)
- 8) The schedule below presumes that the Principals of each agency will review, approve and as needed make decisions on outstanding issues contained in each discreet Task report. These approvals must come no later than the dates indicated in the "To the Principals" column of the chart. It is also presumed that these discreet pieces will be wrapped together and presented, still as pre-draft, and presented as a pre-draft final report to the RFCA FG on 5-2-01. The Principals can still make a 5-16-01 deadline to get this report out for public comment. The public will see the draft conclusion or conclusions no later than 5-2-01, but they will see each discreet piece, including draft recommendations, prior to 5-2-01. This schedule does not address the specific schedule or timing of Principal's meetings. The Principals can meet as needed or get briefed by their own staffs as needed. It is likely that the Principals will have to meet at least once prior to 5-2-01 to address and resolve any outstanding issues.

- 9) This schedule allows room for formal public meetings during the formal 60-day comment period. It does not spell out any specific proposals for how the agencies will conduct these meetings, where they will take place or how many of them will take place. There may be a range of activities that we engage in; this document does not seek to describe these.
- 10) This schedule and proposal represents a draft. It is open to improvement and to community input. We also will find as we proceed that these dates may need to be amended. Nevertheless, it represents a first cut at a working schedule. If the public and the agencies can live with it as a working document, we ought to use it as such.
- 11) Some of the Task reports will include interim deliverables – specific pieces or sub-components of the Task completed in draft form prior to the deadline for the full task report indicated in the schedule. These interim reports will be shared with the community as they are available. This is not reflected in the schedule.
- 12) This document does not address the issue of peer review. Some in the community have raised this as a desirable course of action. This schedule allows us to see where such a peer review makes sense and what its impact it may have on the schedule.

## **DRAFT General Plan and Schedule:**

### **Review RSAL process:**

CAB Meeting:	Oct. 5 <sup>th</sup>
RFCA FG meeting:	Oct. 25 <sup>th</sup>

### **Action 1: Regulatory Analysis:**

Rev. 1 Deliverable date:	October 27 <sup>th</sup>
POC:	Tim Rehder
First RFCA FG meeting:	Nov. 8 <sup>th</sup> (technical session and RFCA FG)
Second RFCA FG meeting:	Nov. 29 <sup>th</sup> (technical session and RFCA FG)
Rev. 2 Deliverable:	January 3
Third RFCA FG:	January 17
Draft to Principals:	February 15

(NOTE: The Nov. 29<sup>th</sup> date reflects a change in schedule to avoid a FG meeting the Wednesday prior to Thanksgiving.)

### **Action 2: Model Evaluation:**

Deliverable date:	November 20
POC:	Russell McCallister
First meeting:	December 13 <sup>th</sup>
Rev. 2 Deliverable date:	January 3 <sup>rd</sup>
Second Meeting:	January 31 <sup>st</sup>
Draft to Principals:	February 15 <sup>th</sup>

### **Action 3: Parameter Evaluation:**

Deliverable date:	January 26 <sup>th</sup>
POC:	Russell McCallister
First meeting:	February 7 <sup>th</sup>
Second Meeting	February 21 <sup>st</sup>
Rev. 2 due:	April 6 <sup>th</sup>
Third Meeting:	April 19 <sup>th</sup>
Draft due to Principals:	May 2 <sup>nd</sup>

**Action 4: New Scientific Information:**

Deliverable date:	November 3 <sup>rd</sup>
POC:	Russell McCallister
First meeting:	December 13 <sup>th</sup>
Rev. 2 due:	January 3 <sup>rd</sup>
Second Meeting:	January 31 <sup>st</sup>
Draft to Principals:	February 15 <sup>th</sup>

**Action 5: Cleanup levels at other Sites:**

Deliverable date:	October 25 <sup>th</sup>
POC:	Carl Spreng
First meeting:	November 8 <sup>th</sup>
Rev. 2 Due:	December 1 <sup>st</sup>
Second meeting:	January 3 <sup>rd</sup>
Draft to Principals:	January 17 <sup>th</sup>

**DRAFT RSAL Document:**

Outline and Table of Contents	
Rev. 1 Due:	March 15
POC:	RFCA PCs
First Meeting:	April 5
Draft RFCA Report Rev. 1 Due:	April 25
First Meeting:	May 2
Public Comment Begins:	May 16 <sup>th</sup>
Public Meeting(s):	???
Public Comment Ends:	July 16 <sup>th</sup>
Changes to RFCA (if any) and Response to Comment Released:	August 15 <sup>th</sup>

NOTE TO FOCUS GROUP MEMBERS

A document titled "Surface Water Standards at Other States with DOE Facilities" was received from CDPHE after the cover letter for this meeting's packet went to press.

This document is being included in the packet as "Attachment F" even though it is not mentioned in the cover letter.

Thank you,

Reed Hodgkin, Facilitator  
Alph  
aTRAC, Inc.

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**RFCA Stakeholder Focus Group  
Attachment F**

Title: "Surface Water Standards at Other States with  
DOE Facilities"

Date: October 5, 2000

Author: Carl Spreng  
CDPHE

Phone Number: (303) 692-3358

Email Address: [cspreng@smtpgate.dphe.state.co.us](mailto:cspreng@smtpgate.dphe.state.co.us)

## Surface Water Standards at Other States with DOE Facilities

### Idaho

Idaho Department of Environmental Quality requirements, which by statute cannot be more stringent than any federal standards:

1) General Surface Water Quality Criteria.

IDAPA 58.01.02.200.04 "Radioactive materials or radioactivity shall not exceed the values listed in CFR 10 Part 20, Chapter 1, App. B, Table 2, Effluent concentrations, Column 2"

Am-241	2E-8 uCi/ml	(20 pCi/L)
Pu-238,239,240	2E-8 uCi/ml	(20 pCi/L)
U-233,234,235,238	3E-7 uCi/ml	(300 pCi/L)

2) Surface Water Quality Criteria for Water Supply Use Designation.

IDAPA 58.01.02.252.01.a "Radioactive materials or radioactivity not to exceed concentrations specified in Idaho Department of Environmental Quality Rules, IDAPA 58.01.08, "Rules Governing Public Drinking Water Systems". This rule references 40 CFR Part 141.15 and .16. (MCLs).

[no radionuclides of interest at RFETS have established MCLs]

DOE-Idaho has the following surface water "alert levels" from DOE Order 5400.5. These "Alert Levels" are 25% of the Derived Concentration Guide (DCGs) for specific nuclides.

Am-241	8E-9 uCi/ml	(8 pCi/L)
Pu-238	2E-7 uCi/ml	(200 pCi/L)
Pu-239/240	8E-9 uCi/ml	(8 pCi/L)
Total U	2E-7 uCi/ml	(200 pCi/L)

### Nevada

Nevada has no surface water standards for radionuclides.

### Ohio

Ohio does not have any state-wide standards for radionuclides, since the primary sites of interest were never regulated under NPDES permits because of the AEA exclusion. Cleanup numbers for surface water have been established at Fernald, though. These are the standards the site must reach when remediation is complete. They are based on human risk to exposure at an intermittent stream in an undeveloped park scenario.

Pu-238	210 pCi/L
Pu-239	200 pCi/L
Ra-226 + D	38 pCi/L
Ra-228 + D	47 pCi/L
U	530 mg/L

### Tennessee

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The Tennessee Water Quality Control Act of 1977 (amended 1987) does not have quantitative surface water quality standards for radionuclides. That Act does have language to the effect that it is unlawful to cause the alteration of physical, chemical, radiological, biological, or bacteriological properties of any waters of the state without a valid permit. There is also some generic toxicity language that could be applicable to radionuclide contamination of surface waters. The only language that affects soil cleanup is for waters of the State that do not meet the identified usage (i.e., irrigation, agricultural, recreational, etc.) due to non-point source or run-off of radionuclides.

#### Washington

No surface water standards for radionuclides are applied in Washington. The State of Washington Department of Health has drinking water quality standards for radionuclides, which are based on Maximum Contaminant Levels (MCLs). These are applied at the 29 facilities licensed by the state, which do not include DOE facilities.