

RFCA Stakeholder Focus Group Meeting Agenda

When: October 3, 2001 3:30 - 6:30 p.m.

Where: Broomfield Municipal Hall, Bal Swan and Zang's
Spur Rooms

- 3:30-3:40 Agenda Review, 8/8/01 Meeting Minutes Review, Objectives for this Meeting
- 3:40-4:20 Final results from the RSAL Modeling – Scenario Descriptions, Key Parameter Values, Results, Implications
- 4:20–4:50 Continued Briefing and Discussion on Pathway Contributions to End Results
- 4:50-5:00 Break
- 5:00-6:05 Beginning the Policy Discussion - Tiers
- 6:05-6:15 RSAL Path Forward – Task 3 Report, Meeting With Principals, etc.
- 6:15-6:25 Wind Tunnel Technical Review - update
- 6:25-6:30 Review Meeting
- 6:30 Adjourn

RFCA Stakeholder Focus Group Meeting Agenda

When: September 19, 2001 3:30 - 6:30 p.m.

**Where: Broomfield Municipal Hall, Bal Swan and Zang's
Spur Rooms**

3:30-3:40 Agenda Review, 8/8/01 Meeting Minutes Review, Objectives for
this Meeting

- RSALs: Working Group Progress Report
- RSALs: Filling in the Matrix – New Results and Discussion
- RSALs: Modeling – Sensitive Parameters and Impact on Modeling
Results (NOTE: There should be a handout and presentation on this
topic – can this be accomplished?)
- RSALs: Modeling – Finish the Technical Discussion (The 3 questions
we didn't get to on 9/5/01)
- RSALs: The Policy Discussion (Discuss format (what order?) of the
discussion)
 - Scenario
 - Tiers
 - Risk range
- Wind Tunnel Peer Review – Report Back From the Reviewer Selection
Group
- Meeting With the Principals – Format, Structure, Involvement by Focus
Group Members
 - For each topic, confirm:
 - 0 Objectives
 - 1 Pre-meeting (packet) information needs (including action
assignments)
 - 2 Presentations and discussions to be held (including action
assignments)

6:20-6:30 Set Future Agendas and Review Meeting

RFCA Stakeholder Focus Group Meeting Agenda

6:30 Adjourn

Inhale Soil Food Ext.

Ing.

Am 241 3% 9% 21% 67%

Pu 18% 69% 9% 3%

Rural Resident

Questions for Policy Discussion

- How deep is "surface"?
- Where is subsurface contamination -- how deep?
- What activities assumed in subsurface?
- How much area impacted subsurface?
- How much mass impacted?
- What about organics and inorganics?
(how big, how much)
- How much subsurface contamination will be left?
- What are the risks in subsurface?
- How will water balance affect subsurface pathways?

TIER Ideas

Yes – I – Removal

II – Control/treat on site

Yes – Concepts introduced today are valid and worth pursuing

No – Set single level that protects everyone

An Idea

-Strict cleanup where there is a pathway

-Less stringent level where no pathway

Yes – Vary levels of cleanup by risk – pathway availability to public

Yes – System has merit. Removal/Management idea has merit

Yes – Define implementation completely

-Approach presented is good

Yes – "Bar" needs to be thick

- Depth of "SFC" needs to be defined (3 feet)

- Deal with subsurface after surface

Yes – Not in a vacuum

- Scenario choice is critical

- Most conservative non-restrictive scenario needs to be considered

Yes – 1st Tier = most stringent cleanup we can achieve with current technology

- Surface and subsurface

- Tier 2 – part of long term stewardship

- Average background when technologically and fiscally possible

Yes – Must include good definitions and understanding for ALARA and stewardship and background

RFCA STAKEHOLDER FOCUS GROUP
OCTOBER 3, 2001
MEETING MINUTES

INTRODUCTION AND ADMINISTRATIVE

A participants list for the October 3, 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 Focus Group (Focus Group) and summarized the meeting rules. Introductions were made.

AGENDA

Reed reviewed the agenda:

- Final Results from RSAL Modeling – Scenario Descriptions, Key Parameter Values, Results, Implications
- Continued Briefing and Discussion on Pathway Contributions to End Results
- Policy Discussion – Tiers
- RSAL Path Forward – Task 3 Report, Meeting with Principals, etc.
- Wind Tunnel Technical Review - Update

RSAL PATH FORWARD – TASK 3 REPORT, MEETING WITH PRINCIPALS, ETC.

Joe Legare, U.S. Department of Energy (DOE), briefed the Focus Group on the status of the Radiological Soil Action Level (RSAL) Task 3 report, Calculation of Surface Radionuclide Soil Action Levels for Plutonium and Americium. DOE and the Colorado Department of Public Health & Environment (CDPHE) are conducting the technical editing. All of the references are being incorporated.

The Focus Group discussed Denver's total suspended particulate (TSP) make-up and the concentration of particulate matter measured in micro grams (PM-10). In general, PM-10 is typically 10 to 25 percent of TSP for an urban area such as Denver. One Focus Group member responded by stating that other studies have indicated much higher concentrations of PM-10, as high as up to 50%. This discussion item was deferred until data can be presented to support this discussion.

**RFCA STAKEHOLDER FOCUS GROUP
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No new information was reported regarding the meeting with the principals.

FINAL RESULTS FROM RSAL MODELING—SCENARIO DESCRIPTIONS, KEY PARAMETER VALUES, RESULTS, IMPLICATIONS

Steve Gunderson, CDPHE, presented the "Preliminary Dose & Risk Calculations for Plutonium in Surface Soil—Adjusted by Sum-of-Ratios Method (pCi/g)" table. This table, previously provided, was updated to include additional scenarios modeled using and U.S. Environmental Protection Agency (EPA) standard risk equations. These additional scenarios include:

- Open Space User – adult,
- Open Space User – child, and
- Office Worker.

The risk level for Open Space User (adult/child) was determined using standard EPA risk equations. As reflected in the table, there is only one risk level calculated for both the adult and child Open Space User. It was determined that the 30-year exposure to a child would be representative of the 30-year exposure to an adult.

The Open Space User and the Office Worker scenarios were modeled to address a current requirement in the Rocky Flats Clean-Up Agreement (RFCA). The Office Worker scenario assumes that the office is enclosed and located in the southern part of the industrial area at the Rocky Flats Environmental Technology Site (RFETS). The table shows risk levels and annual dose data for the purpose of providing information, but will not be used in the final determination of RSALs.

In terms of RSAL and cleanup determinations, risk and dose results from key scenarios such as the Wildlife Refuge Worker and the Rural Resident will be used to establish clean up levels. Risk levels are calculated at 10^{-4} (1 in 10,000), 10^{-5} (1 in 100,000) and 10^{-6} (1 in 1,000,000).

A Focus Group member suggested three other methodologies for arriving at risk and dose levels:

1. Use Risk Assessment Corporation's (RAC) metabolic and behavioral parameters, which are fixed parameters that include duration, breathing rate, soil ingestion

combined with the RSAL's Working Group physical parameters, such as soil density and hydraulic parameters;

2. Duplicate the RAC's approach when modeling with RESRAD; or
3. Allow Focus Group members to model with different parameters.

CDPHE asked for review of the Task 3 report first before any further work is conducted. EPA stated that on EPA's main web page there is a capability to model using different scenarios and parameters for radionuclides. Information such as wind speed and climate are needed so the website will produce a number for risk.

Reed explained an important distinction: the data this group are working with are a combined analysis for Plutonium (Pu) and Americium(Am). The current risk calculations use a "sum of ratios" method with an Am:Pu ratio of 0.1527. This ratio was derived during the characterization work performed on the 903 Pad and the lip area. Earlier risk calculations were based on an activity ratio of 0.1364. Using the updated activity ratio results in a slightly lower sum of ratios value for plutonium.

CDPHE said that the calculations for Uranium would be based on the work previously conducted by the Risk Assessment Corporation (RAC). Uranium analysis is considered unique due to its solubility. The issue is that risk models do not have the capability to evaluate groundwater contaminated with Uranium in an acceptable way.

The Focus Group discussed "rounding to significant figures." The Am:Pu ratio is given to four significant figures. CDPHE stated that the final numbers will be rounded to one or two significant figures. EPA explained that Rocky Flats does not have just one Am:Pu ratio, but that several site-specific ratios exist.

A Focus Group member asked what types of adjustments will be made to the RSAL for the varying combinations of Pu and Am.

EPA and DOE responded that the actual RSALs would not be adjusted, but the ratio of Am:Pu will be adjusted to reflect what actually exists. In areas where there are spills or where erosion exists near surface water, soil action levels will be dealt with very carefully.

The Focus Group transitioned to the RAC resident scenario. One Focus Group member observed that the scenario would be modeled using RESRAD to produce dose value only, and that no risk values would be calculated. The Focus Group made observations about the applicability of the RAC's approach to RESRAD. Some of the data conversions are difficult due to differences in exposure duration, etc. One model uses hours per day and the other is based on annual exposure data.

Reed Hodgkin, Facilitator, summed up the discussion by stating that the agencies are using the resident rancher scenario as a way to compare model against model for the previous analysis to the current analysis. This Focus Group is concerned with distinctions in approach and how historical approaches compare with current scenarios.

CDPHE commented that the RFCA does not include Rural Resident as a scenario.

Reed stated that since the Rural Resident scenario is not driven by regulations, it is being modeled using a dose parameter instead of risk guidelines to gain a perspective.

CDPHE added that at a 25-mrem dose value, the risk value is above 10^{-4} (1 in 10,000) for all scenarios. It was agreed that the 25-mrem dose value would be calculated, and if risk values fell outside of the risk range, they wouldn't be used further.

CDPHE also stated that Rocky Flats is subject to critical requirements. These requirements were based on the actions taken by the State of Colorado in response to the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) threshold, balancing and modifying criteria, as well as the Applicable or Relevant and Appropriate Requirement (ARAR). The State of Colorado developed a policy to incorporate the Nuclear Regulatory Commission guidance by using 25-mrem dose under the ARAR requirement. Also, the use of EPA risk ranges is consistent with CERCLA and ARAR requirements.

GROUP DISCUSSION

Air Concentrations in Colorado

Bob Nininger, Kaiser-Hill, LLC., discussed air concentrations in Colorado and specifically at Rocky Flats. Particulate matter in the air exists in a full range of particle

sizes, from very large particles which fall out immediately, to sizes small enough to be considered gaseous. For our purposes, particles are measured in two important size ranges:

1. Total Suspended Particulates, those particles less than about 50 micrometers (μm) in diameter that can remain suspended above the ground for extended periods of time, and
2. PM-10, those particles which are small enough to penetrate deeply into the human respiratory system, potentially causing adverse health effects.

At Rocky Flats, using standard EPA sampling techniques, PM-10 represents approximately 37% of TSP.

Particulates in the atmosphere also group into primary aerosols and secondary aerosols. Primary aerosols are those that are emitted directly into the atmosphere from a source. One class of primary aerosols originates from geological sources (dust, soil, building materials, etc.). These particulates tend to be relatively large and dominate the TSP size range. This type of particle dominates the atmospheric content at Rocky Flats. Another type of primary aerosol is combustion-produced particulates. These particles are released from fuel burning, automobile exhaust, industrial foundries, etc. and usually are carbon-based. Smaller by the nature of their formation, they are usually found in the PM-10 size range.

Secondary aerosols are those that are formed while transporting through the atmosphere. These aerosols are usually produced through chemical reactions among pollutant gases, and are almost always found in the smaller end of the PM-10 size range. Secondary aerosols are primarily responsible for the Brown Cloud pollution effect experienced in the Denver area.

Bob explained sampling efficiency in collecting particulate samples. All air samplers have smooth cut-points, meaning that they are imprecise (to varying degrees) in capturing exactly the particle size desired. This is a function of the physics of small particles and how they behave in airflows. Thus, a PM-10 sampler will capture some particles that are larger than $10\mu\text{m}$; a TSP sampler measures particles "approximately" smaller than $50\mu\text{m}$.

QUESTIONS FOR POLICY DISCUSSION

The group developed several policy discussion questions:

1. Define the depth of "surface."
2. Where does subsurface contamination begin?
3. Which activities are assumed for subsurface?
4. How much area impacts subsurface?
5. Quantify organics and inorganics.
6. How much subsurface contamination will remain?
7. What are the subsurface risks?
8. How will the water balance affect subsurface pathways? The Focus Group evolved the concept of establishing a two-tiered RSAL structure. CDPHE felt it was important to clearly define and document the tier development process to include the implications for long-term stewardship and decision-making methods.

The City of Westminster felt discomfort with the tier levels and the fact that ranges do not exist. Additionally, the City of Westminster would like to see very ambitious clean-up depths up to 3 feet, rather than the proposed 6 inches.

A Focus Group member stated that the most conservative, unrestricted scenario should be the priority.

Another member stated a preference for the tiered approach and felt that Tier 1 ought to represent the most stringent cleanup using the latest technology. Additionally, Tier II needs to be a component of long-term stewardship and cleanup to average background using fiscally and technologically feasible strategies in an environmentally responsible manner.

Another member added that, in order to define a tiered system, an understanding of how As Low As Reasonably Achievable (ALARA) applies to RSALs and Stewardship needs to occur. The member sees this as an opportunity to work with DOE, EPA, and CDPHE in crafting a cleanup that meets a myriad of interests.

The Focus Group generated Tier ideas as follows:

- Tier 1 involves removal;
- Tier 2 involves control;
- Strict cleanup is needed where there is a pathway contribution;
- Less strict cleanup can be applied where there is no pathway contribution;
- Vary levels of cleanup by risk via pathway contribution;
- Define implementation of cleanup strategies;
- Define subsurface strategies for cleanup;
- Define and understand ALARA applicability and Stewardship as it relates to cleanup to background level.

The Focus Group further discussed the fact that most of this discussion has been conceptual, and that the long-term goal is to have a system in place, a post-RFCA agreement, a post-robust stewardship agreement, and a process to analyze risk at the subsurface level.

OTHER DISCUSSION ITEMS

The Focus Group should expect the Task 3 report for the October 30th public meeting at the Westminster Recreation Center. The report will be issued for formal public comment in November. Progress in the Uranium and tiering discussion needs to occur. A final report may be published early 2002.

In terms of onsite water quality, the sampling methodology is being evaluated and a dialog needs to occur.

WIND TUNNEL TECHNICAL REVIEW UPDATE

Reed Hodgkin, facilitator, explained that two questions were posed to the technical reviewers. To evaluate the appropriateness of wind tunnel technology used for the studies at Rocky Flats for developing resuspension values for use in establishing RSALs,

1. Is the technology appropriate for wind tunnel studies and did Midwest Research Institute (MRI) apply it in the right way; and
2. Are the results being properly used in developing input values for RESRAD modeling?

This technical review asked for a technical analysis of methodologies and approach. The reviewers will use documents and information provided by the agencies. Each reviewer was asked to develop and submit a written report containing their evaluation and justification.

Reed stated that a budget has been established and funding is available for this technical analysis. Three reviewers have agreed to respond to date.

ADJOURN

The meeting adjourned at 6:30 p.m.

**RFCA STAKEHOLDER FOCUS GROUP
OCTOBER 3, 2001
MEETING MINUTES**

**APPENDIX A
PARTICIPANTS LIST**

RFCA Stakeholder Focus Group Attachment A

Title: Presentations from the September 5, 2001 RFCA Focus Group meeting, including:

- Americium Ingrowth into Generic Weapons-Grade Pu chart,
- *Precepitation Scavenging and Atmosphere-Surface Exchange, Volume 3-The Summers Volume: Applications and Appraisals*, S.E. Schwartz, S.G.N. Slinn,
- *Measurement of resuspended aerosol in the Chernobyul area, Part III. Size distribution and dry deposition velocity of radioactgive particles during antropogenic enhanced resuspension*, E. K. Garger, H. G. Paretzke, J Tschiersch, and
- References for the MRI Portable Wind Tunnel Method.

Date: September 19, 2001

Author: C. Reed Hodgkin
AlphaTRAC, Inc.

Phone Number: (303) 428-5670

Email Address: cbennett@alphatrac.com

**RFCA Stakeholder Focus Group
Attachment C**

Title: April 27-28, 2001 RSALs Computer Modeling
Workshop Outcomes

Date: September 19, 2001

Author: Jerry Henderson
Rocky Flats Citizens Advisory Board

Phone Number: (303) 420-7855

Email Address: jerryh@rfcab.org

NOTES FROM RSALs WORKING GROUP MEETING ON 9/13/01

ITEMS COVERED ON 9/13:

1. Task 3 report status.
2. Action items.

ACTIONS

Action Item	Who	When	Notes
Revise Resident Rancher Scenario description, send to Tricia Powell/group.	Jim Benetti	9/19/01	
Provide write-up on slope factors to Tricia Powell/group.	Richard Graham	9/21/01	
Re-do risk calculations for open space and office worker scenarios using 95 th percentile for mass loading.	Susan Griffin/Phil Goodrum	9/20/01	
Send out risk spreadsheet with justifications.	Susan Griffin/Phil Goodrum	9/14/01	
Prepare list of terms from draft Task 3 report that should be in the glossary.	Tricia Powell	after Task 3 report is drafted	
Provide all write-ups to Tricia Powell!!	Everyone	ASAP	
Run RESRAD for resident rancher scenario using only RAC numbers, for comparison purposes.	Jim Benetti	9/20/01	
Revise remaining Conceptual Site Model flow charts.	Carl Spreng & Mark Aguilar	9/20/01	

DECISIONS

1. Use 95th percentile mass loading value for all deterministic calculations.
2. Put date on all draft documents that are being prepared for the Task 3 report.
3. For the Task 3 report, round all RSAL numbers to the nearest whole number.

NEXT MEETING: THURSDAY, 9/20/01, 8:30 a.m., at
ROCKY FLATS B060

Agenda Items:

1. Discuss status of Task 3 report.
2. Discuss resident rancher RESRAD runs.
3. Discuss plans/schedule for uranium calculations.
4. Go through action item table.

**RFCA Stakeholder Focus Group
Attachment D**

Title: RSALs Working Group Notes for September 13,
2001

Date: September 20, 2001

Phone Number: (303) 428-5670

Email Address: cbennett@alphatrac.com

RFCA Stakeholder Focus Group Attachment E

Title: Latest version of the preliminary surface RSAL matrix

Date: September 20, 2001

From: RSALs Working Group

Phone Number: (303) 428-5670

Email Address: cbennett@alphatrac.com

Attached is the latest version of the matrix, which includes Risk calculations for the Open Space and Office Worker scenarios. You will also notice slight changes in the sum of ratios numbers for the other scenarios. This is due to calculating the sum of ratios using a slightly different Am:Pu activity ratio of 0.1527. This ratio was derived during the characterization work performed on the 903 Pad and Lip Area a couple of years ago. The numbers that were provided to the Focus Group in early August were based on an activity ratio of 0.1364. Using the updated activity ratio results in slightly lower sum of ratios calculations for plutonium.

September 18, 2001

PRELIMINARY Dose & Risk Calculations for Plutonium in Surface Soil – Adjusted by Sum-of-Ratios Method* (pCi/g)

Land Use Scenario	Risk Levels			25-mrem annual dose
	10^{-4}	10^{-5}	10^{-6}	
Wildlife refuge worker ^a	498	50	5	862
Rural Resident – adult ^a	189	19	2	209
Rural Resident– child ^a				244
Open Space User – adult ^b	3490	349	35	8459
Open Space User – child ^b				4842
Office Worker ^b	596	60	6	2289

* This example accounts for additional activity from Am using a sum-of-ratios method, and assumes that the Am:Pu activity ratio equals 0.1527 and that only Am and Pu are present.

^a Probabilistic (95th percentile)

^b Deterministic

September 18, 2001

Dose Calculations for Plutonium in Surface Soil (pCi/g)

Land Use Scenario	15-mrem dose	25-mrem dose
RAC Resident Rancher – adult		
RAC Resident Rancher – child		

**Dose Calculations for Plutonium in Surface Soil -
Adjusted by Sum-of-Ratios Method (pCi/g)**

Land Use Scenario	15-mrem dose	25-mrem dose
RAC Resident Rancher – adult		
RAC Resident Rancher – child		

KEY POINTS FROM THE COALITION HEALTH EFFECTS WORKSHOP (10/01/01)

1. Guidance for setting soil action levels
 - a) put risk in perspective
 - b) try to predict only to next few generations and not hundreds or thousands of years out
2. At low doses, models for low exposure can't be proven
 - a) too much uncertainty and error
 - b) linear no-threshold model used because (1) easier to use than other models, (2) no proof exists that it is wrong, (3) conservative
3. Inhalation of plutonium causes greater risk than ingestion per unit intake, but if more plutonium is ingested, then ingestion could cause greater risk
4. Background radiation in Front Range cities ~500 mrem/yr
5. All epidemiological studies are flawed because of uncertainties and confounding factors and therefore cannot be used to exactly determine the health effects from exposure to low-level radiation. Sources of uncertainty include:
 - a) dosimetric uncertainty
 - b) statistical uncertainty
 - c) bias and confounding factors
 - d) data uncertainty
 - e) transfer of risk between populations
 - f) modifying factors
 - g) mechanistic uncertainty
6. Pu – alpha emitter (internal), Am – gamma emitter (external)
 - a) internal radiation – dose is non-uniform over organs, dose accumulates over time
 - b) external radiation – dose is uniform over all organs, exposure and dose occur at same time
7. Errors exist in estimating both risk and dose – the smaller the number, the higher the uncertainty therefore “predicting the health effects of 25 mrem/yr is an act of faith”¹
8. “No scientific basis that one speck of plutonium in your lungs will cause cancer”¹
9. Risk of cellular damage from radiation decreases with age – prepubescent at highest risk
10. Primary cellular target of radiation is DNA – damage from low LET radiation (beta and gamma emitters) is more repairable than that from high LET radiation (alpha and neutron emitters)
11. Cancer risk is driving factor in radiological protection, not genetic risk (genetic risk appears lower)
12. Five dose-response models exist
 - a) linear no-threshold – any radiation dose results in damage (may underestimate risk associated with high LET radiation therefore use quality factors for high LET radiation to take this uncertainty into account)
 - b) linear threshold – body can tolerate a dose of radiation below threshold with no ill effects
 - c) hormesis – low doses of radiation may actually be beneficial (not widely accepted)
 - d) supralinear – assumes damage per unit radiation is higher at low doses than at high doses
 - e) sublinear – assumes damage per unit radiation is lower at low doses than at high doses
13. New ICRP model shows decreased dose to workers from exposure, therefore decreased risk

¹ Quote from Dr. Raymond Guilmette during the Round Robin portion of the Health Effects Workshop.

14. 4 – 5 years from now, more studies will be released on the health effects of exposure to low-level radiation, which will likely result in slightly more conservative dose estimates than those currently used
15. Form of Pu determines form of Am (i.e. if Pu is insoluble, Am will be insoluble)
16. Continuous studies on Russian workers from Mayak (Russian plutonium production plant)
 - a) 19,000 workers – many received very high doses of Pu (body burdens up to 30 kBq, or 8×10^5 pCi), approximately 5000 had died by 1994
 - b) although many were smokers and many died from old age, cancer mortality rates were elevated relative to general Russian population
 - c) dosimetry based largely on autopsy data – Pu induced tumors are generally lower in lung than tumors caused by cigarette smoking

September 20, 2001

Dear Stakeholder:

The Rocky Flats Cleanup Agreement (RFCA) Stakeholder Focus Group will meet at the Broomfield Municipal Center at One DesCombes Drive on October 3, 2001 from 3:30 to 6:30 p.m.

The presentations from the September 5, 2001 RFCA Focus Group meeting are enclosed as Attachment A, including:

- Americium Ingrowth into Generic Weapons-Grade Pu chart,
- *Precepitation Scvenging and Atmosphere-Surface Exchange, Volume 3-The Summers Volume: Applications and Appraisals*, S.E. Schwartz, S.G.N. Slinn,
- *Measurement of resuspended aerosol in the Chernobyul area, Part III. Size distribution and dry deposition velocity of radioactgive particles during antropogenic enhanced resuspension*, E. K. Garger, H. G. Paretzke, J Tschiersch, and
- References for the MRI Portable Wind Tunnel Method.

The August 8, 2001 RFCA Focus Group meeting minutes are enclosed (Attachment B).

During the September 5, 2001 RFCA Focus Group, members asked for the computer modeling workshop notes. Those are enclosed as Attachment C.

The RSALs Working Group met September 13, 2001. The action items and notes resulting from the meeting are enclosed as Attachment D.

If you need additional information to prepare you for the Focus Group discussion on October 3, 2001, please contact Christine Bennett of AlphaTRAC, Inc. at 303 428-5670 (cbennett @alphatrac.com). Christine will help to find the appropriate resource for you.

You may call either Christine or me if you have any questions, comments, or suggestions concerning the RFCA Stakeholder Focus Group or the upcoming meeting.

Sincerely,

RFCA Stakeholder Focus Group
August 31, 2001
Page 2 of 2

C. Reed Hodgkin, CCM
Facilitator / Process Manager

RFCA Focus Group Participation List
10/03/01

Name		Organization
Melissa	Anderson	RFCLOG
Sean	Bell	DOE/RFFO/OCC
Christine	Bennett	AlphaTRAC, Inc.
Kent	Brakken	U.S. DOE - RFFO
Lane	Butler	Kaiser-Hill Company, LLC
Kimberly	Chleboun	RFCLOG
John	Corsi	Kaiser-Hill Company, LLC
Carol	Deck	Kaiser-Hill Co, LLC
Shirley	Garcia	City of Broomfield
Joe	Goldfield	RFSALOP
Steve	Gunderson	CDPHE
Mary	Harlow	City of Westminster
Jerry	Henderson	RFCAB
Reed	Hodgin	AlphaTRAC, Inc.
Victor	Holm	RFCAB
Ken	Korkia	RFCAB
Michelle	Kump	RFCAB
Ann	Lockhart	CDPHE
Carol	Lyons	City of Arvada
Bob	Nininger	Kaiser-Hill Company, LLC
Tim	Rehder	US EPA
Carla	Rellergert	Weston
Kathleen	Rutherford	CDPHE/HMWMD
Mark	Sattelberg	US Fish and Wildlife Service
Kathy	Schnoor	City of Broomfield
Joel	Selbin	
Dave	Shelton	Kaiser-Hill Company, LLC
Honorable Hank	Stovall	City of Broomfield

RFCA Stakeholder Focus Group Meeting Agenda

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**Where: Broomfield Municipal Hall, Bal Swan and Zang's
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- 6:30 Adjourn

	Adult 25 mrem/yr	Child (10) 25 mrem/yr	Adult 15 mrem/yr	Child (10) 15 mrem/yr
Pu RSAL	45	49	27 ***	30
Am RSAL	7	8	4	5

Table 1:
RSALs (pCi/g) for Resident Rancher at 90th percentile value of RAC calculated mass loading (3180 ug/m³). Inhalation pathway contributions range from 64-70% of total dose. For comparative purposes only.

	Adult 25 mrem/yr	Child (10) 25 mrem/yr	Adult 15 mrem/yr	Child (10) 15 mrem/yr
Pu RSAL	20	22	12	13
Am RSAL	3	3	2	2

Table 2:
RSALs (pCi/g) for Resident Rancher at 95th percentile value of RAC calculated mass loading (8920 ug/m³). Inhalation pathway contributions range from 81-85% of total dose. For comparative purposes only.

*** most comparable RSAL value to RAC Task 5 Report value.

RSALs Task 3
Technical Peer Review of the Wind Tunnel Studies Planning Meeting
September 17, 2001
RF CAB Offices

Meeting Notes

Attendees:

Christine Bennett	AlphaTRAC, Inc.
John Ciolek	
Carol Lyons	City of Arvada
Jerry Henderson	RF CAB
LeRoy Moore	Rocky Mountain Peace and Justice Center
Tim Rehder	via conference telephone
Bob Nininger	Kaiser-Hill

Christine started the meeting asking that the following questions be answered

How many reviewers?

Who?

How much do we pay them?

What's the schedule?

What will the product be?

LM	What if actual runs are needed
All	They should be familiar with the RESRAD model; widely used model
JC	1/2 of the candidates are more concerned with PM resuspension; other half with air quality
BN	2 studies approximately 150 pages total, and 200 with Radian's report and the two reports

How many reviewers?

Three

Who?

Primary

Dale Gilette

Joseph Shinn

Lawrence Hagen

Alternatives

1st Ono

2nd Tombach

3rd Rau

How much do we pay them?

\$1,500 - \$2,000

CL & BN Should take approximately 2 days at \$100 / hour.

CB Plus \$500 bonus for getting in on time.

What's the schedule?

BN Reports can be in to AlphaTRAC by end of this week; Monday, September 24 at the latest.

All 10/15 as "drop dead" date.

What will the product be?

Answer the questions:

1. Decide if technical was appropriately applied of resuspension materials, and
2. Results were properly used in calculating RSAL numbers.

And answer the Stakeholders questions that will be put to the peer reviewers as a separate document. AlphaTRAC will compile the stakeholders' questions, omit redundancy, distribute to the above-mentioned attendees, and get their approval before sending them to the peer reviewers.

The meeting ended at 4:50 p.m.

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