RSALOP

Radionuclide Soil Action Levels
Oversight Panel

Panel Work Session Records

1998

January - May

RECEIVED
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Compiled by:

AIMSI

Advanced Integrated Management Services, Inc.
5460 Ward Road, Suite 370
Arvada, CO 80002
(303) 456-0884 fax. (303) 456-0858

1998/1999

ADMIN RECORD
Best Available Copy

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Session

RF SAL 1-13-98 12 30 pm

Name	Org	Phone / Fax
KATHY SCHNOOR	CITY OF BROOMFIELD	438-6363/438-6234
Dave Shelton	Kaiser-Hill	966-9877/966-5001
EDD R RAY	CDPHE	966-2115/5449
Steve Gunderson	CDPHE	692-3022/782-4969
Ken Korkia	RFCAB staff	420-7885/420-7579
VICTOR Holm	RFCAB	783-7086/780-3076
Herb Betts	CDPHE	692-2665/782-0188
NORMIE MORIN	CDPHE	692.2645/782.0188
Tom DAVIDSON	City of Louisville	566-2239/566-4047
Niels Schonbeck	MSCD; HAP	586-8327/586-5399
TODD MARGULIES	TRC CONSULTING	279-6699/(303) 279-6699 call NEED TO CALL
LISA MORZEL	CITY OF BOULDER	938-8520/1ST 938-8520
Dean Heil	Colo State Univ	491-6516
Jackie Berardini	CDPHE	692-3472/782-0095
HANK STOVALL	CITY OF BROOMFIELD	466-5986/469-8554
Mary Harlow	City of Westminster	430-2400/2174/650-165
LeRoy Moore	RMPJC	444-6981/444-6523
Joel Goldfield	Col. Coal. Ag. Nuc. War	321-7226
James McCarthy	City of Arvada	431-3042 431-3969
JOEL SELBIN	UCD Chem. Dept.	444-7341/556 4776
BOB KANICK	RFCAB	444-0049/444-0072
Tim Rehder	U.S. EPA	312 6293 x6067
Steve Slaten	DOE	966-4839 x3710
J. Karpatkin	DOE	966-2080/x6633
J. Corsi	Kaiser-Hill	966-6526/x6153
Will Neff	RFCII	940-6090/6088
Sam Dixon	West	426 1202/429-5713
Carl Spreng	CDPHE	692-3358/759-5355

3

City of Broomfield

One DesCombes Drive, Broomfield Colorado 80020

DATE: January 8, 1998
FROM: Kathy Schnoor, Environmental Services Phone: 438-6363
TO: Distribution List
RE: Rocky Flats Soil Action Ad-Hoc Group/ Meeting January 13, 1998

			PHONE	FAX
1	David Abelson	Cong. Skaggs' Ofc	650-7886	650-7893
2	Jackie Berardini	CDPHE	692-3472	782-0095
3	Deanne Butterfield	RFLII	940-6090	940-6088
4	Jeff Ciocco, Jim Fiore, Ray Greenberg	DOE HQ	(301) 903-7459	(301) 903-3877
5	John Corsi	Kaiser Hill	966-6526	966-6153
6	Sam Dixion	City of Westminster	426-1202	429-5113
7	Joe Goldfield	RFCAB-SNM	321-7276	
8	Mary Harlow	City of Westminster	430-2400 x 2174	650-1643
9	Tim Holeman	City of Broomfield	355-5492	355-5530
10	Victor Holm	RFCAB	989-9086	980-9076
11	Bob Kanick	RFCAB	444-0049	444-0072
12	Jeremy Karpatkin	DOE	966-2080	966-6633
13	Ken Korkia	RFCAB	420-7855	420-7579
14	Edd Kray	CDPHE	966-2115	966-5449
15	Tom Marshall	RFCAB	444-6981	444-6523
16	LeRoy Moore	RMPJC	444-6981	444-6523
17	Dr. Norma Morin	CDPHE	692-2645	782-0188
18	Tim Rehder	EPA	312-6293	312-6067
19	Jessie Roberson	DOE/RFFO	966-2025	966-6054
20	Kathy Schnoor	City of Broomfield	438-6363	438-6234
21	Dave Shelton	Kaiser Hill	966-9877	966-5001
22	Steve Slaten	DOE	966-4839	966-3710
23	Hank Stovall	City of Broomfield	466-5986	469-8554
24	Steve Tarlton	CDPHE	692-3423	782-4969
25	Todd Margulies	TM Consulting	279-6699	279-6699
26	Jim McCarthy	City of Arvada	431-3042	431-3969
27	Lisa Morzel	City of Boulder	[redacted]	441-4478
28	John Tayer	City of Boulder	441-3005	441-4478
29	Tom Davidson	City of Louisville	666-6565	673-9043
30	Ken Starr	Jefferson County	271-5714	271-5702
31	John Shephard	Physician/Social Resp		
32	Neils Schonbeck	Metro State	556-8327	556-5399
33	Joel Selbin		[redacted]	556-4776 (W)
34	Dean Heil	CSU	970-491-6516	970-491-0564

Number of pages including cover sheet: _3_.
If all pages are not received or are not received clearly, please contact Diane Eismann at 438-6360.

4

F-A-X M-E-M-O-R-A-N-D-U-M

TO: DISTRIBUTION

FROM: HANK STOVALL

SUBJECT: MEETING REMINDER FOR JANUARY 13, 1998

DATE: JANUARY 8, 1998

There will be meeting **TUESDAY 12:30-2:00 PM at Broomfield Municipal Center** in the Zang's Spur Conference Room (please bring a brown bag lunch). The Oversight Panel selection process is complete. The Panel membership roster is attached.

Proposed Agenda

- Introductions
- Brief History and Overview of Project Description
- Summary of the Oversight Panel Selection Process-(Hank Stovall, Sam Dixion, Ken Korkia, LeRoy Moore)
  - -appointments by local government and public interest groups
  - -selection criteria for technical experts
  - -selection criteria for citizen members
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- Other Items:

  - -CDPHE update-RSAL review fit with RAC contract
  - -review administrative support function of CDPHE
  - -Outline state process and timeline to get work started
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- Next Steps

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Panel Members provide a biographical sketch of their position, education and work experience

Regular meeting schedule determined

Need for meeting facilitator to work with the panel

Panel briefing on RFCA and RSALs

Panel Review and Discuss the Scope of Work

Next Meeting- Date, Time, Location

5

ROCKY FLATS SOIL ACTION LEVEL OVERSIGHT PANEL

JANUARY 8, 1998

Local Government Representatives:

City of Arvada	James McCarthy	Alt. (New Coord.)
City of Boulder	Lisa Morzel	Alt. John Tayer
City of Broomfield	Hank Stovall	Alt. Kathy Schnoor
City of Louisville	Tom Davidson	Alt. _____
City of Westminster	Mary Harlow	Alt. Sam Dixion
Jefferson County	Ken Starr	Alt. Annette Neiland

Public Interest Group Representatives:

R. M. Peace and Justice Center	LeRoy Moore	Alt. Tom Marshall
Colorado Coalition for Prevention of Nuclear War	Joe Goldfield	Physicians for Social Resp. Alt. John Shepherd, M.D.

Technical/Scientific Experts:

Niels Schonbeck, Ph.D. Biochemistry

Joel Selbin, Ph.D. Inorganic Chemistry

Dean Heil, Ph.D Soil Chemistry

Citizen Panel Members:

Robert Kanick, B.S. Nuclear Engineering — Alt. Victor Holm, B.S. Geological Engineering

Todd Margulies, M.S. Soil and Water Geochemistry

6

BROADCAST REPORT

DATE/TIME 1- 8-98 4:59PM
LOCAL I. D. 3034386234
LOCAL NAME CITY BROOMFIELD
LOGO CITY BROOMFIELD

START TIME 1- 8-98 4:11PM
JOB SIZE 3 PAGES

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44	93555530	FAILED sent 1/9
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mailed to Goldfield
Selbin
Stovall

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7

BROADCAST REPORT

DATE/TIME 1- 8-98 5:21PM
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LOGO CITY BROOMFIELD

START TIME 1- 8-98 5:01PM
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58	99666054	GOOD
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60	96507893	GOOD
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F-A-X M-E-M-O-R-A-N-D-U-M

TO: DISTRIBUTION

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Panel briefing on RFCA and RSALs — CDPHE, DOE, EPA 15-20 min

Panel Review and Discuss the Scope of Work

Next Meeting- Date, Time, Location

9

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JANUARY 8, 1998

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Citizen Panel Members:

Robert Kanick, B.S. Nuclear Engineering — Alt. Victor Holm, B.S. Geological Engineering

Todd Margulies, M.S. Soil and Water Geochemistry

Ex-officio Martin
Elder
Benedini

STATE OF COLORADO

Roy Romer, Governor
Patti Shwayder, Executive Director

Dedicated to protecting and improving the health and environment of the people of Colorado

4300 Cherry Creek Dr. S.
Denver, Colorado 80246-1530
Phone (303) 692-2000
Located in Glendale, Colorado

Laboratory and Radiation Services Division
8100 Lowry Blvd.
Denver CO 80220-6928
(303) 692-3090

http://www.cdphe.state.co.us

Colorado Department
of Public Health
and Environment

December 17, 1997

Jeremy Puskin
United States Environmental Protection Agency
401 M Street, Southwest
Washington, D.C., 20460

Richard B. Setlow, Ph.D.
Chair, BEIR VII Phase I Committee
Biology Department
Brookhave National Laboratory
P.O. Box 5000
Upton, NY 11973-5000

Evan B. Douple, Ph.D.
Director, Board on Radiation Effects Research
National Research Council
2101 Constitution Avenue NW
Suite 342
Washington, DC 20418

Mr. James Fiori
Acting Deputy Assistant Secretary for Environmental Restoration
United States Department of Energy, EM-40
Forestal Building, Room 5B050
1000 Independence Avenue, SW
Washington, DC 20585

RE: NAS review of Health Risks from Exposure to Low Levels of Ionizing Radiation (BEIR VII)

Dear Mssrs. Puskin, Setlow, Douple, and Fiori:

I have been asked to make this proposal for state, community, and citizen participation in the BEIR VII Phase II process.

Mr. Timothy R. Rehder, Rocky Flats Project Manager for EPA Region 8 has provided us with a copy of the original BEIR VII proposal (No. 97-CLS-029) submitted by the National Academy of Sciences in July 1996. As we understand it, the first phase of BEIR VII is a threshold consideration: whether new information warrants a reassessment of health effects, from that reported in 1990, BEIR V. The NAS is expected to make its recommendations for or against a reassessment in the near future. This letter is addressed to the proposition that, <u>if</u> NAS recommends further evaluation or reassessment, a public participation process should be incorporated.

As you know, the EPA used dose/risk conversion factors from the BEIR V report as a basis for its draft Radiation Sites Cleanup Regulation which concluded that annual doses of 15 or 85

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mRem/year were protective of public health. This dose level was used as a basis for interim soil action levels[1] at Rocky Flats by agreement among the U.S. EPA, Region 8, U.S. Department of Energy, and the Colorado Department of Public Health and Environment.

There are DOE remediation sites, in 11 different host states, for which state and federal regulators, local governments, citizen groups, and individuals have a keen interest in public health. A role of active participation in the NAS reevaluation, if there is to be one, could provide immense long-term value in enhancing the credibility of the results. Such a participative role might help to cast scientific questions to the NAS in ways that will identify and respond to community concerns and uncertainties about potential exposures to radiation. I ask you to consider what process will best assure broad support for the scientific evaluations and recommendations to be developed by NAS.

In our telephone conversation, I mentioned to you the impressive collaborative effort initiated by the Department of Defense regarding alternative technologies for disposal of chemical weapons. (A brief summary of the DOD process may be useful. A report to Congress will be submitted December 15, 1997. This will be a good summary of the collaborative efforts, to date. A copy will be provided to you.) While we are not wed to that construct, it may serve as a useful model by which to design a public participation process that is appropriate to these circumstances. We understand that the NAS and EPA have traditionally conducted public meetings about evaluations of these types. However, the critical difference being proposed is an <u>active</u> participative role to present a broad array of different perspectives.

Should the NAS recommend a reassessment of health effects, we propose the following:

1. A national public participation effort should be launched. This could be sponsored by EPA, DOE, NAS, or the BEIR VII panel individually or in partnership with each other. Each of those organizations should be invited to participate by the project sponsors. Representatives of state and local government, tribes, and citizen interests should also be invited, as well as state and federal regulators.

2. The goal of this participative process should be to draw on a wide range of experience, perspectives and expertise in support of the re-evaluation of health risks from exposure to

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[1] Remediation levels for contaminated soils at the Rocky Flats site were calculated via the RESRAD model, for direct on-site exposures under reasonably foreseeable land use scenarios. The 15/85 mRem dose limit was the target to be achieved. (An independent citizen review of the selection of the model and input parameters is about to commence. Generally, this review will be site-specific and will therefore fall outside the scope of a BEIR VII Phase II evaluation.) Soil action levels will also be calculated to provide protection for on-site and off-site surface waters. The more protective of these approaches will be implemented.

low levels of ionizing radiation. It should also be to solicit stakeholder input into the initial scoping and evaluation at key policy decision-making points during the process, including but not limited to: framing scientific questions in ways that will identify and respond to community concerns and uncertainties about potential exposures to radiation.

3. A strong group facilitator should be engaged from the outset, to help design the process.

I would be pleased to discuss this with you at greater detail. Please feel free to telephone me at (303) 692-3472. Thank you for your consideration.

Sincerely,

Jacqueline H. Berardini
Deputy Director, Office of Policy
and Public-Private Initiatives

cc:
Jessie Roberson, DOE-RFETS
Jack McGraw, EPA-8
Chip Cameron, Public Affairs, Nuclear Regulatory Commission

13

☆ Tues 24th 4-8:00 Fan & Spur
☆ Thurs 12th 4-8:00

30-500 MW WALT Learning Group

SHEET NO. ..... OF .....

JOB NO. SAL Mtg

BY KS

DATE 1/13/98 TIME 12:45 PM

City of Broomfield

One DesCombes Drive • P.O. Box 1415 • Broomfield, Colorado 80020

☆ Add Will to FAX list
Todd & Lisa - call first

✓ Introductions = of Panel Members

Ex-officio:
Slater DOE
Berardini CDPHE
Bohan - EPA

✓ History & Overview of Project Description - Hank
✓ Summary of Oversight Panel - Hank
✓ Draft Scope of Work for Independent Review

✓ Other items:

CDPHE info - get info from Hank

Herb Bart's 692-2665 public involvement 215, 216

Funding - debate - mostly an admin question - make sure the $ is flowing when contract is let
- DOE

- Ken will help put together a formal history
- LeRoy facilitator - Hank, Mary & LeRoy will get a facilitator

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PLUTONIUM INTAKE BY RESIDENTS on Contaminated Soil

Joseph Goldfield
Denver, CO

January 7, 1998

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PLUTONIUM INTAKE BY RESIDENTS ON CONTAMINATED SOIL

JOSEPH GOLDFIELD
DENVER, CO

JANUARY 7, 1979

Summary

This paper is an attempt to determine the quantity of plutonium that may accumulate in the lungs of a resident on soil contaminated with 1429 p/Ci/g (picocuries per gram of soil). Admittedly the data available for such a calculation is limited. However, using assumptions that assume relationships between the plutonium concentration in the soil, the resultant plutonium concentration in the air, and the quantity of contaminated air that a resident breathes, an estimate can be made of the weight of plutonium, in size ranges that are respirable, (capable of being drawn deeply into the lungs) that is inhaled. The result of this analysis indicates that as much as 0.5 μg (micrograms) of plutonium may be deposited in the lungs of a resident in one year. If it is assumed that only 1 μg of plutonium constitutes a fatal dose, then a fatal dose may be accumulated in two years. Such a result is unacceptable for human health effects. The length of exposure over which even relatively small health effects should not develop is normally assumed as 70 years--35 times the length of exposure cited above. The health effect, even after that length of exposure, must not be life threatening. In order to reduce the possibility of that effect an additional safety factor of at least ten is deemed appropriate. Thus the soil plutonium concentration should be reduced by a factor of 350 fold from 1429 pCi/g to 4 pCi/g.

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PLUTONIUM INTAKE BY RESIDENTS ON CONTAMINATED SOIL

Background

The relationship of the quantity of plutonium in soil to the the quantity that accumulates in the lungs of residents living on such soil is crucial to understanding the health effects. This paper is an attempt (with limited data available) to study this relationship. It is hoped that the paper may serve as part of a continuing dialogue. It was inspired by the proposal of a soil action level of 1429 pCi/g (picocuries of plutonium per gram of soil) that was reputed, by means of calculations made with a computer model called RESRAD, to produce a health effect of 85mrem/year on people living on such soil.

In discussions of the soil action level, the point was made that 1429 pCi is a very small quantity of plutonium--implying that health effects must be minimal. At first glance, 1429 pCi is a very small number. A picocurie is equal to 10E-12 curies--0.000000000001 curies. However, plutonium is a very poisonous material. One microgram is postulated as a fatal dose if concentrated in the lung. One microgram is 0.000001 grams. Since there are about 28 grams in an ounce, 1 microgram is also a small number.

Plutonium Intake by Residents

The quantity of plutonium drawn into the lungs of people living on contaminated soil is influenced by the following factors:

1. The concentration of plutonium in the soil.

2. The quantity of soil that may be suspended in air.

3. The concentration of plutonium in the airborne soil.

4. The quantity of contaminated air drawn into the lungs.

5. The quantity of plutonium that is retained in the lungs.

Concentration of Plutonium in the Soil

The concentration of plutonium in soil that is cleaned to the soil action level is 1429 pCi/g. However, that concentration is an average determined by a soil sampling method that we know little about. What is the spacing between sampling points? How many samples are taken in any given area? What is the method of obtaining samples? What will be the acceptable range of plutonium quantities in the samples? How accurate are the analytical methods used to determine plutonium quantities?

Until the answers to the questions posed, and others that may be asked by people much more knowledgeable in the field, we can only guess at the accuracy of the result--1429 pCi/g. We do know that the result is an average concentration. For health exposures we are more interested in the levels in the soil to which the most heavily exposed population will be subjected. I am guessing that level is three times the average.

Concentration of Soil Suspended in Air

From data obtained by the National Air Surveillance Network, it is estimated that the average particulate concentration in air at Rocky Flats is 75 μg/cu m (micrograms per cubic meter of air). It is further assumed that 70% of the suspended particulate is less than 10μ in size (respirable particles that can be drawn deeply into the lungs).

Concentration of Plutonium in Airborne Soil

The concentration of plutonium suspended in air is increased above the average concentration found in soil samples by two factors. First, the air blowing through the soil elutriates (separates and suspends) the small soil particles much more readily than larger particles--so that the concentration of small particles in air is much higher than the concentration of small particles in the unseparated soil. Second, it has been established by Dr. Carl Johnson (published in an article in Science, August 1976) that the concentration of plutonium in small, respirable size particles is 5.5 times as great as the average concentration of plutonium in soil.

Air Intake by Healthy Young Men

The air intake by healthy young men at rest (sedentary) is as much as 40 liters per minute. With heavy exercise that rate can rise to almost 300 liters per minute. Allowing for some mild form of exercise, it is assumed that the breathing rate should be estimated as 48 liters per minute.

Quantity of Plutonium Retained in the Lungs

From the parameters discussed above a calculation can be made of the quantity of plutonium that will be drawn into the lungs of residents on soil contaminated with 1429 pCi/g. Because the soil particles are quite small, in the respirable range, it may be assumed that they will be drawn deeply into the lungs and retained for long periods of time.

From the discussions above:

The most heavily exposed residents will probably be exposed to three times the *average* or 1429 pCi/g x 3 or 4287 pCi/g.

The concentration of airborne dust will be 75 μg per cubic meter of which 70% or 52.5 μg per cubic meter will be in the respirable range.

Because of the elutriation effect of air blowing through soil particles and the established fact that plutonium is concentrated by a factor of 5.5 in the small, respirable soil particles, the concentration of plutonium in the soil must be multiplied by a factor of 5.5 to estimate the concentration of plutonium in the airborne particles.

In one year a young man, resident of Rocky Flats will breathe 48 l/min x 60m/hr x 8,000 hrs/yr = 23,000,000 liters--since one cubic meter is equal to 1,000 liters, the young man will breathe in 23,000 cubic meters of dust laden air.

The air will contain 52.5 μg/cu m x 23,000 cu m = 1,200,000 μg or 1.2 grams of particulates.

The plutonium in the inspirated air will have been concentrated by a factor of 3 because 1429 pCi/g is an average value and some people will be exposed to values three times the average and by a factor of 5.5 because of the elutriation effects described--1429 pCi/g x 3 x 5.5 = 23,600 pCi/g of inspirated soil.

In order to convert the picocuries to weight they must be corrected for the fact that 16.1 grams of plutonium produces 1 curie of radiation. 16.1 picograms of plutonium will be required to produce 1 pCi. 23,600 pCi x 16.1 picograms/picocurie = 380,000 picograms of Pu per gram of inspirated soil. Since 1.2 grams per year of soil were inspirated, the weight of inspirated plutonium will be 456,000 picograms.1,000,000 picograms are equal to one microgram, the inspirated weight of plutonium is 0.46 micrograms or about one half of the reputed fatal dose.

Is it possible that in two years of exposure a fatal dose of plutonium will be accumulated?

Discussion of Result

The result is quite disturbing. Health standards are not set to prevent fatal consequences ! Rather the purpose is to prevent any ill effects after a life time of exposure. A second concern is that as time goes on the allowable concentrations of contaminants to prevent health effects almost always are reduced, sometimes radically, as more data is accumulated. Plutonium is an example of a contaminant that is rather new on the health arena. Standards must be set with large safety factors.

A normal lifetime of exposure can be assumed to be 70 years. Certainly over that lifetime a fatal dose of plutonium should not be accumulated in the lungs of an exposed individual. On that basis the soil cleanup standard is too high by a factor of 35. In addition, due to the lack of data available for health effects on people living on soil contaminated with plutonium, a safety factor of ten should be applied to reduce the lung burden of plutonium to a level that is well below what may be a fatal dose. On that basis the soil action level should 35 x10 or 350 times lower. A possible soil action level might be 1429 ÷ 350 = 4 pCi/g (4 picocuries per gram of soil).

ROCKY FLATS SOIL ACTION LEVEL-INDEPENDENT OVERSIGHT PANEL

SELECTION OF TECHNICAL AND COMMUNITY MEMBERS

A. APPRAISAL CRITERIA FOR TECHNICAL MEMBERS FROM RESUME OR INTERVIEWS:

1. Formal Education- degree and school
2. Related Work Experience- chemistry, soils, modeling, nuclear engineering, other related experience
3. Background in Nuclear Industry and/or Rocky Flats Activities and Clean up
4. Community of Interest- Academic, Local Area Activist, Engineering, Scientist Health/Safety, Land Owner, Other
5. Ability to Work on a Team Collaboratively, Civily and Objectively
6. Conflict of Interest
7. Time/Availability to Attend Meetings

B. APPRAISAL CRITERIA FOR PUBLIC MEMBERS:

1. Prior Experience and Knowledge of Rocky Flats
2. Technical Degree, Background, Experience
3. Proximity of Home to Rocky Flats and Length of Time as a Resident
4. Conflict of Interest
5. Time/Availability to Attend Meetings
6. Ability to Work Collaboratively

INTERVIEW QUESTIONS

1. Do you understand the Panel's function?

2. Tell us about your background and interest in this Panel.

3. What is your familiarity with Rocky Flats, Nuclear Industry, Modeling, Soils Chemistry, etc.?

4. Will you have time available to attend meetings?

5. Do you have any conflicts of interest?

6. The Panel members will not be paid.

MEMORANDUM

TO:

FROM: Rocky Flats Soil Action Level Review
Oversight Panel Selection Committee

SUBJECT: Oversight Panel

DATE: January 8, 1998

Thank you for your interest in the Rocky Flats Soil Action Level Oversight Panel. We regret that we could not use all of the people who volunteered for the panel. While you were not chosen for panel membership, we hope that you will continue to follow the Rocky Flats Soil Action Level Review and the Rocky Flats clean up in general. You can still affect the process by participating in the upcoming public meetings. The meetings will be advertised in the newspapers. The Panel is committed to taking public input. We appreciate your time and interest in this Panel.

ROCKY FLATS SOIL ACTION LEVEL OVERSIGHT PANEL

DECEMBER 15, 1997

Local Government Representatives:

City of Arvada	James McCarthy	Alt. (New Coord.)
City of Boulder	Lisa Morzel	Alt. _____
City of Broomfield	Hank Stovall	Alt. Kathy Schnoor
City of Louisville	Tom Davidson	Alt. _____
City of Westminster	Mary Harlow	Alt. Sam Dixion
Jefferson County	Ken Starr	Alt. Annette Neiland

Public Interest Group Representatives:

R. M. Peace and Justice Center LeRoy Moore Alt. TOM MARSHALL

COLORADO COALITION FOR PREVENTION OF NUC WAR JOE GOLDFIELD Alt. JOHN SHEPHERD, M.D. PHYSICIANS FOR SOCIAL RESPONSIBILITY

Technical/Scientific Experts:

NIELS D. SCHONBECK, PH.D. Alt. BIOCHEMISTRY UNIVERSITY OF MICHIGAN 197

JOEL SELBIN PH.D. INORGANIC CHEMISTRY UNIVERSITY OF ILLINOIS 195

DEAN HEIL PH. D. Alt. SOIL CHEMISTRY UNIVERSIT OF CAL. BE 1991

Citizen Panel Members:

ROBERT J. KANICK B.S.N.E. Alt. VICTOR HOLM B.S.G.E

TODD MARQULIES M.S. SOIL & WATER Biochemistry

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COMPANY

TO: Distribution List
FROM. John Corsi, Communication Phone: 966-6526
Date: December 11, 1997
RE: Soil Action Level Review

			PHONE	FAX
1	David Abelson	Cong. Skaggs' Ofc	650-7886	650-7893
2	Jackie Berardini	CDPHE	692-3472	782-0095
3	Deanne Butterfield	RFLII	940-6090	940-6088
4	Jeff Ciocco, Jim Fiore, Ray Greenberg	DOE HQ	(301) 903-7459	(301) 903-3877
5	John Corsi	Kaiser Hill	966-6526	966-6153
6	Sam Dixon	City of Westminster	426-1202	429-5113
7	Joe Goldfield	RFCAB-SNM	321-7276	
8	Mary Harlow	City of Westminster	430-2400 x 2174	650-1643
9	Tim Holaman	City of Broomfield	355-5492	355-5530
10	Victor Holm	RFCAB	980-9066	980-9076
11	Bob Kanick	RFCAB	444-0049	444-0072
12	Jeremy Karpatkin	DOE	966-2080	966-6633
13	Ken Korkia	RFCAB	420-7855	420-7579
14	Edd Kray	CDPHE	966-2115	966-5449
15	Tom Marshall	RFCAB	444-6981	444-6523
16	LeRoy Moore	RMPJC	444-6981	444-6523
17	Dr. Norma Morin	CDPHE	692-2645	782-0188
18	Tim Rehder	EPA	312-6293	312-6067
19	Jessie Roberson	DOE/RFFO	966-2025	966-6054
20	Kathy Schnoor	City of Broomfield	438-6383	438-6234
21	Dave Shelton	Kaiser Hill	966-9877	966-5001
22	Steve Slaten	DOE	966-4839	966-3710
23	Hank Stovall	City of Broomfield	466-5988	469-8564
24	Steve Tarlton	CDPHE	692-3423	782-4969

Kaiser-Hill Company, L.L.C.
Courier Address Rocky Flats Environmental Technology Site, State Hwy. 93 and Cactus, Rocky Flats, CO 80007 • 303.966.7000
Mailing Address. P.O. Box 464, Golden, Colorado 80402-0464

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United States Government

Department of Energy

memorandum

Rocky Flats Field Office

DATE: DEC 1 0 1997

REPLY TO ATTN OF: RLG:SWS:05587

SUBJECT: Soil Action Level Independent Review

TO: Soil Action Level Ad-Hoc Group

The purpose of this memorandum is to clarify DOE's commitment to fund an independent scientific review of the radionuclide soil action levels (RSALs) at Rocky Flats. Over the last few months an ad-hoc group of stakeholders, regulators and Rocky Flats representatives have been meeting periodically in an attempt to define the scope of work of such a review. Although a few issues remain unresolved, DOE is confident that these issues are minor and that we are close to a mutual understanding on the scope of work. I would also like to commend the effort and time that the Stakeholder Ad-Hoc Group has already committed to this important issue.

Independent Review of Soil Action Levels:

DOE has agreed to support to an independent scientific review of the methods and assumptions used by the RFCA parties to establish RSALs, including:

1. Review the appropriateness and accuracy of the RESRAD model in translating the 15/85 mRem dose standard to a soil action level (pCi/g). This effort may include the identification of other methods which could be used to more accurately translate dose to action levels.

2. Examine the parameters input to the RESRAD model for appropriateness and veracity.

These two questions should be the primary focus of the review, but DOE also agrees to include a review of cleanup levels and methodologies used at other radionuclide contaminated sites and determine their applicability at Rocky Flats. This review should not require a great deal of time or resources and should concentrate on existing published material.

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Actinide Migration Investigation and Off-site Impacts

Several stakeholders have indicated that a primary concern is the potential impacts of off-site radionuclide migration and contained control and monitoring of air emissions. As stated, the current radionuclide soil action level is designed to provide protection for the realistic expected future land users on-site. The long-term protection of the off-site community is assured by the surface water standard of 0.15 pCi/L set by the Colorado Water Quality Control Commission for plutonium and americium which applies to water leaving the site now and in the future. It is recognized that the requirement to meet this standard may require additional remedial actions in some areas of the site beyond those required to protect future users on the site. Addressing this important issue is the primary purpose for the Actinide Migration Investigation.

The Actinide Migration Investigation is a multi-year study to evaluate the physical and chemical migration of actinides in the environment and incorporate the evaluation into an actinide migration model for Woman and Walnut Creeks. An additional end product of the Actinide Migration Investigation will be an evaluation of the radionuclide soil action level protectiveness of the surface water quality and off-site impacts. It is not anticipated that this evaluation will produce a single answer or "silver bullet" that dictates the appropriate level of cleanup to ensure the 0.15pCi/L water standard will be met for the long-term. Rather this evaluation will likely produce a series of recommendations over the course of several years on specific cleanup actions to account for the different forms of actinide in the different geochemical and physical environments.

Relationship of Radionuclide Soil Action Levels Review and Actinide Migration Investigation

DOE understands there is a strong desire by stakeholders to coordinate these two studies to the maximum extent possible. We agree that on-site and any potential off-site impacts need to be addressed, but do not want to fund duplicative work. DOE will ensure that new findings from the Actinide Investigation will be made available to the independent RSAL review contractor as appropriate. For example, it is anticipated that the Actinide Investigation may produce information related to certain parameters used in RESRAD, such as Kd values. The bottom line is that new findings will be shared in a timely and open manner.

In addition, if the RSAL review identifies a better model than RESRAD that is capable of evaluating multi-media impacts (on-site and off-site), it will be considered.

Additional Opportunities for RSAL Review

As part of the annual review prescribed by RFCA, the agencies will be responsible for conducting an internal annual review of the soil action levels. An annual report summarizing the review will be given to the public each year. Questions that will be addressed on an annual basis include:

1. Is there new scientific information available that would impact the interim action levels?

2. Has a national soil action level been promulgated within the year? If yes, the parties commit to revisit Rocky Flats' interim action levels.

3. How were the interim action levels applied to the site over the course of the year?

4. Have the remedies been effective?

This review will address information such as:

- new findings from the National Academy Sciences (NAS) on appropriate dose standards
- new information that the Actinide Migration Investigation produces
- any new scientific information in general that potentially impacts the RSALs

Joseph A. Legare
Assistant Manager
for Environmental Compliance

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REQUEST FOR PROPOSALS
SCIENTIFIC REVIEW SERVICES

Firms to Provide Contract Services to Assist the Soil Action Level Review Oversight Committee

1. PROJECT DESCRIPTION

1.1 Background

The Rocky Flats Environmental Technology Site was constructed in 1951. The site served as a production facility to manufacture trigger components for nuclear weapons. In 1989 operations at the plant were shut down due to safety and production problems The site's current operations involve decontamination and deactivation of radionuclide contaminated buildings, remediation of environmental damage and waste management.

On October 18, 1996, as a final step to the Rocky Flats Cleanup Agreement, the Department of Energy, Environmental Protection Agency and the Colorado Department of Health and Environment adopted an interim Radionuclide in Soil Action Level (RSALs) for the Rocky Flats Site. The RSALs were calculated based on the dose assumptions given in RFCA. The calculations to determine how much radioactive materials in the soil corresponds to the permitted dose were performed by entering more than 70 input parameters and default values into the Argonne National Lab's RESRAD computer program.

In response to public concerns regarding these RSALs, DOE agreed to an independent scientific review of the soil action levels set for Rocky Flats. A community review panel known as the Rocky Flats Radionuclide Soil Action Level Oversight Panel (RFRSALOP) was created to oversee the process of obtaining an independent review. The Colorado Department of Health and Environment, through the4 office of the Rocky Flats Health Advisory Panel (HAP) will serve as the administrative conduit for allocation of moneys, administration of the contract and provision of secretarial and organizational support for the oversight committee.

Purpose

The purpose of this study is to obtain and independent scientific review of the soil action levels set for the cleanup of the Rocky Flats Environmental Technology Site. The review will encompass models, methodologies and cleanup standards that may exist or are being developed for other sites and their applicability to Rocky Flats. It will also review and evaluate the accuracy and applicability of the input parameters used to calculate the current RFETS SALs. Based on the results of this investigation a site specific SAL will be recommended for the Rocky Flats site. Based on the findings of this investigation a recommendation will be developed for a soil cleanup action levels

for transuranic elements in the surface soils at Rocky Flats that will be protective of surface waters leaving the site, future users and surrounding communities.

1.2 Scope of Work

The consultant will work with the Rocky Flats Radionuclide Soil Action Level Oversight Panel in conducting a review of the interim soil action levels set for Rocky Flats. The consultant will work with the Oversight Panel to develop and draft a concept and recommendations for inclusion by DOE and the regulators in the RFCA..

The Contractor will be required to perform the following tasks.

1. Identify all available or emergent computer models which can be used to calculate radionuclide contamination levels in soil based on a given dose rate. Provide a description of the models, a summary of the strengths and weaknesses of each and a recommendation for the most appropriate model(s) best suited to the site specific conditions at Rocky Flats.

2. Identify and evaluate cleanup standards which exist or are projected for use at other radionuclide-contaminated sites and the process/models used to determine them, as to their applicability in setting cleanup levels at RFETS. Provide a summary of this evaluation itemizing the reasons why such limits/models are or are not applicable for use in setting cleanup levels at RFETS.

3.Evaluate the input parameters, inputs, default inputs, and assumptions for the current analysis (using Argonne National Lab's RESRAD model) used to set the interim soil action levels at RFETS. At a minimum this evaluation must satisfy the following

a. Are the input parameters inputs, default inputs, and assumptions accurate and credible in simulating the conditions at RFETS and the subsequent conversion to dose rate/contamination levels?

b. For each of the input parameters, what is the sensitivity of the input values in terms of resulting contamination levels?

c. For each of the input parameters what is the distribution of possible input values. Identify each of these based on the sensitivities determined in 3b above from least conservative to most conservative (conservative meaning that which results in lower contamination levels given a certain dose limit)

d For each of the input distributions in 3c above identify an input value which can be considered "reasonable" or best estimate." Provide the reasoning for these choices.

4 The current analysis used to set the interim soil action levels at RFETS assumed certain land use scenarios. Evaluate these land use scenarios as to their appropriateness and conservative nature in setting cleanup levels at RFETS .Provide a

recommendation as to the acceptability of the currently assumed land use scenarios or the appropriateness of alternatives.

5..Identify and evaluate the methodologies(i.e. bounding, best estimate, conservative, probabilistic risk assessment, etc.) which can be used to combine/model the necessary inputs for a given computer model in determining contamination levels for a given dose limit. Provide a summary of these methodologies to the Oversight committee within one month of start of contract along with a recommendation as to the best suited for such an analysis.

6 The RESRAD model limits its review to on-site impacts. Review off-site migration/impacts over time/distance for various cleanup levels determined in item 6.

7.Consultant will meet with Actinide Migration panel and incorporate their results into the final soil action level model recommendation.

8. Specify a sampling method, process protocol and quality controls for ensuring that soil contamination measurements are meeting the cleanup standards that may be set from the use of models recommended in this investigation.

Firms responding to this RFP should develop a proposal that provides detailed descriptions of how the consultant will work with the Oversight Panel during each stage of the review to culminate in a final recommendation on a soil action level.

Specifically ,the Consultant will:

Meet with Oversight Panel on a monthly basis at a regular scheduled meeting. The review is expected to take no more than one year.

Facilitate a one day work session in _____during which the oversight panel will conduct a public informational meeting and develop a recommendations for a soil action level for RFETS.

Prepare reports, documents and other materials as described in your proposal and spelled out in the scope of work

<u>Deliverables</u>

In addition to meeting the requirements listed under the Scope Of Work, the contractor will be expected to produce a final report which is a comprehensive summary of the entire study. The main body of the report should be directed to the level of the educated public.

A separate summary report is to be provided for use by the General public.

Quarterly progress reports will be prepared for distribution on quarterly meeting dates.. They should include a summary of progress to date, a plan for the rest of the project and draft sections of the final report.

Schedule/Timeline

Meetings will be held bi-weekly initially for a time period to be determined. At least two of these meetings will be held at night. Monthly meetings will be held as work progresses. The contractor will provide sufficient staff to make presentations and answer questions.

March 1998	Start of Contract
April 1998	Presentation of potential methodologies to panel w/recommendation
May 1998	~~Setting of review methodology by oversight panel~~
June 1998	First Quarterly report to oversight panel
July 1998	
August	
September	Second Quarterly report & public mtg
November	3rd Quarterly report & public mtg
December	
January	
Feburary 1999	Completion of contract, final presentations and report
March 1999	Presentation of results at RFCA Review

ROCKY FLATS SOIL ACTION LEVEL-INDEPENDENT OVERSIGHT PANEL

SELECTION OF TECHNICAL AND COMMUNITY MEMBERS

A. APPRAISAL CRITERIA FOR TECHNICAL MEMBERS FROM RESUME OR INTERVIEWS:

1. Formal Education- degree and school
2. Related Work Experience- chemistry, soils, modeling, nuclear engineering, other related experience
3. Background in Nuclear Industry and/or Rocky Flats Activities and Clean up
4. Community of Interest- Academic, Local Area Activist, Engineering, Scientist Health/Safety, Land Owner, Other
5. Ability to Work on a Team Collaboratively, Civily and Objectively
6. Conflict of Interest
7. Time/Availability to Attend Meetings

B. APPRAISAL CRITERIA FOR PUBLIC MEMBERS:

1. Prior Experience and Knowledge of Rocky Flats
2. Technical Degree, Background, Experience
3. Proximity of Home to Rocky Flats and Length of Time as a Resident
4. Conflict of Interest
5. Time/Availability to Attend Meetings
6. Ability to Work Collaboratively

INTERVIEW QUESTIONS

1. Do you understand the Panel's function?

2. Tell us about your background and interest in this Panel.

3. What is your familiarity with Rocky Flats, Nuclear Industry, Modeling, Soils Chemistry, etc.?

4. Will you have time available to attend meetings?

5. Do you have any conflicts of interest?

6. The Panel members will not be paid.

Draft RFP for SAL Independent Review

Background

As the concluding step of the Rocky Flats Cleanup Agreement (RFCA), on October 18, 1996, the U.S. DOE and its regulators (EPA and CDPHE) at the Rocky Flats Environmental Technology Site (RFETS), a former nuclear weapons production facility located in Jefferson County, CO, adopted interim Radionuclides in Soil Action Levels (RSALs), which is to say cleanup levels, for radionuclides in the soil at the RFETS site (Attachment A). Intended to be protective of people using the RFETS site after closure, the RSALs specify how much radioactive material (primarily plutonium and americium) may remain in the RFETS soil after cleanup without exceeding permitted exposure levels (dose) for targeted persons. The RSALs did not consider off-site migration. As part of RFCA, the RSALs are to undergo periodic review as new information is available.

The RSALs were calculated based on the dose assumptions given in RFCA. The calculations to determine how much radioactive materials in the soil corresponds to the permitted dose were performed by entering the more than 70 input parameters and default values into Argonne National Lab's RESRAD computer program.

In response to public concerns regarding these RSALs, DOE agreed to this independent review of the methods used to convert given dose levels to soil contamination levels as used in setting the RSALs. A citizen review group known as the Rocky Flats Radionuclide Soil Action Level Oversight Panel (RFRSALOP) was created to define the project, to issue this Request for Proposal (RFP) to interested parties, to contract for the independent review, and to oversee the review from initiation to completion. CDPHE, through the office of the Rocky Flats Health Advisory Panel (HAP), will serve as the administrative conduit for allocation of monies, administration of the contract, and provision of secretarial and organizational support for the RFRSALOP. Accordingly, the present RFP is issued by the HAP office of CDPHE.

Scope of Work

The contractor is being requested to investigate three things. First, to review models, methodologies, and cleanup levels that may exist or are being developed for other radionuclide-contaminated sites as to how they may apply to the RFETS site-specific situation. Second, to review the existing analysis used to set the current RFETS RSALs as to its accuracy and applicability. And third, based on the results of the above investigations, to calculate an independent set of RSALs.

The contractor will be expected to submit a comprehensive final report as well as to publish the study in a reputable peer review journal.

The study will use existing RFETS site data to the maximum extent possible. It is expected that

this data will be both sufficient and of acceptable quality to complete the study. It will be the responsibility of the contractor to determine the sufficiency and quality of this data and informing the RFRSALOP at an early date if additional data is required.

The contractor may suggest that the scope of study be modified however, at a minimum, proposals are requested to address the issues as discussed above. Specifically the contractor will be asked to perform the following:

1. Cleanup Levels at Other Sites

Action:

Identify and evaluate cleanup levels (i.e., RSALs) which exist or are projected for use at other radionuclide-contaminated sites and the processes/models used to determine them as to their applicability in setting cleanup levels at RFETS. Provide a summary of this evaluation itemizing the reasons why such limits/models are or are not applicable for use in setting cleanup levels for RFETS.

Discussion:

This study should concentrate on examples of soil contaminated with transuranic elements. Of particular interest is the reasoning that went into the setting of these cleanup levels and the subsequent history of the site, including any cleanup. The study should concentrate on published material supplemented by interviews and correspondence. The study should compare the levels within the context of site-specific conditions, projected land use, and the then existing risk assessments and dose standards. This portion of the study will not be used to recommend cleanup levels at RFETS, but will simply be used to place the calculated values in context.

2. Computer Models

Action:

Identify and evaluate all available or emergent computer models which can be used to calculate radionuclide contamination levels in soils based on a given dose rate. The models are to be evaluated to determine which are most applicable and best suited to model the site-specific conditions at RFETS. Provide a description of these models, a summary of the strengths and weaknesses of each, and a recommendation for the most appropriate model(s).

Discussion:

Models that are inappropriate to the RFETS site conditions, obsolete, or which cannot be readily validated should not be included. The RESRAD model must be included due its use in determining the current RSALs. A comparison of the different models using RFETS site-specific data would be useful. The contractor is encouraged to find computer codes

capable of modeling both on-site and off-site dose rates. It is possible that no one model will prove satisfactory for determining both, but that a combination of models may be necessary. The contractor will be expected to recommend the most appropriate model(s) for the RFETS site-specific conditions and to justify this recommendation. Whichever model or models are recommended should be thoroughly validated. It is not necessary that the contractor perform this validation; peer reviewed, published studies will suffice. In the event that RESRAD is not recommended, RESRAD should be run in parallel with the recommended model(s) as a comparison.

3. **Inputs and Assumptions**

Action:

Evaluate the input parameters, inputs, default inputs, and assumptions for the current analysis (RESRAD) used to set the RSALs at RFETS. At a minimum this evaluation must satisfy the following:

Are the input parameters, inputs, default inputs, and assumptions accurate and credible in simulating the conditions at RFETS, given the land use scenarios as set in RFCA, and the subsequent conversion to dose rate/contamination levels?

For each of the input parameters, what is the sensitivity of the input values in terms of resulting contamination levels?

For each of the input parameters, what is the distribution of possible input values. Identify each of these based on the sensitivities determined in 3.b) above from least conservative to most conservative with conservative meaning that which results in lower contamination levels given a certain dose limit.

For each of the input distributions in 3.c) above, identify an input value which can be considered "reasonable" or "best estimate". Provide the reasoning for these choices.

Discussion:

All of the input parameters to the model need to be examined. Parameters that are easily confirmed, non site-specific parameters , or those which are specified by the EPA or other regulatory agencies should be noted as such. If the investigation indicates that such values are not appropriate, alternatives should be recommended. For parameters that are site-specific to RFETS, a thorough study of the distribution of possible values should be performed.

4. **Methodology**

Action:

Identify and evaluate the methodologies which can be used to select or combine the

necessary inputs/outputs for a given computer model in determining contamination levels for a given dose limit. Within 1 month of the start of the contract, present to the RFRSALOP and affected stakeholders a summary of these methodologies along with a recommendation and justification as to the best suited for such an analysis. Compare or contrast this recommended methodology with that used in the existing RESRAD analysis.

Discussion:

It is understood that there are several methodologies (e.g., bounding, best estimate, conservative, probabilistic risk assessment, etc.) which can be used to shape the inputs for such an analysis. The question as to "how conservative is conservative?" makes this a subjective rather than simply a scientific issue because the affected communities must accept the risks involved. Therefore, the RFRSALOP wishes to fully understand the nature and implications of each of the potential methodologies to ensure that the methodology chosen can best produce credible and defensible results from this independent review which will be acceptable to the broadest range of stakeholders.

5. Independent Calculation

Action:

Use the methodology recommended in 4. above to select/combine the inputs identified in 3. above as well as any new inputs required by the model recommended in 2. above in that model to calculate contamination levels for the dose limits set for each of the RFCA land use scenarios assumed in the original analysis. This includes a residential scenario. As part of the calculations, include a statement of the assumptions and level of uncertainty involved in the specific approach utilized. State the dose limits in terms of risk.

6. Protocols

Action:

Specify the sampling method, process protocol, chain of custody (quality controls) for ensuring that subsequent soil contamination measurements are directly corresponding to the cleanup levels that may be set from the use of models and inputs as studied in this investigation.

Discussion:

There is a strong desire to find a scientifically credible method for guaranteeing that the cleanup levels will actually be met in terms of what contamination levels are ultimately measured at the site. This study should clearly delineate such parameters as sample spacing, depth of samples, sampling methods, and all associated quality assurance which ensure that the methods used for measuring contamination before and after any remediation are directly applicable to the parameters used for setting the cleanup levels.

7. **Actinide Migration**

Action:

The contractor is to meet at least once with the Actinide Migration Panel to share information and coordinate efforts as appropriate in order to ascertain the applicability of any results from the actinide migration studies on the inputs to this modeling for this analysis. The contractor should study these results and any other relevant data and determine what impact these will have on the results such as obtained in 5. above.

Discussion:

It should be determined that cleanup levels are protective of off-site residents. Calculations for the exsiting RSALs only considered on-site exposure scenarios. Since off-site air and water quality standards are more restrictive, it is possible these standards will control the cleanup. How can the issue of plutonium migration be incorporated into an evaluation of the RSALs? An Actinide Migration Study is currently underway. The final results of this study will not be ready in time to be used in this study. Some preliminary results will however be available. It is understood that any conclusions that can be based on this are tentative pending the completion of the Actinide Migration Study. The collection of new data, laboratory studies, and new research are beyond the scope of this study. The contractor should, however, identify the data needs of this study as early as possible in order to facilitate the collection and analysis of additional data needed.

9. **Water Quality**

Action:

Subsequent to the evaluation of inputs in 3. and the calculation of contamination levels in 5. above, consider the following: Are the inputs such that the resulting contamination levels will ensure the 0.15 pCi/L surface water standard for Pu and Am adopted by the Water Quality Control Commission are met?

Discussion:

If possible, a time plot of surface water contamination for a range of soil contamination levels should be produced. Based on such an analysis, it is possible that a different level of cleanup may be required for different areas of the site.

<u>Deliverables</u>

The contractor will be expected to produce a final report which is a comprehensive summary of the entire study. The main body of the report should be directed to the level of the educated public. The magazine *Scientific American* could serve as a model for the style and technical level being sought. The contractor may wish to include appendices that include more technical details.

A synopsis of the study and the results are also to be submitted to a reputable peer review journal for critical analysis.

A separate summary is to be provided which should be directed to the general public that has no prior knowledge of the RSALs. This report should be suitable for inclusion in newsletters or general circulation newspapers.

Quarterly progress reports will be prepared for distribution at quarterly meetings. They should include a summary of progress to date, a plan for the rest of the project and draft sections of the final report.

Schedule/Timeline

At the very beginning of the contract, to ensure that the contractor is aware of the concerns of the affected public about this review, the general public will be invited to attend a scoping meeting. Thereafter, quarterly meetings will be held which will consist of two nightly sessions. The first night will be devoted to a technical session summarizing the work to date. The second night will be a business session where plans and methods of research will be discussed. The contractor will have sufficient staff present to answer any questions. During the day between the meetings, the contractor team is to be available for discussions or technical briefings with panel members or members of the public.

On months that do not include a quarterly meeting, the panel will meet. The contractor will ensure at least one representative is present.

It is desired that the contractor complete the work according to the following schedule and to propose a work schedule as appropriate:

March 1998	Start of contract
April 1998	Presentation of potential methodologies to RFRSALOP
June 1998	First quarterly report to RFRSALOP
December 1998	Completion of contract, final presentations and report
January 1999	Presentation of results for special RFCA review

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REQUEST FOR PROPOSALS
SCIENTIFIC REVIEW SERVICES

Firms to Provide Contract Services to Assist the Soil Action Level Review Oversight Committee

1. PROJECT DESCRIPTION

1.1 Background

The Rocky Flats Environmental Technology Site was constructed in 1951. The site served as a production facility to manufacture trigger components for nuclear weapons. In 1989 operations at the plant were shut down due to safety and production problems The site's current operations involve decontamination and deactivation of radionuclide contaminated buildings, remediation of environmental damage and waste management.

On October 18, 1996, as a final step to the Rocky Flats Cleanup Agreement, the Department of Energy, Environmental Protection Agency and the Colorado Department of Health and Environment adopted an interim Radionuclide in Soil Action Level (RSALs) for the Rocky Flats Site. The RSALs were calculated based on the dose assumptions given in RFCA. The calculations to determine how much radioactive materials in the soil corresponds to the permitted dose were performed by entering more than 70 input parameters and default values into the Argonne National Lab's RESRAD computer program.

In response to public concerns regarding these RSALs, DOE agreed to an independent scientific review of the soil action levels set for Rocky Flats. A community review panel known as the Rocky Flats Radionuclide Soil Action Level Oversight Panel (RFRSALOP) was created to oversee the process of obtaining an independent review. The Colorado Department of Health and Environment, through the4 office of the Rocky Flats Health Advisory Panel (HAP) will serve as the administrative conduit for allocation of moneys, administration of the contract and provision of secretarial and organizational support for the oversight committee.

Purpose

The purpose of this study is to obtain and independent scientific review of the soil action levels set for the cleanup of the Rocky Flats Environmental Technology Site. The review will encompass models, methodologies and cleanup standards that may exist or are being developed for other sites and their applicability to Rocky Flats. It will also review and evaluate the accuracy and applicability of the input parameters used to calculate the current RFETS SALs. Based on the results of this investigation a site specific SAL will be recommended for the Rocky Flats site. Based on the findings of this investigation a recommendation will be developed for a soil cleanup action levels

for transuranic elements in the surface soils at Rocky Flats that will be protective of surface waters leaving the site, future site users and surrounding communities.

1.2 Scope of Work

The consultant will work with the Rocky Flats Radionuclide Soil Action Level Oversight Panel in conducting a review of the interim soil action levels set for Rocky Flats. The consultant will work with the Oversight Panel to develop and draft a concept and recommendations for inclusion by DOE and the regulators in the RFCA..

The Contractor will be required to perform the following tasks.

1. Identify all available or emergent computer models which can be used to calculate radionuclide contamination levels in soil based on a given dose rate. Provide a description of the models, a summary of the strengths and weaknesses of each and a recommendation for the most appropriate model(s) best suited to the site specific conditions at Rocky Flats.

2. Identify and evaluate cleanup standards which exist or are projected for use at other radionuclide-contaminated sites and the process/models used to determine them, as to their applicability in setting cleanup levels at RFETS. Provide a summary of this evaluation itemizing the reasons why such limits/models are or are not applicable for use in setting cleanup levels at RFETS.

3.Evaluate the input parameters, inputs, default inputs, and assumptions for the current analysis (using Argonne National Lab's RESRAD model) used to set the interim soil action levels at RFETS. At a minimum this evaluation must satisfy the following

a. Are the input parameters inputs, default inputs, and assumptions accurate and credible in simulating the conditions at RFETS and the subsequent conversion to dose rate/contamination levels?

b. For each of the input parameters, what is the sensitivity of the input values in terms of resulting contamination levels?

c. For each of the input parameters what is the distribution of possible input values. Identify each of these based on the sensitivities determined in 3b above from least conservative to most conservative (conservative meaning that which results in lower contamination levels given a certain dose limit)

d For each of the input distributions in 3c above identify an input value which can be considered "reasonable" or best estimate." Provide the reasoning for these choices.

4 The current analysis used to set the interim soil action levels at RFETS assumed certain land use scenarios. Evaluate these land use scenarios as to their appropriateness and conservative nature in setting cleanup levels at RFETS .Provide a

recommendation as to the acceptability of the currently assumed land use scenarios or the appropriateness of alternatives.

5..Identify and evaluate the methodologies(i.e. bounding, best estimate, conservative, probabilistic risk assessment, etc.) which can be used to combine/model the necessary inputs for a given computer model in determining contamination levels for a given dose limit. Provide a summary of these methodologies to the Oversight committee within one month of start of contract along with a recommendation as to the best suited for such an analysis.

6 The RESRAD model limits its review to on-site impacts. Review off-site migration/impacts over time/distance for various cleanup levels determined in item 6.

7.Consultant will meet with Actinide Migration panel and incorporate their results into the final soil action level model recommendation.

8. Specify a sampling method, process protocol and quality controls for ensuring that soil contamination measurements are meeting the cleanup standards that may be set from the use of models recommended in this investigation.

Firms responding to this RFP should develop a proposal that provides detailed descriptions of how the consultant will work with the Oversight Panel during each stage of the review to culminate in a final recommendation on a soil action level.

Specifically ,the Consultant will:

Meet with Oversight Panel on a monthly basis at a regular scheduled meeting. The review is expected to take no more than one year.

Facilitate a one day work session in _____during which the oversight panel will conduct a public informational meeting and develop a recommendations for a soil action level for RFETS.

Prepare reports, documents and other materials as described in your proposal and spelled out in the scope of work

Deliverables

In addition to meeting the requirements listed under the Scope Of Work, the contractor will be expected to produce a final report which is a comprehensive summary of the entire study. The main body of the report should be directed to the level of the educated public.

A separate summary report is to be provided for use by the General public.

Quarterly progress reports will be prepared for distribution on quarterly meeting dates.. They should include a summary of progress to date, a plan for the rest of the project and draft sections of the final report.

Schedule/Timeline

Meetings will be held bi-weekly initially for a time period to be determined. At least two of these meetings will be held at night. Monthly meetings will be held as work progresses. The contractor will provide sufficient staff to make presentations and answer questions.

March 1998	Start of Contract
April 1998	Presentation of potential methodologies to panel
May 1998	~~Setting of review methodology by oversight~~ panel
June 1998	First Quarterly report to oversight panel
July 1998	
August	Second Quarterly report & public mtg
September	
November	3rd Quarterly report & public mtg
December	
January	
Feburary 1999	Completion of contract, final presentations and report
March 1999	Presentation of results at RFCA Review

Review of Radionuclides in Soils Cleanup Action Level Modelling
Final Draft Project Description
November 19, 1997

1.0 Project Description and Product

In light of recent events and reappraisal of the establishment of safe levels of residual plutonium in the Rocky Flats soils, the U.S. Department of Energy (DOE) has agreed to support and fund a community-based advisory group to oversee an independent evaluation of radionuclide soil action levels. The purpose of the project is to obtain an independent scientific determination of the appropriate model to be used to set a site specific soil action level for radionuclides in the soils at Rocky Flats and recommend changes appropriate for the protection of future on-site and off-site populations. The evaluation will be conducted and peer reviewed by acknowledged experts chosen by an independent oversight panel.

A thirteen member oversight panel will be formed and will consist of a combination of local government, federal and state regulators, environmental groups, technical experts and interested citizens. Over a twelve month period the group will, through CDPHE, contract with appropriate professional specialists to assess the appropriateness of the current RESRAD model and any alternative models. The panel will review the current model (RESRAD) as well as other available models and provide a determination of which model is most applicable to the Rocky Flats site. Specific attention will be given to the input parameters and the rationale of their use for setting a soil standard that is protective of future site users, including the potential impact to downwind communities and surface waters leaving the site.

Actinide Migration Panel findings will be taken into consideration when determining input parameters. Additionally, a review of standards that have been set both locally and nationally will be undertaken to determine if they have an application for setting a Rocky Flats Standard. The project will focus primarily on soil conditions on-site, and where appropriate will attempt to integrate the Actinide Panel's analysis of the movement, mobility and fate of radionuclides from on-site soils.

The results of this investigation and evaluation will be shared with the RFCA principals to provide additional guidance in revisions to soil action levels. An RFP will be issued and the panel, with the logistical assistance of CDPHE, will select a winning proposal and negotiate a final scope of work with the winning contractor.

2.0 Process and Administration

2.1 Project Administration

The interim group endorses the use of the Colorado Department of Public Health and Environment, through the office of the Rocky Flats Health Advisory Panel, to serve

as the administrative conduit for allocation of the monies, administration of the contract and secretarial and organizational requirements of the oversight panel.

2.2 Establishment of the Oversight Panel

The community-based oversight group shall be called the *Rocky Flats Radionuclide Soil Action Level Oversight Panel* and serve as volunteers. The Oversight Panel shall consist of the following members:

- Six members of local government. The members shall be self-selected by the consensus approval of interested local governments.
- Two members of the public interest community. Members shall be self-selected by the consensus approval of interested public interest groups.
- Three representatives from the Technical community to include one representative from the HAP. Representatives shall be selected by the interim Ad Hoc group after a public notice and review of candidates.
- Two members of the general public most impacted by Rocky Flats. Representatives shall be selected by the interim ad hoc group after a public notice and review of the candidates.
- Ex-officio members:

  U.S. Department of Energy
  U.S. Environmental Protection Agency
  Colorado Department of Public Health and Environment

An interim ad hoc group consisting of the following members will convene to guide creation of the full panel. The interim panel consists of the following representatives; City of Broomfield (Hank Stovall and Kathy Schnoor); City of Westminster (Sam Dixion and Mary Harlow); The Rocky Mountain Peace and Justice Center (LeRoy Moore); Rocky Flats Citizen's Advisory Board (Tom Marshall, Ken Korkia, Victor Holm and Robert Kanick); Ex-officio (DOE-Steve Slaten, Kaiser-Hill-Dave Shelton and John Corsi, CDPHE-Norma Morin and Edd Kray).

2.3 Selection of a Contractor(s)

The oversight panel shall oversee the refinement of the Principal Investigation and Evaluations Questions (described below in section 3.0) to be addressed by the outside contractor. The panel shall utilize the expertise of a contractor or contractors to conduct the research needed to address the Principal Investigation and Evaluation Questions and consideration of special issues (described below in section 4.0). An RFP will be issued and the panel, with the assistance of CDPHE, will select a winning proposal and negotiate a final scope of work with the winning contractor, including provisions for a peer review process.

2.4 Process Management

All meetings shall be advertised and open to the public. The general public shall be encouraged to provide input to the panel. The panel shall strive for consensus and define a process for when consensus is required and when a majority vote is required. The panel will design a public participation process and a stakeholder participation process which ensures early input from interested individuals and stakeholders. CDPHE will assist the panel in drafting the necessary documents and the RFP. In Addition to administrative and co-ordinating services, CDPHE will serve as an administrative liaison between the panel and the contractor and help disseminate information and results. DOE and Kaiser will work to ensure full access to all available data and relevant documentation. The oversight panel will not be paid.

3.0 Principal Investigation and Evaluation Questions

Described below are the specific research questions to be answered by the project. These questions will provide guidance in the development of an RFP, and serve as the basis for negotiation of a final scope of work with the winning contractor(s).

a. What are the various models which can be applied to the study of the impacts of radionuclides in Rocky Flats soils, including the RESRAD model? Analyze these models to determine which ones are applicable and best suited for the site-specific conditions unique to Rocky Flats.

b. What are the model input parameters and assumptions being applied for the existing models in use at Rocky Flats? Are these input parameters accurate and credible in simulating soil conditions and converting dose to RSAL and converting to risk? Each of these parameters should be commented upon as to distribution of possible values, from most conservative to least conservative (including a "reasonable" or "best estimate" value), and the sensitivity of these parameters to the final result.

c. By applying the best available soils model and appropriate input parameters, as well as the methodology or methodologies as defined in the RFP, how will the model results impact the translation of dose to soil action levels and the translation to risk?

d. What cleanup levels exist at other radionuclide contaminated sites and do the processes/models to determine cleanup levels have application for use at Rocky Flats.

4.0 Special Issues

Below is a list of issues for the panel and the contractor to keep in mind as the final scope of work is negotiated. This list is a compilation of concerns and working assumptions

expressed by stakeholders, DOE, Kaiser-Hill, CDPHE and EPA to provide a backdrop for the final design of the scope of work.

4.1 **Establishment of the RSAL**: Under the Rocky Flats Clean up Agreement, the RFCA principals agreed upon the current interim RSAL to establish interim soil action levels for radionuclides (primarily plutonium and americium) to be protective of people using Rocky Flats after site closure. The RSAL did not consider off-site migration. These RSAL's are to undergo periodic review as new information is available.

4.2 **Water Quality Standards**: The 0.15 pCi/L surface water standards for plutonium and americium were adopted by the Water Quality Control Commission to protect all off-site use of water both during and after closure. The RFCA principals believe that the application of the RSALs to the site will result in actinides remaining in low concentrations in the soils. Stakeholders believe that the synergy of surface/groundwater to soils should be considered in the review of input parameters in the RESRAD or other models.

4.3 **Off-site Migration**: The RESRAD model limits its review to on-site impacts. the primary scope of the research will be the review of the RESRAD model, but many stakeholders believe that the impacts of off-site migration of radionuclides is of highest concern. Therefore, the ongoing research of the Actinide Migration panel and site investigations into the short and long-term migration and fate of the actinides should be woven into the contractors activities as appropriate for addressing the Principal Questions. The Panel should co-ordinate and incorporate the Actinide Panel results into the timing of the activities of the contractor. It is expected that the contractor will meet at least once with the actinide migration investigators to share information and co-ordinate efforts as appropriate and that the oversight panel will be kept fully appraised of the activities and results of the actinide migration investigators. The contractor will be encouraged to evaluate new or improved soils models which strive to integrate multi-media considerations. some stakeholders believe that by applying ALARA principles, actinides can be minimized and immobilized in order to reduce off-site migration.

4.4 **Input Parameters**: To ensure that the contractor will quantitatively address the research questions and in order to minimize the subjective level of interpretation on how the input parameters should be applied, the scope of work and the contractor must strive to identify, at the onset, the method by which input parameters are applied or tested. Choices include: Best estimate method, conservative method, bounding method, and probabilistic risk assessment method. Specifically, stakeholders are concerned that the 651 pCi/g of Plutonium-239,240 in combination with 117 pCi/g of Americium-421 is high. Likewise, DOE is concerned that maximizing the conservatism of all input parameters could result in a model that lacks "reasonableness."

4.5 **Unique Site Specific Conditions**: The RFCA operates under the assumption that cleanup[p activities and cleanup levels will be sufficient to allow for a

predetermined future land use. For comparative purposes, review of the models should also consider the impact of a range of reasonably foreseeable land uses from industrial to residential. This assumption, as well as off-site land use developments, provide an important backdrop for the application of a preferred mode. In addition, other issue impacting soils include: community acceptance of institutional controls; the prospect for deployment of innovative/cost effective soils remediation technologies; the opportunity for off-site disposal of soils and building rubble; and, the importance of buffer zone preservation and critical habitat. All these issues, many of which are in flux, should be recognized when judging the applicability of the RESRAD or other models at Rocky Flats and the adequacy or appropriateness of the model inputs.

4.6 **Quality Assurance**: Quality assurance is critical to ensure that the contractors results are credible, believable and consistent with established practices for analysis of radionuclides. the scope of work must ensure appropriate quality assurance and peer review protocols.

5.0 Timeline:

General Timeline:	12 months from the date of contract
October to December '97	Convening of the oversight panel; refinement of scope of work and development and issuance of RFP.
January 1998	Award of Contract
March to December 1998	Contractor performs scope of work with quarterly technical review meetings with the panel and the public.
January to March 1999	Final Report (Panel review and peer review)

6.0 Estimated Cost:

$800,000 to $1,500,000	Preliminary estimates by CDPHE

Draft RFP for SAL Independent Review

Background

As the concluding step of the Rocky Flats Cleanup Agreement (RFCA), on October 18, 1996, the U.S. DOE and its regulators (EPA and CDPHE) at the Rocky Flats Environmental Technology Site (RFETS), a former nuclear weapons production facility located in Jefferson County, CO, adopted interim Radionuclides in Soil Action Levels (RSALs), which is to say cleanup levels, for radionuclides in the soil at the RFETS site (Attachment A). Intended to be protective of people using the RFETS site after closure, the RSALs specify how much radioactive material (primarily plutonium and americium) may remain in the RFETS soil after cleanup without exceeding permitted exposure levels (dose) for targeted persons. The RSALs did not consider off-site migration. As part of RFCA, the RSALs are to undergo periodic review as new information is available.

The RSALs were calculated based on the dose assumptions given in RFCA. The calculations to determine how much radioactive materials in the soil corresponds to the permitted dose were performed by entering the more than 70 input parameters and default values into Argonne National Lab's RESRAD computer program.

In response to public concerns regarding these RSALs, DOE agreed to this independent review of the methods used to convert given dose levels to soil contamination levels as used in setting the RSALs. A citizen review group known as the Rocky Flats Radionuclide Soil Action Level Oversight Panel (RFRSALOP) was created to define the project, to issue this Request for Proposal (RFP) to interested parties, to contract for the independent review, and to oversee the review from initiation to completion. CDPHE, through the office of the Rocky Flats Health Advisory Panel (HAP), will serve as the administrative conduit for allocation of monies, administration of the contract, and provision of secretarial and organizational support for the RFRSALOP. Accordingly, the present RFP is issued by the HAP office of CDPHE.

Scope of Work

The contractor is being requested to investigate three things. First, to review models, methodologies, and cleanup levels that may exist or are being developed for other radionuclide-contaminated sites as to how they may apply to the RFETS site-specific situation. Second, to review the existing analysis used to set the current RFETS RSALs as to its accuracy and applicability. And third, based on the results of the above investigations, to calculate an independent set of RSALs.

The contractor will be expected to submit a comprehensive final report as well as to publish the study in a reputable peer review journal.

The study will use existing RFETS site data to the maximum extent possible. It is expected that

this data will be both sufficient and of acceptable quality to complete the study. It will be the responsibility of the contractor to determine the sufficiency and quality of this data and informing the RFRSALOP at an early date if additional data is required.

The contractor may suggest that the scope of study be modified however, at a minimum, proposals are requested to address the issues as discussed above. Specifically the contractor will be asked to perform the following:

1. **Cleanup Levels at Other Sites**

   Action:

   Identify and evaluate cleanup levels (i.e., RSALs) which exist or are projected for use at other radionuclide-contaminated sites and the processes/models used to determine them as to their applicability in setting cleanup levels at RFETS. Provide a summary of this evaluation itemizing the reasons why such limits/models are or are not applicable for use in setting cleanup levels for RFETS.

   Discussion:

   This study should concentrate on examples of soil contaminated with transuranic elements. Of particular interest is the reasoning that went into the setting of these cleanup levels and the subsequent history of the site, including any cleanup. The study should concentrate on published material supplemented by interviews and correspondence. The study should compare the levels within the context of site-specific conditions, projected land use, and the then existing risk assessments and dose standards. This portion of the study will not be used to recommend cleanup levels at RFETS, but will simply be used to place the calculated values in context.

2. **Computer Models**

   Action:

   Identify and evaluate all available or emergent computer models which can be used to calculate radionuclide contamination levels in soils based on a given dose rate. The models are to be evaluated to determine which are most applicable and best suited to model the site-specific conditions at RFETS. Provide a description of these models, a summary of the strengths and weaknesses of each, and a recommendation for the most appropriate model(s).

   Discussion:

   Models that are inappropriate to the RFETS site conditions, obsolete, or which cannot be readily validated should not be included. The RESRAD model must be included due its use in determining the current RSALs. A comparison of the different models using RFETS site-specific data would be useful. The contractor is encouraged to find computer codes

capable of modeling both on-site and off-site dose rates. It is possible that no one model will prove satisfactory for determining both, but that a combination of models may be necessary. The contractor will be expected to recommend the most appropriate model(s) for the RFETS site-specific conditions and to justify this recommendation. Whichever model or models are recommended should be thoroughly validated. It is not necessary that the contractor perform this validation; peer reviewed, published studies will suffice. In the event that RESRAD is not recommended, RESRAD should be run in parallel with the recommended model(s) as a comparison.

3. Inputs and Assumptions

Action:

Evaluate the input parameters, inputs, default inputs, and assumptions for the current analysis (RESRAD) used to set the RSALs at RFETS. At a minimum this evaluation must satisfy the following:

Are the input parameters, inputs, default inputs, and assumptions accurate and credible in simulating the conditions at RFETS, given the land use scenarios as set in RFCA, and the subsequent conversion to dose rate/contamination levels?

For each of the input parameters, what is the sensitivity of the input values in terms of resulting contamination levels?

For each of the input parameters, what is the distribution of possible input values. Identify each of these based on the sensitivities determined in 3.b) above from least conservative to most conservative with conservative meaning that which results in lower contamination levels given a certain dose limit.

For each of the input distributions in 3.c) above, identify an input value which can be considered "reasonable" or "best estimate". Provide the reasoning for these choices.

Discussion:

All of the input parameters to the model need to be examined. Parameters that are easily confirmed, non site-specific parameters , or those which are specified by the EPA or other regulatory agencies should be noted as such. If the investigation indicates that such values are not appropriate, alternatives should be recommended. For parameters that are site-specific to RFETS, a thorough study of the distribution of possible values should be performed.

4. Methodology

Action:

Identify and evaluate the methodologies which can be used to select or combine the

necessary inputs/outputs for a given computer model in determining contamination levels for a given dose limit. Within 1 month of the start of the contract, present to the RFRSALOP and affected stakeholders a summary of these methodologies along with a recommendation and justification as to the best suited for such an analysis. Compare or contrast this recommended methodology with that used in the existing RESRAD analysis.

Discussion:

It is understood that there are several methodologies (e.g., bounding, best estimate, conservative, probabilistic risk assessment, etc.) which can be used to shape the inputs for such an analysis. The question as to "how conservative is conservative?" makes this a subjective rather than simply a scientific issue because the affected communities must accept the risks involved. Therefore, the RFRSALOP wishes to fully understand the nature and implications of each of the potential methodologies to ensure that the methodology chosen can best produce credible and defensible results from this independent review which will be acceptable to the broadest range of stakeholders.

5. Independent Calculation

Action:

Use the methodology recommended in 4. above to select/combine the inputs identified in 3. above as well as any new inputs required by the model recommended in 2. above in that model to calculate contamination levels for the dose limits set for each of the RFCA land use scenarios assumed in the original analysis. This includes a residential scenario. As part of the calculations, include a statement of the assumptions and level of uncertainty involved in the specific approach utilized. State the dose limits in terms of risk.

6. Protocols

Action:

Specify the sampling method, process protocol, chain of custody (quality controls) for ensuring that subsequent soil contamination measurements are directly corresponding to the cleanup levels that may be set from the use of models and inputs as studied in this investigation.

Discussion:

There is a strong desire to find a scientifically credible method for guaranteeing that the cleanup levels will actually be met in terms of what contamination levels are ultimately measured at the site. This study should clearly delineate such parameters as sample spacing, depth of samples, sampling methods, and all associated quality assurance which ensure that the methods used for measuring contamination before and after any remediation are directly applicable to the parameters used for setting the cleanup levels.

7. **Actinide Migration**

Action:

The contractor is to meet at least once with the Actinide Migration Panel to share information and coordinate efforts as appropriate in order to ascertain the applicability of any results from the actinide migration studies on the inputs to this modeling for this analysis. The contractor should study these results and any other relevant data and determine what impact these will have on the results such as obtained in 5. above.

Discussion:

It should be determined that cleanup levels are protective of off-site residents. Calculations for the exsiting RSALs only considered on-site exposure scenarios. Since off-site air and water quality standards are more restrictive, it is possible these standards will control the cleanup. How can the issue of plutonium migration be incorporated into an evaluation of the RSALs? An Actinide Migration Study is currently underway. The final results of this study will not be ready in time to be used in this study. Some preliminary results will however be available. It is understood that any conclusions that can be based on this are tentative pending the completion of the Actinide Migration Study. The collection of new data, laboratory studies, and new research are beyond the scope of this study. The contractor should, however, identify the data needs of this study as early as possible in order to facilitate the collection and analysis of additional data needed.

9. **Water Quality**

Action:

Subsequent to the evaluation of inputs in 3. and the calculation of contamination levels in 5. above, consider the following: Are the inputs such that the resulting contamination levels will ensure the 0.15 pCi/L surface water standard for Pu and Am adopted by the Water Quality Control Commission are met?

Discussion:

If possible, a time plot of surface water contamination for a range of soil contamination levels should be produced. Based on such an analysis, it is possible that a different level of cleanup may be required for different areas of the site.

Deliverables

The contractor will be expected to produce a final report which is a comprehensive summary of the entire study. The main body of the report should be directed to the level of the educated public. The magazine *Scientific American* could serve as a model for the style and technical level being sought. The contractor may wish to include appendices that include more technical details.

A synopsis of the study and the results are also to be submitted to a reputable peer review journal for critical analysis.

A separate summary is to be provided which should be directed to the general public that has no prior knowledge of the RSALs. This report should be suitable for inclusion in newsletters or general circulation newspapers.

Quarterly progress reports will be prepared for distribution at quarterly meetings. They should include a summary of progress to date, a plan for the rest of the project and draft sections of the final report.

Schedule/Timeline

At the very beginning of the contract, to ensure that the contractor is aware of the concerns of the affected public about this review, the general public will be invited to attend a scoping meeting. Thereafter, quarterly meetings will be held which will consist of two nightly sessions. The first night will be devoted to a technical session summarizing the work to date. The second night will be a business session where plans and methods of research will be discussed. The contractor will have sufficient staff present to answer any questions. During the day between the meetings, the contractor team is to be available for discussions or technical briefings with panel members or members of the public.

On months that do not include a quarterly meeting, the panel will meet. The contractor will ensure at least one representative is present.

It is desired that the contractor complete the work according to the following schedule and to propose a work schedule as appropriate:

March 1998	Start of contract
April 1998	Presentation of potential methodologies to RFRSALOP
June 1998	First quarterly report to RFRSALOP
December 1998	Completion of contract, final presentations and report
January 1999	Presentation of results for special RFCA review

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MEMORANDUM

Subject: Soil Action Level Independent Review

To: Soil Action Level Ad-Hoc Group

From: Jeremy Karpatkin, DOE-RFFO
Steve Staten, DOE-RFFO
David Shelton, K-H
John Corsi, K-H

Date: December 12, 1997

Following are a few suggested editorial changes to the Draft RFP.

Action 4 — Methodology

Under Discussion section, delete last part of last sentence: "which will be acceptable to the broadest range of stakeholders". The sentence would end with "independent review".

Action 6 — Protocols

Delete section. We agree sampling methods and quality controls are crucial issues, but it is beyond the scope of this review. There are other possible vehicles to explore this important issue.

Action 7 — Actinide Migration

Change first sentence under Discussion to read: "Ultimately, cleanup levels must be protective of off-site residents".

Action 8 — Water Quality

Delete section. This action is duplicative. The current Actinide Migration Investigation is addressing this exact issue (see Joe Legare memorandum)

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United States Government

Department of Energy

Rocky Flats Field Office

memorandum

DATE: DEC 10 1997

REPLY TO ATTN OF: RLG:SWS:05587

SUBJECT: Soil Action Level Independent Review

TO: Soil Action Level Ad-Hoc Group

The purpose of this memorandum is to clarify DOE's commitment to fund an independent scientific review of the radionuclide soil action levels (RSALs) at Rocky Flats. Over the last few months an ad-hoc group of stakeholders, regulators and Rocky Flats representatives have been meeting periodically in an attempt to define the scope of work of such a review. Although a few issues remain unresolved, DOE is confident that these issues are minor and that we are close to a mutual understanding on the scope of work. I would also like to commend the effort and time that the Stakeholder Ad-Hoc Group has already committed to this important issue.

Independent Review of Soil Action Levels:

DOE has agreed to support to an independent scientific review of the methods and assumptions used by the RFCA parties to establish RSALs, including:

1. Review the appropriateness and accuracy of the RESRAD model in translating the 15/85 mRem dose standard to a soil action level (pCi/g). This effort may include the identification of other methods which could be used to more accurately translate dose to action levels.

2. Examine the parameters input to the RESRAD model for appropriateness and veracity.

These two questions should be the primary focus of the review, but DOE also agrees to include a review of cleanup levels and methodologies used at other radionuclide contaminated sites and determine their applicability at Rocky Flats. This review should not require a great deal of time or resources and should concentrate on existing published material.

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Additional Opportunities for RSAL Review

As part of the annual review prescribed by RFCA, the agencies will be responsible for conducting an internal annual review of the soil action levels. An annual report summarizing the review will be given to the public each year. Questions that will be addressed on an annual basis include:

1. Is there new scientific information available that would impact the interim action levels?

2. Has a national soil action level been promulgated within the year? If yes, the parties commit to revisit Rocky Flats' interim action levels.

3. How were the interim action levels applied to the site over the course of the year?

4. Have the remedies been effective?

This review will address information such as:

- new findings from the National Academy Sciences (NAS) on appropriate dose standards
- new information that the Actinide Migration Investigation produces
- any new scientific information in general that potentially impacts the RSALs

Joseph A. Legare
Assistant Manager
for Environmental Compliance

1/29/98
Session

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SAL MTG 1-29-98

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Lakewood 80215

phone 202-9324
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Keep posted on
SAL Onsite
Panel Mtgs

60

E mail addresses – RF SAL Review Panel

Dean Heil [redacted]

LISA MORZEL [redacted]

TODD MARGULIES [redacted]

JSELBIN [redacted]

Niels Schenbeck [redacted]

Mary Harlow [redacted]

Dave Shelton [redacted]

Steve Slaten [redacted]

VICTOR HOLM [redacted]

Steve Gunderson [redacted]

KATHY SCHNOOR [redacted]

Jackie Beldding [redacted]

James McCarthy [redacted]

BOB KANICK [redacted]

Tom Davidson [redacted]

Joe Goldfield [redacted]

facilitator Laura Till [redacted]

HANK STOVALL FAX 469-8554

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Agenda
Soil Action Level Review Meeting
January 29, 1998

4:00	Introductions Laura Tice
4:15	Agenda Review "
4:25	House Keeping - Laura - Ground Rules - as a group - Organization of Table
4:55	Presentation - review and history of SAL issue (Ken Korkia) handout - Input From Committee Members - Q&A
5:35	Update on Funding - Joe Legare - use existing grant & adding this panel's scope of work 1-2 wks to get it out (Scope, cost, schedule)
5:50	Public Comment
6:00	Break
6:10 6:25	Walk Through RFP - LeRoy
6:30	Section by Section Review of RFP
7:30	Proposal to Create a Steering Committee
7:45	Public Comment
7:55	Next Meeting - [illegible] to discuss [illegible]
8:00	Close

Feb 12th

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~~Accomplishments~~

Group Agreements

→ Panel members & ex-officio members participa in gen'l discussions

→ Alternates, agency members + public may be invited to speak by panel or ex-officio memb

→ The public will be given an opportunity to speak for a fixed period of time before the panel makes decisions

* Put your nametag upright when wanting to be recognized to speak

* Speak only when called on by the facilitator

* Focus on topics on the agenda (don't bring up other issues, "old grudges")

* Avoid side conversations

* If you're wanting to speak on an issue and don't want to wait in line, raise hand

* Be on time

* Start & end meetings on time

* Show respect by:
  - no put-downs
  - no personal attacks

Agreements (cont.)

* No interruptions

* Minutes will be approved at the beginning of the meeting

Decision-Making

① This group is committed to consensus

② If there is a deadline and a decision must be reached and for whatever reason the group is unable to reach consensus in time for that deadline, a vote will be taken. A 2/3 majorit is needed to pass a vote.

③ If a ~~2/3 majority~~ vote is taken and an issue is not passed by a 2/3 majority, yet another decision has not been reached, and the deadline is still an issue, at the end of the meeting the issue will be revisited briefly for discussion, followed by a ~~2/3 majority~~ vote in which a simple majority can pass an issue

④ In general, once a decision is made it will not be revisited. If new information arises or a member feels a strong need to revisit a decision

the group will decide if it will revisit the decision at that time.

⑤ A record will be kept indicating whether decisions were made by ~~major~~ consensus, a 2/3 ~~vote~~ majority vote, or a simple majority vote. The group will decide on a case by case basis whether or not to indicate in reports whether the decision was made by majority vote or consensus. Also, if a decision was not made by consensus, the group will decide on a case by case basis whether to discuss reasons for positions of majority & minority in the reports.

⑥ Ex-officio members are included in discussions but not in decision-making.

Agenda
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Decisions that need to be made about RFP drafts C and A2

General issues (there may be others):

1) Can we make decisions tonight only on the content, not the specific language? We could name a committee to do the wordsmithing later, then to circulate their product in time for us to be able to review it prior to our next meeting, so we can approve it (possibly with revisions) at that time. If we decide on a committee to complete the text, could we also leave to them the task of determining the appropriate order of items (A2 and C use slightly different orders)?

2) Draft C, in the "Scope of Work" section, has two parts under each item, "Action" and "Discussion." A2 does not include "Discussion." We have three possible choices: to exclude separate "Discussion" paragraphs (the A2 approach), to retain "Discussion" paragraphs (the C approach), or to add "Discussion" items as an Appendix at the end of the principal RFP text.

3) Can we confine our discussion and decision-making regarding the RFP drafts to known and potential disagreements? Known disagreements are those between the two drafts, or between the drafts and the agency memo. Potential disagreements are any changes, additions, deletions that may be proposed.

Specific issues: Items identified as disagreements between the two documents (not all of them substantive), or between the RFP drafts and the agency memo. Areas of substantive disagreement are identified with an *. Can we start with these?

page 1
* a) First paragraph of Background in A2 does not appear in C. Shall we keep it?
b) C is longer than A2.

page 2
* a) Purpose section in A2 does not appear in C. For the most part this does not constitute a substantive difference. However, the final two sentences of the A2 Purpose (on integrating the final report from the Actinide Migration Panel into the final SAL review report) need discussion.

Scope of Work
* b) A2 says comments received from the public will be incorporated into the "final recommendation"; not so C.
c) First paragraph of C summarizes what follows; not so A2.
* d) C but not A2 says (end of page) that the contractor may suggest modifying the scope of study.

page 3
Cleanup Levels at Other Sites
* a) A2, second line includes a sentence beginning: " The contractor will identify any models . . .?" What does this mean? Does it alter what the contractor is being asked to do, or only clarify it?

Computer Models
* b) See the underlined text at the end of the A2 column. Does this modify or only clarify what the contractor is being asked to do regarding computer models?

page 4

Inputs and Assumptions

* a) See the underlined text at the bottom of the A2 column. This seems to be a substantive addition. What should we do with it?

page 5

Methodology

* a) In the A2 column, see the text in bold print at the end of the first paragraph. What shall we do with this proposed addition?

* b) In column A2, see the underlined text at the end of item number 5. Two questions: Does this sentence belong here -- or might it belong on page 3 under the item on cleanup levels at other sites? Second, what shall we do with this proposed addition?

• c) See the deletion proposed by the agency memo. What to do?

page 6

Protocols

* a) The agencies propose (middle of the page) that we delete the section on protocols for sampling methods. What shall we do?

IF WE DELETE THE SECTION ON PROTOCOLS, SKIP b), c), and d).

* b) Note the difference in the opening sentences of C and A2 under "Protocols." A2 refers to "cleanup standards that may be set from the use of models *recommended* in this investigation, C to "cleanup levels that may be set from the use of models and inputs as *studied* in this investigation." Which shall it be?

* c) Is there a substantive difference between the opening sentence in A2 and the sentence in bold proposed as a substitute? If so, which do we want?

*d) What shall we do with the underlined sentence at the end of the sampling method section in the A2 column?

Actinide Migration

* e) Note the difference between the openings sentences in A2 and C. Which approach shall we take?

* f) See the underlined phrase at the end of column A2. What is intended? Does this phrase refer to the Actinide Migration Panel? or to the contractor for the independent review? What should we do with this passage?

* g) Note the change proposed by the agencies (bottom of page). What shall we do?

page 7

Water quality

* a) The agencies recommend deletion of this section on water quality. What shall we do?

Item 6, column A2

* b) This section refers to the failure of the RESRAD computer model to deal with off-site impacts, so it may be meant as a substitute for the "Water Quality" section in C (which also has to do with one form of off-site impact). We need:
first, clarity on what this section is about, and,
second, decisions on what to do with the three layers of language: (1) the original opening two sentences; (2) the addition in bold; (3)the underlined portion.

page 8

* a) This page appears in A2 but not in C. It shows the same three layers of language referred to above (final item, page 7). Some of what is here mentioned could be incorporated under the following "Deliverables" section, some under the closing section on "Schedule/Timeline." Perhaps we can take each separate item on this page, decide on its inclusion or exclusion, then determine where it needs to be placed in the document. Perhaps we need to create a new heading, something like "Expectations for Those Conducting the Review" (there may be a better idea).

page 9

Deliverables

* a) Document C says "a synopsis of the study and the results are also to be submitted to a reputable peer review journal for critical analysis." The underlined sentence in A2 says, by contrast, says such an article is to be prepared "for publication." Which is the better way of stating what is needed? Would it be preferable to say we expect actual publication of an article in a reputable peer reviewed journal?

* b) Is this the best way to get peer review of this work, particularly since getting editorial response to a submitted article may take as long as a year after submission of a manuscript?

page 10

* a) C includes more detail than A2 regarding meetings and public participation. Is it better to have more detail at this point or to decide on this kind of detail later?

* b) In the second line of column C, replace the term "scoping" with "informational." This reflects the fact that the scope of the project is already defined by this RFP.

* c) Note the difference in timelines between A2 and C. Which do we go with?

F-A-X M-E-M-O-R-A-N-D-U-M

TO: DISTRIBUTION

FROM: KATHY SCHNOOR

SUBJECT: MEETING REMINDER FOR JANUARY 29, 1998

DATE: JANUARY 23, 1998

There will be meeting **THURSDAY, January 29, 1998, 4:00-8:00 PM at Broomfield Municipal Center** in the Zang's Spur Conference Room (please bring a brown bag supper). Please read the various drafts of the Scope of Work for the RFP (items Labeled A, B, C at the meeting on 1/13/98) and be prepared to discuss them in detail.

Proposed Agenda

- Introductions
- Selection of Panel Co-Chair people
- Panel Members provide a biographical sketch of their position, education and work experience
- Regular meeting schedule determined, meeting notices advertised
- Update on selection of meeting facilitator to work with the panel
- Development of project history
- Panel briefing on RFCA and RSALs by CDPHE, EPA, and DOE
- Panel review and discuss the Draft Scope of Work
- Other Items:
  - -CDPHE update-RSAL review fit with RAC contract
  - -Outline state process and timeline to get work started
  - -Funding
- Next Steps
- Next Meeting(s)- Date, Time, Location

70

F-A-X M-E-M-O-R-A-N-D-U-M

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7/

DRAFT A1

REQUEST FOR PROPOSALS
SCIENTIFIC REVIEW SERVICES

Firms to Provide Contract Services to Assist the Soil Action Level Review Oversight Committee

1. PROJECT DESCRIPTION

1.1 Background

The Rocky Flats Environmental Technology Site was constructed in 1951. The site served as a production facility to manufacture trigger components for nuclear weapons. In 1989 operations at the plant were shut down due to safety and production problems The site's current operations involve decontamination and deactivation of radionuclide contaminated buildings, remediation of environmental damage and waste management.

On October 18, 1996, as a final step to the Rocky Flats Cleanup Agreement, the Department of Energy, Environmental Protection Agency and the Colorado Department of Health and Environment adopted an interim Radionuclide in Soil Action Level (RSALs) for the Rocky Flats Site. The RSALs were calculated based on the dose assumptions given in RFCA. The calculations to determine how much radioactive materials in the soil corresponds to the permitted dose were performed by entering more than 70 input parameters and default values into the Argonne National Lab's RESRAD computer program.

In response to public concerns regarding these RSALs, DOE agreed to an independent scientific review of the soil action levels set for Rocky Flats. A community review panel known as the Rocky Flats Radionuclide Soil Action Level Oversight Panel (RFRSALOP) was created to oversee the process of obtaining an independent review. The Colorado Department of Health and Environment, through the office of the Rocky Flats Health Advisory Panel (HAP) will serve as the administrative conduit for allocation of moneys, administration of the contract and provision of secretarial and organizational support for the oversight committee.

Purpose

The purpose of this study is to obtain and independent scientific review of the soil action levels set for the cleanup of the Rocky Flats Environmental Technology Site. The review will evaluate the accuracy and applicability of the input parameters used to calculate the current RFETS SALs. The review will encompass models, methodologies and cleanup standards that may exist or are being developed for other sites and their applicability to Rocky Flats. Based on the results of this investigation a site specific SAL will be recommended for the Rocky Flats site. Based on the findings of this investigation a recommendation will be developed for a soil cleanup action levels for transuranic elements in the surface soils at Rocky Flats that will be protective of surface

waters leaving the site, future users and surrounding communities. **The Actinide Migration panel final report on the speciation and migration of plutonium and americium in the environment will be integrated into the final soil action level review report prepared by the consultant.. It is desirable that the scope of work of the Actinide Panel be scheduled and funded to run parallel with the SAL**

1.2 Scope of Work.

The consultant will work with the Rocky Flats Radionuclide Soil Action Level Oversight Panel in conducting a review of the interim soil action levels set for Rocky Flats. **The consultant will provide the Oversight Panel with a set of recommendations. The Oversight panel will incorporate comments received from the public into a final recommendation for inclusion by DOE and the regulators in the RFCA..**

The Contractor will be required to perform the following tasks.

1. Identify all **relevant** available or emergent computer models which can be used to calculate radionuclide contamination levels in soil based on a given dose rate. Provide a description of the models, a summary of the strengths and weaknesses of each and a recommendation for the most appropriate model(s) best suited to the site specific conditions at Rocky Flats.

2. Identify and evaluate cleanup standards which exist or are projected for use at other **Plutonium and Americium** contaminated sites. **The contractor will identify any models that were or are being used to determine offsite impacts to communities from onsite cleanup standards**. For the above two tasks the contractor will identify the process/models used to determine them, as to their applicability in setting cleanup levels at RFETS. The contractor will provide a summary of this evaluation itemizing the reasons why such limits/models are or are not applicable for use in setting cleanup levels at RFETS.

3.Evaluate the input parameters, inputs, default inputs, and assumptions for the current analysis (using Argonne National Lab's RESRAD model) used to set the interim soil action levels at RFETS. At a minimum this evaluation must satisfy the following

a. Are the input parameters inputs, default inputs, and assumptions accurate and credible in simulating the conditions at RFETS and the subsequent conversion to dose rate/contamination levels?

b. For each of the input parameters, what is the sensitivity of the input values in terms of resulting contamination levels?

c. For each of the input parameters what is the distribution of possible input values. Identify each of these based on the sensitivities determined in 3b above from least conservative to most conservative (conservative meaning that which results in lower contamination levels given a certain dose limit

73

F-A-X M-E-M-O-R-A-N-D-U-M

TO: DISTRIBUTION

FROM: HANK STOVALL, SAM DIXION, MARY HARLOW

SUBJECT: REVISED A1 REQUEST FOR PROPOSALS

DATE: JANUARY 28, 1998

The Attached A1 version of the Request for Proposals for Scientific Review Services is an updated version of item A handed out at the 1/13/98 SAL meeting. The changes are in bold type. Read this draft along with the other three drafts of the Scope of Work for the RFP (items Labeled A, B, C at the meeting on 1/13/98). Please bring all four copies and be prepared to discuss them in detail at the meeting on **THURSDAY, January 29, 1998, 4:00-8:00 PM at Broomfield Municipal Center** in the Zang's Spur Conference Room (please bring a brown bag supper).

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City of Broomfield

One DesCombes Drive, Broomfield Colorado 80020

DATE: January 22, 1998
FROM: Kathy Schnoor, Environmental Services Phone: 438-6363
TO: Distribution List
RE: Rocky Flats Soil Action Ad-Hoc Group/ Meeting 1/ 29/98 - 4:00 pm

			PHONE	FAX
1	David Abelson	Cong. Skaggs' Ofc	650-7886	650-7893
2	Jackie Berardini	CDPHE	692-3472	782-0095
3	Deanne Butterfield	RFLII	940-6090	940-6088
4	Jeff Ciocco, Jim Fiore, Ray Greenberg	DOE HQ	301-903-7459	301-903-3877
5	John Corsi	Kaiser Hill	966-6526	966-6153
6	Sam Dixion	City of Westminster	426-1202	429-5113
7	Joe Goldfield	RFCAB-SNM	321-7276	(mail)
8	Mary Harlow	City of Westminster	430-2400 x 2174	650-1643
9	Tim Holeman	City of Broomfield	355-5492	355-5530
10	Victor Holm	RFCAB	989-9086	980-9076
11	Bob Kanick	RFCAB	444-0049	444-0072
12	Jeremy Karpatkin	DOE	966-2080	966-6633
13	Ken Korkia	RFCAB	420-7855	420-7579
14	Edd Kray	CDPHE	966-2115	966-5449
15	Tom Marshall	RFCAB	444-6981	444-6523
16	LeRoy Moore	RMPJC	444-6981	444-6523
17	Dr. Norma Morin	CDPHE	692-2645	782-0188
18	Tim Rehder	EPA	312-6293	312-6067
19	Jessie Roberson	DOE/RFFO	966-2025	966-6054
20	Kathy Schnoor	City of Broomfield	438-6363	438-6234
21	Dave Shelton	Kaiser Hill	966-9877	966-5001
22	Steve Slaten	DOE	966-4839	966-3710
23	Hank Stovall	City of Broomfield	466-5986	469-8554
24	Steve Tarlton	CDPHE	692-3423	782-4969
25	Todd Margulies	TM Consulting	279-6699	303-279-6699 **Call first/include 303**
26	Jim McCarthy	City of Arvada	431-3042	431-3969
27	Lisa Morzel	City of Boulder	[redacted]	~~938-8520 Call first~~ use City FAX
28	John Tayer	City of Boulder	441-3005	441-4478
29	Tom Davidson	City of Louisville	666-6565	673-9043
30	Ken Starr	Jefferson County	271-5714	271-5702
31	John Shepherd	Physician/Soc Resp	650-4460	650-4403 pager 461-8428
32	Neils Schonbeck	Metro State	556-8327	556-5399
33	Joel Selbin	UCD Chem Dept	[redacted]	556-4776 (W)
34	Dean Heil	CSU	970-491-6516	970-491-0564
35	Steve Gunderson	CDPHE	692-3022	782-4969
36	Herb Betts	CDPHE	692-2665	782-0188
37	Carl Spreng	CDPHE	692-3358	759-5355
38	Will Neff	RFLII	940-6090	940-6088

Number of pages including cover sheet: ___.
If all pages are not received or are not clear, please contact Diane Eismann at 438-6360.

Laura Till - facilitator 447-9227

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DRAFT A1

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78

City of Broomfield

One DesCombes Drive, Broomfield Colorado 80020

DATE: January 22, 1998
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TO: Distribution List
RE: Rocky Flats Soil Action Ad-Hoc Group/ Meeting 1/ 29/98 - 4:00 pm

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26	Jim McCarthy	City of Arvada	431-3042	431-3969
27	Lisa Morzel	City of Boulder	[redacted]	~~938-8520 Call first~~ use City FAX
28	John Tayer	City of Boulder	441-3005	441-4478
29	Tom Davidson	City of Louisville	666-6565	673-9043
30	Ken Starr	Jefferson County	271-5714	271-5702
31	John Shepherd	Physician/Soc Resp	650-4460	650-4403 pager 461-8420
32	Neils Schonbeck	Metro State	556-8327	556-5399
33	Joel Selbin	UCD Chem Dept	[redacted]	556-4776 (W)
34	Dean Heil	CSU	970-491-6516	970-491-0564
35	Steve Gunderson	CDPHE	692-3022	782-4969
36	Herb Betts	CDPHE	692-2665	782-0188
37	Carl Spreng	CDPHE	692-3358	759-5355
38	Will Neff	RFLII	940-6090	940-6088

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If all pages are not received or are not clear, please contact Diane Eismann at 438-6360.

Laura Tiel - facilitator 447-7227

79

I have Jacs

City of Broomfield

One DesCombes Drive • P.O. Box 1415 • Broomfield, Colorado 80020

SHEET NO. ..... OF .....

JOB NO. RF S+L

BY KS

DATE 1/29/98 TIME 4 pm

Introductions

Agenda Review

Housekeeping -

Groundrules:

- name markers on end
- speak only when called on
- leave old grudges behind - stay focused on this topic
- avoid side conversations
- Focus on topics at hand - on agenda
- be on time & start on time
- show respect - no put downs, nasty comments
- no personal attacks

Decision Making Style

- strive for consensus - if it fails vote
  - simple majority or super majority
  - by 2/3 vote of board members present if have to move on and to avoid majority for deadlines
- don't revisit issues that have been decided this one is being debated - only if new info is avail or as a majority votes
- indicate majority, consensus or minority report
- keep a record of decisions
- majority report or minority report - would minutes suffice - NO -
- minutes approved at beginning of mtg.

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SHEET NO. 2 OF

JOB NO. SAL

BY KS

DATE 1/29/98 TIME

City of Broomfield

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Ken - History (get a copy of Ken's notes)
Soil Action Levels - 15/85 mean/ based on dose

worst is industrial worker

if factors changed & someday it is intended for residential use (100 yrs)

- SALs based on dose - exposure by inhalation, ingestion or contact absorption
- land use scenario is key to dose equation office worker, recreational, residential
- RESRAD model - over 70 input parameters some are assumptions & they may not be conservative enough
- Historic benchmark State construction 0.9 pCi/g std
- SAL came out over 1000 pCi/g
- other benchmarks
  Grand Junction 110 pCi/g
  Nevada
  Maryland
  NJ's in low 100's
- Are the numbers too high
- Independent assessment made by science experts - guided by the panel
- CAB, cities Skaggs
- is Resrad O.K. model, input parameters OK. what about off-site migration, is 15/85 mean levels OK.

Sept 15 1997 - basic agreements
- look at RESRAD model
- look at input parameters
- examination of other Soil clean-ups

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SHEET NO. ..... OF .....

JOB NO. .....

BY .....

DATE ..... TIME .....

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- no agreement by group on 15/85 question
  it was split off — National Academy of Sciences is doing
- Migration of Tu & Str Actinide Panel
  parallel study

- We have been discussing many issues
  panel creation, scope of work,
- Ken's Hand-out

Tim Behde - handed out letter on NRC evaluation of 15/85 (copies)

Joel Sebin - keep open & skeptical mind -
- acceptable #'s, acceptable to whom
- if we deliberate on

Jackie & Dennis letter to Jerome Paskin (copies

Jim - copies of his 2 reports

- Vonnie - we need a facilitator & a note taker
- Joe - DOE - transcribe tape recorded minutes & provide a facilitator

peak

Ulrey - Step thru side-by-side mission
also a hand-out on Decisions that need to be made

- Micky A more concise
- Nils, Lisa - liked C better flows better framing of the issue
- Jim McCarthy - liked C also

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SHEET NO. ..... OF .....

JOB NO. .....

BY .....

DATE ..... TIME .....

City of Broomfield

One DesCombes Drive • P.O. Box 1415 • Broomfielc. Colorado 80020

Steering Committee [illegible] Hank
Nickey, Bob, Canada
Co-Chairs - Hank, Nickey

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January 21, 1998

Dr. Jerome Puskin
US Environmental Protection Agency
Radiation Studies Branch
401 M Street, SW
Washington, DC 20460

Dear Dr. Puskin:

The Environmental Protection Agency Office of Radiation and Indoor Air asked the National Research Council to evaluate whether sufficient new data exist to warrant a reassessment of health risks reported in *Health Effects of Exposure to Low Levels of Ionizing Radiations (BEIR V)* in 1990. To respond to this request, the National Research Council assembled the Committee on Health Risks of Exposure to Low Levels of Ionizing Radiations. The work of the committee was conducted in what was called the BEIR VII phase 1 study. To assist the committee during its deliberations, various scientists were consulted for advice, and a workshop on the impact of biology on risk assessment was held in collaboration with the Department of Energy Office of Health and Environmental Research. The intent of the workshop was to address the implications of new understanding of the biologic basis of radiation injury and carcinogenesis for risk assessment. Through this letter, we are providing you in advance a summary report of the committee's recommendations. This is being done in order to enable you to begin to move forward as soon as possible in making a decision on the appropriateness of undertaking additional study of the subject.

The following is a synopsis of the conclusions of the BEIR VII phase 1 study:

In the committee's judgment, information that has become available since publication of the 1990 *Health Effects of Exposure to Low Levels of Ionizing Radiations (BEIR V)* makes this an opportune time to proceed with BEIR VII phase 2-a comprehensive reanalysis of health risks associated with low levels of ionizing radiations. Such a study should begin as soon as possible and is expected to take about 36 months to complete.

The committee based that judgment on the following considerations:

- Substantial new epidemiologic evidence has accumulated since the 1990 BEIR V report was published. The present committee's phase 1 report will cite 39 new epidemiologic studies that fall into this category (see Table 1). Additional studies that have a direct bearing on the subject should become available in the next 3 years, the estimated period required to complete the phase 2 study.

- Some of the new epidemiologic data are on subjects on which information had been sparse, such as cancer mortality in those exposed to whole-body irradiation in childhood.

- Studies of carcinogenesis completed since publication of the last BEIR report have focused on mechanisms and the cellular and molecular events that are involved in the neoplastic process. The understanding of molecular events involved in carcinogenesis has increased significantly. Mechanisms that might be involved in radiation carcinogenesis have been identified. Further knowledge of these mechanisms that should become available in the next 3 years might affect estimation of the radiation-response curve at low doses.

- Over the next few years, investigators will be applying two closely linked approaches using animal models of carcinogenesis. These will likely contribute to a better understanding of mechanisms of radiation-induced cancer. In the first of these two approaches, genetically engineered mice having alterations in specific genes will be used to determine the influence of these genes on the susceptibility of the mice to radiation-induced cancer. In the second approach, studies will be conducted of the inherent

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differences in susceptibility to radiation-induced cancer among different mouse strains, the objective being to identify the genes involved in controlling susceptibility. Researchers responsible for this new generation of animal studies are taking advantage of the current rapid developments in molecular genetics. Progress on both approaches should be substantial over the next few years. Significant results of relevance to risk estimation are expected to be available for the proposed BEIR VII phase 2 study.

- Evidence regarding specific biologic events that can affect the shape of the dose-response curve at low doses is also accumulating. Information on such phenomena as DNA repair, signal transduction, chromosomal instability, and adaptation, although preliminary, might eventually affect risk analyses of low-dose and low-dose-rate exposures.

The committee recommends that the group responsible for the proposed phase 2 study

- Include a comprehensive review of all relevant epidemiologic data related to low-LET (low linear energy transfer), i.e. sparsely ionizing, radiation.

- Define and establish principles on which quantitative analyses can be based, including requirements for epidemiologic data and cohort characteristics. In this respect, the group should consider biologic factors (such as the dose and dose-rate effectiveness factor, relative biologic effectiveness, genomic instability, and adaptive responses) and appropriate models (favoring simple as opposed to complex models) to develop etiologic models, estimate population detriment, and attribute causation in specific cases.

- Assess the current status and relevance to risk models of biologic data and models of carcinogenesis. This should include a critical assessment of all data that might affect the shape of the response curve at low doses, in particular, evidence of thresholds or the lack thereof in dose-response relationships and the influence of adaptive responses and radiation hormesis.

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- Consider potential target cells and problems that might exist in determining dose to the target cell.

- Consider any recent evidence regarding genetic effects not related to cancer. Any such data, even if obtained from high radiation exposures or at high dose rates, should be considered.

With respect to modeling, the committee recommends that the group responsible for the proposed phase 2 study

- Develop appropriate risk models for major cancer types and other outcomes, including benign disease and genetic effects. Specifically, the responsible group should develop models appropriate for probability-of-causation tables and should consider the fitting of purely empirical models to original data from studies or combined studies, the fitting of purely empirical models with meta-analytic techniques, and the fitting of semiempirical biology-based models to epidemiologic data.

- Provide examples of specific risk calculations based on the models and explain the appropriate use of the risk models.

- Describe and define the limitations and uncertainties of the risk models and their results. The group conducting the proposed phase 2 study should be directed to develop best-risk estimates as opposed to developing conservative models for purposes of radiation protection.

- Discuss the role and effect of modifying factors, including host (such as individual susceptibility and variability, age, and sex), environment, and lifestyle.

- Identify critical gaps in knowledge that should be filled by future research.

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To accomplish the above charge, the membership of the group responsible for the proposed BEIR VII phase 2 study will require expertise in epidemiology, biostatistics, radiation physics and dosimetry, molecular biology, risk assessment, cancer modeling, animal and cellular radiation biology, somatic cell genetics, cell-cycle regulation and apoptosis, and ionizing radiation-induced DNA damage and its repair. The committee recommends that the experts chosen have adequate resources and access to data for the computing, statistical analyses, and modeling required to complete the study.

We trust that this synopsis of the recommendations of the committee will meet your current needs. The complete report of the committee will be published and provided to your office when it has received the committee's final approval and has been subjected to the National Research Council peer-review process.

Sincerely,

Richard B. Setlow, Ph.D.
Chairman, Committee on Health Effects of Exposure to Low
Levels of Ionizing Radiations (BEIR VII Phase 1)

Table 1 is a summary of the more important epidemiologic data that have been published since the 1990 publication of the BEIR V report. Included are studies that are expected to provide new and useful data during the 3-year term of the proposed BEIR VII, Phase II, study. Although not exhaustive, the list should serve as a guide to some of the pertinent new and upcoming epidemiologic data on the subject.

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Table 1. Summary of Epidemiologic Studies of Low-LET Ionizing Radiation and Cancer, 1990

STUDY	REFERENCE	TYPE OF STUDY	SERIES	SEX	NO. IN STUDY	YEARS OF FOLLOW-UP	CANCER SITES REPORTED
Ankylosing spondylitis patients	Weiss et al. Cancer mortality following x-ray treatment for ankylosing spondylitis. Int J Cancer 1994;59:327-338.	Cohort	Mortality	Male and Female	15,577	1935-1992	All cancer and multiple cancer sites
	Weiss et al. Leukemia mortality after x-ray treatment for ankylosing spondylitis. Rad Res 1995;142:1-11.	Cohort	Mortality	Male and Female	14,767	1935-1992	Leukemia
Atomic-bomb survivors	Preston et al. Cancer incidence in atomic-bomb survivors. Part III: leukemia, lymphoma, and multiple myeloma 1950-1987. Rad Res 1994;137:568-597 (2 suppl).	Cohort	Incidence	Male and Female	93,696	1950-1987	Leukemia, lymphoma, multiple myeloma
	Thompson et al. Cancer incidence in atomic-bomb survivors. Part II: solid tumors, 1958-1987. Rad Res 1994;137:517-567.	Cohort	Incidence	Male and Female	79,972	1958-1987	Multiple cancer sites (solid tumors)
	Ron et al. Incidence of benign gastrointestinal tumors among atomic-bomb survivors. Amer J Epi 1995;142:68-75.	Cohort	Incidence	Male and Female	80,311	1958-1989	Benign tumors of stomach, colon, and rectum
	Pierce et al. Studies of the mortality of atomic bomb survivors. Report 12, Part 1. Cancer:1950-1990. Rad Res 1996;146:1-27.	Cohort	Mortality	Male and Female	86,572	1950-1990	Non leukemias, leukemia, and multiple cancer sites
Atomic-bomb survivors (case-control study)	Land et al. A case control interview study of breast cancer among Japanese A-bomb survivors. I. Main effects. Cancer Causes and Control 1994;5:157-169.	Case-control		Female	Cases: 196 Controls: 566	1955-1981	Breast cancer
	Land et al. A case-control interview study of breast cancer among Japanese A-bomb survivors. II. Interactions with radiation dose. Cancer Causes and Control 1994;5:167-176.						

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STUDY	REFERENCE	TYPE OF STUDY	SERIES	SEX	NO. IN STUDY	YEARS OF FOLLOW-UP	CANCER SITES REPORTED
Atomic-bomb survivors (in utero cohorts)	Delongchamp et al. Cancer mortality among atomic-bomb survivors exposed in utero or as young children, October 1950-May 1992. Rad Res 1997;147:385-395.	Cohort	Mortality	Male and Female	17,601	1950-1992	Canadian fluoroscopy Howe. Lung Cancer Mortality between 1950 and 1987 Following Exposure to fractionated moderate dose rate ionizing radiation in the Canadian Fluoroscopy Study and a comparison with lung cancer mortality in the Atomic Bomb Survivors Study. Radiat Res 1995; 142:295-304. Cohort Male and Female 1950-1987 Mortality 64,172 Non leukemias, leukemia, and multiple cancer sites Lung cancer
	Howe and McLaughlin. Breast cancer mortality between 1950 and 1987 after exposure to fractionated moderate dose rate ionizing radiation in the Canadian fluoroscopy study and a comparison with breast cancer mortality in the Atomic bomb survivors study. Rad Res 1996;145:694-707.	Cohort	Mortality	Female	31,917	1950-1987	Breast cancer
Cervical cancer patients	Kleinerman et al. Second primary cancer after treatment for cervical cancer. Cancer 1995;76:442-452.	Cohort	Incidence	Female	86,193	1935-1990	Multiple cancer sites

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STUDY	REFERENCE	TYPE OF STUDY	SERIES	SEX	NO. IN STUDY	YEARS OF FOLLOW-UP	CANCER SITES REPORTED
Contralateral breast (Denmark)	Storm et al. Adjuvant radiotherapy and risk of contralateral breast cancer. J Nat Cancer Inst 1992;84:1245-1250.	Case-control in a cohort		Female	Cohort: 56,540 Cases: 691 Controls: 691	1943-1986	Breast cancer
Contralateral breast (U.S.A.)	Boice et al. Cancer in the contralateral breast after radiotherapy for breast cancer. N Engl J Med 1992;326:781-785.	Case control within a cohort		Female	Cohort: 4,109 Cases: 655 Controls: 1,189	1935-1987	Breast cancer
Fallout from Nevada Test Site	Kerber et al. A cohort study of thyroid disease in relation to fallout from nuclear weapons testing. JAMA 1993;270:2076-2082.	Cohort	Incidence	Male and Female	2,473	1965-1986	Thyroid cancer and other thyroid disease
	Simon et al. The Utah leukemia case-control study: dosimetry methodology and results. Hlth Phys 1995;6814:460-471.	Case-Control		Male and Female	Cases: 1,177 Controls: 5,330	1952-1981	Leukemia
Massachusetts fluoroscopy	Davis et al. Cancer mortality in a radiation-exposed cohort of Massachusetts tuberculosis patients. Cancer Res 1989;49:6130-6136.	Cohort	Mortality	Male and Female	13,385	1929-1986	Multiple cancer sites
	Boice et al. Frequent chest x-ray fluoroscopy and breast cancer incidence among tuberculosis patients in Massachusetts. Rad Res 1991;125:214-222.	Cohort	Incidence	Female	4,940	1925-1986	Breast cancer
Multiple diagnostic x-rays of scoliosis patients	Hoffman et al. Breast cancer in women with scoliosis exposed to multiple diagnostic x-rays. J Natl Cancer Inst 1989;81:1307-1312.	Cohort	Incidence	Female	1,030	1935-1986	Breast cancer
Nuclear industry workers (combined analysis)	Cardis et al. Direct estimates of cancer mortality due to low doses of radiation: an international study. Lancet 1994;344:1039-1043.	Cohort	Mortality	Male and Female	95,673	1943-1988	Multiple cancer sites
	Cardis et al. Effects of low doses and low dose rates of external ionizing radiation: cancer mortality among nuclear industry workers in three countries. Rad Res 1995;142:117-132.	Cohort	Mortality	Male and Female	95,673	1943-1988	Solid tumors and leukemia
Nuclear workers at Mayak Production Association	Koshurnikova et al. NCRP Proceedings, 1996, 113:T2, 113-122.	Cohort	Mortality	Male and Female	18,879	1948-1993	Lung cancer and leukemia
Pelvic radiotherapy for benign gynecologic disease	Inskip et al. Leukemia, lymphoma and multiple myeloma after pelvic radiotherapy for benign disease. Rad Res 1993;135:108-124.	Cohort	Mortality	Female	12,955	1929-1985	Multiple hematopoietic cancers

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STUDY	REFERENCE	TYPE OF STUDY	SERIES	SEX	NO. IN STUDY	YEARS OF FOLLOW-UP	CANCER SITES REPORTED
Pooled analysis of external radiation and thyroid cancer	Ron et al. Thyroid cancer after exposure to external radiation: a pooled analysis of seven studies. Rad Res 1996;141:259-277.	Cohort Case-control	Incidence	Male and Female	120,000	1926-1990	Thyroid cancer
Radiation treatment for benign head and neck conditions (benign thyroid tumors)	Wong et al. Benign thyroid tumors: general risk factors and their effects on radiation risk estimation. Amer J Epi 1996;144:728-733.	Cohort	Incidence	Male and Female	544	1939-1991	Benign thyroid nodules
Radiation treatment for benign head and neck conditions (thyroid cancer and thyroid nodules)	Schneider et al. Dose-response relationships for radiation-induced thyroid cancer and thyroid nodules: evidence for the prolonged effects of radiation on the thyroid. J Clin Endocrinol Metab 1993;77:362-269.	Cohort	Incidence	Male and Female	4,296	1939-1990	Thyroid cancer and nodules
Radiation treatment for breast cancer	Curtis et al. Risk of leukemia after chemotherapy and radiation treatment for breast cancer. N Engl J Med 1992;326:1745-1751.	Case-control within cohort		Female	Cohort: 82,700 Cases: 90 Controls: 264	1973-1985	Leukemia
Radiation treatment for peptic ulcer	Griem et al. Cancer following radiotherapy for peptic ulcer. J Natl Cancer Inst 1994;86:842-849.	Cohort	Mortality	Male and Female	3,609	1937-1985	Multiple cancer sites
Radiotherapy treatment for Hodgkin's Disease (breast cancer)	Hancock et al. Breast cancer after treatment of Hodgkin's Disease. J Natl Cancer Inst 1993;85:25-31.	Cohort	Incidence and Mortality	Female	885	1961-1990	Breast cancer
Radiotherapy treatment for Hodgkin's Disease (gastro intestinal cancer)	Birdwell et al. Gastrointestinal cancer after treatment of Hodgkin's Disease. Int J Rad Oncol Biol Phys 1997;37:67-73.	Cohort	Incidence and Mortality	Male and Female	2,441	1961-1993	Multiple cancer sites (gastro-intestinal only)
Radiotherapy treatment for metropathia hemorrhagic anemia	Darby et al. Mortality in a cohort of women given x-ray therapy for metropathia hemorrhagica. Int J Cancer 1994;56:793-801.	Cohort	Mortality	Female	2,067	1940-1991	Multiple cancer sites
Radiotherapy treatment for pituitary adenoma	Brada et al. Risk of second brain tumor after conservative surgery and radiotherapy for pituitary adenoma. Br Med J 1992;304:1343-1346.	Cohort	Incidence	Male and Female	334	1962-1986	Multiple cancer sites (solid tumors only)
Radiotherapy treatment for skin hemangioma in childhood	Furst et al. Tumors after radiotherapy for skin hemangioma in childhood. Act Oncologica 1990: 29:557-562.	Case-control within a cohort		Male and Female	Cohort: 14,647 Cases: 94 Controls: 359	1920-1986	Multiple cancer sites (solid tumors)
Radiotherapy treatment for thymus enlargement	Shore et al. Overview of radiation induced skin cancer in humans. Int J Radiat Biol 1990;57:809-827.	Cohort	Incidence	Male and Female	7,450	1953-1989	Skin cancer

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STUDY	REFERENCE	TYPE OF STUDY	SERIES	SEX	NO. IN STUDY	YEARS OF FOLLOW-UP	CANCER SITES REPORTED
Radiotherapy treatment for uterine bleeding	Inskip et al. Cancer mortality following radium treatment for uterine bleeding. Rad Res 1990;123:331-344.	Cohort	Mortality	Female	4,153	1925-1984	Multiple cancer sites
Tinea capitis (Israel)	Ron et al. Thyroid neoplasia following low-dose radiation in childhood. Rad Res 1989;120:516-531.	Cohort	Incidence	Male and Female	10,834	1950-1986	Thyroid cancer and other thyroid disease
	Ron et al. Radiation induced skin carcinomas of the head and neck. Rad Res 1991;125:318-329.	Cohort	Incidence	Male and Female	27,060	1950-1980	Melanoma, other skin cancer and benign skin tumors
Women treated for infertility	Ron et al. Mortality following radiation treatment for infertility of hormonal origin or amenorrhea. Int J Cancer 1994; 23:1165-1173	Cohort	Mortality	Female	816	1925-1991	Multiple cancer sites

STUDY	REFERENCE	DESCRIPTION
In utero exposure	Doll and Wakeford. Risk of childhood cancer from fetal irradiation, Brit J Radiol 1997; 70:130-139	A review of case-control and cohort studies of childhood cancers.

A2
A1 plus additional comments

DRAFT

REQUEST FOR PROPOSALS
SCIENTIFIC REVIEW SERVICES

Firms to Provide Contract Services to Assist the Soil Action Level Review Oversight Committee

1. PROJECT DESCRIPTION

1.1 Background

The Rocky Flats Environmental Technology Site was constructed in 1951. The site served as a production facility to manufacture trigger components for nuclear weapons. In 1989 operations at the plant were shut down due to safety and production problems The site's current operations involve decontamination and deactivation of radionuclide contaminated buildings, remediation of environmental damage and waste management.

On October 18, 1996, as a final step to the Rocky Flats Cleanup Agreement, the Department of Energy, Environmental Protection Agency and the Colorado Department of Health and Environment adopted an interim Radionuclide in Soil Action Level (RSALs) for the Rocky Flats Site. The RSALs were calculated based on the dose assumptions given in RFCA. The calculations to determine how much radioactive materials in the soil corresponds to the permitted dose were performed by entering more than 70 input parameters and default values into the Argonne National Lab's RESRAD computer program.

In response to public concerns regarding these RSALs, DOE agreed to an independent scientific review of the soil action levels set for Rocky Flats. A community review panel known as the Rocky Flats Radionuclide Soil Action Level Oversight Panel (RFRSALOP) was created to oversee the process of obtaining an independent review. The Colorado Department of Health and Environment, through the office of the Rocky Flats Health Advisory Panel (HAP) will serve as the administrative conduit for allocation of moneys, administration of the contract and provision of secretarial and organizational support for the oversight committee.

Purpose

The purpose of this study is to obtain and independent scientific review of the soil action levels set for the cleanup of the Rocky Flats Environmental Technology Site. The review will evaluate the accuracy and applicability of the input parameters used to calculate the current RFETS SALs. The review will encompass models, methodologies and cleanup standards that may exist or are being developed for other sites and their applicability to Rocky Flats. Based on the results of this investigation a site specific SAL will be recommended for the Rocky Flats site. Based on the findings of this investigation a recommendation will be developed for a soil cleanup action levels for

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A2

transuranic elements in the surface soils at Rocky Flats that will be protective of surface waters leaving the site, future users and surrounding communities. **The Actinide Migration panel final report on the speciation and migration of plutonium and americium in the environment will be integrated into the final soil action level review report prepared by the consultant.. It is desirable that the scope of work of the Actinide Panel be scheduled and funded to run parallel with the SAL**

1.2 Scope of Work.

The consultant will work with the Rocky Flats Radionuclide Soil Action Level Oversight Panel in conducting a review of the interim soil action levels set for Rocky Flats. **The consultant will provide the Oversight Panel with a set of recommendations. The Oversight panel will incorporate comments received from the public into a final recommendation for inclusion by DOE and the regulators in the RFCA..**

The Contractor will be required to perform the following tasks.

1. Identify all **relevant** available or emergent computer models which can be used to calculate radionuclide contamination levels in soil based on a given dose rate. Provide a description of the models, a summary of the strengths and weaknesses of each and a recommendation for the most appropriate model(s) best suited to the site specific conditions at Rocky Flats.

Review historical studies and gather information that can be used to determine the relative importance of potential migration pathways. This aspect of the review will consider both airborne transport and standards for plutonium and americium in surface and drinking waters. Simple bounding calculations should be used to estimate the relative importance of the these transport pathways.

2. Identify and evaluate cleanup standards which exist or are projected for use at other **Plutonium and Americium** contaminated sites. **The contractor will identify any models that were or are being used to determine offsite impacts to communities from onsite cleanup standards.** For the above two tasks the contractor will identify the process/models used to determine them, as to their applicability in setting cleanup levels at RFETS. The contractor will provide a summary of this evaluation itemizing the reasons why such limits/models are or are not applicable for use in setting cleanup levels at RFETS.

3.Evaluate the input parameters, inputs, default inputs, and assumptions for the current analysis (using Argonne National Lab's RESRAD model) used to set the interim soil action levels at RFETS. At a minimum this evaluation must satisfy the following

a. Are the input parameters inputs, default inputs, and assumptions accurate and credible in simulating the conditions at RFETS and the subsequent conversion to dose rate/contamination levels?

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A2

b. For each of the input parameters, what is the sensitivity of the input values in terms of resulting contamination levels?

c. For each of the input parameters what is the distribution of possible input values. Identify each of these based on the sensitivities determined in 3b above from least conservative to most conservative (conservative meaning that which results in lower contamination levels given a certain dose limit

d For each of the input distributions in 3c above identify an input value which can be considered "reasonable" or best estimate." Provide the reasoning for these choices.

Identify site specific parameters that would be employed in the calculations of soil action levels for the RFETS.

4 The current analysis used to set the interim soil action levels at RFETS assumed certain land use scenarios. The **contractor will** evaluate these land use scenarios as to their appropriateness and conservative nature in setting cleanup levels at RFETS **The contractor will evaluate rancher, open space, residential , industrial, and free release land use scenarios for Rocky Flats and provide a recommendation as to the acceptability of the currently assumed land use scenarios in the context of achieving or the appropriateness of the listed alternatives.**

5..Identify and evaluate the methodologies(i.e. bounding, best estimate, conservative, probabilistic risk assessment, etc.) which can be used to combine/model the necessary inputs for a given computer model in determining contamination levels for a given dose limit. Provide a summary of these methodologies to the Oversight committee within one month of start of contract along with a recommendation as to the best suited for such an analysis. **(first sentence of the above paragraph .. By applying the best available soils model and appropriate input parameters as well as methodology or methodologies as defined in this RFP, how will model results impact the translation of dose to soil action levels and the translation of risk)**

Alternative Language-----Identify the various dose and or risk starting points used to establish the cleanup levels for other sites and identify appropriate relationships between dose and risk to allow comparisons

6 The RESRAD model limits its review to on-site impacts. Review off-site migration/impacts over time/distance for various cleanup levels determined in item 5. After first sentence add **Models that incorporate offsite impacts to onsite standards will be defined and information provided as to the sites where they were applied, the input parameters used to determine offsite impacts, and the land use scenarios incorporated into the results. If no models exist for this determination the Consultant will review off-site migration/impacts over time/distance for various cleanup levels determined in item 5. above.**

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Perform independent calculation of the soil action levels using parameter values and assumptions that are consistent with the observations of contaminant transport and environmental condition at Rocky Flats.

7.Consultant will meet with Actinide Migration panel and incorporate their results into the final soil action level model recommendation.

Regularly report to and meet with the Oversight Panel to describe progress made in the conduct of the review, to discuss issues related to the work and to provide draft material for review and comment.

8. Specify a sampling method, process protocol and quality controls for ensuring that soil contamination measurements are meeting the cleanup standards that may be set from the use of models recommended in this investigation. **Replace the above sentence with... The consultant will provide information on the appropriate statistical sampling model, process protocol and quality controls that will ensure that soil contamination measurements are meeting the cleanup standards that may be set from the use of the models recommended in this investigation.**

Review the technical literature on valid statistical approaches to verify sampling methods and recommend approaches that are appropriate for the cleanup at the RFETS.

Firms responding to this RFP should develop a proposal that provides detailed descriptions of how the consultant will work with the Oversight Panel during each stage of the review to culminate in a final recommendation on a soil action level.

Specifically ,the Consultant will:

Maintain an ongoing written log of all meetings, correspondence and telephone conversations with panel members, regulatory agencies and others noting the purpose of the call and response of all members of the pane and regulator agencies that have contacted the consultant note the purpose of the call.

Meet with Oversight Panel on a monthly basis at a regular scheduled meeting. The review is expected to take no more than one year.

Facilitate a one day work session in _____during which the oversight panel will **conduct will review the consultants work and recommendations and prepare for a public meeting to develop a recommendations for a soil action level for RFETS for incorporation into the RFCA.**

Participate in a public meeting to be held in the evening in order to inform the public of the consultants findings and recommendations, and to gather comments to be incorporated into the final recommendation

On a regular basis discuss the progress of the work and significant technical issues involved with concerned citizens in open public meetings.

Prepare reports, documents and other materials as described in your proposal and spelled out in the scope of work

Prepare a comprehensive technical report of the methods used and the results of the independent review and independent assessment of soil action levels.

Deliverables

In addition to meeting the requirements listed under the Scope Of Work, the contractor will be expected to produce a final report which is a comprehensive summary of the entire study. The main body of the report should be directed to the level of the educated public.

A separate summary report is to be provided for use by the General public.

Prepare an article for publication in a peer reviewed technical journal that describes the review methods and results.

Quarterly progress reports will be prepared for distribution on quarterly meeting dates.. They should include a summary of progress to date, a plan for the rest of the project and draft sections of the final report.

Schedule/Timeline

Meetings will be held bi-weekly initially for a time period to be determined. At least two of these meetings will be held at night. Monthly meetings will be held as work progresses. The contractor will provide sufficient staff to make presentations and answer questions.

March 1998	Start of Contract
April 1998	Presentation of potential methodologies to panel
May 1998	Setting of review methodology by oversight panel
June 1998	First Quarterly report to oversight panel
July 1998	Completion of contract, final presentation
August	
September	
November	
December	
January	
Feburary 1999	Completion of contract, final presentations and report

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March 1999 Presentation of results at RFCA Review

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A1.

d For each of the input distributions in **3c** above identify an input value which can be considered "reasonable" or best estimate." Provide the reasoning for these choices.

Identify site specific parameters that would be employed in the calculations of soil action levels for the RFETS.

4 The current analysis used to set the interim soil action levels at RFETS assumed certain land use scenarios. The **contractor will** evaluate these land use scenarios as to their appropriateness and conservative nature in setting cleanup levels at RFETS **The contractor will evaluate rancher, open space, residential , industrial, and free release land use scenarios for Rocky Flats and provide a recommendation as to the acceptability of the currently assumed land use scenarios in the context of achieving or the appropriateness of the listed alternatives.**

5..Identify and evaluate the methodologies(i.e. bounding, best estimate, conservative, probabilistic risk assessment, etc.) which can be used to combine/model the necessary inputs for a given computer model in determining contamination levels for a given dose limit. Provide a summary of these methodologies to the Oversight committee within one month of start of contract along with a recommendation as to the best suited for such an analysis. **(first sentence of the above paragraph .. By applying the best available soils model and appropriate input parameters as well as methodology or methodologies as defined in this RFP, how will model results impact the translation of dose to soil action levels and the translation of risk)**

6 The RESRAD model limits its review to on-site impacts. Review off-site migration/impacts over time/distance for various cleanup levels determined in item 5. After first sentence add **Models that incorporate offsite impacts to onsite standards will be defined and information provided as to the sites where they were applied, the input parameters used to determine offsite impacts, and the land use scenarios incorporated into the results. If no models exist for this determination the Consultant will review off-site migration/impacts over time/distance for various cleanup levels determined in Item**
5. above.

7.Consultant will meet with Actinide Migration panel and incorporate their results into the final soil action level model recommendation.

8. Specify a sampling method, process protocol and quality controls for ensuring that soil contamination measurements are meeting the cleanup standards that may be set from the use of models recommended in this investigation. **Replace the above sentence with... The consultant will provide information on the appropriate statistical sampling model, process protocol and quality controls that will ensure that soil contamination measurements are meeting the cleanup standards that may be set from the use of the models recommended in this investigation.**

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Firms responding to this RFP should develop a proposal that provides detailed descriptions of how the consultant will work with the Oversight Panel during each stage of the review to culminate in a final recommendation on a soil action level.

Specifically ,the Consultant will:

Meet with Oversight Panel on a monthly basis at a regular scheduled meeting. The review is expected to take no more than one year.

Facilitate a one day work session in _____during which the oversight panel will **conduct will review the consultants work and recommendations and prepare for a public meeting to develop a recommendations for a soil action level for RFETS for incorporation into the RFCA.**

Participate in a public meeting to be held in the evening in order to inform the public of the consultants findings and recommendations, and to gather comments to be incorporated into the final recommendation

Prepare reports, documents and other materials as described in your proposal and spelled out in the scope of work

Deliverables

In addition to meeting the requirements listed under the Scope Of Work, the contractor will be expected to produce a final report which is a comprehensive summary of the entire study. The main body of the report should be directed to the level of the educated public.

A separate summary report is to be provided for use by the General public.

Quarterly progress reports will be prepared for distribution on quarterly meeting dates.. They should include a summary of progress to date, a plan for the rest of the project and draft sections of the final report.

Schedule/Timeline

Meetings will be held bi-weekly initially for a time period to be determined. At least two of these meetings will be held at night. Monthly meetings will be held as work progresses. The contractor will provide sufficient staff to make presentations and answer questions.

March 1998	Start of Contract
April 1998	Presentation of potential methodologies to panel
May 1998	Setting of review methodology by oversight panel
June 1998	First Quarterly report to oversight panel
July 1998	Completion of contract, final presentation
August	

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September	
November	
December	
January	
February 1999	Completion of contract, final presentations and report
March 1999	Presentation of results at RFCA Review

102

BROADCAST REPORT

DATE/TIME	1-28-98 1:42PM
LOCAL I. D.	3034386234
LOCAL NAME	CITY BROOMFIELD
LOGO	CITY BROOMFIELD

START TIME 1-28-98 12:18PM
JOB SIZE 7 PAGES

NO.	TELEPHONE NUMBER	RESULT
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41	99666153	FAILED sent
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103

BROADCAST REPORT

DATE/TIME	1-28-98 3:25PM
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LOGO	CITY BROOMFIELD

START TIME 1-28-98 2:40PM
JOB SIZE 7 PAGES

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NO.	TELEPHONE NUMBER	RESULT
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DIAL GROUP	DIRECTORY NUMBERS
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104

ACTIVITY REPORT

DATE/TIME	1-28-98 1:05PM
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LOGO	CITY BROOMFIELD

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22	FIELD OPERATIONS		8:42AM	0'52"	1	
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7	303 450 9648		3:00PM	0'53"	1	
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105

ACTIVITY REPORT

DATE/TIME	1-28-98 4:57PM
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LOGO	CITY BROOMFIELD

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F-A-X M-E-M-O-R-A-N-D-U-M

TO: DISTRIBUTION

FROM: KATHY SCHNOOR

SUBJECT: MEETING REMINDER FOR JANUARY 29, 1998

DATE: JANUARY 23, 1998

There will be meeting **THURSDAY, January 29, 1998, 4:00-8:00 PM at Broomfield Municipal Center** in the Zang's Spur Conference Room (please bring a brown bag supper). Please read the various drafts of the Scope of Work for the RFP (items Labeled A, B, C at the meeting on 1/13/98) and be prepared to discuss them in detail.

Proposed Agenda

- Introductions
- Selection of Panel Co-Chair people
- Panel Members provide a biographical sketch of their position, education and work experience
- Regular meeting schedule determined, meeting notices advertised
- Update on selection of meeting facilitator to work with the panel
- Development of project history
- Panel briefing on RFCA and RSALs by CDPHE, EPA, and DOE
- Panel review and discuss the Draft Scope of Work
- Other Items:
  - -CDPHE update-RSAL review fit with RAC contract
  - -Outline state process and timeline to get work started
  - -Funding
- Next Steps
- Next Meeting(s)- Date, Time, Location

Meeting Summaries Related to the Establishment of the Rocky Flats Radioactive Soil Action Levels Oversight Panel

Prepared by Ken Korkia, Board/Staff Coordinator
Rocky Flats Citizens Advisory Board

(Note: The following meeting summaries have appeared in the *Weekly Fax*, a regular communication tool prepared by the staff of the Rocky Flats Citizens Advisory Board for its membership. These summaries are not intended to serve as minutes of the meetings, but more as a means to provide the membership of the Advisory Board with a brief update on the events and meetings associated with Rocky Flats.)

Soil Action Levels Meeting on Independent Review: Monday, September 15. CAB, the cities of Broomfield and Westminster, as well as Congressman Skaggs have asked for an independent review of the Soil Action Levels at Rocky Flats. The purpose for this meeting was to discuss with DOE the parameters for such a review. Representing DOE at the meeting were Jim Fiore with DOE Headquarters and Jessie Roberson. CAB members and staff present at the meeting included Tom Marshall, Mary Harlow, Victor Holm, Chris Millsaps and Ken Korkia. Other entities represented included the Rocky Mountain Peace and Justice Center, RFLII, EPA, Congressman Skaggs office, CDPHE, and the cities of Broomfield and Westminster.

Mr. Fiori stated that Assistant Secretary Alm supports the idea of an independent review and was interested in determining what it would look like. Jessie Roberson affirmed the local DOE perspective that they are willing to sponsor a review that looks at the validity of using RESRAD and the specific inputs to RESRAD. She also stated that DOE is "not in the business of setting dose levels," and as such would not be interested in sponsoring a study that looks specifically at the protectiveness of the 15/85 mrem dose levels. Tim Rehder with EPA informed the group that the National Academy of Sciences (NAS) is currently conducting a study of dose levels, specifically the validity of the linear no threshold model dose model and the BEIR V Report. There was no indication of when NAS would complete its study.

A majority of the discussion taking place during the meeting centered on the question of whether the dose levels (15/85 mrem) should or could be separated from the RESRAD review. With polarized views on this issue a suggestion was made that a subgroup of the meeting participants meet to discuss a path forward. This subgroup will investigate how stakeholder input might be inserted into the NAS study process. The need to incorporate a national stakeholder focus for this question was mentioned and will be discussed as well.

The second focus of the discussion was how the study would approach a review of the RESRAD model and its inputs. It was agreed by the group that these would be part of the study. Also added to the study's focus would be an examination of the process used to determine cleanup standards at other sites across the country and internationally. It was agreed that the actual numbers used in other cleanups may not be comparable given varying site specific conditions, but that the methodology used to determine the numbers would be applicable. The implications of the actinide migration study were also added to the scope of issues that should be added to the independent review.

After having discussed the scope of the study, the conversation then turned to questions of who would do the actual review, the process that would be used to select the review participants and who would provide oversight. Because of the wide variety of views on these questions, no decisions were reached. It was determined that a second subgroup of the meeting participants would get together to discuss questions related to the selection of study participants and oversight. The next meeting to discuss the study will occur on October 14. The two subgroups will present

their recommendations and hopefully a path forward for the independent review will be established.

Independent Review of Soil Action Levels Update: Wednesday, September 24. In last week's fax there was mention of the meeting with Jim Fiore from DOE Headquarters to discuss DOE's intent to fund an independent review of the Soil Action Levels. During that meeting, a subgroup was formed to discuss the structure for how the study would be managed and who would provide oversight. A meeting was held this week for that subgroup to discuss these issues. At the meeting it was decided to recommend that the Health Advisory Panel serve as a model for how the independent review might be carried out. In this model, the Colorado Department of Public Health and Environment would serve as the review administrators to manage the logistics of process. An oversight panel would be created to design the study, prepare a Request for Proposals to interest companies or individuals in actually performing the review, and provide review and feedback to the eventual contractor who would perform the work. As stated, the actual review itself would be performed by an independent contractor. This proposal will be submitted to the larger working group which will meet next on October 14. Final details as to time and location remain to be confirmed. If you would like more information on the independent review or would like to attend the next meeting, please contact the CAB office.

Soil Action Level Review Planning Meeting: Tuesday, October 14. The Department of Energy has agreed to fund an independent study of the Soil Action Levels for radionuclides in soils at Rocky Flats. This meeting was the second for the study's planning. Two major issues were discussed at the meeting, the membership of the study's oversight panel and the scope of the study.

Based on discussion at the first meeting, it has been determined that an oversight panel should be formed to oversee the study. This panel will refine the scope of the study, develop a request for proposals, select a contractor or group to actually perform the review, and provide oversight of the contractor or group. After much discussion of the oversight panel's make-up, it was determined that there should be 13 members comprised of six local government representatives, two members representing activist groups, two technical / academic representatives, and two members representing the public at large. A place will be reserved for a CAB representative should CAB choose to have one. There will be three ex officio representatives, one each from DOE, CDPHE and EPA. Details on how the various representatives will be chosen remain to be worked out. The current thought is that the local governments will caucus to select their six representatives and that the community activist groups with an interest in Rocky Flats will do the same to select their two members. The four remaining seats for the public at large and technical / academic representatives will be advertised and interested persons asked to submit applications. Who will review the applicants and make the selection is still not determined. As mentioned earlier, an additional seat will remain open should CAB determine to send an official representative.

The scope of work for the study has generally been agreed upon. The study will first examine whether the RESRAD computer model is the most appropriate to use in determining Soil Action Levels. The study's contractor or group will be asked to examine different methodologies, including looking at other soil cleanups involving radioactive materials to determine what methods were used in determining the cleanup levels. Following this review, the study will then focus on the application of the model or methodology to the specific conditions at Rocky Flats. Because of the close correlation of the ongoing Actinide Migration Study, the contractor or group will need to be in contact and coordinate its work and findings with the Actinide Migration Study. The correlation between soil contamination and the protection of surface and groundwater resources also will need to be examined.

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A working group will meet next on November 4 to further refine the study's scope and to discuss membership selection issues. If you have any questions about this study and the planning process, please contact Ken Korkia at 420-7855.

Soil Action Level Oversight Panel Interim Planning Group: Tuesday, November 4. The Interim Planning Group which has been meeting to develop a process for instituting an oversight panel to oversee the independent evaluation of the Soil Action Levels met to review the latest draft of a project description. The first item discussed was options for providing administrative support to the project. These options center on the role that the Colorado Department of Public Health and Environment might play in providing administrative support, such as contract management, meeting arrangements, and logistical arrangements between the oversight panel and the contractor who would actually perform the independent assessment of the Soil Action Levels. A possibility was raised that CDPHE could use the existing contract it has with Radiological Assessments Corporation (RAC), the contractor conducting the Dose Reconstruction Study for the Health Advisory Panel, and ask that RAC subcontract with the eventual contractor who would review the Soil Action Levels. Such a strategy might save the estimated two month period it could take to get a contract in place once the contractor is selected. No final decisions were made and the interim planning group will discuss this strategy at a later date.

At the original meeting held in September to start planning for the independent assessment, two paths emerged. Most of the focus of the group has centered on the path to provide a review of the process and model used in determining the Soil Action Levels. The second path is consideration of the actual dose numbers, namely 15 and 85 millirem. Are these dose levels protective? At this meeting, the group heard an update on the progress of a study being conducted by the National Academy of Sciences (NAS) at the request of EPA to look at the dose issue. It is possible that the NAS might recommend that it examine new scientific evidence in order to reevaluate the amount of risk per unit dose of exposure. The concern of the Interim Planning Group is that there be some type of public involvement in the process NAS and EPA will use in the reevaluation. Jackie Berardini, with CDPHE, and others have suggested that NAS and EPA use a public involvement strategy developed to guide the Department of Defense in its plans for chemical weapons destruction. Jackie has been in touch with NAS officials and will draft a letter suggesting the use of the Defense public involvement model.

The remainder of the meeting time was spent in wordsmithing the Draft Project Description. One significant issue which arose during the discussion centered on the relationship between the Soil Action Level review and the Actinide Migration studies. Representatives from Kaiser-Hill, DOE and the regulators expressed their concerns that the actinide migration issues not be a major part of the work of the contractor who will review the Soil Action Levels. There is language in the Draft Project Description which outlines how the two studies should interface. Community stakeholders at the meeting expressed their desires to see a close link between the two projects and questioned the independence of the Actinide Migration studies. The discussion on this issue will continue at the next meeting which is set for Wednesday, November 19, 11:00 a.m. - 1:30 p.m. at the Broomfield City Hall.

Soil Action Level Oversight Panel Interim Planning Group: Wednesday, November 19. The Interim Planning Group is getting closer to completing its tasks to get the independent review of the soil action levels at Rocky Flats going. The meeting began with an announcement that the Colorado Department of Public Health and Environment has agreed to provide administrative support to the panel once it is established. CDPHE will be used as a pass-through for money from the Department of Energy to fund the soil action level review and will administer the contract with the eventual contractor who will perform the actual analysis. One of the major tasks at this meeting was to complete work on a draft charter for the oversight panel. The charter will be forwarded to the legal department within CDPHE to determine whether the existing contract

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that CDPHE has with Radiological Assessments Corporation (RAC), the contractor performing the Dose Reconstruction Study, can be used for this project as well. By using the RAC contract, it is hoped that the soil action level review can begin quickly without having to go through the time consuming administrative hoops to develop a new contract.

The CAB letter to the Interim Planning Group was discussed. It was decided that the reserved seat for CAB members will be taken out and that consideration will be given for CAB members to fill the other seats for either technical or community member representatives. The group did not agree to increase the overall size of the panel, now set for 13 members: six from local governments, three technical representatives (including one from the current Health Advisory Panel), two members representing public interest groups, and two members from the general public. There will be three ex-officio representatives, one each from DOE, CDPHE and EPA.

There was continued discussion regarding the scope of the independent review. DOE remains concerned that this independent analysis not focus on the actinide migration issues which are being reviewed as part of the site's Actinide Migration Studies. The community and local government representatives reiterated their concern that migration issues are important to this soil action level review. The exact focus on migration issues during the soil action level review will be discussed further as the Request for Proposals (RFP) for the review is completed. A subgroup of the Interim Planning Group will meet during the next two weeks to begin developing a Scope of Work for the RFP. The next meeting for the full Planning Group is set for Friday, December 12, 1:00 p.m. at the Broomfield City Hall.

Soil Action Level Oversight Panel Interim Planning Group: Friday, December 12. There were two primary agenda topics for this meeting: first, to discuss the latest draft scope of work for the project and second, to discuss the selection process for members of the oversight panel. In discussing the work plan the issues surrounding off-site impacts were once again raised by the attendees. DOE stated that it was open to the possibility of having the oversight panel somehow interact with the Actinide Migration Studies, but is not interested in having the panel direct the work of the scientists performing these studies. The idea of having the contractor for the oversight panel look at sampling methodologies that will be used to determine when the soil action levels have been met or when they need to be applied was also discussed. Whether this issue will be added to the scope of work will necessitate further discussion. Overall, significant changes were not made to the draft scope of work prepared so far, with the thought being that the official panel members once they are seated should take up discussion of the remaining issues.

The second conversation for the meeting centered on the selection process for oversight panel members. The panel will be composed of thirteen individuals. There will be 6 seats reserved for local government representatives and two seats reserved for community based activist/interest groups. Of the remaining five seats, three will be for technical/scientific representatives and two for members of the community at large. A panel member selection committee was formed to interview and select these five remaining seats. Interviews will be held during the first part of January, with selections made in time for the first official meeting of the panel, tentatively set for January 13.

Soil Action Level Oversight Panel: Tuesday, January 13. For several months, an interim panel has been meeting to set up a review process for the Soil Action Levels set for soil remediation at Rocky Flats. This meeting was the first now that members have been selected for a permanent panel. There are thirteen individuals who will sit on the panel. They include representatives from the cities of Boulder, Westminster, Arvada, Louisville, and Arvada; Jefferson County; two individuals representing local community groups; three technical representatives; and two members of the community at large.

M-1

Most of the meeting was spent in housekeeping activities such as planning future meeting dates and distributing draft work proposals for members to review. A subcommittee will meet to develop a broader public participation strategy for the project. Representatives from the Health Department were on hand to discuss contracting and funding for the project. A need was expressed that DOE needs to make some money available now in order to kick-off the project. The cities will provide logistical support in terms of meeting locations and staff assistance. The Panel decided they will require a facilitator and a subcommittee was formed to do the hiring. The next meeting for the Oversight Panel is set for Thursday, January 29 beginning at 4:00 and running as long as necessary to complete a scope of work for the project.

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January 21, 1998

Dr. Jerome Puskin
US Environmental Protection Agency
Radiation Studies Branch
401 M Street, SW
Washington, DC 20460

Dear Dr. Puskin:

The Environmental Protection Agency Office of Radiation and Indoor Air asked the National Research Council to evaluate whether sufficient new data exist to warrant a reassessment of health risks reported in *Health Effects of Exposure to Low Levels of Ionizing Radiations (BEIR V)* in 1990. To respond to this request, the National Research Council assembled the Committee on Health Risks of Exposure to Low Levels of Ionizing Radiations. The work of the committee was conducted in what was called the BEIR VII phase 1 study. To assist the committee during its deliberations, various scientists were consulted for advice, and a workshop on the impact of biology on risk assessment was held in collaboration with the Department of Energy Office of Health and Environmental Research. The intent of the workshop was to address the implications of new understanding of the biologic basis of radiation injury and carcinogenesis for risk assessment. Through this letter, we are providing you in advance a summary report of the committee's recommendations. This is being done in order to enable you to begin to move forward as soon as possible in making a decision on the appropriateness of undertaking additional study of the subject.

The following is a synopsis of the conclusions of the BEIR VII phase 1 study:

In the committee's judgment, information that has become available since publication of the 1990 *Health Effects of Exposure to Low Levels of Ionizing Radiations (BEIR V)* makes this an opportune time to proceed with BEIR VII phase 2-a comprehensive reanalysis of health risks associated with low levels of ionizing radiations. Such a study should begin as soon as possible and is expected to take about 36 months to complete.

The committee based that judgment on the following considerations:

- Substantial new epidemiologic evidence has accumulated since the 1990 BEIR V report was published. The present committee's phase 1 report will cite 39 new epidemiologic studies that fall into this category (see Table 1). Additional studies that have a direct bearing on the subject should become available in the next 3 years, the estimated period required to complete the phase 2 study.

- Some of the new epidemiologic data are on subjects on which information had been sparse, such as cancer mortality in those exposed to whole-body irradiation in childhood.

- Studies of carcinogenesis completed since publication of the last BEIR report have focused on mechanisms and the cellular and molecular events that are involved in the neoplastic process. The understanding of molecular events involved in carcinogenesis has increased significantly. Mechanisms that might be involved in radiation carcinogenesis have been identified. Further knowledge of these mechanisms that should become available in the next 3 years might affect estimation of the radiation-response curve at low doses.

- Over the next few years, investigators will be applying two closely linked approaches using animal models of carcinogenesis. These will likely contribute to a better understanding of mechanisms of radiation-induced cancer. In the first of these two approaches, genetically engineered mice having alterations in specific genes will be used to determine the influence of these genes on the susceptibility of the mice to radiation-induced cancer. In the second approach, studies will be conducted of the inherent

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differences in susceptibility to radiation-induced cancer among different mouse strains, the objective being to identify the genes involved in controlling susceptibility. Researchers responsible for this new generation of animal studies are taking advantage of the current rapid developments in molecular genetics. Progress on both approaches should be substantial over the next few years. Significant results of relevance to risk estimation are expected to be available for the proposed BEIR VII phase 2 study.

- Evidence regarding specific biologic events that can affect the shape of the dose-response curve at low doses is also accumulating. Information on such phenomena as DNA repair, signal transduction, chromosomal instability, and adaptation, although preliminary, might eventually affect risk analyses of low-dose and low-dose-rate exposures.

The committee recommends that the group responsible for the proposed phase 2 study

- Include a comprehensive review of all relevant epidemiologic data related to low-LET (low linear energy transfer), i.e. sparsely ionizing, radiation.

- Define and establish principles on which quantitative analyses can be based, including requirements for epidemiologic data and cohort characteristics. In this respect, the group should consider biologic factors (such as the dose and dose-rate effectiveness factor, relative biologic effectiveness, genomic instability, and adaptive responses) and appropriate models (favoring simple as opposed to complex models) to develop etiologic models, estimate population detriment, and attribute causation in specific cases.

- Assess the current status and relevance to risk models of biologic data and models of carcinogenesis. This should include a critical assessment of all data that might affect the shape of the response curve at low doses, in particular, evidence of thresholds or the lack thereof in dose-response relationships and the influence of adaptive responses and radiation hormesis.

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- Consider potential target cells and problems that might exist in determining dose to the target cell.

- Consider any recent evidence regarding genetic effects not related to cancer. Any such data, even if obtained from high radiation exposures or at high dose rates, should be considered.

With respect to modeling, the committee recommends that the group responsible for the proposed phase 2 study

- Develop appropriate risk models for major cancer types and other outcomes, including benign disease and genetic effects. Specifically, the responsible group should develop models appropriate for probability-of-causation tables and should consider the fitting of purely empirical models to original data from studies or combined studies, the fitting of purely empirical models with meta-analytic techniques, and the fitting of semiempirical biology-based models to epidemiologic data.

- Provide examples of specific risk calculations based on the models and explain the appropriate use of the risk models.

- Describe and define the limitations and uncertainties of the risk models and their results. The group conducting the proposed phase 2 study should be directed to develop best-risk estimates as opposed to developing conservative models for purposes of radiation protection.

- Discuss the role and effect of modifying factors, including host (such as individual susceptibility and variability, age, and sex), environment, and lifestyle.

- Identify critical gaps in knowledge that should be filled by future research.

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To accomplish the above charge, the membership of the group responsible for the proposed BEIR VII phase 2 study will require expertise in epidemiology, biostatistics, radiation physics and dosimetry, molecular biology, risk assessment, cancer modeling, animal and cellular radiation biology, somatic cell genetics, cell-cycle regulation and apoptosis, and ionizing radiation-induced DNA damage and its repair. The committee recommends that the experts chosen have adequate resources and access to data for the computing, statistical analyses, and modeling required to complete the study.

We trust that this synopsis of the recommendations of the committee will meet your current needs. The complete report of the committee will be published and provided to your office when it has received the committee's final approval and has been subjected to the National Research Council peer-review process.

Sincerely,

Richard B. Setlow, Ph.D.
Chairman, Committee on Health Effects of Exposure to Low
Levels of Ionizing Radiations (BEIR VII Phase 1)

Table 1 is a summary of the more important epidemiologic data that have been published since the 1990 publication of the BEIR V report. Included are studies that are expected to provide new and useful data during the 3-year term of the proposed BEIR VII, Phase II, study. Although not exhaustive, the list should serve as a guide to some of the pertinent new and upcoming epidemiologic data on the subject.

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Table 1. Summary of Epidemiologic Studies of Low-LET Ionizing Radiation and Cancer, 1990

STUDY	REFERENCE	TYPE OF STUDY	SERIES	SEX	NO. IN STUDY	YEARS OF FOLLOW-UP	CANCER SITES REPORTED
Ankylosing spondylitis patients	Weiss et al. Cancer mortality following x-ray treatment for ankylosing spondylitis. Int J Cancer 1994;59:327-338.	Cohort	Mortality	Male and Female	15,577	1935-1992	All cancer and multiple cancer sites
	Weiss et al. Leukemia mortality after x-ray treatment for ankylosing spondylitis. Rad Res 1995;142:1-11.	Cohort	Mortality	Male and Female	14,767	1935-1992	Leukemia
Atomic-bomb survivors	Preston et al. Cancer incidence in atomic-bomb survivors. Part III: leukemia, lymphoma, and multiple myeloma 1950-1987. Rad Res 1994;137:568-597 (2 suppl).	Cohort	Incidence	Male and Female	93,696	1950-1987	Leukemia, lymphoma, multiple myeloma
	Thompson et al. Cancer incidence in atomic-bomb survivors. Part II: solid tumors, 1958-1987. Rad Res 1994;137:517-567.	Cohort	Incidence	Male and Female	79,972	1958-1987	Multiple cancer sites (solid tumors)
	Ron et al. Incidence of benign gastrointestinal tumors among atomic-bomb survivors. Amer J Epi 1995;142:68-75.	Cohort	Incidence	Male and Female	80,311	1958-1989	Benign tumors of stomach, colon, and rectum
	Pierce et al. Studies of the mortality of atomic bomb survivors. Report 12, Part 1. Cancer:1950-1990. Rad Res 1996;146:1-27.	Cohort	Mortality	Male and Female	86,572	1950-1990	Non leukemias, leukemia, and multiple cancer sites
Atomic-bomb survivors (case-control study)	Land et al. A case control interview study of breast cancer among Japanese A-bomb survivors. I. Main effects. Cancer Causes and Control 1994;5:157-169.	Case-control		Female	Cases: 196 Controls: 566	1955-1981	Breast cancer
	Land et al. A case-control interview study of breast cancer among Japanese A-bomb survivors. II. Interactions with radiation dose. Cancer Causes and Control 1994;5:167-176.						

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STUDY	REFERENCE	TYPE OF STUDY	SERIES	SEX	NO. IN STUDY	YEARS OF FOLLOW-UP	CANCER SITES REPORTED
Atomic-bomb survivors (in utero cohorts)	Delongchamp et al. Cancer mortality among atomic-bomb survivors exposed in utero or as young children, October 1950-May 1992. Rad Res 1997;147:385-395.	Cohort	Mortality	Male and Female	17,601	1950-1992	Canadian fluoroscopy Howe. Lung Cancer Mortality between 1950 and 1987 Following Exposure to fractionated moderate dose rate ionizing radiation in the Canadian Fluoroscopy Study and a comparison with lung cancer mortality in the Atomic Bomb Survivors Study. Radiat Res 1995; 142:295-304. Cohort Male and Female 1950-1987 — Mortality 64,172 Non leukemias, leukemia, and multiple cancer sites — Lung cancer
	Howe and McLaughlin. Breast cancer mortality between 1950 and 1987 after exposure to fractionated moderate dose rate ionizing radiation in the Canadian fluoroscopy study and a comparison with breast cancer mortality in the Atomic bomb survivors study. Rad Res 1996;145:694-707.	Cohort	Mortality	Female	31,917	1950-1987	Breast cancer
Cervical cancer patients	Kleinerman et al. Second primary cancer after treatment for cervical cancer. Cancer 1995;76:442-452.	Cohort	Incidence	Female	86,193	1935-1990	Multiple cancer sites

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STUDY	REFERENCE	TYPE OF STUDY	SERIES	SEX	NO. IN STUDY	YEARS OF FOLLOW-UP	CANCER SITES REPORTED
Contralateral breast (Denmark)	Storm et al. Adjuvant radiotherapy and risk of contralateral breast cancer. J Nat Cancer Inst 1992;84:1245-1250.	Case-control in a cohort		Female	Cohort: 56,540 Cases: 691 Controls: 691	1943-1986	Breast cancer
Contralateral breast (U.S.A.)	Boice et al. Cancer in the contralateral breast after radiotherapy for breast cancer. N Engl J Med 1992;326:781-785.	Case control within a cohort		Female	Cohort: 4,109 Cases: 655 Controls: 1,189	1935-1987	Breast cancer
Fallout from Nevada Test Site	Kerber et al. A cohort study of thyroid disease in relation to fallout from nuclear weapons testing. JAMA 1993;270:2076-2082.	Cohort	Incidence	Male and Female	2,473	1965-1986	Thyroid cancer and other thyroid disease
	Simon et al. The Utah leukemia case-control study: dosimetry methodology and results. Hlth Phys 1995;6814:460-471.	Case-Control		Male and Female	Cases: 1,177 Controls: 5,330	1952-1981	Leukemia
Massachusetts fluoroscopy	Davis et al. Cancer mortality in a radiation-exposed cohort of Massachusetts tuberculosis patients. Cancer Res 1989;49:6130-6136.	Cohort	Mortality	Male and Female	13,385	1929-1986	Multiple cancer sites
	Boice et al. Frequent chest x-ray fluoroscopy and breast cancer incidence among tuberculosis patients in Massachusetts. Rad Res 1991;125:214-222.	Cohort	Incidence	Female	4,940	1925-1986	Breast cancer
Multiple diagnostic x-rays of scoliosis patients	Hoffman et al. Breast cancer in women with scoliosis exposed to multiple diagnostic x-rays. J Natl Cancer Inst 1989;81:1307-1312.	Cohort	Incidence	Female	1,030	1935-1986	Breast cancer
Nuclear industry workers (combined analysis)	Cardis et al. Direct estimates of cancer mortality due to low doses of radiation: an international study. Lancet 1994;344:1039-1043.	Cohort	Mortality	Male and Female	95,673	1943-1988	Multiple cancer sites
	Cardis et al. Effects of low doses and low dose rates of external ionizing radiation: cancer mortality among nuclear industry workers in three countries. Rad Res 1995;142:117-132.	Cohort	Mortality	Male and Female	95,673	1943-1988	Solid tumors and leukemia
Nuclear workers at Mayak Production Association	Koshurnikova et al. NCRP Proceedings, 1996, 113:T2, 113-122.	Cohort	Mortality	Male and Female	18,879	1948-1993	Lung cancer and leukemia
Pelvic radiotherapy for benign gynecologic disease	Inskip et al. Leukemia, lymphoma and multiple myeloma after pelvic radiotherapy for benign disease. Rad Res 1993;135:108-124.	Cohort	Mortality	Female	12,955	1929-1985	Multiple hematopoietic cancers

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STUDY	REFERENCE	TYPE OF STUDY	SERIES	SEX	NO. IN STUDY	YEARS OF FOLLOW-UP	CANCER SITES REPORTED
Pooled analysis of external radiation and thyroid cancer	Ron et al. Thyroid cancer after exposure to external radiation: a pooled analysis of seven studies. Rad Res 1996;141:259-277.	Cohort Case-control	Incidence	Male and Female	120,000	1926-1990	Thyroid cancer
Radiation treatment for benign head and neck conditions (benign thyroid tumors)	Wong et al. Benign thyroid tumors: general risk factors and their effects on radiation risk estimation. Amer J Epi 1996:144:728-733.	Cohort	Incidence	Male and Female	544	1939-1991	Benign thyroid nodules
Radiation treatment for benign head and neck conditions (thyroid cancer and thyroid nodules)	Schneider et al. Dose-response relationships for radiation-induced thyroid cancer and thyroid nodules: evidence for the prolonged effects of radiation on the thyroid. J Clin Endocrinol Metab 1993;77:362-269.	Cohort	Incidence	Male and Female	4,296	1939-1990	Thyroid cancer and nodules
Radiation treatment for breast cancer	Curtis et al. Risk of leukemia after chemotherapy and radiation treatment for breast cancer. N Engl J Med 1992;326:1745-1751.	Case-control within cohort		Female	Cohort: 82,700 Cases: 90 Controls: 264	1973-1985	Leukemia
Radiation treatment for peptic ulcer	Griem et al. Cancer following radiotherapy for peptic ulcer. J Natl Cancer Inst 1994;86:842-849.	Cohort	Mortality	Male and Female	3,609	1937-1985	Multiple cancer sites
Radiotherapy treatment for Hodgkin's Disease (breast cancer)	Hancock et al. Breast cancer after treatment of Hodgkin's Disease. J Natl Cancer Inst 1993;85:25-31.	Cohort	Incidence and Mortality	Female	885	1961-1990	Breast cancer
Radiotherapy treatment for Hodgkin's Disease (gastro intestinal cancer)	Birdwell et al. Gastrointestinal cancer after treatment of Hodgkin's Disease. Int J Rad Oncol Biol Phys 1997;37:67-73.	Cohort	Incidence and Mortality	Male and Female	2,441	1961-1993	Multiple cancer sites (gastro-intestinal only)
Radiotherapy treatment for metropathia hemorrhagic anemia	Darby et al. Mortality in a cohort of women given x-ray therapy for metropathia hemorrhagica. Int J Cancer 1994;56:793-801.	Cohort	Mortality	Female	2,067	1940-1991	Multiple cancer sites
Radiotherapy treatment for pituitary adenoma	Brada et al. Risk of second brain tumor after conservative surgery and radiotherapy for pituitary adenoma. Br Med J 1992;304:1343-1346.	Cohort	Incidence	Male and Female	334	1962-1986	Multiple cancer sites (solid tumors only)
Radiotherapy treatment for skin hemangioma in childhood	Furst et al. Tumors after radiotherapy for skin hemangioma in childhood. Act Oncologica 1990; 29:557-562.	Case-control within a cohort		Male and Female	Cohort: 14,647 Cases: 94 Controls: 359	1920-1986	Multiple cancer sites (solid tumors)
Radiotherapy treatment for thymus enlargement	Shore et al. Overview of radiation induced skin cancer in humans. Int J Radiat Biol 1990;57:809-827.	Cohort	Incidence	Male and Female	7,450	1953-1989	Skin cancer

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STUDY	REFERENCE	TYPE OF STUDY	SERIES	SEX	NO. IN STUDY	YEARS OF FOLLOW-UP	CANCER SITES REPORTED
Radiotherapy treatment for uterine bleeding	Inskip et al. Cancer mortality following radium treatment for uterine bleeding. Rad Res 1990;123:331-344.	Cohort	Mortality	Female	4,153	1925-1984	Multiple cancer sites
Tinea capitis (Israel)	Ron et al. Thyroid neoplasia following low-dose radiation in childhood. Rad Res 1989;120:516-531.	Cohort	Incidence	Male and Female	10,834	1950-1986	Thyroid cancer and other thyroid disease
	Ron et al. Radiation induced skin carcinomas of the head and neck. Rad Res 1991;125:318-329.	Cohort	Incidence	Male and Female	27,060	1950-1980	Melanoma, other skin cancer and benign skin tumors
Women treated for infertility	Ron et al. Mortality following radiation treatment for infertility of hormonal origin or amenorrhea. Int J Cancer 1994; 23:1165-1173	Cohort	Mortality	Female	816	1925-1991	Multiple cancer sites

STUDY	REFERENCE	DESCRIPTION
In utero exposure	Doll and Wakeford. Risk of childhood cancer from fetal irradiation. Brit J Radiol 1997; 70:130-139	A review of case-control and cohort studies of childhood cancers.

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Decisions that need to be made about RFP drafts C and A2

General issues (there may be others):

agreed

1) Can we make decisions tonight only on the content, not the specific language? We could name a committee to do the wordsmithing later, then to circulate their product in time for us to be able to review it prior to our next meeting, so we can approve it (possibly with revisions) at that time. If we decide on a committee to complete the text, could we also leave to them the task of determining the appropriate order of items (A2 and C use slightly different orders)?

2) Draft C, in the "Scope of Work" section, has two parts under each item, "Action" and "Discussion." A2 does not include "Discussion." We have three possible choices: to exclude separate "Discussion" paragraphs (the A2 approach), to retain "Discussion" paragraphs (the C approach), or to add "Discussion" items as an Appendix at the end of the principal RFP text.

agreed

3) Can we confine our discussion and decision-making regarding the RFP drafts to known and potential disagreements? Known disagreements are those between the two drafts, or between the drafts and the agency memo. Potential disagreements are any changes, additions, deletions that may be proposed. Content—not words

Specific issues: Items identified as disagreements between the two documents (not all of them substantive), or between the RFP drafts and the agency memo. Areas of substantive disagreement are identified with an *. Can we start with these?

page 1

* a) First paragraph of Background in A2 does not appear in C. Shall we keep it? yes

b) C is long er than A2.

-add a sentence that soil is contaminated

page 2

* a) Purpose section in A2 does not appear in C. For the most part this does not constitute a substantive difference. However, the final two sentences of the A2 Purpose (on integrating the final report from the Actinide Migration Panel into the final SAL review report) need discussion.

Scope of Work

* b) A2 says comments received from the public will be incorporated into the "final recommendation"; not so C.

c) First paragraph of C summarizes what follows; not so A2.

* d) C but not A2 says (end of page) that the contractor may suggest modifying the scope of study.

page 3

Cleanup Levels at Other Sites

* a) A2, second line includes a sentence beginning: " The contractor will identify any models . . .?" What does this mean? Does it alter what the contractor is being asked to do, or only clarify it?

Computer Models

* b) See the underlined text at the end of the A2 column. Does this modify or only clarify what the contractor is being asked to do regarding computer models?

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page 4
Inputs and Assumptions
* a) See the underlined text at the bottom of the A2 column. This seems to be a substantive addition. What should we do with it?

page 5
Methodology
* a) In the A2 column, see the text in bold print at the end of the first paragraph. What shall we do with this proposed addition?
* b) In column A2, see the underlined text at the end of item number 5. Two questions: Does this sentence belong here -- or might it belong on page 3 under the item on cleanup levels at other sites? Second, what shall we do with this proposed addition?
* c) See the deletion proposed by the agency memo. What to do?

page 6
Protocols
* a) The agencies propose (middle of the page) that we delete the section on protocols for sampling methods. What shall we do?
IF WE DELETE THE SECTION ON PROTOCOLS, SKIP b), c), and d).
* b) Note the difference in the opening sentences of C and A2 under "Protocols." A2 refers to "cleanup standards that may be set from the use of models *recommended* in this investigation, C to "cleanup levels that may be set from the use of models and inputs as *studied* in this investigation." Which shall it be?
* c) Is there a substantive difference between the opening sentence in A2 and the sentence in bold proposed as a substitute? If so, which do we want?
*d) What shall we do with the underlined sentence at the end of the sampling method section in the A2 column?

Actinide Migration
* e) Note the difference between the openings sentences in A2 and C. Which approach shall we take?
* f) See the underlined phrase at the end of column A2. What is intended? Does this phrase refer to the Actinide Migration Panel? or to the contractor for the independent review? What should we do with this passage?
* g) Note the change proposed by the agencies (bottom of page). What shall we do?

page 7
Water quality
* a) The agencies recommend deletion of this section on water quality. What shall we do?

Item 6, column A2
* b) This section refers to the failure of the RESRAD computer model to deal with off-site impacts, so it may be meant as a substitute for the "Water Quality" section in C (which also has to do with one form of off-site impact). We need:
first, clarity on what this section is about, and,
second, decisions on what to do with the three layers of language: (1) the original opening two sentences; (2) the addition in bold; (3)the underlined portion.

page 8

* a) This page appears in A2 but not in C. It shows the same three layers of language referred to above (final item, page 7). Some of what is here mentioned could be incorporated under the following "Deliverables" section, some under the closing section on "Schedule/Timeline." Perhaps we can take each separate item on this page, decide on its inclusion or exclusion, then determine where it needs to be placed in the document. Perhaps we need to create a new heading, something like "Expectations for Those Conducting the Review" (there may be a better idea).

page 9

Deliverables

* a) Document C says "a synopsis of the study and the results are also to be submitted to a reputable peer review journal for critical analysis." The underlined sentence in A2 says, by contrast, says such an article is to be prepared "for publication." Which is the better way of stating what is needed? Would it be preferable to say we expect actual publication of an article in a reputable peer reviewed journal?

* b) Is this the best way to get peer review of this work, particularly since getting editorial response to a submitted article may take as long as a year after submission of a manuscript?

page 10

* a) C includes more detail than A2 regarding meetings and public participation. Is it better to have more detail at this point or to decide on this kind of detail later?

* b) In the second line of column C, replace the term "scoping" with "informational." This reflects the fact that the scope of the project is already defined by this RFP.

* c) Note the difference in timelines between A2 and C. Which do we go with?

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Department of Energy

ROCKY FLATS FIELD OFFICE
P.O. BOX 928
GOLDEN, COLORADO 80402-0928

JAN 29 1998

98-DOE-03269

Radionuclide Soil Action Level Oversight Panel,

Over the course of the last few months several draft scopes of work for the Soil Action Level Independent Review have been circulated. The purpose of this memorandum is to clarify DOE's commitment to fund an independent scientific review of the radionuclide soil action levels (RSALs) at Rocky Flats and comment on some of the issues raised in the latest draft scope of work.

Current Understanding of Independent Review:

In response to public concerns regarding the RSALs, DOE has agreed to an independent scientific review of the RSALs at Rocky Flats. Specifically this review should evaluate the methods and assumptions used by the RFCA parties to establish RSALs. This will include addressing the following issues:

1. Review the appropriateness and accuracy of the RESRAD model in translating the 15/85 mRem dose standard to a soil action level (pCi/gm). This effort may include the identification of other methods which could be used to more accurately translate dose to action levels.

2. Examine the input parameters used by the RFCA parties for appropriateness and veracity.

3. Review cleanup levels and methodologies used at other plutonium and americium contaminated sites and determine their applicability at Rocky Flats.

Concerns with Latest Scope of Work:

We are concerned that several new issues and activities have been included in latest scope of work that are beyond what DOE originally agreed to fund. These concerns include:

Section 4:

The soil action levels for radionuclides in the soil were set to be protective for the future users of the Rocky Flats land in accordance with the land uses designated in the Rocky Flats Cleanup Agreement (RFCA). Those anticipated land uses are open space for the entire site with potential limited industrial use in the south side of the current industrial area. The RSAL independent review should be consistent with these land uses. The Rocky Flats vision does not include residential use at the Site, but the current action levels for radionuclides in soil consider a hypothetical future resident due to the long-lived nature of radionuclides. Evaluating the new future land uses (e.g., rancher) is beyond the scope of work.

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Section 6:

If the contractor identifies a model that can incorporate offsite impacts to onsite standards it will be considered. However, the way this section is currently written leaves the reader to believe the contractor will "review off-site migration/impacts over time/distance for various cleanup levels". This task falls under the work the Actinide Migration Investigation and DOE will not fund duplicative work. See Legare Memo, December 10, 1997 for a description of the relationship of the RSAL Independent Review and Off-site Impacts.

Section 8:

DOE agrees that sampling methods, process protocols and quality controls for ensuring that soil contamination measurements are meeting the cleanup standards is an important issue that may warrant further dialogue. We do not believe, however, that this independent review is the most appropriate mechanism to address this public concern.

Issues that Need Clarification:

Section 5:

It is still unclear what the goal and purpose of this task is. It seems like the intent of this task is covered under Sections 3c and 3d.

Schedule/Timeline:

Without a defined scope of work it is difficult to predict cost and schedule.

Sincerely,

Joseph A. Legare
Assistant Manager for
Environmental Compliance

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need 8 of these copied

Department of Energy

ROCKY FLATS FIELD OFFICE
P.O. BOX 928
GOLDEN, COLORADO 80402-0928

JAN 29 1998

98-DOE-03269

Radionuclide Soil Action Level Oversight Panel,

Over the course of the last few months several draft scopes of work for the Soil Action Level Independent Review have been circulated. The purpose of this memorandum is to clarify DOE's commitment to fund an independent scientific review of the radionuclide soil action levels (RSALs) at Rocky Flats and comment on some of the issues raised in the latest draft scope of work.

Current Understanding of Independent Review:

In response to public concerns regarding the RSALs, DOE has agreed to an independent scientific review of the RSALs at Rocky Flats. Specifically this review should evaluate the methods and assumptions used by the RFCA parties to establish RSALs. This will include addressing the following issues:

1. Review the appropriateness and accuracy of the RESRAD model in translating the 15/85 mRem dose standard to a soil action level (pCi/gm). This effort may include the identification of other methods which could be used to more accurately translate dose to action levels.

2. Examine the input parameters used by the RFCA parties for appropriateness and veracity.

3. Review cleanup levels and methodologies used at other plutonium and americium contaminated sites and determine their applicability at Rocky Flats.

Concerns with Latest Scope of Work:

We are concerned that several new issues and activities have been included in latest scope of work that are beyond what DOE originally agreed to fund. These concerns include:

Section 4:

The soil action levels for radionuclides in the soil were set to be protective for the future users of the Rocky Flats land in accordance with the land uses designated in the Rocky Flats Cleanup Agreement (RFCA). Those anticipated land uses are open space for the entire site with potential limited industrial use in the south side of the current industrial area. The RSAL independent review should be consistent with these land uses. The Rocky Flats vision does not include residential use at the Site, but the current action levels for radionuclides in soil consider a hypothetical future resident due to the long-lived nature of radionuclides. Evaluating the new future land uses (e.g., rancher) is beyond the scope of work.

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Section 6:

If the contractor identifies a model that can incorporate offsite impacts to onsite standards it will be considered. However, the way this section is currently written leaves the reader to believe the contractor will "review off-site migration/impacts over time/distance for various cleanup levels". This task falls under the work the Actinide Migration Investigation and DOE will not fund duplicative work. See Legare Memo, December 10, 1997 for a description of the relationship of the RSAL Independent Review and Off-site Impacts.

Section 8:

DOE agrees that sampling methods, process protocols and quality controls for ensuring that soil contamination measurements are meeting the cleanup standards is an important issue that may warrant further dialogue. We do not believe, however, that this independent review is the most appropriate mechanism to address this public concern.

Issues that Need Clarification:

Section 5:

It is still unclear what the goal and purpose of this task is. It seems like the intent of this task is covered under Sections 3c and 3d.

Schedule/Timeline:

Without a defined scope of work it is difficult to predict cost and schedule.

Sincerely,

Joseph A. Legare
Assistant Manager for
Environmental Compliance

129

PLUTONIUM INTAKE BY RESIDENTS on Contaminated Soil

Joseph Goldfield
Denver, CO

January 7, 1998

130

PLUTONIUM INTAKE BY RESIDENTS ON CONTAMINATED SOIL

JOSEPH GOLDFIELD
DENVER, CO

JANUARY 7, 1979

Summary

This paper is an attempt to determine the quantity of plutonium that may accumulate in the lungs of a resident on soil contaminated with 1429 p/Ci/g (picocuries per gram of soil). Admittedly the data available for such a calculation is limited. However, using assumptions that assume relationships between the plutonium concentration in the soil, the resultant plutonium concentration in the air, and the quantity of contaminated air that a resident breathes, an estimate can be made of the weight of plutonium, in size ranges that are respirable, (capable of being drawn deeply into the lungs) that is inhaled. The result of this analysis indicates that as much as 0.5 μg (micrograms) of plutonium may be deposited in the lungs of a resident in one year. If it is assumed that only 1 μg of plutonium constitutes a fatal dose, then a fatal dose may be accumulated in two years. Such a result is unacceptable for human health effects. The length of exposure over which even relatively small health effects should not develop is normally assumed as 70 years--35 times the length of exposure cited above. The health effect, even after that length of exposure, must not be life threatening. In order to reduce the possibility of that effect an additional safety factor of at least ten is deemed appropriate. Thus the soil plutonium concentration should be reduced by a factor of 350 fold from 1429 pCi/g to 4 pCi/g.

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PLUTONIUM INTAKE BY RESIDENTS ON CONTAMINATED SOIL

Background

The relationship of the quantity of plutonium in soil to the the quantity that accumulates in the lungs of residents living on such soil is crucial to understanding the health effects. This paper is an attempt (with limited data available) to study this relationship. It is hoped that the paper may serve as part of a continuing dialogue. It was inspired by the proposal of a soil action level of 1429 pCi/g (picocuries of plutonium per gram of soil) that was reputed, by means of calculations made with a computer model called RESRAD, to produce a health effect of 85mrem/year on people living on such soil.

In discussions of the soil action level, the point was made that 1429 pCi is a very small quantity of plutonium--implying that health effects must be minimal. At first glance, 1429 pCi is a very small number. A picocurie is equal to 10E-12 curies--0.000000000001 curies. However, plutonium is a very poisonous material. One microgram is postulated as a fatal dose if concentrated in the lung. One microgram is 0.000001 grams. Since there are about 28 grams in an ounce, 1 microgram is also a small number.

Plutonium Intake by Residents

The quantity of plutonium drawn into the lungs of people living on contaminated soil is influenced by the following factors:

1. The concentration of plutonium in the soil.

2. The quantity of soil that may be suspended in air.

3. The concentration of plutonium in the airborne soil.

4. The quantity of contaminated air drawn into the lungs.

5. The quantity of plutonium that is retained in the lungs.

Concentration of Plutonium in the Soil

The concentration of plutonium in soil that is cleaned to the soil action level is 1429 pCi/g. However, that concentration is an average determined by a soil sampling method that we know little about. What is the spacing between sampling points? How many samples are taken in any given area? What is the method of obtaining samples? What will be the acceptable range of plutonium quantities in the samples? How accurate are the analytical methods used to determine plutonium quantities?

Until the answers to the questions posed, and others that may be asked by people much more knowledgeable in the field, we can only guess at the accuracy of the result--1429 pCi/g. We do know that the result is an average concentration. For health exposures we are more interested in the levels in the soil to which the most heavily exposed population will be subjected. I am guessing that level is three times the average.

Concentration of Soil Suspended in Air

From data obtained by the National Air Surveillance Network, it is estimated that the average particulate concentration in air at Rocky Flats is 75 μg/cu m (micrograms per cubic meter of air). It is further assumed that 70% of the suspended particulate is less than 10μ in size (respirable particles that can be drawn deeply into the lungs).

Concentration of Plutonium in Airborne Soil

The concentration of plutonium suspended in air is increased above the average concentration found in soil samples by two factors. First, the air blowing through the soil elutriates (separates and suspends) the small soil particles much more readily than larger particles--so that the concentration of small particles in air is much higher than the concentration of small particles in the unseparated soil. Second, it has been established by Dr. Carl Johnson (published in an article in Science, August 1976) that the concentration of plutonium in small, respirable size particles is 5.5 times as great as the average concentration of plutonium in soil.

Air Intake by Healthy Young Men

The air intake by healthy young men at rest (sedentary) is as much as 40 liters per minute. With heavy exercise that rate can rise to almost 300 liters per minute. Allowing for some mild form of exercise, it is assumed that the breathing rate should be estimated as 48 liters per minute.

Quantity of Plutonium Retained in the Lungs

From the parameters discussed above a calculation can be made of the quantity of plutonium that will be drawn into the lungs of residents on soil contaminated with 1429 pCi/g. Because the soil particles are quite small, in the respirable range, it may be assumed that they will be drawn deeply into the lungs and retained for long periods of time.

From the discussions above:

The most heavily exposed residents will probably be exposed to three times the *average* or 1429 pCi/g x 3 or 4287 pCi/g.

The concentration of airborne dust will be 75 μg per cubic meter of which 70% or 52.5 μg per cubic meter will be in the respirable range.

Because of the elutriation effect of air blowing through soil particles and the established fact that plutonium is concentrated by a factor of 5.5 in the small, respirable soil particles, the concentration of plutonium in the soil must be multiplied by a factor of 5.5 to estimate the concentration of plutonium in the airborne particles.

In one year a young man, resident of Rocky Flats will breathe 48 l/min x 60m/hr x 8,000 hrs/yr = 23,000,000 liters--since one cubic meter is equal to 1,000 liters, the young man will breathe in 23,000 cubic meters of dust laden air.

The air will contain 52.5 μg/cu m x 23,000 cu m = 1,200,000 μg or 1.2 grams of particulates.

The plutonium in the inspirated air will have been concentrated by a factor of 3 because 1429 pCi/g is an average value and some people will be exposed to values three times the average and by a factor of 5.5 because of the elutriation effects described--1429 pCi/g x 3 x 5.5 = 23,600 pCi/g of inspirated soil.

In order to convert the picocuries to weight they must be corrected for the fact that 16.1 grams of plutonium produces 1 curie of radiation. 16.1 picograms of plutonium will be required to produce 1 pCi. 23,600 pCi x 16.1 picograms/picocurie = 380,000 picograms of Pu per gram of inspirated soil. Since 1.2 grams per year of soil were inspirated, the weight of inspirated plutonium will be 456,000 picograms.1,000,000 picograms are equal to one microgram, the inspirated weight of plutonium is 0.46 micrograms or about one half of the reputed fatal dose.

Is it possible that in two years of exposure a fatal dose of plutonium will be accumulated?

Discussion of Result

The result is quite disturbing. Health standards are not set to prevent fatal consequences ! Rather the purpose is to prevent any ill effects after a life time of exposure. A second concern is that as time goes on the allowable concentrations of contaminants to prevent health effects almost always are reduced, sometimes radically, as more data is accumulated. Plutonium is an example of a contaminant that is rather new on the health arena. Standards must be set with large safety factors.

A normal lifetime of exposure can be assumed to be 70 years. Certainly over that lifetime a fatal dose of plutonium should not be accumulated in the lungs of an exposed individual. On that basis the soil cleanup standard is too high by a factor of 35. In addition, due to the lack of data available for health effects on people living on soil contaminated with plutonium, a safety factor of ten should be applied to reduce the lung burden of plutonium to a level that is well below what may be a fatal dose. On that basis the soil action level should 35 x10 or 350 times lower. A possible soil action level might be 1429 ÷ 350 = 4 pCi/g (4 picocuries per gram of soil).

2/12/96
Session

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RF SAL Meeting 2-12-98

Pg 1

Name	Organization	Phone	Fax
TODD MARGULIES	TM CONSULTING	279-6699	CALL 1st 303 279.6699
Tom Pentecost	CDPHE/LARS	692-3078	782-5083
VICTOR HOLM	RFCAB	989-9086	
KEN STARR	JEFFCO DEPT HEALTH + ENV	271-5714	271-5702
LeRoy Moore	RMPJC	444-6891	444-6523
Brady Wilson	RFCAB	420-7855	420-7599
Ken Korkia	RFCAB Staff	420-7855	420-7579
M. Harland	City of Westy	430-2900/2179	650-1065
Dean Heil	CSU	970-491-6510	
Dave Shelton	K-H	966-9877	966-5001
Niels Schonbeck	HAP, Metro State Col.	556-8327	556-5399
Carl Spreng	CDPHE	692-3358	759-5355
Joe Goldfield		321-2276	
~~HANK SPUVAL~~	BROOMFIELD	466-5986	
James McCarthy	Arvada	431-3042	431-3869
KATHY SCHNOOR	BROOMFIELD	438-6363	438-6234
John Corsi	Kaiser-Hill	966-6526	966-6153
Joanie Berardini	CDPHE	692-3472	
Steve Gunderson	CDPHE	692-3022	782-4969
J Jones	Facilitation	402-9630	
John Shepherd	PSR/Colo	650-4460	650-44[illegible]

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F-A-X M-E-M-O-R-A-N-D-U-M

TO: DISTRIBUTION

FROM: MARY HARLOW AND HANK STOVALL, CO-CHAIRS

SUBJECT: MEETING REMINDER FOR FEBRUARY 12, 1998

DATE: FEBRUARY 5, 1998

There will be meeting **THURSDAY, FEBRUARY 12, 1998, 4:00-8:00 PM at Broomfield Municipal Center** in the Zang's Spur Conference Room (please bring a brown bag supper). Please read AND BRING the draft RFP and any additions, deletions or corrections for deliberation at the meeting.

Proposed Agenda

- Introductions
- Public Comments
- Panel Review of the DRAFT RFP
- Timeframe for Study and Relationship to Clean-up Schedule
- Public Comments
- Next Meeting(s)- Date, Time, Location

A couple of things to note:

- Transcripts of the January 29, 1998 meeting will be made available at the meeting on the 12th..
- The elevator will be out of service on the 12th. Signs for the stairs to the basement will be posted.
- Bring 35 copies of any hand-outs for the group. We may not have access to a copier after 5 PM.
- The doors are locked at 5:15 PM. If you know you are going to arrive late, please let Kathy Schnoor (438-6363) know so that arrangements can be made to let you in the building.

F-A-X M-E-M-O-R-A-N-D-U-M

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- Introductions
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- Panel Review of the DRAFT RFP

6:00 Break

- Timeframe for Study and Relationship to Clean-up Schedule
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121

F-A-X M-E-M-O-R-A-N-D-U-M

TO: DISTRIBUTION

FROM: MARY HARLOW AND HANK STOVALL, CO-CHAIRS

SUBJECT: MEETING REMINDER FOR FEBRUARY 12, 1998

DATE: FEBRUARY 5, 1998

There will :00 PM at
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deletions c

Rob Duffy
JSC/Spensley
1675 Larimar St
Ste 675
Denver 80202
628-7307
FAX 623-3130

✓ Introd

✓ Public

✓ Panel

6:00 Break

- Time

- Publi

- Next

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RF SAL Meeting 2-12-98

Name	Organization	Phone	Fax
TODD MARGULIES	TM CONSULTING	279-6699	CALL 1st 303 279-6699
Tom Pentecost	CDPHE/LARS	692-3078	782-5083
VICTOR HOLM	RFCAB	989-9086	
KEN STARR	JEFFCO DEPT HEALTH & ENV	271-5714	271-5702
LeRoy Moore	RMPJC	444-6891	444-6823
Sandy Wilson	RFCAB	420-7855	420-7599
Ken Korkia	RFCAB Staff	420-7858	420-7579
M. Harland	City of Westy	430-2400/2179	650-1065
Dean Heil	CSU	970-491-6516	
Dave Shelton	K-H	966-9877	966-5001
Niels Schonbeck	HAP, Metro State Col.	556-8327	556-5399
Carl Sprenger	CDPHE	692-3358	759-5365
Joe Goldfield		321-2276	
HANK SPUVALL	BROOMFIELD	466-5986	
James McCarthy	Arvada	431-3042	431-3869
KATHY SCHNOOR	BROOMFIELD	438-6363	438-6234
John Corsi	Kaiser-Hill	966-6526	966-6153
Jackie Berardini	CDPHE	692-3472	
Steve Gunderson	CDPHE	692-3022	782-4969
J Jones	Facilitation	402-9630	
John Shepherd	PSR/Colo	650-4460	650-44[illegible]
[illegible] Mangel	City of Boulder	938-8520	938-8520
Joel Sellein	UCD	4447341	5564776
NORMIE MORIN	CDPHE	692-2645	782-0183
BOB KANICKI	RFCAB	444-0049	444-0072
Tom Marshall	RMPJC/RFCAB	444-6981	444-652[illegible]

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City of Broomfield

One DesCombes Drive, Broomfield Colorado 80020

DATE: Feb 13, 1998
FROM: Kathy Schnoor, Environmental Services PHONE: 438-6363
RE: RF-SAL Oversight Panel # of pages 2
2-12-98 mtg attendance sheet

			PHONE	FAX	
	David Abelson	Cong. Skaggs' Ofc	303-650-7886	303-650-7893	
P	Jim McCarthy	City of Arvada	303-431-3042	303-431-3969	
P	Lisa Morzel	City of Boulder	[redacted]	303-441-4478	
A	John Tayer	City of Boulder	303-441-3005	303-441-4478	
	Tim Holeman	City of Broomfield	303-355-5492	303-355-5530	
A	Kathy Schnoor	City of Broomfield	303-438-6363	303-438-6234	
P	Hank Stovall	City of Broomfield	303-466-5986	303-469-8554	
P	Tom Davidson	City of Louisville	303-666-6565	303-673-9043	
A	Sam Dixion	City of Westminster	303-426-1202	303-429-5113	
P	Mary Harlow	City of Westminster	303-430-2400 x 2174	303-650-1643	
E	Jackie Berardini	CDPHE	303-692-3472	303-691-7702	
	Herb Betts	CDPHE	303-692-2665	303-782-0188	
	Dr. Norma Morin	CDPHE	303-692-2645	303-782-0188	
	Steve Gunderson	CDPHE	303-692-3022	303-782-4969	
	Steve Tarlton	CDPHE	303-692-3423	303-782-4969	
	Edd Kray	CDPHE	303-966-2115	303-966-5449	
	Carl Spreng	CDPHE	303-692-3358	303-759-5355	
P	Dean Heil	CSU	970-491-6516	970-491-0564	
	Jeff Ciocco, Jim Fiore, Ray Greenberg	DOE HQ	301-903-7459	301-903-3877	
	Jeremy Karpatkin	DOE	303-966-2080	303-966-6633	
	Jessie Roberson	DOE/RFFO	303-966-2025	303-966-6054	
E	Steve Slaten	DOE	303-966-4839	303-966-3710	
E	Tim Rehder	EPA	303-312-6293	303-312-6067	
P	Ken Starr	Jefferson County	303-271-5714	303-271-5702	
	John Corsi	Kaiser Hill	303-966-6526	303-966-6153	
	Dave Shelton	Kaiser Hill	303-966-9877	303-966-5001	
P	Niels Schonbeck	Metro State	303-556-8327	303-556-5399	
A	John Shepherd	Physician/Soc Resp	303-650-4460	303-650-4403	**Please call when faxing**
A	Victor Holm	RFCAB	303-989-9086	303-980-9076	
P	Bob Kanick	RFCAB	303-444-0049	303-444-0072	
	Ken Korkia	RFCAB	303-420-7855	303-420-7579	
A	Tom Marshall	RFCAB	303-444-6981	303-444-6523	
P	LeRoy Moore	RMPJC	303-444-6981	303-444-6523	
	Deanne Butterfield	RFLII	303-940-6090	303-940-6088	
	Will Neff	RFLII	303-940-6090	303-940-6088	
P	Joel Selbin	UCD Chem Dept	[redacted]	303-556-4776 (W)	
P	Todd Margulies	TM Consulting	303-279-6699	303-279-6699	**Call 1st/include 1-303**
P	Joe Goldfield	RFCAB-SNM	303-321-7276		

(P=Panel Member, A=Alternate, E=Ex-Officio)

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BROADCAST REPORT

DATE/TIME 2-13-98 10:37AM
LOCAL I. D. 3034386234
LOCAL NAME CITY BROOMFIELD
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21	93036501643	GOOD
22	93036917702	GOOD
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24	93037824969	GOOD
25	93039665449	GOOD
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174

BROADCAST REPORT

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2-12-98
RF SAL Meeting 2-12-2
Pg 1 MTG

Post-it® Fax Note 7671	Date 2/13/98	# of pages ▶ 1
To Tom Pentecost	From K. Schnoor	
Co./Dept.	Co. Broomfield	
Phone #	Phone # 438 6363	
Fax # 782-5083	Fax #	

Name	Organiza		
TODD MARGULIES	TM CONSULTING	279-6699	CALL IF 303 279.6699
Tom Pentecost	CDPHE/LARS	692-3078	782-5083
VICTOR HOLM	RFCAB	989-9086	
KEN STARR	JEFFCO DEPT HEALTH & ENV	271-5714	271-5702
LeRoy Moore	RMPJC	444-6881	444-6823
Brady Wilson	RFCAB	420-7855	420-7599
Ken Korkia	RFCAB Staff	420-7855	420-7579
M. Harland	City of Westy	430-2400/2179	650-1665
Dean Heil	CSU	970-491-6516	
Dave Shelton	K-H	966-9877	966-5001
Niels Schonbeck	HAP, Metro State Col.	556-8327	556-5399
Carl Spreng	CDPHE	692-3358	759-5855
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John Shepherd	PSR/Colo	650-4460	650-446
Jim Mangel	City of Boulder	938-8520	938-8529
Joel Sellein	UCD	4447341	5564776
NORMIE MORIN	CDPHE	692-2645	782.0193
BOB KANICK	RFCAB	444-0049	444-0072
Tom Marshall	RMPJC/RFCAB	444-6981	444-652

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Future Agenda Item
- plan on how to arrive at final clean-up levels
- protocol for sampling for RSAL's

City of Broomfield
One DesCombes Drive • P.O. Box 1415 • Broomfield, Colorado 80020

SHEET NO. 1 OF
JOB NO. RFRSAL
BY KS
DATE 2/12/98 TIME 4PM

Main Topic - Sole-source

NEXT MTG - 2/26 4-8PM
Zang's Spur

- Laura - Introductions
  Announcements - Notes on Agenda
  - LeRoy - Iggy Litor letter
  - Hank - Steering Committee 10 min. Mtg after
  - Jackie - response from

Public Comments - None

- Panel Review of DRAFT RFP

Background - signatures for RFCA principals
- add a sentence - contaminated bedgs & soil
- the RSAL document will be attached - Joe wants more
- bias in language - should we stay neutral or let contractor know we think #'s may be too high.

Purpose - applicability → appropriateness
- Jackie - objection to site specific langua (that sentence was deleted anyway)

Scope of Work - Hank - don't limit this to 3 things
- submit for publication - peer reviewed issue
- reputable? can we be specific - name a journal
- have contract end at submission of article

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SHEET NO. 2 OF

JOB NO.

BY

DATE TIME

City of Broomfield

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Ken Starr - wants Contractor shall provide Statement of Qualifications & project team definition

Page 3

1.) Cleanup Levels at Other Sites
- directives vs. sentences & use bullets
- Jackie - cleanup levels vs. action levels
  1.) more to clean-up levels than Action levels
  2.) legally we can't call these final clean-up levels until CERCLA record of decision

2.) Computer Models
- Actions - no chgs
- Considerations - last two sentences debated what specifically do we want to say
  - can we leave it alone & let contractor ask questions
  - Dean Heil has trouble with it - he's OK to leave it for now

Page 4

3.) Inputs and Assumptions
- Joe again is adding language to revisit 15/85 Invrem - this isn't an appropriate forum

Page 5

4.) Methodology -
- Actions - no chgs

5.) Independent Calculation

6.) Protocols - Substitute Niels language

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SHEET NO. 3 OF

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Page 6

- Considerations - it is very difficult to state a protocol for sampling - long discussion

7.) Actinide Migration

Actions -

- again Dean Heil stated that transport of actinides in water should be out of scope (DOE or K-H have lobbied him)

Interfacing & Responsibilities

1.) do we want to set a number

Fixed Cost Contract

9 months 2 mtgs/mo for 2-3 mo 8 hrs each

1 mtg/mo for 6 months

Fixed for pgs 1-6 of SOW + Deliverable

Public Outreach Not to Exceed X hrs. + expenses

240 hrs for public involvement as a skeleton people

Norma Castañeda - CERCLA

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City of Broomfield

One DesCombes Drive, Broomfield Colorado 80020

DATE: _____, 1998
FROM: Kathy Schnoor, Environmental Services PHONE: 438-6363
RE: RF-SAL Meeting # of pages _____

			PHONE	FAX	
	David Abelson	Cong. Skaggs' Ofc	303-650-7886	303-650-7893	
P	Jim McCarthy	City of Arvada	303-431-3042	303-431-3969	
P	Lisa Morzel	City of Boulder	[redacted]	303-441-4478	
A	John Tayer	City of Boulder	303-441-3005	303-441-4478	
	Tim Holeman	City of Broomfield	303-355-5492	303-355-5530	
A	Kathy Schnoor	City of Broomfield	303-438-6363	303-438-6234	
P	Hank Stovall	City of Broomfield	303-466-5986	303-469-8554	
P	Tom Davidson	City of Louisville	303-666-6565	303-673-9043	
A	Sam Dixion	City of Westminster	303-426-1202	303-429-5113	
P	Mary Harlow	City of Westminster	303-430-2400 x 2174	303-650-1643	
E	Jackie Berardini	CDPHE	303-692-3472	303-691-7702	
	Herb Betts	CDPHE	303-692-2665	303-782-0188	
	Dr. Norma Morin	CDPHE	303-692-2645	303-782-0188	
	Steve Gunderson	CDPHE	303-692-3022	303-782-4969	
	Steve Tarlton	CDPHE	303-692-3423	303-782-4969	
	Edd Kray	CDPHE	303-966-2115	303-966-5449	
	Carl Spreng	CDPHE	303-692-3358	303-759-5355	
P	Dean Heil	CSU	970-491-6516	970-491-0564	
	Jeff Ciocco, Jim Fiore, Ray Greenberg	DOE HQ	301-903-7459	301-903-3877	
	Jeremy Karpatkin	DOE	303-966-2080	303-966-6633	
	Jessie Roberson	DOE/RFFO	303-966-2025	303-966-6054	
E	Steve Slaten	DOE	303-966-4839	303-966-3710	
E	Tim Rehder	EPA	303-312-6293	303-312-6067	
P	Ken Starr	Jefferson County	303-271-5714	303-271-5702	
	John Corsi	Kaiser Hill	303-966-6526	303-966-6153	
	Dave Shelton	Kaiser Hill	303-966-9877	303-966-5001	
P	Niels Schonbeck	Metro State	303-556-8327	303-556-5399	
A	John Shepherd	Physician/Soc Resp	303-650-4460	303-650-4403	**Please call when faxing**
A	Victor Holm	RFCAB	303-989-9086	303-980-9076	
P	Bob Kanick	RFCAB	303-444-0049	303-444-0072	
	Ken Korkia	RFCAB	303-420-7855	303-420-7579	
A	Tom Marshall	RFCAB	303-444-6981	303-444-6523	
	Deanne Butterfield	RFLII	303-940-6090	303-940-6088	
	Will Neff	RFLII	303-940-6090	303-940-6088	
P	LeRoy Moore	RMPJC	303-444-6981	303-444-6523	
P	Joel Selbin	UCD Chem Dept	[redacted]	303-556-4776 (W)	
P	Todd Margulies	TM Consulting	303-279-6699	303-279-6699	**Call 1st/include 1-303**
P	Joe Goldfield	RFCAB-SNM	303-321-7276		

(P=Panel Member, A=Alternate, E=Ex-Officio)

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Rocky Mountain Peace and Justice Center
P. O. Box 1156, Boulder, CO 80306 USA (303)444-6981 FAX (303)444-6523

February 11, 1998

Ms. Jessie Roberson, Manager
DOE Rocky Flats
P. O. Box 928
Golden, CO 80402-0928

Dear Ms. Roberson:

Since the initiation of the Actinide Migration Investigation in the summer of 1996 I have repeatedly asked that any reports from the research team be sent to Dr. Iggy Litaor as they were produced. So far as I know, however, nothing has been sent to him. Accordingly, as a courtesy I sent him a copy of the group's "Final Report" for FY 1997 (dated 15 December 1997). I did not ask for his comments but he nevertheless provided them in the form of the enclosed letter dated 11 January 1998. He asked that I copy the letter and pass it on to you and to other interested parties.

Yours sincerely,

LeRoy Moore

LeRoy Moore

cc: Bob Card, Kaiser-Hill
Christine Dayton, Kaiser-Hill
Tim Rehder, EPA
Steve Gunderson, CDPHE
Rep. David Skaggs
Rocky Flats Citizens Advisory Board
Rocky Flats Radionuclide Soil Action Level Oversight Panel
Rocky Flats Local Impacts Initiative

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January 11, 1998

Dr. LeRoy Moore
Rocky Mountain Peace and Justice Center
Box 1156, Boulder CO 80306
USA

Dear Dr. Moore

The following are comments and critical review of the Final Report of Actinides Migration at the Rocky Flats Environmental Technology Site.

I. The executive summary claims that reducing agents solubilized 0.1% to 5% of Pu compared with 20% to 40% suggested by Litaor and Ibrahim (1996). There is a basic difference in the experimental design between the two studies, which may have significant environmental implications for the site (see below).

II. The authors of the report provided qualified conclusion that may lead the reader to the importance of this Pu-sesquioxides fraction by saying that some of the water quality exceedances observed in RFP can be explained by redox change in the soil system (aerobic ⇒ anaerobic) that induced higher solubility of Pu. I am grateful to the members of the Actinides Migration Panel that they finally came to this realization especially in the light of previous work that promoted this view (e.g., Litaor and Ibrahim, 1996; Litaor et al. 1998; Litaor et al. in review).

III. The differences in the reported Pu-sesquioxides fraction resulted from different extraction techniques employed and vastly different sampling scheme. In Page 3, the report describes the protocol of extracting Pu in the following order: exchangeable, carbonates, sesquioxides, organic matter, and residual. Litaor and Ibrahim (1996) employed different sequence: soluble, exchangeable, carbonates, organic matter, sesquioxides, and residual. I suspect that the destruction of organic matter *before* the dissolution of sesquioxides may released some of the Fe-Al-Mn-oxides and hydroxides bound together with organic matter. In the work by Litaor and Ibrahim (1996) this fraction was probably dissolved by the CBD extraction resulted in higher percentage of Pu-sesquioxides content. The sequence described by Litaor and Ibrahim is more appropriate sequence to the problem at hand, especially in light of the increased Pu activity in colloidal and dissolved forms during the wet spring and summer of 1995. This increase is due to dissolution of sesquioxides, sesquioxide-Pu-organic matter humate, and even Pu solid phase (Litaor et al. in review).

In Page 3, the Final Report describes the location of the soil samples. Their approximate locations were also sketched in Figure 1 and their organic carbon content was given in Appendix 6. The soil samples were not taken by the authors of the report but provided by a subcontractor. The area they described is highly disturbed due to past RFP activities. The topsoil of the area from which the soil samples 1 to 5 were collected was partially scraped in the past and does not exhibit a mollic eppipdon like the A horizon described by Litaor and Ibrahim (1996). The mollic horizon exhibits organic matter that varies between 4 % to 16 % unlike the highly disturbed samples described in the Final Report which exhibited organic matter values that ranged between 0.99% to 2.39%. The report did not provide additional information regarding the soil samples such as CEC, sesquioxides content, mineralogy, and

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other edaphic factors essential for a meaningful comparison between the two studies. We walked the site numerous times using old and new airphotographs to delineate the disturbed areas before picking up our sampling sites. We have conducted a GPR survey to locate the sites which may provide the highest potential for Pu transport due to lateral discontinuity (Litaor et al., 1994; Litaor et al., 1996). The haphazard sampling protocol described in the Final Report is additional cause for the apparent differences between the studies.

IV. The experimental protocol of the Distribution Coefficients (K_d) described in page 5 and results presented in Pages 13 to 16 is inappropriate. The need for K_d values stem from the required input to solve the advection-dispersion equation for transport of reactive constituents. It is successfully used in groundwater contaminant problems and to a lesser degree in vadose zone cases. One of the fundamental flaw in the experimental design described in the Final Report is the implicit assumption that the entire soil matrix is wet, thus 5 gram of sieved soil was submerged in 0.5 L of water. This condition never occurred in the field except during the flooding of 1995. There is a large body of literature that describes preferential flow conditions in soils of RFP. In general, only small fraction (< 10%) of the soil is wetted during 'normal' snowmelt and rainfall events monitored between 1992 to 1995 and the flow is largely confined to macropores at high velocity which facilitated the transport of particulate material (Litaor et al., 1996, Litaor et al., 1998, Litaor et al., in review; Nachabe et al., 1995; Ryan et al., 1998). We found that under aerobic conditions up to 97% of the Pu is restricted to the fraction greater than 0.45 μm (see Litaor et al., 1998). Hence, the K_d experimental protocol as described by this report has little merit in the real soil environment. Failure to understand this fundamental point will result in erroneous conclusions regarding the main goal of this report, namely 'to provide information as a foundation for assessing whether additional soil cleanup goals must be established, or further institutional controls that may be needed, for the protection of surface water'.

To further illuminate the problems with the simplistic K_d approach I call the authors' attention to the following findings. During the wet spring and summer of 1995 we observed significant shift in the fractionation (termed speciation by the authors) of Pu during the prolonged saturation period probably because of the change in redox potential. Up to 64% of the observed Pu was in colloidal ($0.45\mu m > X > 10kD$) or dissolved form (< 1 nm) (Litaor et al., in review), compared with less than 17% in aerobic conditions (Litaor et al., 1998). It should be emphasized that most of the colloidal and dissolved fraction during the aerobic conditions of the monitoring period (1992 to 1995) were around 1% to 2%. From the comment above, it is clear that the K_ds values described by the author will not provide the necessary information for vadose zone modeling because of the sampling and experimental flaws as well as large spatial and temporal variations.

In 1996, the Colorado Department of Public Health and the Environment (CDPHE) asked me to provide some Kd values from my studies. The values were given to Dr. N. Morin of CDPHE with a clear reservation as far as the usefulness of this approach (Attachment I).

V. The section describing the Pu activity in Ponds especially in C-2 has a fundamental flaw in their approach. The authors assume that all flow reached the settling pond. This is far from the truth. Most of the near-surface and surface flow from the 903 lip area is collected by the South Interception Ditch (SID) that diverts the flow from the contaminated slopes around the 903 Lip area into C-2 Pond. Large amount of sediment is trapped in the SID that never reached the Pond. Hence, the computation of the Pu flux on the basis of cumulative deposition over time is a gross underestimation of the amount of Pu that has been remobilized by vadose-zone flow and surface flow over the years. During the flooding incident on May 17, 1995 we observed numerous areas of

seepage on the downhill side of the SID. This observation suggests that some Pu may bypass the SID on its way to Woman Creek and subsequently offsite! Moreover, during the wet summer of 1995, we observed that the intensity of subsurface flow decreased downslope. We believe that much of the flow did not even reach the SID but have ceased somewhere downhill above the SID. The existence of hot spots along the contiguous slope from the 903 Lip area towards the SID, strongly supports this assertion (Litaor unpublished document). Hence, the proposed computational approach does not provide the information regarding the potential of Pu remobiliztion during normal and/or extreme events.

VI. The authors suggested that 'mechanical erosion' is the dominant process in transporting Pu downhill. I was thrilled to see that some members of the Actinides Migration Panel have finally came to the realization that the physical processes and not the geochemical ones govern the Pu transport downslope via near-surface and to a lesser extent surface flow. However, it points to an internal flaw in their argument for further geochemical work. In any event, our original conceptual design was based around the physical processes concept, hence we tried in our studies to quantify the processes such as vadose zone flow (Litaor et al., 1996; Litaor et al., 1998); surface flow (Zika, 1996); evapotranspiration (Daniels, 1996); snowmelt processes (Moffitt, 1996); colloidal transport (Ryan et al., 1998); water velocity and macropores (Nachabe et al., 1995).

VII. In general, the report is riddled with citing inaccuracies. For example, in Page 9, the authors claim that Litaor and Ibrahim (1996) took *five soil cores* from an area NW of *SW 51*. In fact, Litaor and Ibrahim (1996) took five soil samples by *diagnostic horizons* from five open pits NW of *SW 53*. In page 10, the authors mentioned Marty et al (1996). In fact, it is Marty et al (1997). There are other several errors of that kind. The authors should be more careful in citing other people work.

VIII. The work by Marty et al. (1997) has added nothing new to the problems involved with the operationally defined sequential experiment. In any event, a detailed reply was submitted to the Journal of Environmental Quality (Litaor, 1997) (Attachment II).

XIX. Page 17. The desorption kinetics results support my assertion that K_d values have little usefulness in predicting the fate and transport of Pu in the vadose zone of RFP. On the basis of the 1995 wet spring and summer we have presented our conceptual flow model and remediation approach that was based on five years of studies by numerous researchers. Our approach was ignored and we never received the opportunity to write it up in a report form. I wish we could get the chance to finish that document and present our ideas and thinking to the regulatory agencies as well as DOE.

If you have more questions and comments regarding this comment please do not hesitate to write.

Sincerely yours,

M. Iggy Litaor
Associate Professor
Department of Biotechnology and Environmental Sciences
Tel-Hai College
Upper Galilee, 12210
Israel

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Moffitt, J.A. 1996. Monitoring and modeling of snowmelt at Rocky Flats. Boulder CO; University of Colorado. Thesis.

Nachabe, M.H., T.H. Illangasekare, M.I. Litaor, and G.R. Barth. 1995. Assessment of free-flowing soil solution using zero-tension samplers. In Wagner et al., (eds). Models for assessing and monitoring groundwater quality. IAHS Publication N0. 227, p. 67-74. Proceedings of an international symposium held in Boulder Colorado, July 2-14, 1995.

Ryan J.N., T.H. Illangasekare, M.I. Litaor, and R. Shannon. 1998. Particle and plutonium mobilization in a macroporous soil during rainfall simulations. (In press) ES&T.

Zika, E.M. 1996. Characteristics and impacts of the rainfall-runoff relationship on a radionuclide-contaminated hillslope. Boulder CO; University of Colorado. Thesis.

Appendix I.

Table 1. Pu Sorption Coefficients (ml/g)

Depth (cm)	Kd§
0 - 20	2.12E+05
0 - 20	3.11E+05
20 - 40	3.18E+04
20 - 40	2.81E+04
20 - 40	5.97E+04
40 - 70	2560

§ Kd is sorption coefficient for filterable (dissolved) Pu

Table 2. Am Sorption Coefficients (ml/g)

Depth (cm)	Kd§
0 - 20	2.96E+05
0 - 20	1.41E+05
20 - 40	3.77E+04
20 - 40	7.53E+04
20 - 40	1.88E+04
40 - 70	1.20E+04

§ Kd is sorption coefficient for filterable (dissolved) Am

Appendix II.

Reply to a comment: Plutonium Association with Selected Phases in Soils of Rocky Flats, Colorado Using sequential Extraction Techniques. JEQ, 25:1144-1152.

Dear Editor:

Marty et al. (1997) suggested that we failed to incorporate earlier relevant research into our experimental design, discussion and conclusions. The relevant literature they cited in their comment are mostly old text books, some of which are considered classic but have no relevancy to the problem at hand. The other 'research' document they cited is an internal report (US Department of Energy, 1994) that was not peer-reviewed and was never published in the open literature. In fact, we made a special effort to incorporate in our discussion most if not all the peer-reviewed papers that sequentially extracted Pu from soils.

Marty et al. (1997) stated that an earlier draft of these comments was given to us and implied as if we elected to ignore it. The truth is, that we actively sought after their comments but they failed to provide it in a timely manner. Some of the bureaucrats in RFP made a feeble attempt to prevent the publication of this work on the ground of 'bad news' for the site. A strong protest with DOE reversed that decision. More than a year after we submitted our manuscript for review, followed by repeated requests for comments, we received a response, but the paper has been already accepted and the gullies were checked and approved. Further changes in the paper were deemed unwarranted.

The soil samples described in the internal report (US Department of Energy, 1994) are hardly soil samples indeed. These samples were coarse sandy fill material that was spread over the most contaminated uncapped soils (see Litaor et al., 1994 for detail characterization of pits and samples taken from that site). This sandy material exhibits little organic matter, sandy texture, and weak grainy structure. Hence, it is not surprising that the citrate-dithionite solution removed most of the Pu associated with this material. In the context, of the stated objectives of our paper, a direct comparison between the results of these 'soil' samples that are crudely tabulated in an internal document and the soil samples taken from the well developed Mollic epipedon is difficult and was deemed unnecessary.

Marty et al. stated that the extraction experiments conducted at RFP using sodium citrate coupled with sodium dithionite or hydrogen peroxide on *untreated* contaminated soils (US Department of Energy, 1994), provided similar results to our sequential stripping of Pu from organic carbon and sesquioxides. Hence, they argued that this similarity invalidated our experimental approach and they concluded that Pu is not bound to either phase. It seems that Marty et al. did not understand the objectives of our study nor they understand the logic of sequential extraction experiment as outlined by Tessier et al (1979) and successfully adopted for the partitioning of Pu and other metals by many workers. The use of strong chelating agent such as sodium citrate coupled with sodium dithionite will release Pu from Fe- and Al- oxides and hydroxides as well as organic matter. This is the reason for the order in the sequential extraction experiment where the Pu bound to the organic carbon was extracted before the dissolution of sesquioxides. The use of CBD to dissolve Fe and Al in various organic and non-organic constituents was outlined and discussed by Jackson et al. (1986).

The purpose of our study was to quantify these chemical phases that control Pu immobility in the soil. Marty et al. accepted the premise that Pu in the soil of RFP resides in poorly defined discrete particles as was shown by McDowell and Whicker (1976). They forgot to mention that those discrete particles contained up to 40% by weight Pu in a non-crystalline or organic substrate (McDowell and Whicker, 1976). If this poorly defined substrate is being

destroyed by changing the redox potential, Pu will be released to the soil solution primarily in a colloidal form (Litaor et al., 1997; Litaor et al., unpublished). During the wet spring and summer of 1995 elevated groundwater changed the redox potential and maintained low dissolved oxygen in the soil (< 2 mg L^{-1}) coupled with strong H_2S odor for more than 100 days. This natural but somewhat unexpected change in the hydro-geochemistry of the generally oxic soils released Pu to the soil solution by dissolving Fe-oxides and hydroxides irrespective to the Pu valence state, which in the soils of RFP is mostly Pu(IV).

Marty et al. also argued that Pu^{3+} is an important exchangeable cation and cited some old but classic literature which did not consider radionuclides at all. The soils described in Litaor and Ibrahim (1996) exhibited soluble $CaCO_3$ (up to 120 g kg^{-1}), and moderate level of CEC (19 - 30 cmol kg^{-1}) which mainly consisted of exchangeable Ca and Mg with trace amounts of Na and K. It is highly unlikely that Pu^{3+}, if exists at all in these soils, will compete successfully with the major ions as was clearly demonstrated by the sequential extraction experiment. Moreover, the bulk amount of Pu in soil solutions collected in-situ was found in particulate and colloidal forms, with less than 1% in 'dissolved' (< 1 nm) form (Litaor et al., 1997). The transient but profound change in redox potential during the spring and summer of 1995 increased the dissolved fraction up to 10% (Litaor et al., unpublished), but its speciation and oxidation state are unknown.

The unexpected results of increased Pu mobility in the soils of RFP did not fit well with the rosy picture depicted to the public by the Department of Energy and the company who currently manages Rocky Flats. Once they heard the results they promptly terminated our program! It seems that we successfully opened a Pandora Box called Pu in the soil environment of Rocky Flats, Colorado. It was easy to open but impossible to put the lid back on this genie.

References

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Litaor, M.I. and S. Ibrahim. 1996. Plutonium association with selected solid phases in soils of Rocky Flats, Colorado using sequential extraction technique. Jour. Environ. Quality. 25: 1144-1152.

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Group Agreements

⇒ Panel members and ex-officio members participate in general discussions.

⇒ Alternates, agency members, and public may be invited to speak by panel or ex-officio members.

⇒ The public will be given an opportunity to speak for a fixed period of time before the panel makes decisions.

* Put your name tag upright when wanting to be recognized to speak.
* Speak only when called on by the facilitator.
* Focus on topics on the agenda. (Don't bring up other issues, "old grudges.")
* Avoid side conversations.
* If you're wanting to speak on an issue and don't want to wait in line, raise hand.
* Be on time.
* Start and end meetings on time.
* Show respect by:
  - no put-downs
  - no personal attacks
* No interruptions.
* Minutes will be approved at the beginning of the meeting.

<u>Decision-Making</u>

1. This group is committed to consensus.
2. If there is a deadline and a decision must be reached and for whatever reason, the group is unable to reach consensus in time for that deadline, a vote will be taken. A 2/3 majority is needed to pass a vote.

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3. If a vote is taken and an issue is not passed by a 2/3 majority, yet another decision has not been reached, and the deadline is still an issue, at the end of the meeting, the issue will be revisited briefly for discussion, followed by a vote in which a simple majority can pass an issue.

4. In general, once a decision is made, it will not be revisited. If new information arises or a member feels a strong need to revisit a decision, the group will decide if it will revisit the decision at that time.

5. A record will be kept indicating whether decisions were made by consensus, a 2/3 majority vote, or a simple majority vote. The group will decide on a case by case basis whether or not to indicate in reports whether the decision was made by majority vote or consensus. Also, if a decision was not made by consensus, the group will decide on a case by case basis whether to discuss reasons for positions of majority and minority in the reports.

6. Ex-officio members are included in discussions but not in decision-making.

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February 12, 1998

TO: Ms. Jessie Roberson
DOE RFFO

FROM: Steering Committee
Rocky Flats Radionuclide Soil Action Levels Oversight Panel

In September DOE agreed to an independent review of the Radionuclide Soil Action Levels (RSALs) for Rocky Flats. Over the succeeding months an ad hoc group met on a regular basis with agency people to create the mechanism for this review. We convened and facilitated our own meetings throughout this period and carried through on the process of establishing the Rocky Flats RSALs Oversight Panel. Tonight this group holds its second meeting. The principal item on tonight's agenda is to finish drafting the RFP which will spell out the scope of work for the independent investigation of the RSALs.

It is impossible for us to do the task at hand without incurring expenses, such as the expense of paying a professional facilitator to run our meetings. Though DOE has agreed to fund this project, we have so far been unable to get funds for even our basic operations. For tonight's meeting we have contracted a facilitator who has agreed to provide this service with the understanding that she will be paid as soon as we receive funding. We are embarrassed for ourselves and for DOE that we had to make this request of her. Accordingly, we therefore ask that a sum of $5,000 be advanced for use by the Oversight Panel immediately, so that we can function in the professional manner that befits the importance of our work. The funds should be advanced to the Colorado Department of Public and Environment who has agreed to administer the contract funding for this project.

We would appreciate a response to this request within a week, that is, by Thursday, February 19, 1998. Please contact either Hank Stovall (466-5986) or Mary Harlow (430-4200 X 2174), Oversight Panel Co-Chairs.

Thank you,

Mary Harlow

Hank Stovall

cc: Joe Legare, DOE RFFO

2-12-98

Post-It™ brand fax transmittal memo 7671	# of pages ▸ 1
To Mary Harlow	From H. Stovall
Co. Westminster	Co. Broomfield
Dept.	Phone #
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February 12, 1998

TO: Ms. Jessie Roberson
DOE RFFO

FROM: Steering Committee
Rocky Flats Radionuclide Soil Action Levels Oversight Panel

In September DOE agreed to an independent review of the Radionuclide Soil Action Levels (RSALs) for Rocky Flats. Over the succeeding months an ad hoc group met on a regular basis with agency people to create the mechanism for this review. We convened and facilitated our own meetings throughout this period and carried thro
process of establishing the Rocky Flats RSALs O
holds
its second meeting. The principal item
FP
which will spell out the scope of work fo
s.

It is impossible for us to do the task at ha
expense of paying a professional facilitatc
eed
to fund this project, we have so far been u
operations. For tonight's meeting we have
provide this service with the understanding
funding. We are embarrassed for ourselves
request of her. Accordingly, we therefore a
by the Oversight Panel immediately, so that
that befits the importance of our work. The
Department of Public and Environment who
funding for this project.

mailed to
Roberson + Legare

copy in Hank's mail

fax to M. Harlow

We would appreciate a response to this reques
February 19, 1998. Please contact either Hank
4200 X 2174), Oversight Panel Co-Chairs.

Thank you,

Mary Harlow

cc: Joe Legare, DOE RFFO

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January 11, 1998

Dr. LeRoy Moore
Rocky Mountain Peace and Justice Center
Box 1156, Boulder CO 80306
USA

Dear Dr. Moore

The following are comments and critical review of the Final Report of Actinides Migration at the Rocky Flats Environmental Technology Site.

I. The executive summary claims that reducing agents solubilized 0.1% to 5% of Pu compared with 20% to 40% suggested by Litaor and Ibrahim (1996). There is a basic difference in the experimental design between the two studies, which may have significant environmental implications for the site (see below).

II. The authors of the report provided qualified conclusion that may lead the reader to the importance of this Pu-sesquioxides fraction by saying that some of the water quality exceedances observed in RFP can be explained by redox change in the soil system (aerobic ⇒ anaerobic) that induced higher solubility of Pu. I am grateful to the members of the Actinides Migration Panel that they finally came to this realization especially in the light of previous work that promoted this view (e.g., Litaor and Ibrahim, 1996; Litaor et al. 1998; Litaor et al. in review).

III. The differences in the reported Pu-sesquioxides fraction resulted from different extraction techniques employed and vastly different sampling scheme. In Page 3, the report describes the protocol of extracting Pu in the following order: exchangeable, carbonates, sesquioxides, organic matter, and residual. Litaor and Ibrahim (1996) employed different sequence: soluble, exchangeable, carbonates, organic matter, sesquioxides, and residual. I suspect that the destruction of organic matter *before* the dissolution of sesquioxides may released some of the Fe-Al-Mn-oxides and hydroxides bound together with organic matter. In the work by Litaor and Ibrahim (1996) this fraction was probably dissolved by the CBD extraction resulted in higher percentage of Pu-sesquioxides content. The sequence described by Litaor and Ibrahim is more appropriate sequence to the problem at hand, especially in light of the increased Pu activity in colloidal and dissolved forms during the wet spring and summer of 1995. This increase is due to dissolution of sesquioxides, sesquioxide-Pu-organic matter humate, and even Pu solid phase (Litaor et al. in review).

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other edaphic factors essential for a meaningful comparison between the two studies. We walked the site numerous times using old and new airphotographs to delineate the disturbed areas before picking up our sampling sites. We have conducted a GPR survey to locate the sites which may provide the highest potential for Pu transport due to lateral discontinuity (Litaor et al., 1994; Litaor et al., 1996). The haphazard sampling protocol described in the Final Report is additional cause for the apparent differences between the studies.

IV. The experimental protocol of the Distribution Coefficients (K_d) described in page 5 and results presented in Pages 13 to 16 is inappropriate. The need for K_d values stem from the required input to solve the advection-dispersion equation for transport of reactive constituents. It is successfully used in groundwater contaminant problems and to a lesser degree in vadose zone cases. One of the fundamental flaw in the experimental design described in the Final Report is the implicit assumption that the entire soil matrix is wet, thus 5 gram of sieved soil was submerged in 0.5 L of water. This condition never occurred in the field except during the flooding of 1995. There is a large body of literature that describes preferential flow conditions in soils of RFP. In general, only small fraction (< 10%) of the soil is wetted during 'normal' snowmelt and rainfall events monitored between 1992 to 1995 and the flow is largely confined to macropores at high velocity which facilitated the transport of particulate material (Litaor et al., 1996, Litaor et al., 1998, Litaor et al., in review; Nachabe et al., 1995; Ryan et al., 1998). We found that under aerobic conditions up to 97% of the Pu is restricted to the fraction greater than 0.45 μm (see Litaor et al., 1998). Hence, the K_d experimental protocol as described by this report has little merit in the real soil environment. Failure to understand this fundamental point will result in erroneous conclusions regarding the main goal of this report, namely 'to provide information as a foundation for assessing whether additional soil cleanup goals must be established, or further institutional controls that may be needed, for the protection of surface water'.

To further illuminate the problems with the simplistic K_d approach I call the authors' attention to the following findings. During the wet spring and summer of 1995 we observed significant shift in the fractionation (termed speciation by the authors) of Pu during the prolonged saturation period probably because of the change in redox potential. Up to 64% of the observed Pu was in colloidal ($0.45\mu m > X > 10kD$) or dissolved form (< 1 nm) (Litaor et al., in review), compared with less than 17% in aerobic conditions (Litaor et al., 1998). It should be emphasized that most of the colloidal and dissolved fraction during the aerobic conditions of the monitoring period (1992 to 1995) were around 1% to 2%. From the comment above, it is clear that the K_ds values described by the author will not provide the necessary information for vadose zone modeling because of the sampling and experimental flaws as well as large spatial and temporal variations.

In 1996, the Colorado Department of Public Health and the Environment (CDPHE) asked me to provide some Kd values from my studies. The values were given to Dr. N. Morin of CDPHE with a clear reservation as far as the usefulness of this approach (Attachment I).

V. The section describing the Pu activity in Ponds especially in C-2 has a fundamental flaw in their approach. The authors assume that all flow reached the settling pond. This is far from the truth. Most of the near-surface and surface flow from the 903 lip area is collected by the South Interception Ditch (SID) that diverts the flow from the contaminated slopes around the 903 Lip area into C-2 Pond. Large amount of sediment is trapped in the SID that never reached the Pond. Hence, the computation of the Pu flux on the basis of cumulative deposition over time is a gross underestimation of the amount of Pu that has been remobilized by vadose-zone flow and surface flow over the years. During the flooding incident on May 17, 1995 we observed numerous areas of

seepage on the downhill side of the SID. This observation suggests that some Pu may bypass the SID on its way to Woman Creek and subsequently offsite! Moreover, during the wet summer of 1995, we observed that the intensity of subsurface flow decreased downslope. We believe that much of the flow did not even reach the SID but have ceased somewhere downhill above the SID. The existence of hot spots along the contiguous slope from the 903 Lip area towards the SID, strongly supports this assertion (Litaor unpublished document). Hence, the proposed computational approach does not provide the information regarding the potential of Pu remobiliztion during normal and/or extreme events.

VI. The authors suggested that 'mechanical erosion' is the dominant process in transporting Pu downhill. I was thrilled to see that some members of the Actinides Migration Panel have finally came to the realization that the physical processes and not the geochemical ones govern the Pu transport downslope via near-surface and to a lesser extent surface flow. However, it points to an internal flaw in their argument for further geochemical work. In any event, our original conceptual design was based around the physical processes concept, hence we tried in our studies to quantify the processes such as vadose zone flow (Litaor et al., 1996; Litaor et al., 1998); surface flow (Zika, 1996); evapotranspiration (Daniels, 1996); snowmelt processes (Moffitt, 1996); colloidal transport (Ryan et al., 1998); water velocity and macropores (Nachabe et al., 1995).

VII. In general, the report is riddled with citing inaccuracies. For example, in Page 9, the authors claim that Litaor and Ibrahim (1996) took *five soil cores* from an area NW of *SW 51*. In fact, Litaor and Ibrahim (1996) took five soil samples by *diagnostic horizons* from five open pits NW of *SW 53*. In page 10, the authors mentioned Marty et al (1996). In fact, it is Marty et al (1997). There are other several errors of that kind. The authors should be more careful in citing other people work.

VIII. The work by Marty et al. (1997) has added nothing new to the problems involved with the operationally defined sequential experiment. In any event, a detailed reply was submitted to the Journal of Environmental Quality (Litaor, 1997) (Attachment II).

XIX. Page 17. The desorption kinetics results support my assertion that K_d values have little usefulness in predicting the fate and transport of Pu in the vadose zone of RFP. On the basis of the 1995 wet spring and summer we have presented our conceptual flow model and remediation approach that was based on five years of studies by numerous researchers. Our approach was ignored and we never received the opportunity to write it up in a report form. I wish we could get the chance to finish that document and present our ideas and thinking to the regulatory agencies as well as DOE.

If you have more questions and comments regarding this comment please do not hesitate to write.

Sincerely yours,

M. Iggy Litaor
Associate Professor
Department of Biotechnology and Environmental Sciences
Tel-Hai College
Upper Galilee, 12210
Israel

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Appendix I.

Table 1. Pu Sorption Coefficients (ml/g)

Depth (cm)	Kd§
0 - 20	2.12E+05
0 - 20	3.11E+05
20 - 40	3.18E+04
20 - 40	2.81E+04
20 - 40	5.97E+04
40 - 70	2560

§ Kd is sorption coefficient for filterable (dissolved) Pu

Table 2. Am Sorption Coefficients (ml/g)

Depth (cm)	Kd§
0 - 20	2.96E+05
0 - 20	1.41E+05
20 - 40	3.77E+04
20 - 40	7.53E+04
20 - 40	1.88E+04
40 - 70	1.20E+04

§ Kd is sorption coefficient for filterable (dissolved) Am

Appendix II.

Reply to a comment: Plutonium Association with Selected Phases in Soils of Rocky Flats, Colorado Using sequential Extraction Techniques. JEQ, 25:1144-1152.

Dear Editor:

Marty et al. (1997) suggested that we failed to incorporate earlier relevant research into our experimental design, discussion and conclusions. The relevant literature they cited in their comment are mostly old text books, some of which are considered classic but have no relevancy to the problem at hand. The other 'research' document they cited is an internal report (US Department of Energy, 1994) that was not peer-reviewed and was never published in the open literature. In fact, we made a special effort to incorporate in our discussion most if not all the peer-reviewed papers that sequentially extracted Pu from soils.

Marty et al. (1997) stated that an earlier draft of these comments was given to us and implied as if we elected to ignore it. The truth is, that we actively sought after their comments but they failed to provide it in a timely manner. Some of the bureaucrats in RFP made a feeble attempt to prevent the publication of this work on the ground of 'bad news' for the site. A strong protest with DOE reversed that decision. More than a year after we submitted our manuscript for review, followed by repeated requests for comments, we received a response, but the paper has been already accepted and the gullies were checked and approved. Further changes in the paper were deemed unwarranted.

The soil samples described in the internal report (US Department of Energy, 1994) are hardly soil samples indeed. These samples were coarse sandy fill material that was spread over the most contaminated uncapped soils (see Litaor et al., 1994 for detail characterization of pits and samples taken from that site). This sandy material exhibits little organic matter, sandy texture, and weak grainy structure. Hence, it is not surprising that the citrate-dithionite solution removed most of the Pu associated with this material. In the context of the stated objectives of our paper, a direct comparison between the results of these 'soil' samples that are crudely tabulated in an internal document and the soil samples taken from the well developed Mollic epipedon is difficult and was deemed unnecessary.

Marty et al. stated that the extraction experiments conducted at RFP using sodium citrate coupled with sodium dithionite or hydrogen peroxide on *untreated* contaminated soils (US Department of Energy, 1994), provided similar results to our sequential stripping of Pu from organic carbon and sesquioxides. Hence, they argued that this similarity invalidated our experimental approach and they concluded that Pu is not bound to either phase. It seems that Marty et al. did not understand the objectives of our study nor they understand the logic of sequential extraction experiment as outlined by Tessier et al (1979) and successfully adopted for the partitioning of Pu and other metals by many workers. The use of strong chelating agent such as sodium citrate coupled with sodium dithionite will release Pu from Fe- and Al- oxides and hydroxides as well as organic matter. This is the reason for the order in the sequential extraction experiment where the Pu bound to the organic carbon was extracted before the dissolution of sesquioxides. The use of CBD to dissolve Fe and Al in various organic and non-organic constituents was outlined and discussed by Jackson et al. (1986).

The purpose of our study was to quantify these chemical phases that control Pu immobility in the soil. Marty et al. accepted the premise that Pu in the soil of RFP resides in poorly defined discrete particles as was shown by McDowell and Whicker (1976). They forgot to mention that those discrete particles contained up to 40% by weight Pu in a non-crystalline or organic substrate (McDowell and Whicker, 1976). If this poorly defined substrate is being

destroyed by changing the redox potential, Pu will be released to the soil solution primarily in a colloidal form (Litaor et al., 1997; Litaor et al., unpublished). During the wet spring and summer of 1995 elevated groundwater changed the redox potential and maintained low dissolved oxygen in the soil (< 2 mg L^{-1}) coupled with strong H_2S odor for more than 100 days. This natural but somewhat unexpected change in the hydro-geochemistry of the generally oxic soils released Pu to the soil solution by dissolving Fe-oxides and hydroxides irrespective to the Pu valence state, which in the soils of RFP is mostly Pu(IV).

Marty et al. also argued that Pu^{3+} is an important exchangeable cation and cited some old but classic literature which did not consider radionuclides at all. The soils described in Litaor and Ibrahim (1996) exhibited soluble $CaCO_3$ (up to 120 g kg^{-1}), and moderate level of CEC (19 - 30 cmol kg^{-1}) which mainly consisted of exchangeable Ca and Mg with trace amounts of Na and K. It is highly unlikely that Pu^{3+}, if exists at all in these soils, will compete successfully with the major ions as was clearly demonstrated by the sequential extraction experiment. Moreover, the bulk amount of Pu in soil solutions collected in-situ was found in particulate and colloidal forms, with less than 1% in 'dissolved' (< 1 nm) form (Litaor et al., 1997). The transient but profound change in redox potential during the spring and summer of 1995 increased the dissolved fraction up to 10% (Litaor et al., unpublished), but its speciation and oxidation state are unknown.

The unexpected results of increased Pu mobility in the soils of RFP did not fit well with the rosy picture depicted to the public by the Department of Energy and the company who currently manages Rocky Flats. Once they heard the results they promptly terminated our program! It seems that we successfully opened a Pandora Box called Pu in the soil environment of Rocky Flats, Colorado. It was easy to open but impossible to put the lid back on this genie.

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Rocky Mountain Peace and Justice Center
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February 11, 1998

Ms. Jessie Roberson, Manager
DOE Rocky Flats
P. O. Box 928
Golden, CO 80402-0928

Dear Ms. Roberson:

Since the initiation of the Actinide Migration Investigation in the summer of 1996 I have repeatedly asked that any reports from the research team be sent to Dr. Iggy Litaor as they were produced. So far as I know, however, nothing has been sent to him. Accordingly, as a courtesy I sent him a copy of the group's "Final Report" for FY 1997 (dated 15 December 1997). I did not ask for his comments but he nevertheless provided them in the form of the enclosed letter dated 11 January 1998. He asked that I copy the letter and pass it on to you and to other interested parties.

Yours sincerely,

LeRoy Moore

LeRoy Moore

cc: Bob Card, Kaiser-Hill
Christine Dayton, Kaiser-Hill
Tim Rehder, EPA
Steve Gunderson, CDPHE
Rep. David Skaggs
Rocky Flats Citizens Advisory Board
Rocky Flats Radionuclide Soil Action Level Oversight Panel
Rocky Flats Local Impacts Initiative

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January 11, 1998

Kathy 2-11
Pls run copies for tomorrows RSAG mtg
Jas

Dr. LeRoy Moore
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If you have more questions and comments regarding this comment please do not hesitate to write.

Sincerely yours,

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Tel-Hai College
Upper Galilee, 12210
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Appendix I.

Table 1. Pu Sorption Coefficients (ml/g)

Depth (cm)	Kd§
0 - 20	2.12E+05
0 - 20	3.11E+05
20 - 40	3.18E+04
20 - 40	2.81E+04
20 - 40	5.97E+04
40 - 70	2560

§ Kd is sorption coefficient for filterable (dissolved) Pu

Table 2. Am Sorption Coefficients (ml/g)

Depth (cm)	Kd§
0 - 20	2.96E+05
0 - 20	1.41E+05
20 - 40	3.77E+04
20 - 40	7.53E+04
20 - 40	1.88E+04
40 - 70	1.20E+04

§ Kd is sorption coefficient for filterable (dissolved) Am

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Appendix II.

Reply to a comment: Plutonium Association with Selected Phases in Soils of Rocky Flats, Colorado Using sequential Extraction Techniques. JEQ, 25:1144-1152.

Dear Editor:

Marty et al. (1997) suggested that we failed to incorporate earlier relevant research into our experimental design, discussion and conclusions. The relevant literature they cited in their comment are mostly old text books, some of which are considered classic but have no relevancy to the problem at hand. The other 'research' document they cited is an internal report (US Department of Energy, 1994) that was not peer-reviewed and was never published in the open literature. In fact, we made a special effort to incorporate in our discussion most if not all the peer-reviewed papers that sequentially extracted Pu from soils.

Marty et al. (1997) stated that an earlier draft of these comments was given to us and implied as if we elected to ignore it. The truth is, that we actively sought after their comments but they failed to provide it in a timely manner. Some of the bureaucrats in RFP made a feeble attempt to prevent the publication of this work on the ground of 'bad news' for the site. A strong protest with DOE reversed that decision. More than a year after we submitted our manuscript for review, followed by repeated requests for comments, we received a response, but the paper has been already accepted and the gullies were checked and approved. Further changes in the paper were deemed unwarranted.

The soil samples described in the internal report (US Department of Energy, 1994) are hardly soil samples indeed. These samples were coarse sandy fill material that was spread over the most contaminated uncapped soils (see Litaor et al., 1994 for detail characterization of pits and samples taken from that site). This sandy material exhibits little organic matter, sandy texture, and weak grainy structure. Hence, it is not surprising that the citrate-dithionite solution removed most of the Pu associated with this material. In the context, of the stated objectives of our paper, a direct comparison between the results of these 'soil' samples that are crudely tabulated in an internal document and the soil samples taken from the well developed Mollic epipedon is difficult and was deemed unnecessary.

Marty et al. stated that the extraction experiments conducted at RFP using sodium citrate coupled with sodium dithionite or hydrogen peroxide on *untreated* contaminated soils (US Department of Energy, 1994), provided similar results to our sequential stripping of Pu from organic carbon and sesquioxides. Hence, they argued that this similarity invalidated our experimental approach and they concluded that Pu is not bound to either phase. It seems that Marty et al. did not understand the objectives of our study nor they understand the logic of sequential extraction experiment as outlined by Tessier et al (1979) and successfully adopted for the partitioning of Pu and other metals by many workers. The use of strong chelating agent such as sodium citrate coupled with sodium dithionite will release Pu from Fe- and Al- oxides and hydroxides as well as organic matter. This is the reason for the order in the sequential extraction experiment where the Pu bound to the organic carbon was extracted before the dissolution of sesquioxides. The use of CBD to dissolve Fe and Al in various organic and non-organic constituents was outlined and discussed by Jackson et al. (1986).

The purpose of our study was to quantify these chemical phases that control Pu immobility in the soil. Marty et al. accepted the premise that Pu in the soil of RFP resides in poorly defined discrete particles as was shown by McDowell and Whicker (1976). They forgot to mention that those discrete particles contained up to 40% by weight Pu in a non-crystalline or organic substrate (McDowell and Whicker, 1976). If this poorly defined substrate is being

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destroyed by changing the redox potential, Pu will be released to the soil solution primarily in a colloidal form (Litaor et al., 1997; Litaor et al., unpublished). During the wet spring and summer of 1995 elevated groundwater changed the redox potential and maintained low dissolved oxygen in the soil (< 2 mg L^{-1}) coupled with strong H_2S odor for more than 100 days. This natural but somewhat unexpected change in the hydro-geochemistry of the generally oxic soils released Pu to the soil solution by dissolving Fe-oxides and hydroxides irrespective to the Pu valence state, which in the soils of RFP is mostly Pu(IV).

Marty et al. also argued that Pu^{3+} is an important exchangeable cation and cited some old but classic literature which did not consider radionuclides at all. The soils described in Litaor and Ibrahim (1996) exhibited soluble $CaCO_3$ (up to 120 g kg^{-1}), and moderate level of CEC (19 - 30 cmol kg^{-1}) which mainly consisted of exchangeable Ca and Mg with trace amounts of Na and K. It is highly unlikely that Pu^{3+}, if exists at all in these soils, will compete successfully with the major ions as was clearly demonstrated by the sequential extraction experiment. Moreover, the bulk amount of Pu in soil solutions collected in-situ was found in particulate and colloidal forms, with less than 1% in 'dissolved' (< 1 nm) form (Litaor et al., 1997). The transient but profound change in redox potential during the spring and summer of 1995 increased the dissolved fraction up to 10% (Litaor et al., unpublished), but its speciation and oxidation state are unknown.

The unexpected results of increased Pu mobility in the soils of RFP did not fit well with the rosy picture depicted to the public by the Department of Energy and the company who currently manages Rocky Flats. Once they heard the results they promptly terminated our program! It seems that we successfully opened a Pandora Box called Pu in the soil environment of Rocky Flats, Colorado. It was easy to open but impossible to put the lid back on this genie.

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Litaor, M.I. and S. Ibrahim. 1996. Plutonium association with selected solid phases in soils of Rocky Flats, Colorado using sequential extraction technique. Jour. Environ. Quality. 25: 1144-1152.

Litaor, M. I., M. L. Thompson, G. R. Barth, and P.C. Molzer. 1994. Plutonium-239+240 and americium-241 in soils east of Rocky Flats, Colorado. J. Environ. Qual. 23:1231-1239.

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02/12/1998

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Lisa Morzel
Todd Margulies
Joel Selbin
Niels Schonbeck
Mary Harlow
James McCarthy
Bob Kanick
Tom Davidson
Joe Goldfield

[redacted]

Alternates:
Victor Holm
Kathy Schnoor
Tom Marshall

[redacted]

Ex-Officio Members:
Steve Slaten
Jackie Berardini
Tim Rehder

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Others:
Dave Shelton
Steve Gunderson
Laura Till
John Corsi

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U.S. Department of Energy
ROCKY FLATS FIELD OFFICE

FACSIMILE TRANSMISSION ROUTING SHEET

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Ken Korkia	RF CAB		420-7579
Carl Spreng	CDPHE		759-5355
Normie Morin	CDPHE		782-0188
Herb Betts	CDPHE		782-0188
Jeremy Karpatkin	RFFO		966-6633
Joe Legare	RFFO		966-2995
Steve Gunderson	CDPHE		782-4969
Kathy Schnoor	Broomfield		438-6234
Jackie Berardini	CDPHE		691-7702
Tim Rehder	EPA		312-6067
Bob Kanick	RF CAB		444-0072
Tom Davidson	Louisville		966-4048
Joe Goldfield	CAB		
LeRoy Moore	RMPJC		444-6523
Hank Stovall	Broomfield		469-8554
Denn Heil	CSU		970-491-0564
Lisa Merzel	Boulder		441-4478
Todd Margullies	TM Consulting		279-6699
Joel Selben	UCD		556-4776
Niels Schonbeck	Metro State		556-5399
Mary Harbou	Westminster		
Edd Kray	CDPHE		966-5449
Thomas Pentecost	CDPHE		782-5083
Tom Marshall	RF CAB		444-6523

From: Name Steve Slaten

Location Rocky Flats Environmental Technology Site

Phone: Fax: (303) 966-5918

Special Instruction(s):

Following is a letter from Joe Legare to the RF SAL Oversight Panel.

Rocky Flats Verification Phone 966-7555
Number of Pages (Excluding Cover Sheet) 1 Date: 2/10/98

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Department of Energy

ROCKY FLATS FIELD OFFICE
P.O. BOX 928
GOLDEN, COLORADO 80402-0928

98-DOE-03279

FEB 10 1998

Radionuclide Soil Action Level Oversight Panel,

The Department of Energy (DOE) has been attending meetings with your *ad-hoc* group regarding the independent review of Rocky Flat's interim radioactive soil action levels. The issue which this memo addresses is that the DOE is subject to the Federal Advisory Committee Act (FACA), 5 U.S.C. App. 2 (1988). The Act was designed to help "level the playing field," to keep individuals or groups from getting special treatment from the federal government, and to help ensure equal access for all. The Act also regulates the interactions between federal and non-federal entities and the manner in which we obtain advice or recommendations about our policies and decisions. We want to make sound and responsive public policies and decisions about environmental issues at the Rocky Flats Environmental Technology Site, and we need to be open, fair, and balanced in all our relationships with all our stakeholders.

I don't think any one can find fault in the intent of Act but, in some cases, complying with FACA, will require DOE to adjust how it interacts with stakeholders. Specifically, over the past few months we have been engaged in an *ad hoc* dialogue with some of our stakeholders regarding the request from Stakeholders that DOE fund an independent scientific review of the Site's interim radioactive soils action levels as established in the Rocky Flats Cleanup Agreement. As you know, DOE has agreed to fund an independent review.

Our decision to fund this independent review, in light of FACA, necessitates a change in the nature of the *ad hoc* dialogue we have engaged in regarding this matter. The DOE will no longer serve in an *exofficio* capacity in the ongoing *ad hoc* dialogue surrounding this independent review. However, we will receive and share with you, the EPA and the Colorado Department of Public Health and Environment, any data, information, and recommendations generated as a result of the independent review, and upon request, we will provide information to your group.

As I related to you in our meeting of January 29, 1998, the DOE is prepared to expeditiously pursue making the funding available through some existing grant mechanism, upon receipt of a final statement of work. We believe that amending some current grant to include the statement of work is the most expeditious route to making resources available.

If you have any questions please call Steve Slaten of my staff at 966-4839.

Sincerely,

Joseph A. Legare
Assistant Manager for
Environmental Compliance

210

U.S. Department of Energy
ROCKY FLATS FIELD OFFICE

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Mary Harbou	Westminster		
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Tom Marshall	RF CAB		444-6523

From: Name Steve Slaten

Location Rocky Flats Environmental Technology Site

Phone: _____ Fax: (303) 966-5918

Special Instruction(s):

Following is a letter from Joe Legare to the RF SAL Oversight Panel.

211

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Number of Pages (Excluding Cover Sheet) 1 Date: 2/10/98

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As I related to you in our meeting of January 29, 1998, the DOE is prepared to expeditiously pursue making the funding available through some existing grant mechanism, upon receipt of a final statement of work. We believe that amending some current grant to include the statement of work is the most expeditious route to making resources available.

If you have any questions please call Steve Slaten of my staff at 966-4839.

Sincerely,

Joseph A. Legare
Assistant Manager for
Environmental Compliance

2/2

KAISER•HILL
COMPANY

February 9, 1998

98-RF-00687
DCS-002-98

Dear Members of the RSAL Oversight Panel:

I welcome and encourage the members of the RSAL Oversight Panel to play an active role in the Actinide Migration Investigation through sharing your ideas and concerns on all aspects of the project. The sharing of the Panel's and other organizations' and individuals' ideas and concerns in this study can be of great value to the site and public. Specifically, I believe you could participate in the following ways:

- Help define key community concerns regarding the fate and transport of actinides in the environment;
- Comment on future scopes of work and general direction of the project;
- Formulate questions that could be answered in future presentations, issues papers or fact sheets;
- Help share applicable data from the Actinide Migration Investigation with the RSAL independent contractor;
- Help communicate the direction and results of the Actinide Migration Investigation to the larger community;
- Participate in the integration of applicable Actinide Investigation results and the interim soil action levels.

We envision the Actinide Migration Investigation as a multi-year project that will help provide the best possible information for the successful closure of Rocky Flats. The public involvement process is essential and will continue to evolve as a result of your suggestions and project needs. We look forward to the Oversight Panel's involvement in this important study and we commend the effort and time the community members are dedicating to this issue.

This letter will be sent by fax only.

Sincerely,

David C. Shelton

David C. Shelton, Manager
Regulatory Strategy
Kaiser-Hill Company L.L.C

Kaiser-Hill Company, L.L.C.
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RFP

Advantages

- Cost
- Find out what expertise is out there
- Further understanding of subject due to varied perspectives
- Ability to have more control by choosing contractor willing to work with panel's constraints
- Competition can lead to better final product

Disadvantages

- Time may be longer
- More decisions panel will have to make
- Larger time commitment for panel
- Price may be high for DOE
- Pressure to choose lowest bid and not most attractive
- Can be complicated documents

SAL

- agreed to go w/CAB
- & go w/RFP route
  5 RFP / 2 Sole Source
  2 undecided
- EPA & [illegible] got rid a request from DOE
- MOU finalized tomorrow
  FAX to everyone

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SOLE SOURCE

Advantages

- Timing - faster
- Prior - pre-approval (timing)
- Familiarity with site implied
- Known entity as contractor

Disadvantages

- Not as good an idea of price should be
- Might conflict with certain regs
- Might lose companies that would be qualified but are unknown
- Not the expertise on panel to pick the contractor
- CAB would have to amend its bylaws
- Could get tied into cost so high that DOE couldn't fund, meaning delay
- Credibility of acceptance of results

3/19/98
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2/26/98
Session

2/7

RF SAL MTG 2-26-98

Name	Organization	Phone / Fax
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Dave Shelton	K-H	966-9677 / 5001
Joe Legare	RFFO	966-5918 / 2995
Bob Kanick	RFCAB	444-0049 / 0072
Joel Selbin	UCDenver	444-7341 / 556 ~~486~~ 4776
Steve Gunderson	CDPHE	692-3022 / 782-4969
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Dean Heil	CSU	970-491-6516
Brady Wilson	RFCAB staff	420-7855 / 420-7579
Ken Stark	JEFFCO DEPT HEALTH & EN	271-5714 / 271-5702
VICTOR HOLM	RFCAB	989-9086

F-A-X M-E-M-O-R-A-N-D-U-M

TO: DISTRIBUTION

FROM: MARY HARLOW AND HANK STOVALL, CO-CHAIRS

SUBJECT: MEETING REMINDER FOR FEBRUARY 26, 1998

DATE: FEBRUARY 23, 1998

There will be meeting **THURSDAY, FEBRUARY 26, 1998, 4:00-8:00 PM at** Broomfield Municipal Center in the **City Council Chamber.** (Please bring a brown bag supper.)

Proposed Agenda

- Introductions
- Distribute copies of "Action Levels for Radionuclides in Soils for the Rocky Flats Cleanup Agreement" - Final, dated October 31, 1996
- Steering Committee Report. RFP transmitted to DOE 2/19/98 via FEDEX.
- Public Comments
- Discussion of the Contracting Process. Sole Source or RFP - Advantages/Disadvantages of each.
- Break
- Outline of plan on how to arrive at final clean-up levels, how/where do RSALS fit into this scheme.
- Proposal for Steering Committee and interested panel members to meet with Jessie Roberson and Joe LeGare to better understand DOE's future involvement in this review process.
- Public Comments
- Other Topics/Future Agenda Items/Action Items
- Next Meeting(s)- Date, Time, Location

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City of Broomfield

One DesCombes Drive, Broomfield Colorado 80020

DATE: February 23, 1998
FROM: Kathy Schnoor, Environmental Services PHONE: 438-6363
RE: RF-SAL Oversight Panel/Proposed Agenda for 2/26/98 mtg # of pages ___2___

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P	Lisa Morzel	City of Boulder	[redacted]	303-441-4478	
A	John Tayer	City of Boulder	303-441-3005	303-441-4478	
	Tim Holeman	City of Broomfield	303-355-5492	303-355-5530	
A	Kathy Schnoor	City of Broomfield	303-438-6363	303-438-6234	
P	Hank Stovall	City of Broomfield	303-466-5986	303-469-8554	
P	Tom Davidson	City of Louisville	303-666-6565	303-673-9043	
A	Sam Dixion	City of Westminster	303-426-1202	303-429-5113	
P	Mary Harlow	City of Westminster	303-430-2400 x 2174	303-650-1643	
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	Herb Betts	CDPHE	303-692-2665	303-782-0188	
	Dr. Norma Morin	CDPHE	303-692-2645	303-782-0188	
	Steve Gunderson	CDPHE	303-692-3022	303-782-4969	
	Steve Tarlton	CDPHE	303-692-3423	303-782-4969	
	Edd Kray	CDPHE	303-966-2115	303-966-5449	
	Carl Spreng	CDPHE	303-692-3358	303-759-5355	
P	Dean Heil	CSU	970-491-6516	970-491-0564	
	Jeff Ciocco, Jim Fiore, Ray Greenberg	DOE HQ	301-903-7459	301-903-3877	
	Jeremy Karpatkin	DOE	303-966-2080	303-966-6633	
	Jessie Roberson	DOE/RFFO	303-966-2025	303-966-6054	
E	Steve Slaten	DOE	303-966-4839	303-966-3710	
E	Tim Rehder	EPA	303-312-6293	303-312-6067	
P	Ken Starr	Jefferson County	303-271-5714	303-271-5702	
	John Corsi	Kaiser Hill	303-966-6526	303-966-6153	
	Dave Shelton	Kaiser Hill	303-966-9877	303-966-5001	
P	Niels Schonbeck	Metro State	303-556-8327	303-556-5399	
A	John Shepherd	Physician/Soc Resp	303-650-4460	303-650-4403	**Please call when faxing**
A	Victor Holm	RFCAB	303-989-9086	303-980-9076	
P	Bob Kanick	RFCAB	303-444-0049	303-444-0072	
	Ken Korkia	RFCAB	303-420-7855	303-420-7579	
A	Tom Marshall	RFCAB	303-444-6981	303-444-6523	
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	Deanne Butterfield	RFLII	303-940-6090	303-940-6088	
	Will Neff	RFLII	303-940-6090	303-940-6088	
P	Joel Selbin	UCD Chem Dept	[redacted]	303-556-4776 (W)	
P	Todd Margulies	TM Consulting	303-279-6699	303-279-6699	**Call 1st/include 1-303**
P	Joe Goldfield	RFCAB-SNM	303-321-7276		

(P=Panel Member. A=Alternate. E=Ex-Officio)

220

F-A-X M-E-M-O-R-A-N-D-U-M

TO: DISTRIBUTION

FROM: MARY HARLOW AND HANK STOVALL, CO-CHAIRS

SUBJECT: MEETING REMINDER FOR FEBRUARY 26, 1998

DATE: FEBRUARY 23, 1998

There will be meeting **THURSDAY, FEBRUARY 26, 1998, 4:00-8:00 PM at** Broomfield Municipal Center in the **City Council Chamber.** (Please bring a brown bag supper.)

Proposed Agenda

- Introductions
- Distribute copies of "Action Levels for Radionuclides in Soils for the Rocky Flats Cleanup Agreement" - Final, dated October 31, 1996
- Steering Committee Report. RFP transmitted to DOE 2/19/98 via FEDEX.
- Public Comments
- Discussion of the Contracting Process. Sole Source or RFP - Advantages/Disadvantages of each.
- Break
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- Proposal for Steering Committee and interested panel members to meet with Jessie Roberson and Joe LeGare to better understand DOE's future involvement in this review process.
- Public Comments
- Other Topics/Future Agenda Items/Action Items
- Next Meeting(s)- Date, Time, Location

221

RF SAL MTG 2-26-98

Name	Organization	Phone / Fax
Normie Morin	CDPHE	692.2645 / 782.0188
Dave Shelton	K-H	966-9877 / 5001
Joe Legare	RFFO	966-5918 / 2995
Bob Kanick	RFCAB	444-0049 / 0072
Joel Selbin	UCDenver	444-7341 / 556
Steve Gunderson	CDPHE	692-3022 / 782-4969
Ken Korkia	RFCAB staff	420-7855 / 420-7579
Dean Heil	CSU	970-491-6516
Brady Wilson	RFCAB staff	420-7855 / 420-757
Ken Stark	JEFFCO DEPT HEALTH & ENV	271-5714 / 271-5702
Victor Holm	RFCAB	989-9086
Carl Spreng	CDPHE	692-3358 / 759-5351
James McCarthy	Arvada	431-3042 / 431-3969
LeRoy Moore	RMPJC	444-6981 / 444-652
Niels Schaubeck	HAP	556-8327 / 556-5339

City of Broomfield

One DesCombes Drive, Broomfield Colorado 80020

DATE: February 23, 1998
FROM: Kathy Schnoor, Environmental Services PHONE: 438-6363
RE: RF-SAL Oversight Panel/Proposed Agenda for 2/26/98 mtg # of pages ___2___

			PHONE	FAX	
	David Abelson	Cong. Skaggs' Ofc	303-650-7886	303-650-7893	
P	Jim McCarthy	City of Arvada	303-431-3042	303-431-3969	
P	Lisa Morzel	City of Boulder	[redacted]	303-441-4478	
A	John Tayer	City of Boulder	303-441-3005	303-441-4478	
	Tim Holeman	City of Broomfield	303-355-5492	303-355-5530	
A	Kathy Schnoor	City of Broomfield	303-438-6363	303-438-6234	
P	Hank Stovall	City of Broomfield	303-466-5986	303-469-8554	
P	Tom Davidson	City of Louisville	303-666-6565	303-673-9043	
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	Herb Betts	CDPHE	303-692-2665	303-782-0188	
	Dr. Norma Morin	CDPHE	303-692-2645	303-782-0188	
	Steve Gunderson	CDPHE	303-692-3022	303-782-4969	
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223

F-A-X M-E-M-O-R-A-N-D-U-M

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FROM: MARY HARLOW AND HANK STOVALL, CO-CHAIRS

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- Next Meeting(s)- Date, Time, Location

224

3/19/98
Session

225

ROCKY FLATS - SAL MEETING

March 19, 1998

Name	Affiliation	Phone/Fax
Todd Margullies	TM Consulting	(303) 279-6699
James McCarthy	Aquila	431-3969 431-3942
Carl Spreng	CDPHE	692-3358 / 759-5355
Dave Shelton	K-H	966-9877 966 2001
Mary Harlow	City of Westminster	
Brady Wilson	CAB staff	(303) 420-7855 (303) 420-7579
Ken Starr	JEFFCO Health Dept	303 271-5714 303 271-5762
Steve Gunderson	CDPHE	692-3367 759-5355
Kathy Schnoor	City of Broomfield	438-6363
Ken Korkia	RFCAB	420-7855/7579
Jeremy Karpatkin	DOE/AFO	966-2080 / fax 6633
Carol Lyons	City of Arvada	
Niels Schonbeck	HAP; Metro State College	556-8327/556-5329
Angela Hutton-Howard	CDPHE	692-3412 / 759-5355
Hank Stovall	Broomfield	
Joe Goldfield		
Bob Kanick		
LeRoy Moore		
Laura Till		
Tim Behder		
Victor Holm		

ROCKY FLATS - SAL MEETING March 19, 1998

Name	Affiliation	Phone/Fax
Todd Margulies	TM Consulting	(303) 279-6699
James McCarthy	Aquila	431-3042 / 421-3969
Carl Spreng	CDPHE	692-3358 / 759-5355
Dave Shelton	K-H	~~9~~ 966-9877 966 5001
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Tim Behder		

Victor Holm

ROCKY FLATS - SAL MEETING March 19, 1998

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Joe Goldfield		
Bob Kanick		
LeRoy Moore		
Laura Till		
Tim Behder		
Victor Holm		

228

ROCKY FLATS - SAL MEETING March 19, 1998

Name	Affiliation	Phone/Fax
Todd Margullies	TM Consulting	(303) 279-4699
James McCarthy	Acunda	431-3042 / 421-3969
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Bob Kanick		
LeRoy Moore		
Laura Till		
Tim Rehder		
Victor Holm		

F-A-X M-E-M-O-R-A-N-D-U-M

TO: DISTRIBUTION

FROM: MARY HARLOW AND HANK STOVALL, CO-CHAIRS

SUBJECT: MEETING REMINDER FOR MARCH 19, 1998

DATE: MARCH 17, 1998

There will be meeting **THURSDAY, MARCH 19, 1998, 4:00-8:00 PM at** Broomfield Municipal Center in the **City Council Chamber.** (Please bring a brown bag supper.)

Proposed Agenda

- Introductions
- Discussion on who to designate for Grant Application and Administration
  - -Request that RFCAB be designated
  - -Discussion
- Discussion Sourcing Alternatives
  - -Advantages/Disadvantages
  - -Sole Source-Time Interval and Process
  - -RFP-Time Interval and Process
- Public Comments
- Other Topics/Future Agenda Items/Action Items
- Next Meeting(s)- Date, Time, Location

230

City of Broomfield

One DesCombes Drive, Broomfield Colorado 80020

FAX COVER SHEET

DATE:	March 19, 1998	**TIME:**	11:22 AM
TO:	Jeremy Karpatkin	**FAX:**	303-966-6633
TO:	Ken Korkia	**FAX:**	303-420-7579
TO:	Bob Kanick	**FAX:**	303-444-0072
TO:	Mary Harlow	**FAX:**	303-650-1643
TO:	LeRoy Moore	**FAX:**	303-444-6523
FROM:	Kathy Schnoor Public Works/Environmental Services	**PHONE:** **FAX:**	303-438-6363 303-438-6234

RE: DRAFT CAB/SAL Memorandum of Understanding

CC:

Number of pages including cover sheet: 4

Message:

Hank Stovall asked me to FAX this draft MOU to all of you prior to the RFSAL meeting scheduled for today at 4PM in Broomfield.

23L

98-DOE-03320

The Honorable Hank Stovall
City of Broomfield
One DesCombes Drive
Broomfield, CO 80020

Mary Harlow
City of Westminster
6777 West 88th
Westminster, Colorado 80030

Dear Mr. Stovall and Ms. Harlow:

As you are aware, in response to Stakeholder requests, the Department of Energy (DOE) has committed to support an Independent Review of the Siteís Interim Radioactive Soil Action Levels, which were agreed to by the parties to the Rocky Flats Cleanup Agreement (RFCA) in 1996. This letter is written to reiterate information previously provided to you, and to respond to your letter of February 12, 1998, requesting $5,000 advance payment.

Pursuant to our commitment, we have reviewed existing grant mechanisms for appropriateness to amend by attaching the scope of this independent review to a grant. Joe Legare reported to you on February 26, 1998, the results of this effort. This letter documents his verbal report.

The consideration of the existing grants was guided by the interests expressed by you and other stakeholders to the DOE at previous meetings, and criteria that DOE believes are appropriate for any grant, and criteria specific to this grant.

Those interests and criteria include:

Timeliness - An existing grant was needed in order to expedite transferring funds to the review.

Legal acceptability - Some existing grants may not legally be appropriate.

Locality - Preference was given to grantees in the State rather than those administered from out of State.

Independence - The DOE believes that a grantee not associated with setting the Radioactive Soil Action Levels in question is preferable. This independent review in order to be most successful, must be credible to the largest possible set of Stakeholders, some of whom may not

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be represented currently on your stakeholder group. In order that the results are not

questioned by anyone in the future, a grantee independent of the Parties to RFCA is preferable.

The DOE believes it is also important that you understand that under any grant vehicle, the Oversight Panel will have no formal control over the funds. In addition, any grantee will be required to follow the procurement processes set forth in 10CFR600, including contracting for the scientific review. We are aware that your stakeholder group has developed and shared a statement of work. It is our understanding that this statement of work could be used in a granteeís grant proposal. The grantee may also specify the continuing role of the Oversight Committee in the scientific review process in the grant proposal. The continuing relationship of any grantee with the Oversight Panel is between those entities and not DOE. As we have communicated previously, once the grant is released, we foresee very little direct involvement by DOE in the review.

The DOE recognizes the need for a grant process with which all parties and stakeholders are comfortable. We were surprised with the negative response received last Thursday to using the Colorado Center for Environmental Management as the grant mechanism. As Mr. Legare explained to you, the Colorado Center for Environmental Management (CCEM) and the Rocky Flats Citizens Advisory Board (RFCAB) are the only grant vehicles of which we are aware which fulfill all the interests and criteria above. After the meeting, it is our understanding that you do not wish the Rocky Flats Field Office (RFFO) to proceed with approving a grant at this time. Let me reiterate that RFFO is prepared to provide funds for this effort within a few weeks of agreement on an administrative vehicle to administer this grant. We await your response as to whether you would prefer CCEM or RFCAB as the grant vehicle. Either is acceptable to RFFO.

In response to your request for advance funding, DOEís position has not changed since Joe responded to this issue several weeks ago. DOE is prepared to expeditiously transfer the money via grant once the grantee is chosen: However, we do not believe it is appropriate to provide funds outside of a formal grant mechanism.

If you have any questions you may call me at 966-2025.

Sincerely,

Jessie M. Roberson
Manager

cc:
J. Legare, AMEC, RFFO

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FAX DISTRIBUTION LIST
LOCAL GOVERNMENT CONTACTS/Rocky Flats Soil Action Levels

NAME	CITY	FAX #
Tim Rehder	EPA	312-6293
LeRoy Moore	RMPJC	444-6523
Ken Korkia	CAB	420-7579
Mary Harlow	Westminster	650-1643
Kathy Schnoor	Broomfield	465-1238
Tom Davidson	Louisville	673-9043
Hank Stovall	Broomfield	469-8554
Lisa Morzel	Boulder	441-4478
Dan Heil	CSU	970-491-0564
Todd Marqulies	TM Consulting	303-379-6699
Bob Kamik	RFCAB	444-0072
Joel Selbin	UCD	556-4776
Neils Shonbeck	Metro State	556-5399
Jim McCarthy	Arvada	431-3969

From: CDPHE Rocky Flats Program
Phone 692-3022
FAX 782-4969

Total No. Of Pages: __2_

lr\rfpu\faxcover

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

JAN 22 1998

OFFICE OF
AIR AND RADIATION

RECEIVED
JAN 27 1998
Executive Directors
Office

Jacqueline H. Berardini
Deputy Director, Office of Policy & Public-Private Initiatives
Colorado Department of Public Health and Environment
4300 Cherry Creek Drive South
Denver, CO 80246-1530

Dear Ms. Berardini:

Thank you for your letter of December 17, 1997, regarding the possible National Academy of Sciences (NAS) BEIR VII Phase II study on the health risks from ionizing radiation.

Like you, we are very concerned that, if the study does go forward, the relevant scientific issues be addressed and the final report be credible to scientists, policy makers, and citizens. We believe that these objectives can be assured by following established procedures for National Academy studies. This process allows for citizen input to the committee through presentations at public meetings convened for this purpose or through submission of written information. In addition, recent changes at the NAS ensure that most meetings of the committee are announced and open to the public.

If you would like to discuss this issue further, or if you have any questions about the status of our activities with NAS, please feel free to call me at (202) 564-9212.

Sincerely yours,

J. S. Puskin

Jerome S. Puskin
Center for Risk Modeling
and Emergency Response

236

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Kathy Achnoor

To: Hank S.

From: Holeman

Memorandum of Understanding
Between the Rocky Flats Citizen Advisory Board and the Rocky Flats Soil Action Level Oversight Panel

Regarding
Review of the Interim Soil Action Levels for the Cleanup of the Rocky Flats Environmental Technology Site

This agreement is made and executed this ___ day of _____, 1998, by and between the Rocky Flats Citizens Advisory Board ("CAB") and the Rocky Flats Soil Action Level Oversight Panel ("RFSALOP").

RECITALS

WHEREAS, stakeholders are concerned about achieving the safest level of cleanup of contaminated soils at Rocky Flats and that the current "interim soil action level " cleanup standards merit a review by a scientifically-based independent panel, and;

WHEREAS, the CAB, because of its long-standing and beneficial role in promoting public education regarding the Rocky Flats Environmental Technology Site and its status as a DOE-designated Citizen Advisory Board grantee, is an appropriate organization to serve as a grant requesting agency and fiscal vehicle for the administration of U.S. DOE monies required to assist the Rocky Flats Soil Action Level Oversight Panel.

WHEREAS, The Rocky Flats Soil Action Level Oversight Panel Committee, as a community-based and independently established ad-hoc group, has requested that the CAB serve as the grant requesting agency for financial administration of the DOE monies to be used for the review of the interim soil action levels proposed by the RFCA principals for the clean up of Rocky Flats, and;

WHEREAS, the U.S Department of Energy believes that the CAB is an appropriate fiscal vehicle for administration of the grant and that the Rocky Flats Soil Action Level Oversight Panel will be the primary organization to provide overall guidance in achieving the policy and technical purposes of the grant, and;

NOW, THEREFORE, In consideration of the premises and provisions hereof, the parties agree to this memorandum of understanding to delineate the roles and responsibilities of the CAB and the Rocky Flats Soil Action Level Oversight Panel, as follows:

1. CAB Responsibilities:

The CAB will make the grant request and be the grant administering agency to be awarded by the U.S. DOE Grant on behalf of the RFSALOP. The CAB application will include the following elements:

a. Funds identified for the Rocky Flats Soil Action Level Technical review as defined in detail in the Scope of Work (Exhibit A).

b. Funds identified for operating expenses and oversight support such as meeting notices, meeting facilitation, securing meeting locations and other normal public outreach functions (See Exhibit B).

c. Contractors, travel and lodging costs, if contract personnel have to travel to Denver from outside the Denver Metro area.

d. Miscellaneous grant administration duties: including funds pass through requirements , accounting duties, legal duties, periodic reporting and audit duties, per DOE requirements.

2. Oversight Panel Responsibilities

The Oversight panel will provide independent oversight and decision-making authority regarding implementation of the scope of work, selection of the scientific contractor, oversight of the project, and completion of the final report and its distribution to RFCA decision-makers.

3. Coordination between CAB and RFSALOP

a. The Executive Director of the CAB will serve as the liaison with the oversight panel and is empowered to approve project activities in consultation with the panel.

b. The Oversight panel will develop the line items for provision of technical services and public outreach and, in consultation with the Executive Director of the CAB, submit these elements to DOE as part of the Grant request.

4. Grant Request

The requested grant amount is anticipated to be $500,000. The CAB Executive Director and the RFSALOB shall cooperatively determine the exact amount of the grant request.

Note: Signatures by Korkia & Von/Mary?

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City of Broomfield

One DesCombes Drive, Broomfield Colorado 80020

DATE: March 17, 1998
FROM: Kathy Schnoor, Environmental Services PHONE: 438-6363
RE: RF-SAL Oversight Panel # of pages 2
3/19 MTG AGENDA

			PHONE	FAX	
	David Abelson	Cong. Skaggs' Ofc	303-650-7886	303-650-7893	
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P	LeRoy Moore	RMPJC	303-444-6981	303-444-6523	
	Deanne Butterfield	RFLII	303-940-6090	303-940-6088	
	Will Neff	RFLII	303-940-6090	303-940-6088	
P	Joel Selbin	UCD Chem Dept	[redacted]	303-556-4776 (W)	
P	Todd Margulies	TM Consulting	303-279-6699	303-279-6699	**Call 1st/include 1-303**
P	Joe Goldfield	RFCAB-SNM			

mailed to Joe

(P=Panel Member, A=Alternate, E=Ex-Officio)

faxed + mailed to Todd

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BROADCAST REPORT

DATE/TIME	3-17-98 10:02AM
LOCAL I. D.	3034386234
LOCAL NAME	CITY BROOMFIELD
LOGO	CITY BROOMFIELD

START TIME 3-17-98 8:59AM
JOB SIZE 2 PAGES

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18	93033555530	GOOD
19	93036739043	GOOD
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21	93036501643	GOOD
22	93036917702	GOOD
23	93037320188	GOOD
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BROADCAST REPORT

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LOGO	CITY BROOMFIELD

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PRESENT PLANNING SCHEDULE FOR 903 PAD

903 Pad, Lip Area, & Associated Soils

REC'D J. LEGARE

903 Pad Remediation Schedule
2/18/98

Based on Accelerating Cleanup: Focus on 2006 Draft Plan December 1997

FY 1998

Pre-remedial characterization of pad, lip area and americium zone
Actinide Migration Study

FY1999

903 Pad Remediation Planning
Actinide Migration Study

FY2000

903 Pad VOC Removal
- Excavate/Treat subsurface VOC contaminated soils from pad area

FY2001

903 Pad Rad removal
- Excavate americium zone, lip area, and pad area

FY2002

903 Pad Rad Removal
- Continue excavating americium zone, lip area, and pad area

Evaluate status/sufficiency of data at the end of FY 1998 and 1999 to determine if 903 pad remediation should move forward.

NOTE: This schedule assumes the remediation technology will be excavation. In fact, 903 pad characterization is in progress, and a final remediation approach has not formally been agreed to.

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Department of Energy

ROCKY FLATS FIELD OFFICE
P.O. BOX 928
GOLDEN, COLORADO 80402-0928

MAR - 5 1998

98-DOE-03320

The Honorable Hank Stovall
City of Broomfield
One DesCombes Drive
Broomfield, CO 80020

Mary Harlow
City of Westminster
6777 West 88th
Westminster, Colorado 80030

Dear Mr. Stovall and Ms. Harlow:

As you are aware, in response to Stakeholder requests, the Department of Energy (DOE) has committed to support an Independent Review of the Site's Interim Radioactive Soil Action Levels, which were agreed to by the parties to the Rocky Flats Cleanup Agreement (RFCA) in 1996. This letter is written to reiterate information previously provided to you, and to respond to your letter of February 12, 1998, requesting $5,000 advance payment.

Pursuant to our commitment, we have reviewed existing grant mechanisms for appropriateness to amend by attaching the scope of this independent review to a grant. Joe Legare reported to you on February 26, 1998, the results of this effort. This letter documents his verbal report.

The consideration of the existing grants was guided by the interests expressed by you and other stakeholders to the DOE at previous meetings, and criteria that DOE believes are appropriate for any grant, and criteria specific to this grant.

Those interests and criteria include:

Timeliness - An existing grant was needed in order to expedite transferring funds to the review.

Legal acceptability - Some existing grants may not legally be appropriate.

Locality - Preference was given to grantees in the State rather than those administered from out of State.

Independence - The DOE believes that a grantee not associated with setting the Radioactive Soil Action Levels in question is preferable. This independent review in order to be most successful, must be credible to the largest possible set of Stakeholders, some of whom may not be represented currently on your stakeholder group. In order that the results are not

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F-A-X M-E-M-O-R-A-N-D-U-M

TO: DISTRIBUTION

FROM: MARY HARLOW AND HANK STOVALL, CO-CHAIRS

SUBJECT: MEETING REMINDER FOR MARCH 19, 1998

DATE: MARCH 17, 1998

There will be meeting **THURSDAY, MARCH 19, 1998, 4:00-8:00 PM at** Broomfield Municipal Center in the **City Council Chamber.** (Please bring a brown bag supper.)

Proposed Agenda

- Introductions
- Discussion on who to designate for Grant Application and Administration
  - -Request that RFCAB be designated
  - -Discussion
- Discussion Sourcing Alternatives
  - -Advantages/Disadvantages
  - -Sole Source-Time Interval and Process
  - -RFP-Time Interval and Process
- Public Comments
- Other Topics/Future Agenda Items/Action Items
- Next Meeting(s)- Date, Time, Location

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Kathy Schnoor

19 March 1998

To: Members of RSAL Oversight Panel
From: LeRoy Moore
Re: Actinide Migration issue
TIME URGENT: Please respond by 4 PM, Wed., 25 March (see item 1 below)

One issue that will be very much before us as we proceed with the independent review of the Rocky Flats Radionuclide Soil Action Levels (RSALs) is the question of migration of plutonium and other radionuclides in the Rocky Flats soil. Iggy Litaor, the scientist who raised this issue quite forcefully in 1995-96, was dismissed by Kaiser-Hill and replaced by the Actinide Migration Panel, this Panel's work more recently folded into the larger, long-term Actinide Migration Study. All this was done without consultation with the affected public. In my view we'll not get satisfactory results in this crucial area unless we get a more democratic process on the whole issue. Specifically, I would like to see the Actinide Migration Research brought under the oversight of our RSAL Oversight Panel (an earlier request that this be done was rebuffed at the site level). Accordingly, I pass on to you several items:

1) A letter to Secretary Peña asking him to place the Actinide Migration Study under the oversight of the RSAL Oversight Panel. I invite you as a member of the Oversight Panel to consider either signing this letter or writing one of your own (if you do the latter, please send me a copy). If you want to sign the letter I have drafted, leave a message for me at 303-444-6981 (FAX 303-444-6523) by 4 PM, Wednesday, 25 March. I plan to send the letter and the paper (#2 below) to Secretary Peña on Thursday, 26 March.

2) A paper written to support the proposal made above (in item #1).

3) A letter to Jessie Roberson of DOE Rocky Flats asking DOE to provide support for Litaor to return to Colorado (from Israel where he now teaches) this summer to complete work based on his earlier research. If you want to support this request, contact Jessie Roberson at Rocky Flats before 25 March. She can be reached by phone at 303-966-2080, FAX 303-966-6054.

4) Iggy Litaor's followup response to the Actinide Migration Panel's reply to his initial critique of their Final Report for FY 1997.

P. O. Box 1156
Boulder, CO 80306
March 26, 1998

The Honorable Federico Peña, Secretary
Department of Energy
1000 Independence Avenue, SW
Washington, DC 20585

Dear Mr. Peña:

We write to propose that the Department of Energy place the Rocky Flats Actinide Migration Study under the purview of the Rocky Flats Radionuclide Soil Action Level Oversight Panel so that the Oversight Panel can review the mission of the Actinide Migration Study and oversee future work in this area. An earlier request that this be done was rebuffed at the site level. The goal is to gain publicly credible data for use in setting the Rocky Flats Radionuclide Soil Action Levels.

For several years a controversy has been brewing in Colorado over the issue of migration of plutonium and other radionuclides in the soil at Rocky Flats. Unless this issue is resolved satisfactorily the Department of Energy will find itself unable to proceed with cleanup and closure of the site, because it will lack the requisite support from the affected public. This letter provides highlights of the controversy and advances a proposal for resolving it. The enclosed paper supports the proposal with a detailed account of the controversy to date.

Determination of the extent of migration of radionuclides in the soil at Rocky Flats is integral to establishment of credible Radionuclide Soil Action Levels (RSALs) for the site. This is so because the RSALs specify how much radioactive material can be left in the Rocky Flats soil after cleanup, and because radionuclides left in the soil could migrate off the site. As you know, the RSALs established for Rocky Flats in October 1996 by DOE and its regulators met vigorous opposition from a broad cross section of the public. DOE consequently agreed to fund an independent scientific review of the calculations used in setting the RSALs. Accordingly, in January 1998 a citizen group called the Rocky Flats RSAL Oversight Panel was convened to oversee this review. A key part of the review of the RSALs is good data on migration of radionuclides.

The issue of plutonium migration surfaced when W. Iggy Litaor, an independent scientist working under contract at Rocky Flats, made the unexpected discovery that significant quantities of plutonium in the soil on the site were migrating in the heavy rains of May 1995. His discovery had relevance not only for Rocky Flats but for all plutonium-contaminated sites anywhere. His work thus needed to be brought to completion. However, his finding also complicated plans for a quick cleanup and closure of the Rocky Flats site. Before he had opportunity to finish his work, Kaiser-Hill terminated his contract and then, without any consultation with the affected public, initiated its own Actinide Migration Study.

The Actinide Migration Study lacks credibility for several reasons: total absence of public participation in design and oversight of the study; severe conflict of interest on the part of several of those performing the study; improper methodology (e.g., soil samples not taken by those doing the research); deficient peer review (Litaor, the one outside specialist who knows the subject well and has had a chance to review the researchers' latest report, criticized their work quite strongly).

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Recognizing the need for a publicly credible study of actinide migration, we therefore propose that the Department of Energy place the Rocky Flats Actinide Migration Study under the purview of the Rocky Flats Radionuclide Soil Action Level Oversight Panel so that the Oversight Panel can review the mission of the Actinide Migration Study and oversee future work in this area through to completion. The goal of this review and oversight is to ensure that the Actinide Migration Study gains public confidence by eliminating conflicts of interest and by producing a genuinely independent study. The study should include personnel able to work closely with Litaor to assess his findings and to see that the work he began is carried to conclusion by someone able to gain public trust.

Short of a move like this, not only will we all remain ignorant about plutonium migration, but distrust will prevail, and the agencies responsible for cleanup of Rocky Flats will lack the support they need to develop the RSALs required for site cleanup. We therefore make this proposal and invite your response by not later than April 17, 1998. Questions about this proposal can be directed to LeRoy Moore at the above address or at 303-444-6981 or FAX 303-444-6523. Thank you for your attention to our concerns.

Yours truly,

LeRoy Moore, Ph.D., Rocky Mountain Peace & Justice Center
Etc.

cc: James M. Owendoff, Acting Asst. Secty. for Environmental Management
Jessie Roberson, Manager, DOE Rocky Flats
Governor Roy Romer
Lt. Governor Gail Schoettler
Senator Ben Nighthorse Campbell
Senator Wayne Allard
Representative David Skaggs
Representative Diane DeGette
Representative Dan Schaefer
Jim Werner, DOE Headquarters
Tom Vellenga, DOE Headquarters
Ellen Livingston-Behan, DOE Headquarters
Rocky Flats Radionuclide Soil Action Levels Oversight Panel
Rocky Flats Citizens Advisory Board
Rocky Flats Local Impacts Initiative
Robert Card, CEO, Kaiser-Hill, Rocky Flats
Tom Looby, Office of the Environment, CDPHE
Jack McGraw, Deputy Regional Administrator, EPA Region VII
Steve Gunderson, CDPHE Rocky Flats Program
Tim Rehder, EPA Rocky Flats Program
Boulder County Commissioners
Jefferson County Commissioners
Arvada City Council
Boulder City Council
Broomfield City Council
Denver City Council
Lafayette City Council
Louisville City Council
Northglenn City Council
Superior City Council
Westminster City Council

Migration of Plutonium in the Soil at Rocky Flats: Review of a Controversy

by LeRoy Moore, Ph.D.
Rocky Mountain Peace and Justice Center (March 1998)

Introduction

The issue of actinide migration lies at the heart of cleanup of Rocky Flats. Why? Because plutonium-239, the material of greatest concern at Rocky Flats, remains radioactive for 240,000 years, and because inhaling or ingesting a minuscule particle of this alpha-emitting material may result in cancer, genetic aberration, or damage to the immune system. People aware of these potentially adverse health effects don't want plutonium in their environment. Yet this material is already present in substantial amounts in the soil at Rocky Flats. The quantity is likely to increase when contaminated buildings are taken down. If plutonium and other radionuclides in the Rocky Flats soil migrate substantially, then sooner or later they are likely to end up in the environment of people downstream and downwind of the facility -- and all residents of the Denver metro area are downwind of Rocky Flats some of the time.

Iggy Litaor, at the time an adjunct professor at the University of Colorado working under contract at Rocky Flats, created quite a sensation when he claimed to discover significant unexpected migration of plutonium in the soil at Rocky Flats during the heavy rains of spring and summer, 1995. His finding, he said, "challenges the framework of the suggested accelerated cleanup for Rocky Flats."[1] Litaor's contract was soon terminated, and resolving the issue that he had raised so forcefully was turned over to a newly constituted Actinide Migration Panel -- their work now part of a large project called the Actinide Migration Studies. Meanwhile, in 1997 water samples taken where Walnut Creek exits the Rocky Flats site showed actinide activities higher than the legally permitted standard of 0.15 picocuries per liter.

To what extent might plutonium in the soil at Rocky Flats migrate? A definitive, publicly credible answer to this question is crucial for the task of setting cleanup levels for the site. By all rights, the Actinide Migration Studies currently underway should produce precisely the sort of convincing answer the public requires. Unfortunately, as the following account demonstrates, the approach of the Actinide Migration Studies is badly flawed, so much so that any answer from this source almost certainly will lack convincing credibility.

Plutonium migration and the Rocky Flats Soil Action Levels

The question of plutonium migration relates directly to the Radionuclide Soil Action Levels (RSALs) for Rocky Flats, since the latter specify how much plutonium and other radioactive material may remain in the soil at the site after cleanup. In 1996 DOE, EPA, and CDPHE proposed RSALs for Rocky Flats that would allow significant amounts of plutonium and other radionuclides to remain in the Rocky Flats soil. This proposal was opposed almost universally by members of the public who commented on the issue. Besides, broadly representative citizen bodies had already made it clear that they wanted a site much cleaner than what the agencies were proposing. In June 1995 the Rocky Flats Future Site Use Working Group, an ad hoc body convened to advise DOE, made a consensus recommendation that the site be cleaned to average background radiation level when it

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[1] "The spring of 1995 was unseasonably wet. . . . On May 17, 1995, significant overland flow occurred that remobilized an unknown amount of Pu (estimated between 10 microcuries to 0.5 curie). Following the May 17 overland flow, the soil became completely saturated and remained so for at least 65 days. Significant water flux was modeled and measured in the soil. . . . Using extremely conservative assumptions we calculated a minimum of 100 to 300 *million* picocuries of Pu were transported across the study site [below the 903 Pad area] through near-surface processes. With less stringent assumptions, over 1 *billion* picocuries of Pu were remobilized." Such transport "was not envisioned under any environmental condition or hydrogeochemical modeling scenarios considered for Rocky Flats." M. Iggy Litaor, "The Hydrogeochemistry of Pu in Soils of Rocky Flats, Colorado: Summary," Public Presentation, Denver, May 15, 1996.

becomes technologically and economically possible to do this in an environmentally sensitive manner. The Rocky Flats Citizens Advisory Board soon thereafter made the same recommendation.

In October 1996 DOE and its regulators nevertheless adopted as "interim" standards the Rocky Flats RSALs they had all along proposed. These RSALs, which currently govern cleanup of the site, allow in the Rocky Flats buffer zone the equivalent of up to 1429 picocuries of plutonium-239/240 per gram of soil, which is 37,605 times average background level for plutonium of 0.038 picocuries per gram of soil. The site's industrial zone can contain the equivalent of up to 1088 picocuries of plutonium-239/240, or 28,632 times average background level.[2]

Within a few months after adoption of these RSALs public interest groups, local governments, and the Rocky Flats Citizens Advisory Board called for an independent review of both the dose and calculation aspects of the new RSALs. Rep. David Skaggs asked for a review of the calculation aspect. (The dose part specifies a level of radiation exposure deemed acceptable by DOE and its regulators; the calculations purport to show how much radioactive material may remain in the soil without exceeding this dose.) DOE eventually agreed to an independent review of the calculation side of the equation only.[3] Accordingly, in January 1998 the Rocky Flats Radionuclide Soil Action Level Oversight Panel was formed to oversee this review.

If substantive movement of radionuclides in the soil can occur, the quantities allowed under the RSALs adopted in October 1996 will need to be greatly reduced. Otherwise, people downstream and downwind of Rocky Flats face a long history of potential exposure to plutonium particles with all the attendant negative health effects. It thus is essential to learn the truth about actinide migration.

Changing weather patterns?

A possible consequence of global warming is increased rain intensity over shorter periods of time in semi-arid areas like Colorado (a topic much discussed at the recent Kyoto conference on global warming). Locally, the heavy rains of spring and summer 1995 were followed by an unusually wet August 1996. Have global weather patterns already been altered to such a degree that the exceedingly wet conditions in which Litaor made his discovery will become the recurrent norm rather than the exception locally? This

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[2]The 1429 picocuries per gram of soil (pCi/g) number applies in the hypothetical situation that the soil is contaminated only with plutonium-239/240. Since in reality some plutonium in the soil will have broken down into its daughter products and other radionuclides may be present as well, the RSALs provide ratio sum calculations for combinations of radionuclides that together produce a dose equal to that from 1429 pCi/g of pure plutonium. This alternate calculation allows in the site's buffer zone an amount of plutonium-239/240 up to 17,132 times average background level, plus americium-241 (a daughter product of plutonium) up to 10,935 times average background level (651 pCi/g of plutonium-239/240 plus 117 pCi/g of americium-241 versus average background levels of 0.038 pCi/g for plutonium-239 and 0.0107 pCi/g for americium-241). The site's industrial zone can contain plutonium-239/240 up to 14,789 times average background level and americium-241 up to 9,439 times average background level (562 pCi/g of plutonium-239/240 plus 101 pCi/g of americium-241 versus average background levels at the aforementioned amounts).

[3]The dose aspect of the Rocky Flats RSALs (the 15/85 mrem/year exposure to targeted individuals in specific situations) is worth a separate essay. Let it suffice to say that no national standard for dose from cleanup of a site like Rocky Flats exists. The numbers adopted for Rocky Flats came from an EPA proposal for a national standard that was eventually withdrawn. Where and when standards for permissible exposure have been adopted the affected populations have had little to no say in setting the standards. The BEIR (Biological Effects of Ionizing Radiation) VII study just now being initiated by the National Academy of Sciences will review the adequacy of existing standards and possibly propose new guidelines. Responding to concerns about the dose side of the RSALS, Jacqueline H. Berardini, Deputy Director of CDPHE's Office of Policy and Public-Private Initiatives, proposed a nationwide public participation process for the BEIR VII review. Such a process is much to be desired. For a critique of the way standards for permissible exposure are set, see the reference to Rosalie Bertell in note 12.

possibility underscores the necessity for coming to a clear understanding regarding actinide migration in the environment.

The scandal of Iggy Litaor's dismissal

One of the most disturbing events in the recent history of Rocky Flats was the dismissal of Iggy Litaor after he claimed to discover substantial migration of plutonium in the soil at Rocky Flats during the wet spring and summer of 1995. His finding, which was based on real-time measurements taken on the site in the midst of a rain storm, countered the received wisdom that plutonium, once deposited in the soil, remains more or less immobile -- a conclusion supported by his own previous work.[4] As noted earlier, his discovery flew in the face of DOE and Kaiser-Hill's plans for a quick "cleanup" and early closure of the Rocky Flats site. The significance of his finding, however, extends far beyond Rocky Flats. If true, it is of signal importance to all who live or work around plutonium-contaminated sites anywhere.

Lying about Litaor?

How can we get the truth of what happened with the plutonium in the Rocky Flats soil in the 1995 rains and therefore of what might happen again here or elsewhere? We can't now get it from Litaor, since soon after his discovery of plutonium migration Kaiser-Hill terminated his contract. On learning of Litaor's dismissal, Prof. Niels Schonbeck of the Rocky Flats Health Advisory Panel (and now also of the RSAL Oversight Panel) wrote DOE urging that Litaor be retained in view of the far-reaching significance of his research. At the October 1995 meeting of the Rocky Flats Citizens Advisory Board one of Schonbeck's students inquired about Litaor's status. Litaor's supervisor from Kaiser-Hill said full funding had been restored and his work was continuing. CAB members learned a month later that this was not true. Subsequently some funding was restored, and Litaor did additional work. But by this time his original project, with the team of graduate students doing primary research in the field, had been effectively destroyed and the researchers were dispersed. Litaor soon left the area without completing his research on plutonium migration.

Litaor's association with Rocky Flats

Iggy Litaor's association with Rocky Flats began when EG&G, former operator of the Rocky Flats facility, contracted Litaor to map plutonium deposits around the Rocky Flats site. Knowledgeable members of the public typically understood plutonium offsite in terms of a southeast plume first sketched in 1970 by P. W. Krey of the Atomic Energy Commission (DOE's predecessor agency) and later adapted and modified by Carl Johnson, then head of the Jefferson County Health Department.[5] It surprised some of these people to hear from Litaor that he could find no well-defined plume, only scattered deposits and hot spots. If true, this was good news to Rocky Flats management as well as to all who live or work around the site, for it indicated possibly less contamination than some had feared. Litaor made a convincing case for the veracity of his data. It helped that he published his findings in peer-reviewed journals.[6] He rather quickly established a credibility with the

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[4]M. Iggy Litaor et al, "Fate and Transport of Plutonium-239 + 240 and Americium-241 in the Soil of Rocky Flats, Colorado," *Journal of Environmental Quality* 25 (1996): 671-683.

[5]See LeRoy Moore et al, *Citizen's Guide to Rocky Flats* (Boulder: Rocky Mountain Peace Center, 1992), pp. 18-19.

[6]Litaor et al, "Plutonium-239 + 240 and Americium-241 in Soils East of Rocky Flats, Colorado," *J. Environ.Qual.* 23 (1994): 1231-1239; Litaor, "Uranium Isotopes Distribution in Soil at Rocky Flats, Colorado," *ibid.* 24 (1995): 314-323; Litaor, "Spatial Analysis of Plutonium-239 + 240 in Soils around Rocky Flats, Colorado," *ibid.* 24 (1995): 506-516; exchange, *ibid.*, 24 (1995): 1229-1231; Litaor et al, "Comprehensive Appraisal of $^{239+240}$Pu in Soils around Rocky Flats, Colorado," *Health Physics* 69 (1995): 923-935; Litaor and L. Allen, "A Comprehensive Appraisal of ^{241}Am in Soils around Rocky Flats, Colorado," *ibid.* 71 (1996): 347-357; Litaor et al, "Fate and Transport. . . " (1996) [see note 4]; Litaor and S. A. Ibrahim, "Plutonium Association with Selected Solid Phases in Soils of Rocky Flats,

public that is exceedingly rare for a scientist in the hire of Rocky Flats. His dismissal on the occasion of making a discovery that was bad news to Rocky Flats management therefore severely hurt relations with the affected public.

Creation of the Actinide Migration Panel/Studies

Though Litaor was unable to complete his own research on migration of plutonium in the soil at Rocky Flats, he succeeded in getting this issue on the agenda of people concerned with cleanup of the Rocky Flats site. In June 1996 Rocky Flats management appointed an Actinide Migration Panel composed of Bruce D. Honeyman of the Colorado School of Mines, Peter Hans Santschi of Texas A&M University, plus David R. Janecky and David L. Clark, both of DOE's Los Alamos Lab. In October 1997 two new members, Jim Ball and D. Kirk Nordstrom, both of USGS, were added to the Panel's original four, and what once was called a Panel is now referred to variously as the Actinide Migration Studies or the Actinide Migration Investigation.

Subsequent sections of this paper will point to numerous problems with the Panel/Studies. For starters, the reader is invited to consider:

- No public participation went into the selection process or into designing what should be examined by the Actinide Migration Panel/Studies.
- The Kaiser-Hill manager who misled the Citizens Advisory Board about Litaor continues to supervise the Actinide Migration Panel/Studies.
- Conflicts of interest appear in that two DOE employees are on the Actinide Migration Panel and companies responsible for Rocky Flats cleanup are involved in the Studies.

Confusion regarding the mission of the Actinide Migration Studies

- When first created, in the midst of the controversy surrounding Litaor's departure, members of the public had the impression that the mission of the Actinide Migration Panel was to critique Litaor's work. If such a critique was done, the results have not been shared with the public.
- Later, it became clear that the Panel's mission was to review the current state of knowledge regarding radionuclides in the environment so as to advise Rocky Flats management on remediation of the site.
- By June 1997 the Panel was expected to develop an understanding of radionuclide mobility sufficient "to build a defensible conceptual model that may guide remedial activities for Site closure."[7]
- Now we are told the Studies will determine whether plutonium and other radionuclides can or cannot move off the Rocky Flats site in the future.
- At a March 4, 1998, meeting a greatly expanded plan for the study was outlined, even as it was made clear that other aspects of this complex task of analyzing actinide migration will be added later. It appears that the mission of the Actinide Migration Study is being continuously enlarged to respond to public concerns – but without any direct public participation in the process, not to say public oversight.

Confusion regarding the timeline of the Studies

- When the Actinide Migration Panel was originally introduced to the public, it appeared that the Panel's work would be completed rather quickly; no one hinted that the project might take years.
- Now members of the RSAL Oversight Panel are told that the Actinide Migration Studies is a multi-year project and thus that definitive results from the investigation cannot be incorporated into an independent review of the RSALs.
- Meanwhile, everyone recognizes that definitive data on actinide migration is required for establishment of RSALs.

Colorado, Using Sequential Extraction Technique," *J. Environ. Qual.* 25 (1996): 1144-1152; Litaor et al, "The Behavior of Radionuclides in the Soils of Rocky Flats, Colorado," *Journal of Environmental Radioactivity* 38 (1998): 17-46.

[7] "Proposed Path Forward for the Actinide Migration Studies" (June 1997), p. 2.

Dollar costs of the Actinide Migration Investigation

- One of the reasons cited for Litaor's dismissal was the necessity of cutting costs.
- In June 1997 Mr. John Rampe, then DOE Rocky Flats manager for this work, told the author that one member of the Panel, Bruce Honeyman, was receiving $100,000 per year for his work on this study.
- Costs for "General Actinide Migration Investigation" were recently revealed:
  - FY 1996: $175,000 (all to subcontractors, that is, the Panel; the real cost exceeds the amount given, since amounts for on-site expenditures are not available)
  - FY 1997: $200,000 ($50,000 on-site; $150,000 to subcontractors)
  - FY 1998: $750,000 ($250,000 on-site; $500,000 to subcontractors)
  - FY 1999: no budget figures have been provided
  - FY 2000: no budget projections have been provided

Physical transport versus chemical speciation

- Members of the original Actinide Migration Panel seemingly came to Rocky Flats with their own agenda, namely, researching chemical speciation of radionuclides -- that is, trying to determine the chemical processes that enable plutonium and other radionuclides to migrate. Believing that plutonium in soluble form migrates more readily than the same material in insoluble form, they wanted to discover the conditions under which plutonium might appear in soluble form.
- The Actinide Migration Panel set out to determine the K_d for actinides in the Rocky Flats soil. K_d is "simply the ratio of the activity [disintegrations per minute] concentration of an element in the [less mobile] particle phase to the corresponding activity concentration in the [more mobile] 'dissolved' phase."[8] An element with a low K_d will be more easily dissolved and transported in water; an element with a high K_d is more likely to be insoluble and thus not very mobile in water.
- The emphasis on chemical speciation points to what seems a crucial difference in approach between Litaor, who measured physical transport via erosion and near-surface throughflow, and the Actinide Migration Panel, which contends that a given radionuclide's movement depends on its chemical form in the environment. Based on his own speciation studies, Litaor estimated that 83 to 97% of the radionuclides that would migrate in water were in particle -- that is, solid -- form. He concluded that "the common use of K_d values in predicting the movement of radionuclides in the soil is questionable."[9]

Confusion regarding findings of the Investigation

- On August 20, 1997, Panel spokesperson and lead researcher Bruce Honeyman made a solo appearance to update the public on the Panel's findings. Emphasizing that his conclusions were preliminary, he said he was convinced that up to 90% of the plutonium in the Rocky Flats soil was chemically in organic form, the form in which it could most readily become soluble and thus be susceptible to transport.[10] He was clearly excited, as if he thought he had found the mechanism by which substantive migration of plutonium in

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[8]Bruce D. Honeyman and Peter H. Santschi, "A Conceptual Model of Pu Movement through RFETS Soils" (May 26, 1997; Document # CSM-3-97), p. 2.

[9]Litaor et al (1998): 44 [see note 6 for reference].

[10]The "Record of Meeting Notes, Actinide Migration Status Report, August 20, 1997," contains the following exchange, beginning with remarks addressed to Honeyman:

"• Earlier findings indicated that plutonium in the environment was in an insoluble state . . . , but now your data contradicts the earlier results and says that 90% of the plutonium is soluble.

• Honeyman: Yes, when you include plutonium with organic complexes, it can become very soluble, and under certain conditions the plutonium can become very mobile in that form.

• Does this preliminary finding mean that the plutonium is going to move offsite in the long-term?

• Honeyman: Yes, but additional work is needed to determine the rate of movement."

the soil at Rocky Flats could occur.[11] The great unknown, he said, is what initiates the mobility.

• Two months later, on October 28, Mr. Honeyman spoke again. This time he offered a totally different, more orthodox picture, one of plutonium's relative stability in the soil. This latter presentation coincided with the addition of new members to the Actinide Migration research team. That all six members of the team were in attendance led some from the public to speculate that Honeyman had been reined in. An alternate view is that on August 20 he had simply misinterpreted his results.

What about peer review?

• Aware of credibility problems, Kaiser-Hill appointed Prof. Greg Choppin of Florida State University to serve as outside peer reviewer for the Actinide Migration Panel -- a step taken again without any consultation with the affected public.

• A public meeting with Prof. Choppin occurred on November 19, 1997. In this meeting Prof. Choppin was asked whether in his view the Actinide Migration Panel would be able to assure the affected public that harm from offsite plutonium exposure could be minimized because plutonium migration could be prevented. Saying he couldn't really answer this question, he launched into a sermonette to the effect that the public need not be concerned since there is a threshold for radiation exposure below which harm does not occur. He thus simultaneously exposed his bias and revealed his ignorance of the large body of scientific literature which shows that very low-dose exposure may be more harmful per unit dose than higher-dose exposure.[12] He seemed completely unaware that he was discrediting himself with the very public whose trust he needs to win.

• To date, the work of the Actinide Migration research team has not been subjected to critical peer review by specialists outside their own self-selected inner circle. None of their findings have been published in professional peer reviewed journals.

• For Litaor's critique of the Panel's recent annual report see below.

What about soil sampling?

• Members of the Actinide Migration Panel are not taking their own soil samples, but use samples collected by Rocky Mountain Remediation Services, L.L.C. (RMRS), one of Kaiser-Hill's on-site corporate subcontractors.[13] The researchers, thus, do not control the material they analyze.

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[11]Litaor and Ibrahim (1996) [see note 6 for reference] earlier estimated that up to 65% of plutonium in Rocky Flats soil is associated with organic matter. They did not think this guaranteed its mobility.

[12]For a concise statement, see the interview with Karl Z. Morgan, Director of Health Physics at DOE's Oak Ridge Lab for 29 years, in Robert Del Tredici, *At Work in the Fields of the Bomb* (N.Y.: Harper & Row, 1987), pp. 132-134. Dr. Rosalie Bertell of the International Institute of Concern for Public Health, Toronto, simultaneously criticizes the way standards for permissible exposure are set and provides a wealth of information on effects from low-dose exposure in "Limitations of the ICRP Recommendations for Worker and Public Protection from Ionizing Radiation," prepared for the European Parliament, Brussels, February 5, 1998 (a copy will be provided on request). See also Bertell, *No Immediate Danger* (Summertown, TN: Book Publishing Co., 1985); John W. Gofman, *Radiation & Human Health*(N.Y.: Pantheon, 1983); Gofman, *Radiation-Induced Cancer from Low-Dose Exposure* (San Francisco: Committee for Nuclear Responsibility, 1990). One explanation for why harm from low-dose exposure may exceed that from higher doses was advanced by Canadian scientist Abram Petkau in 1972; see Petkau, "Effect of Na^{22} on a Phospholipid Membrane," *Health Physics* 22 (1972): 239-244, and Ralph Graeub, *The Petkau Effect* (N.Y.: Four Walls Eight Windows, 1994), pp. 86-101. Other researchers important on this topic include Alice Stewart, Ernest J. Sternglass, Thomas F. Mancuso, and Edward A. Martell (whose soil samples east of Rocky Flats after the May 1969 fire first brought off-site radioactive contamination from Rocky Flats to the public's attention).

[13]RMRS is the name taken at Rocky Flats by a partnership between two companies, one of which is British Nuclear Fuels, Inc., a wholly-owned subsidiary of British Nuclear Fuels Limited (BNFL), a government-owned corporation created by the British government to operate Britain's military and civilian nuclear industry. BNFL, whose record of duplicity and damage is well documented, has never

• A limited number of samples are taken and analyzed. The decision on the number of samples appears to be driven primarily by cost.[14]

Nevertheless, the Panel concludes, plutonium does move

• At a November 6, 1997, meeting and in their "Final Report" for FY 1997 (dated December 15, 1997), the Actinide Migration study team concluded that plutonium transport is primarily by physical processes, such as particle transport down-gradient, which is precisely what Litaor claimed to discover.

• The Actinide Migration researchers also conclude that dominance of plutonium in the organic form (16 to 80%) "suggests that it has the potential for mobility over a greater range of environmental conditions than perhaps anticipated."

Litaor's critique of the latest report from the Actinide Migration research team

On December 15, 1997, the Actinide Migration Investigation researchers released a "Final Report" on their work for FY 1997. Iggy Litaor provided a critique,[15] to which the researchers rather quickly produced a response.[16] Here are a few points from Litaor's critique and their response:

• The soil samples were not taken by the primary researchers but by a subcontractor, and the area from which the samples were taken was already "highly disturbed due to past RFP [Rocky Flats Plant] activities." In reply, those responsible for the Actinide Migration Studies identify the RMRS person responsible for taking the samples and say the samples were not taken from a disturbed area.

• The sampling protocol described in the report is "haphazard," a point denied by the Actinide Migration Studies personnel. They do say, however, that sample selection at the site was limited by the budget.

• A fundamental flaw in their experimental design is "the implicit assumption that the entire soil matrix is wet," a situation rare in reality. "Hence, the K_d experimental protocol as described by this report has little merit in the real soil environment." Those criticized say their work plan for FY 1998 will address Litaor's concerns.

• "The authors assume that all flow [off the 903 Pad area] reached the [C-2] settling pond. This is far from the truth." An unknown amount of plutonium never reaches the pond but gets trapped in the South Interception Ditch (SID). Failure to account for this means the authors greatly underestimated the amount of plutonium transported over the years. Their study thus provides a poor foundation for calculating "the potential of plutonium remobilization during normal and/or extreme events." The Actinide Migration Panel accepts this criticism and says future work will deal with material trapped in the SID.

• The authors' admission that mechanical erosion plays a bigger part in plutonium transport than geochemical processes "points to an internal flaw in their argument for

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been subject to the public scrutiny and regulatory oversight to which DOE has had to adjust in the U.S.A. More an agency of a foreign government than a private corporation, BNFL is a major mover globally on behalf of a plutonium economy, with all the nuclear-proliferation dangers this entails. Its claim to experience in the realm of nuclear remediation stems from its "cleanup" of a large uranium enrichment plant at Capenhurst in England. My inquiries to BNFL as to whether there was any external regulation or independent review of the quality of the cleanup at Capenhurst went unanswered. Professor Anne Seller of the University of Kent in Canterbury made inquiries within Britain, only to learn that there's "no public record" of cleanup activities at Capenhurst. BNFL's presence at Rocky Flats in the form of a subsidiary was never subject to pubic review, though such a review was requested. The information in this note is from a fact sheet I prepared in December 1994 (a copy will be provided on request).

[14]Response to CDPHE Comments on Actinide Migration Documents, DCS-015-97 (August 5, 1997), p. 10.

[15]M. Iggy Litaor to LeRoy Moore, letter and attachments, dated January 11, 1998 (a copy will be provided on request). All quotations in this section of the text are from this letter.

[16]"Actinide Migration Studies Response to Comment Letter from Dr. M. Iggy Litaor of Tel-Hai College, Upper Galilee, Israel, dated January 11, 1998 (no date on the response document). All references in this section to responses to Litaor's critique are from this document.

further geochemical work." In response, the authors insist on the necessity for more geochemical modeling.

- Their report "is riddled with citing inaccuracies," which they acknowledge.
- In general, Litaor's critique and the thoughtful response made to it by the Actinide Migration Studies researchers (the foregoing barely touches the issues raised and responded to) show the value of mutual criticism and independent peer review.

Conflict of interest

- Two members of the original Actinide Migration Panel are from DOE's Los Alamos Lab. On March 4, 1998, it was revealed that more of the actinide migration research is being conducted at Los Alamos. This constitutes a basic conflict of interest in that a public whose trust has already been severely violated is being asked to trust DOE personnel to study a DOE site and to produce results that will gain public confidence.
- A second conflict of interest lies in the fact that Kaiser-Hill, the contractor principally responsible for cleanup of the Rocky Flats site, administers the Actinide Migration Studies. Consider:
    - Kaiser-Hill has shown itself inept at cleanup activity at Rocky Flats (e.g., it botched the relatively simple T-3/T-4 Trench and Mound projects).
    - Kaiser-Hill nevertheless says it intends to achieve a rapid cleanup and closure of Rocky Flats.
    - Kaiser Hill dismissed Iggy Litaor just as he made a discovery that flew in the face of its plans for rapid cleanup of Rocky Flats.
    - Kaiser-Hill selected those doing the Actinide Migration Study as well as those expected to provide external review.
- A third basic conflict of interest occurs in that RMRS, one of Kaiser-Hill's corporate subcontractors for the cleanup at Rocky Flats, is integrally involved in the actinide migration research. As indicated above, their provision of soil samples means that the Actinide Migration Panel members do not control their own samples. This violates a fundamental principle of independent research.

Public participation

Public participation to date has been limited to spectator activities of attending public meetings and commenting on what is presented by "experts" chosen with no input from those affected by actinide migration.

Conclusion

The essential question remains: To what extent might plutonium in the soil at Rocky Flats migrate? What happened with this material in the spring and summer of 1995? How much moved and how rapidly? Under what conditions can this happen again? The affected public, including the Rocky Flats RSAL Oversight Panel, requires a clear, convincing response from researchers who inspire public trust.

Given the controversy surrounding this matter, and given the significance of the issue for all plutonium-contaminated sites as well as its special relevance to review of the Rocky Flats RSALs, DOE should place the Rocky Flats Actinide Migration Study under the purview of the Rocky Flats RSAL Oversight Panel so that the Oversight Panel can review the mission of the Actinide Migration Study and oversee future work in this area through to completion. The goal of this review and oversight is to ensure that the Actinide Migration Study gains public confidence by eliminating conflicts of interest and by producing a genuinely independent study. This very likely entails combining chemical speciation study with the unfinished physical-movement study begun by Iggy Litaor. This study should include personnel able to work closely with Litaor to assess his findings and to see that the work he began is carried to conclusion by someone able to gain public trust.

Short of a move like this, not only will we all remain ignorant about plutonium migration, but distrust will prevail, and the agencies responsible for cleanup of Rocky Flats will lack the support they need to develop the RSALs required for site cleanup.

P. O. Box 1156
Boulder, CO 80306
March 11, 1998

Ms. Jessie Roberson, Manager
DOE Rocky Flats
P. O. Box 928
Golden, CO 80402-0928

Dear Ms. Roberson:

Dr. W. Iggy Litaor, a scientist who conducted research at Rocky Flats under contract to EG&G and then Kaiser-Hill, claimed to find significant migration of plutonium and other radionuclides in the soil at Rocky Flats in May 1995. Kaiser-Hill soon thereafter terminated his contract, so that not only was he unable to continue work in this area but he was also unable to prepare for publication the results of research already done.

Litaor has expressed interest in returning to Colorado for several weeks this summer (July to September 1998) to complete papers on his earlier findings for publication. The enclosed proposal explains what he expects to accomplish and what it will cost. The affected public as well as people at the Rocky Flats site need to see the results of Litaor's work, especially because of their possible significance for cleanup of the Rocky Flats site. We therefore write to ask DOE Rocky Flats to provide $10,000 for Litaor to return to Colorado to complete this work in keeping with the enclosed proposal. Of course, we would also expect site personnel to cooperate with him in making available on-site resources he may need.

We would appreciate having an answer to this proposal by not later than March 25, 1998. If you have questions, please contact LeRoy at (303)444-6981 or FAX (303)444-6523

Yours sincerely,

LeRoy Moore, Ph.D.
Rocky Mtn. Peace & Justice Center

Niels Schonbeck, Ph.D.
Chemistry Dept., Metro State University

cc: Russsell McCallister, RFFO, Regulatory Liaison Group
Steve Gunderson, CDPHE Rocky Flats Program
Tim Rehder, EPA Rocky Flats Program
Rep. David Skaggs

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February 25, 1998

TO: Rocky Mountain Peace and Justice Center

RE: A Request for Additional Funding for the Completion of the Study Entitled: "The Hydrogeochemistry of Plutonium in Soils of Rocky Flats, Colorado: A Case Study in Advanced Monitoring Program"

The study of the hydrogeochemistry of Pu in the soils of Rocky Flats. Plant has started in 1992. The wet spring and summer of 1995 has challenged our working hypotheses and experimental results to date, especially in regard to Pu mobility in the soil environs. Unfortunately, the study was terminated in mid-course due to severe budget reduction and work-force reconstruction imposed on the Site by the Department of Energy (DOE). Several months later, limited funding was given to the principal investigator to write up the results of the geohydrological investigation. On July, 1996, I submitted a preliminary draft to DOE and K-H. The main findings of the study was the significant remobiliztion of Pu (up to 1 billion pCi) from the contaminated soils around the 903 area towards Woman Creek. On September 26, 1996, DOE provided me with a review of the draft which consisted on 34 comments and questions. I tried to answer most of these comments, however this effort was seriously hampered by the lack of the necessary software, no access to data base, and no technical support by the GIS facility, RFEDS personnel, and other experts on Site. During the summer of 1997, I spent 2 months rewriting the preliminary draft to a manuscript form and submitted it to Environmental Science & Technology. Early this year, I have received the review which recommends to divide the manuscript into two different papers: a groundwater modeling and a geochemistry paper (see attached review). Once again, I am facing with the dilemma of being away from the Site with its vast resources to perform the task. Hence, I am submitting this request for limited additional funding and *access* to the Site's resources to complete this important paper which should be the foundation for any future work such as recently attempted by the Actinides Migration Study.

The following are the resources I **must** have in order to successfully complete the paper:

1. Direct access to the following software (or equivalents) installed on a PC issued by DOE and/or its contractor: Visual Modflow, SPSS, Surfer, Grafer, & Miersoft Office. All these fairly expensive software packages (> $ 8,000) have been purchased by the Site over the years to support this project and others;
2. Direct and easy access to a GIS technical support; and
3. Easy access to groundwater and geochemical data from RFEDS.

The requirement for easy and direct access to software, database and technical support available on Site make the re-writing of the paper from a remote location difficult if not impossible. Hence, the bulk of my request for additional funding is for travel, lodging and living expenses while in Colorado. Because I am a college professor the best and the only time I am available for such a long period away from home is the summer months (July to September).

The following is a breakdown of the budget request:

Travel (Tel-Aviv to Denver and back)	$ 2,000
Rent (apartment in Boulder for two months)	$ 2,000
Living Expenses:	$ 3,000
Car Rental	$ 2,000
Miscellaneous	$ 1,000
Total:	$ 10,000

If you have more questions regarding this letter please contact me by phone, fax, or e-mail.

Sincerely,

M. Iggy Litaor
Associate Professor
Department of Biotechnology and Environmental Sciences
Tel-Hai College
Upper Galilee, 12210
Israel

OVER

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Review of Manuscript No. ES970818T-26-a-0

Title: The Hydrogeochemistry of Plutonium in Soils of Rocky Flats, Colorado: A Case Study in Advanced Monitoring Program

Authors: Litaor, Litus, Barth, Zika, Moffitt, Daniels and Illangasekare

REVIEW

The article did not present a sound case for the conclusions made. It is clear that the mobility of plutonium is a key issue for contaminated sites such as Rocky Flats. However, the authors did not document the technical aspects of the work well before going on to a policy discussion on project funding.

The work presented in ES970818T-26-a-0 is a sound extension of previous site work, with the new material primarily centering around the hydrologic model and the plutonium flux calculations. As such, I would very much like to see a spatial calibration of the MODFLOW model, often shown using a residual map that subtracts the calibrated model heads from the measured heads. Maps of hydraulic conductivity and boundary conditions are appropriate. As described on pages 8 and 9, there is much more heterogeneity in the system than in the model. These data are fundamental to model verification. Typically, a transient simulation of a pumping or slug test is also often performed as model verification. Figures 1 & 2 need improvement. At a minimum, there should be a schematic illustration of the conceptual model being tested.

I'm not convinced that a model having a groundwater flux that is profoundly different from the observed flux is a calibrated model. The story isn't told in being conservative, but accurate. I also have a problem with altering boundary conditions on-the-fly, so to speak, as was described in the 1st full paragraph on Page 11. This paragraph defines boundary conditions for an "entire slope" conceptual model, a logical extension of the calibrated model, but with no documentation. Other questions: what's the uncertainty in Q? What is the impact of a 30% change in the head difference between the shallow and deep piezometers over the 65-day simulation period?

Regarding plutonium characteristics, the authors point to anaerobic conditions favoring the mobility of plutonium. I agree in principle, but I am not convinced by the work. A lot of emphasis is given to anaerobic conditions. Two data points, representing a 1.5 mg/L decrease in DO and a 0.6 pH units drop in pH does not provide a clear picture of anaerobic site conditions. The reader is not given eH measurements to work with. Three mechanisms for increased mobility are postulated, where do the author's stand? Both Tables 2 and 3 need work to better tell the story, more geochemical data would be great. Table 2 is confusing, better column headings and units are needed, and the caption launches into new ground with a statement concerning the correlation of soil water Pu activity to soil Pu activity. Table 3 is poorly organized. A better matrix of presentation is needed.

Finally, the environmental implications section should have some reference to risk. Without context, the Pu flux numbers don't have the needed barometer to understand the impacts.

RECOMMENDATION

I suggest that this submission be quickly turned into two separate articles. Article one should be a focused technical paper to a journal such as *Groundwater*. A second article focusing on the policy of Pu monitoring can then be put together succinctly. The second article has greater value as an editorial piece, based on well-documented fact.

March 10, 1998

Dr. LeRoy Moore
Rocky Mountain Peace and Justice Center
Box 1156, Boulder CO 80306
USA

Dear Dr. Moore

Recently, I have received a letter addressed to you written by Mr. Russell McCallister of DOE which includes the response to my comments to the preliminary draft of the Actinides Migration Studies. In general, I do not agree with their responses to my comments. I see little point in re-iterating my comments except highlighting several key points.

I. The soil sampling locations are highly disturbed! These sites are located on a summit position of a toposequence with a well developed Mollic Eppipdon. The lack of this diagnostic horizon as appeared from their data as well as the vegetation type and composition of these locations clearly indicating a disturbed site. This fact has been verified by numerous field excursions by myself and others. I am sorry to drag Ms. Annette Primrose to this heated discussion since she has been my favorite manager while I was employed by EG&G. However, her field experience in soil sampling is limited at best. I have hard time to accept the fact that the PIs *elected* to trust other party in sampling the soils on which the entire investigation depends on. In the future, the PIs should be in the field while certified employees do the sampling, so they can make sure that they get what they want. I am appalled by their excuses for staying in their comfortable office/laboratory spaces instead of sampling or at least supervising the sampling of this contaminated site.

II. The Actinides Migration Study has adapted the approach that surface flow is the dominant mechanism controlling Pu transport and minimize the importance of near-surface flow as suggested by Litaor et al. (in review). They are completely and perhaps intentionally ignoring previous work. I had a graduate student who spent three long years studying surface flow (Zika, 1996). We have conducted over 100 hundred rain simulations and concluded that surface flow is less important than near-surface flow. In fact, the surface flow of May 17, 1995 has lasted for several hours while vigorous near-surface flow was sustained for nearly 100 days. This near-surface flow has generated at times and in variable locations minimal surface flow that quickly was returned to a mode of near-surface flow. We have measured an enormous lateral flux of 35 to 40 $m^3 m^{-2} d^{-1}$. This near surface flow was generated due to the geohydrological conditions of the contaminated hill around the 903 Lip area. Failure to understand this process is a fundamental flaw in their research design.

III. The Actinides Migration Study has admitted that physical processes are dominant but insisting in pursuing a geochemical study to produce the elusive Kd values as well as Pu speciation and determination of Pu oxidation states. Most of the Pu in the soil environs of RFP is moving in particle or large colloidal forms. Hence, the speciation and oxidation state studies are of great interest to the scientific community but with little immediate value to the problems of the Site. The Kd experiments are an exercise in futility especially due to the large soil heterogeneity, and complex flow conditions characterized by multiple particle size distribution with the majority of Pu moving in large particle size in both aerobic and anaerobic conditions (Litaor et al., 1998; Litaor et al., in review).

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IV. Finally, the immediate solution to the problem of Pu remobilization across the soilscape around the 903 Lip area is a detailed capture zone analysis that will be supported by the disjuncted soil monitoring system installed in the field in 1992 that should be augmented by several pumping remediation wells that will prevent the geo-hydrological conditions that lead to the observed near-surface flow in 1995. Similar conditions may have occurred in August of 1997 but the monitoring system was not operational and data were not collected. The water that will be pumped by the remediation wells will be treated on site before release back into the drainage system. The timing of the remediation pumping will be controlled by the advanced monitoring system already in place but standing idle for the last 1-2 years. This immediate solution will be in place till a permanent solution will be agreed upon.

Please pass this correspondence to anyone you deem necessary.

Sincerely yours,

M. Iggy Litaor
Associate Professor
Department of Biotechnology and Environmental Sciences
Tel-Hai College
Upper Galilee, 12210
Israel

Cited References

Litaor, M.I., G. Litus, G. Barth, E.M. Zika, J. Moffitt, H. Daniels, and T. Illangasekare. (In Review). The Remobilization of Plutonium in Soils of Rocky Flats, Colorado: A Case Study in Advanced Monitoring Program.

Litaor, M.I., G.R. Barth, E.M. Zika, G. Litus, J. Moffitt, and H. Daniels. 1998. The behavior of radionuclides in the soils of Rocky Flats, Colorado. Jour. Environ. Radio. 38(1): 17-46.

Zika, E.M. 1996. Characteristics and impacts of the rainfall-runoff relationship on a radionuclide-contaminated hillslope. Boulder CO; University of Colorado. Thesis.

DRAFT

Memorandum of Understanding Between the Rocky Flats Citizen Advisory Board and the Rocky Flats Soil Action Level Oversight Panel

Regarding Review of the Interim Soil Action Levels for the Cleanup of the Rocky Flats Environmental Technology Site

This agreement is made and executed this ___ day of _____, 1998, by and between the Rocky Flats Citizens Advisory Board ("CAB") and the Rocky Flats Soil Action Level Oversight Panel ("RFSALOP").

RECITALS

WHEREAS, stakeholders are concerned about achieving the safest level of cleanup of contaminated soils at Rocky Flats and that the current "interim soil action level " cleanup standards merit a review by a scientifically-based independent panel, and;

WHEREAS, the CAB, because of its long-standing and beneficial role in promoting public education regarding the Rocky Flats Environmental Technology Site and its status as a DOE-designated Citizen Advisory Board grantee, is an appropriate organization to serve as a grant requesting agency and fiscal vehicle for the administration of U.S. DOE monies required to assist the Rocky Flats Soil Action Level Oversight Panel.

WHEREAS, The Rocky Flats Soil Action Level Oversight Panel Committee, as a community-based and independently established ad-hoc group, has requested that the CAB serve as the grant requesting agency for financial administration of the DOE monies to be used for the review of the interim soil action levels proposed by the RFCA principals for the clean up of Rocky Flats, and;

WHEREAS, the U.S Department of Energy believes that the CAB is an appropriate fiscal vehicle for administration of the grant and that the Rocky Flats Soil Action Level Oversight Panel will be the primary organization to provide overall guidance in achieving the policy and technical purposes of the grant, and;

NOW, THEREFORE, In consideration of the premises and provisions hereof, the parties agree to this memorandum of understanding to delineate the roles and responsibilities of the CAB and the Rocky Flats Soil Action Level Oversight Panel, as follows:

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1. CAB Responsibilities:

The CAB will make the grant request and be the grant administering agency to be awarded by the U.S. DOE Grant on behalf of the RFSALOP. The CAB application will include the following elements:

a. Funds identified for the Rocky Flats Soil Action Level Technical review as defined in detail in the Scope of Work (Exhibit A).

b. Funds identified for operating expenses and oversight support such as meeting notices, meeting facilitation, securing meeting locations and other normal public outreach functions (See Exhibit B).

c. Contractors, travel and lodging costs, if contract personnel have to travel to Denver from outside the Denver Metro area.

d. Miscellaneous grant administration duties: including funds pass through requirements , accounting duties, legal duties, periodic reporting and audit duties, per DOE requirements.

In admin. CAB in accordance w/their by-laws

2. Oversight Panel Responsibilities

The Oversight panel will provide independent oversight and decision-making authority regarding implementation of the scope of work, selection of the scientific contractor, selection of the public participation contractor, oversight of the project, and completion of the final report and its distribution to RFCA decision-makers.

3. Coordination between CAB and RFSALOP

a. The ~~Executive Director~~ Board/Staff coordinator of the CAB will serve as the liaison with the oversight panel and is empowered to approve project activities in consultation with the panel.

b. The Oversight panel will develop the line items for provision of technical services and public outreach and, in consultation with the Executive Director of the CAB, submit these elements to DOE as part of the Grant request.

4. Grant Request

The requested grant amount is anticipated to be $500,000. The CAB Executive Director and the RFSALOB shall cooperatively determine the exact amount of the grant request.

IN WITNES WHEREOF, the parties have caused this agreement to be duly executed on the _____ day of _____, 1998.

SOIL ACTION LEVEL OVERSIGHT PANEL

BY_____
Co-chair: Council member Hank Stovall, City of Broomfield

BY_____
Co-Chair: Mary Harlow, City of Westminster

CITIZENS ADVISORY BOARD

BY_____
Tom Marshall, Chairman, CAB

BY_____
Ken Korkia, Executive Director, CAB

Ken Korkia - comments

- add in something about following the by-laws of CAE for signatures in 1st IP pg 2 under CAE responsibilities

MEMORANDUM

TO: To File

FROM: Ken Korkia

DATE: March 9, 1998

SUBJECT: CAB Position on Becoming Contracting Agent for SAL Oversight Panel

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During Executive Session at its March 5, 1998 meeting, the Board discussed the possibility of becoming the contracting agent for the Soil Action Level Oversight Panel. The Board agreed that it would consider this role with the following caveats:

- The Board would accept the role only as the fiscal agent. CAB's role would be limited to those actions necessary to manage the grant to include signing contracts, review of invoices, authorization of expenditures, and the receipt and transmittal of money.
- All other administrative functions such as facilitating meetings, preparing meeting minutes, preparing agendas, coordinating travel arrangements with the contractors, setting up and arranging for meetings, and other similar activities or functions would be the responsibility of the Oversight Panel. It is likely that the Oversight Panel will contract for these services with an outside provider(s).
- In meeting its fiduciary responsibilities as the grant recipient, the Board would need to approve all contracts for services, either for administrative or technical, entered into by the Oversight Panel. The Oversight Panel would need to understand that all rules of procurement outlined in CAB's by-laws and those of the Department of Energy as the grantor would need to be followed. Should the Oversight Panel choose to go with a sole source contractor, CAB would need to amend its by-laws.
- CAB would charge an administrative fee to cover the time spent by its staff in managing the financial matters associated with the Oversight Panel. It is estimated that this time would be four hours per week, divided between the CAB Board/Staff Coordinator and the Office Manager. Money also would need to be set aside for accounting services and to conduct an annual audit. Legal fees to develop contracts and to handle any disputes involved in the execution of the contracts also would need to be funded from this administrative fee.
- There will be no co-mingling of funds between CAB's general operating account and the money received in grant for the Oversight Panel. Separate bank accounts will be maintained. Money to cover the administrative fee would be transferred from Oversight Panel grant account to CAB's general operating grant account. All other expenses for the Oversight Panel will be drawn directly from its own grant account.
- The independence of the Oversight Panel will be maintained to the maximum extent possible with the exception of financial matters. Official contact between CAB and the Oversight Panel contractors will be limited to issues relating to invoices and other financial matters.

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Department of Energy

ROCKY FLATS FIELD OFFICE
P.O. BOX 928
GOLDEN, COLORADO 80402-0928

MAR - 5 1998

98-DOE-03320

The Honorable Hank Stovall
City of Broomfield
One DesCombes Drive
Broomfield, CO 80020

Mary Harlow
City of Westminster
6777 West 88th
Westminster, Colorado 80030

Dear Mr. Stovall and Ms. Harlow:

As you are aware, in response to Stakeholder requests, the Department of Energy (DOE) has committed to support an Independent Review of the Site's Interim Radioactive Soil Action Levels, which were agreed to by the parties to the Rocky Flats Cleanup Agreement (RFCA) in 1996. This letter is written to reiterate information previously provided to you, and to respond to your letter of February 12, 1998, requesting $5,000 advance payment.

Pursuant to our commitment, we have reviewed existing grant mechanisms for appropriateness to amend by attaching the scope of this independent review to a grant. Joe Legare reported to you on February 26, 1998, the results of this effort. This letter documents his verbal report.

The consideration of the existing grants was guided by the interests expressed by you and other stakeholders to the DOE at previous meetings, and criteria that DOE believes are appropriate for any grant, and criteria specific to this grant.

Those interests and criteria include:

Timeliness - An existing grant was needed in order to expedite transferring funds to the review.

Legal acceptability - Some existing grants may not legally be appropriate.

Locality - Preference was given to grantees in the State rather than those administered from out of State.

Independence - The DOE believes that a grantee not associated with setting the Radioactive Soil Action Levels in question is preferable. This independent review in order to be most successful, must be credible to the largest possible set of Stakeholders, some of whom may not be represented currently on your stakeholder group. In order that the results are not

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questioned by anyone in the future, a grantee independent of the Parties to RFCA is preferable.

The DOE believes it is also important that you understand that under any grant vehicle, the Oversight Panel will have no formal control over the funds. In addition, any grantee will be required to follow the procurement processes set forth in 10CFR600, including contracting for the scientific review. We are aware that your stakeholder group has developed and shared a statement of work. It is our understanding that this statement of work could be used in a grantee's grant proposal. The grantee may also specify the continuing role of the Oversight Committee in the scientific review process in the grant proposal. The continuing relationship of any grantee with the Oversight Panel is between those entities and not DOE. As we have communicated previously, once the grant is released, we foresee very little direct involvement by DOE in the review.

The DOE recognizes the need for a grant process with which all parties and stakeholders are comfortable. We were surprised with the negative response received last Thursday to using the Colorado Center for Environmental Management as the grant mechanism. As Mr. Legare explained to you, the Colorado Center for Environmental Management (CCEM) and the Rocky Flats Citizens Advisory Board (RFCAB) are the only grant vehicles of which we are aware which fulfill all the interests and criteria above. After the meeting, it is our understanding that you do not wish the Rocky Flats Field Office (RFFO) to proceed with approving a grant at this time. Let me reiterate that RFFO is prepared to provide funds for this effort within a few weeks of agreement on an administrative vehicle to administer this grant. We await your response as to whether you would prefer CCEM or RFCAB as the grant vehicle. Either is acceptable to RFFO.

In response to your request for advance funding, DOE's position has not changed since Joe responded to this issue several weeks ago. DOE is prepared to expeditiously transfer the money via grant once the grantee is chosen: However, we do not believe it is appropriate to provide funds outside of a formal grant mechanism.

If you have any questions you may call me at 966-2025.

Sincerely,

Jessie Roberson

Jessie M. Roberson
Manager

cc:
J. Legare, AMEC, RFFO

PRESENT PLANNING SCHEDULE FOR 903 PAD

903 Pad, Lip Area, & Associated Soils

REC'D J. LEGARE

903 Pad Remediation Schedule
2/18/98

Based on Accelerating Cleanup: Focus on 2006 Draft Plan December 1997

FY 1998

Pre-remedial characterization of pad, lip area and americium zone
Actinide Migration Study

FY1999

903 Pad Remediation Planning
Actinide Migration Study

FY2000

903 Pad VOC Removal
- Excavate/Treat subsurface VOC contaminated soils from pad area

FY2001

903 Pad Rad removal
- Excavate americium zone, lip area, and pad area

FY2002

903 Pad Rad Removal
- Continue excavating americium zone, lip area, and pad area

Evaluate status/sufficiency of data at the end of FY 1998 and 1999 to determine if 903 pad remediation should move forward.

NOTE: This schedule assumes the remediation technology will be excavation. In fact, 903 pad characterization is in progress, and a final remediation approach has not formally been agreed to.

Memorandum of Understanding Between the Rocky Flats Citizen Advisory Board and the Rocky Flats Soil Action Level Oversight Panel

Regarding Review of the Interim Soil Action Levels for the Cleanup of the Rocky Flats Environmental Technology Site

This agreement is made and executed this ___ day of _____, 1998, by and between the Rocky Flats Citizens Advisory Board ("CAB") and the Rocky Flats Soil Action Level Oversight Panel ("RFSALOP").

RECITALS

WHEREAS, stakeholders are concerned about achieving the safest level of cleanup of contaminated soils at Rocky Flats and that the current "interim soil action level" cleanup standards merit a review by a scientifically-based independent panel, and;

WHEREAS, the CAB, because of its long-standing and beneficial role in promoting public education regarding the Rocky Flats Environmental Technology Site and its status as a DOE-designated Citizen Advisory Board grantee, is an appropriate organization to serve as a grant requesting agency and fiscal vehicle for the administration of U.S. DOE monies required to assist the Rocky Flats Soil Action Level Oversight Panel.

WHEREAS, The Rocky Flats Soil Action Level Oversight Panel Committee, as a community-based and independently established ad-hoc group, has requested that the CAB serve as the grant requesting agency for financial administration of the DOE monies to be used for the review of the interim soil action levels proposed by the RFCA principals for the clean up of Rocky Flats, and;

WHEREAS, the U.S Department of Energy believes that the CAB is an appropriate fiscal vehicle for administration of the grant and that the Rocky Flats Soil Action Level Oversight Panel will be the primary organization to provide overall guidance in achieving the policy and technical purposes of the grant, and;

NOW, THEREFORE, In consideration of the premises and provisions hereof, the parties agree to this memorandum of understanding to delineate the roles and responsibilities of the CAB and the Rocky Flats Soil Action Level Oversight Panel, as follows:

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1. CAB Responsibilities:

The CAB will make the grant request and be the grant administering agency to be awarded by the U.S. DOE Grant on behalf of the RFSALOP. The CAB application will include the following elements:

a. Funds identified for the Rocky Flats Soil Action Level Technical review as defined in detail in the Scope of Work (Exhibit A).

b. Funds identified for operating expenses and oversight support such as meeting notices, meeting facilitation, securing meeting locations and other normal public outreach functions (See Exhibit B).

c. Contractors, travel and lodging costs, if contract personnel have to travel to Denver from outside the Denver Metro area.

d. Miscellaneous grant administration duties: including funds pass through requirements , accounting duties, legal duties, periodic reporting and audit duties, per DOE requirements.

2. Oversight Panel Responsibilities

The Oversight panel will provide independent oversight and decision-making authority regarding implementation of the scope of work, selection of the scientific contractor, selection of the public participation contractor, oversight of the project, and completion of the final report and its distribution to RFCA decision-makers.

3. Coordination between CAB and RFSALOP

a. The Executive Director of the CAB will serve as the liaison with the oversight panel and is empowered to approve project activities in consultation with the panel.

b. The Oversight panel will develop the line items for provision of technical services and public outreach and, in consultation with the Executive Director of the CAB, submit these elements to DOE as part of the Grant request.

4. Grant Request

The requested grant amount is anticipated to be $500,000. The CAB Executive Director and the RFSALOB shall cocperatively determine the exact amount of the grant request.

IN WITNES WHEREOF, the parties have caused this agreement to be duly executed on the _____ day of _____, 1998.

SOIL ACTION LEVEL OVERSIGHT PANEL

BY_____
Co-chair: Council member Hank Stovall, City of Broomfield

BY_____
Co-Chair: Mary Harlow, City of Westminster

CITIZENS ADVISORY BOARD

BY_____
Tom Marshall, Chairman, CAB

BY_____
Ken Korkia, Executive Director, CAB

PRESENT PLANNING SCHEDULE FOR 903 PAD

903 Pad, Lip Area, & Associated Soils

REC'D J. LEGARE

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That's why we asked what RFP

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~~223~~

Department of Energy

ROCKY FLATS FIELD OFFICE
P.O. BOX 928
GOLDEN, COLORADO 80402-0928

MAR - 5 1998

98-DOE-03320

The Honorable Hank Stovall
City of Broomfield
One DesCombes Drive
Broomfield, CO 80020

Mary Harlow
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6777 West 88th
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Sincerely,

Jessie Roberson

Jessie M. Roberson
Manager

cc:
J. Legare, AMEC, RFFO

4/9/98
Session

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ROCKY FLATS - SAL MEETING APRIL 9, 1998

Name	Affiliation	Phone/Fax
1. HANK STOVALL	CITY OF BROOMFIELD	466-5986 469-8554
2. Tom Davidson	City of Louisville	966-2239 966-4048
3. JOEL SELBIN	UCD Chemistry	444-7341 556-4778
4. Dean Heil	CSU	970-491-6516
5. TODD MARGULIES	TM Consulting	303 279-6698
6. LeRoy Moore	RMPJC	303-444-6981 Fax 444-6523
7. Carol Lynn	City of Arvada	
8. BOB KANICK	RFCAB	444-0049/ 444-0072
9. KEN STARK	JEFFCO DEPT HEALTH + ENV	271-5714/ 271-5702
10. Joe Goldfield		321-7276
11. Mary Harlow	City of Westminster	
12. Steve Anderson	CDPHE	692-3367
13. Jim Rehder	EPA	312 6293
14. VICTOR HOLM	RFCAB	989-9086
15. Steve Slaten	DOE	966-4839
16. Ken Korkia	RFCAB staff	420-7855 420-7579
17. KATHY SCHNOOR	CITY OF BROOMFIELD	438-6363 438-6234
18. Dave Shelton	Kaiser-Hill	966-9877 966-5001
19. Brady Wilson	CAB staff	420-7855 420-7579
20. Carl Spreng	CDPHE	692-3358 759-5355

F-A-X M-E-M-O-R-A-N-D-U-M

TO: DISTRIBUTION

FROM: MARY HARLOW AND HANK STOVALL, CO-CHAIRS

SUBJECT: MEETING REMINDER FOR APRIL 9, 1998-**REVISED**

DATE: APRIL 6, 1998

There will be a meeting **THURSDAY, APRIL 9, 1998, 4:00-6:20 PM.**

PLEASE NOTE THE CHANGE IN MEETING LOCATION:

Broomfield Senior Center-Lakeshore II Room. (The Broomfield Recreation/Senior Center is located immediately East of the Broomfield Municipal Center. The Senior Center entrance is South of the Main Recreation Center Entrance)

REVISED AGENDA

- 4:00 Introductions
- 4:05 Co-chairs Update
- 4:15 RFP Process
  - EPA
  - DOE
  - Board Discussion
- 4:45 Draft Administrative Services Contract
- 5:15 Selection Process for Administrative Services
- 5:25 Facilitator Contract
- 5:40 Public Comment
- 5:50 Other Topics/Future Agenda Items/Action Items
- 5:55 Next Meeting: April 23, 1998- City of Arvada
- 6:00 Executive Session-(with Panel approval at the meeting) To discuss the relationship between the Actinide Migration Group and the RFSAL Oversight Panel
- 6:20 Adjourn

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F-A-X M-E-M-O-R-A-N-D-U-M

TO: DISTRIBUTION

FROM: MARY HARLOW AND HANK STOVALL, CO-CHAIRS

SUBJECT: MEETING REMINDER FOR APRIL 9, 1998-**REVISED**

DATE: APRIL 6, 1998

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PLEASE NOTE THE CHANGE IN MEETING LOCATION:

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REVISED AGENDA

- 4:00 Introductions
- 4:05 Co-chairs Update
- 4:15 RFP Process
  - EPA RFP process
  - DOE process - Grant Admin only - quick turn around
    - give $
    - DOE hands-off
    - grant recipient has reporting requirements
  - Board Discussion
- 4:45 Draft Administrative Services Contract
- 5:15 Selection Process for Administrative Services
- 5:25 Facilitator Contract
- 5:40 Public Comment
- 5:50 Other Topics/Future Agenda Items/Action Items
- 5:55 Next Meeting: April 23, 1998- City of Arvada 4:00 – 7:00 PM
  May 14th in Broomfield 4:00-7:00 PM
- 6:00 Executive Session-(with Panel approval at the meeting) To discuss the relationship between the Actinide Migration Group and the RFSAL Oversight Panel
- 6:20 Adjourn

DRAFT

REQUEST FOR PROPOSALS TO PROVIDE ADMINISTRATIVE SUPPORT SERVICES TO THE ROCKY FLATS SOIL ACTION LEVEL OVERSIGHT PANEL

A. **Purpose**
The Rocky Flats Soil Action Level Oversight Panel (RSALOP) was organized to obtain an independent, scientific review of the interim Soil Action Levels set at the Rocky Flats Environmental Technology Site. The RSALOP will meet over the next year to oversee this review. The organization desires to contract with a firm to provide administrative and secretarial services for the duration of the review.

B. **Issuing Organization**
This request for proposals is being issued by the Rocky Flats Citizen Advisory Board (RFCAB) which is acting as the contracting entity for the Oversight Panel. Any inquires regarding this RFP should be addressed to? Proposals should be sent to Ken Korkia, Hank Stovall

C. **Duration of Contract**
The contract period will be one year from the date of contract signing unless canceled earlier by the RFCAB. Reason for cancellation (1) instruction from the Oversight Panel (2) the oversight panel is no longer in existence. Such cancellation will be with thirty (30) days notice .

Scope

Work Sessions - 18 meetings
The contract will be based on payment for hours actually worked and materials used in the course of the work. Materials will be billed at actual cost incurred plus an add-on. The contract will specify the amount for direct costs.

The scope of projected work will consist of the following:

1. Record of Meetings: The contractor will provide equipment for and tape record the complete proceedings of the work sessions. These tapes will be stored until the end of the project when they will be returned to the RFCAB for archiving.

2. Minutes of the meetings will be prepared covering the major points of discussion, and all motions and decisions. Any available notes, outlines or view-graphs from formal presentations made to the panel will be included in the minutes

3. Approximately one week before a scheduled meeting, the contractor, working with the steering committee will collect, copy and mail to each member a packet consisting of a notice of the meeting, an agenda, draft copies of any motions, letters or other business to be decided at the meeting and any other material deemed appropriate by the steering committee.

4. Act as a clearing center for communications to panel members to include distribution of faxes and -mail, mailing of materials, and phone messaging.

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5. Other administrative duties may be required from time to time beyond the specific scope items.

6. Consultant will be required to meet for consultative purposes with project managers and Steering Committee of RSALOP once or twice per month.

7. The bidder will handle travel arrangements needed during the consultant selection and review process

Public Meetings - 3

Three public meetings are anticipated. The contractor will be expected to prepare, under the direction of the RSALOP, printed materials for these meetings. A mailing of approximately five hundred invitations is anticipated.

1. Contractor will arrange for meeting space and prepare materials for the public meetings.

D. Equipment Requirement

The bidder will have access to the following types of equipment:

1. Computer with word processing capability.
2. Facilities to send and receive e-mail.
3. A fax machine
4. A scanner capable of scanning documents and graphics.
5. A copier machine capable of making up to several thousand copies per month.
6. A telephone with voice messaging.

E. Schedule of Activities:

RFP mailed to prospective bidders	May 1, 1998
Mandatory bidders meeting	May 8, 1998 10:00 a.m.
Proposal submission dealine	May 15, 1998
Bid selection	May 22, 1998
Contract finalized and start of work	June 1, 1998

F. Content of Proposal:

At a minimum the proposal must address the following:

1. Statement of qualifications including reference to past experience with similar work.
2. Three references.
3. Statement of capacity to accomplish the work, staff experience/education.
4. Current project workload.
5. Statement of how you would accomplish the work
6. Project Management - statement on quality control factors, assignment of staff responsibilities
7. Description of the accounting system to be used for tracking costs and preparing itemized statements for billing of services to RFCAB.
8. Description and age of equipment to be used to perform work functions.
9. A statement of the fully burdened hourly rates including provision for profit for the various types of work proposed.

10. The add on or overhead rate for materials purchased.
11. The terms of payment.

G. Selection Criteria and Process
Proposals will be reviewed by the Executive Committee of the RSALOP with Ken Korkia of the RFCAB serving as a member of the selection Committee. A proposal may be accepted as submitted by the selection committee or it may elect to negotiate with one or more proposers.

Selection Criteria:
Proposals will be evaluated on the basis of the content proposal.

Evaluation Criteria
Specific Proposal Scoring Criteria.
The following point system will be used in scoring the proposals. Points listed are maximum in each category. Proposers will submit three (3) copies of proposals.

50%

1. Statement of qualifications including reference to past experience with similar work. (10 pts)
2. Three references with previous client satisfaction statements .(5 pts)
3. Statement of capacity to accomplish the work, staff experience/education. (10pts)
4. Current project workload.(5 pts)
5. Statement of how you would accomplish the work (15)
6. Project Management - statement on quality control factors, assignment of staff responsibilities. (15)
7. Description of the accounting system to be used for tracking costs and preparing itemized statements for billing of services to RFCAB. (10)
8. Description and age of equipment to be used to perform work functions. (5)
9. A statement of the fully burdened hourly rates including provision for profit for the various type of work performed. (10)
10. The add on or overhead rate for materials purchased. (10)
11. The terms of payment.

50% hourly rate

H. Selection for Negotiation. The review team will review and evaluate all proposals using the criteria described above. The review team reserves the right to reject any or all proposals at its sole discretion.

I. Notification Ken Korkia (RFCAB), member of the review team will notify those proposers who are selected for negotiation or interview. All proposers who are not selected will be notified in writing.

Negotiations and Interviews The selection team may elect to conduct negotiations or interviews either sequentially or simultaneously with all proposers selected. Concepts and ideas developed by any proposer's or during negotiations may be discussed with all proposers, However, each proposer's documents and pricing will be held in confidence by the Review Team to the extent allowed under law applicable to recipients of federal grants.

J.Disposition of Proposals. Submitted proposals shall not be returned and shall become the property of the RFCAB.

TECHNICAL

1. Corporate Technical Experience (20 points)

The offerors technical proposal shall clearly demonstrate the corporate technical experience in litigation support, both in pre-trial investigations and information gathering, as well as in trial support experience. In addition, pertinent contracts and projects should be cited. Information for the prime contractor and for each subcontract team member, if any, should be addressed in each technical criteria.

2. Technical Approach (75 points)

The offeror shall clearly demonstrate the ability to conduct the technical work activities to be performed under this contract through the performance of recent contracts of similar scope. This shall include demonstrated ability to perform the tasks outlined in the SOW for each of the following areas:

a)	development of evidence of potential liability	(10)
b)	comprehensive reviews of business records and financial analyses	(5)
c)	conducting interviews and investigations	(10)
d)	title searches	(10)
e)	data management, document storage and retrieval	(5)
f)	negotiation support	(10)
g)	cost recovery support	(5)
h)	workplan evaluation and verification	(5)
i)	provide qualified experts	(5)
j)	community relations	(5)
k)	other EPA support	(5)

MANAGEMENT

1. Corporate Management Experience (20 points)

The offeror's management experience and capability should include a demonstration of corporate experience and capability to undertake and effectively manage both the technical and financial aspects of managing a multi-disciplined service contract of highly skilled interdisciplinary teams performing in numerous locations. Provide experience under recent contracts of comparable scope and complexity to that specified in this solicitation. Demonstrate successful management of projects requiring quick start-up and short turnaround deadlines. The offeror's management experience and capability should include a demonstration of corporate experience and capability in the areas of: cost control/schedule control; operation and system design; case/project analysis; and, records management. The proposal should include examples of past experience of problem identification and resolution. The offeror shall include the following information on specific, relevant contracts:

-title, contract number and client
-client Project Officer's name and telephone number
-abstract
-total funding and level of subcontracting (list major subcontractors)
-period of performance
-name and current telephone number of clients' technical project officer(s)
-management structure
-financial tracking
-workplan
-methodologies
-any accomplishments or controversial issues that arose during the course of the contract

2. Management Plan (35 points)

a) Lines of Authority and Communication (5)

The offeror's management plan should clearly detail the lines of authority and communication between staff and management.

b) Problem Resolution (5)

The management plan should detail how the management structure will identify and resolve potential problems that might arise during mobilization and during contract performance and their responsiveness to meeting changing needs, including procedures that will be used to resolve conflicts on a short turnaround basis. The offeror should also demonstrate the commitment of the corporate management of the subcontractor(s) to the contract and to problem identification and resolution.

c) Financial Management (5)

The management plan should detail how the offeror will monitor and insure that the actual mobilization costs incurred during contract performance do not exceed the estimated mobilization costs contained in the offeror's cost proposal.

The proposal should describe the management approach for monitoring and insuring that team subcontractors, if any, submit invoices in accordance with Section G of the RFP.

d) Cost Forecasting and Tracking (5)

The proposal should detail the cost forecasting and tracking efforts associated with the mobilization requirement, including relocation of key personnel. The proposal should demonstrate the approach for insuring that the monthly report will reflect up-to-date information including consideration of monthly billing cycles and accuracy of cost projections.

e) Quality Assurance Program Plan (5)

The proposal should include the quality assurance program plan described in Section L for insuring that documents prepared by the offeror (both for program and project purposes) are complete, accurate and delivered on time.

f) Organization Plan (5)

The proposal must state whether the offeror will maintain an office within 50 miles of the Regional office or whether the office for performing this contract will be located elsewhere. The proposal should identify location of the corporate headquarters, regional offices and other offices The offeror's proposal should provide appropriate organization charts showing the overall organization of your firm and subcontractors, the proposed project organization showing the names and positions of personnel to be assigned to the contract work, and indicating how the proposed project organization relative to your home office organization will function, including a discussion of management talent and procedures to be applied to assure successful completion of work. The proposal must identify which personnel will be located in the Denver office, if proposed, and identify the personnel located elsewhere.

g) Mobilization Plan (5)

The offeror's proposal should describe the mobilization plan for personnel staffing and relocation. (Number of in-house personnel, number of new hires, number of relocations.) The offeror's proposal should describe the procedures that will be employed to provide the required personnel to perform the work assignments issued under the contract and the procedures to insure that during contract performance any personnel no longer available for this contract will be replaced by qualified and quality personnel.

REPORTS FUNCTION (5 Points)

The proposal should describe the offeror's systems approach and personnel, including team subcontractor(s), if any, proposed for maintaining a data base for reports that can deliver the financial, management, technical and administrative reports specified in Section F and Section G.

PERSONNEL (45 Points)

1. Labor Mix Matrix (20)

Provide a matrix by task of labor categories and the proposed labor mix. Demonstrate how the mix conforms with and substantiates the technical approach.

2. Technical Key Personnel (5)

The offeror should identify the technical key personnel responsible for potentially responsible party searches, negotiation support, expert/litigation support, and cost recovery support. The proposal should demonstrate the ability of technical key personnel to direct the technical staff and ensure that the technical staff personnel provide quality work.

The proposal should describe the demonstrated ability of the proposed technical key personnel. The proposal should provide as an attachment a resume for each of the key personnel named on the project organization chart. The resumes should clearly show: proposed job title; academic qualifications and dates thereof; complete experience record showing title and specific duties, responsibilities, and assignments by years; beginning with the present and working backwards; indicate what positions were held; and, indicate fully the responsibilities the key personnel had in connection with any projects relevant to this statement of work.

The proposal should demonstrate the technical key personnel's relevant experience and working understanding, including both the technical and practical aspects, of the Resource Conservation and Recovery Act (RCRA), Clean Water Act, Clean Air Act, Toxic Substances Control Act and the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) (Superfund), as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA).

3. Technical Staff Personnel (5)

The technical staff personnel is defined as professionals other than technical key personnel, including mid to junior level professionals that will perform the day-to-day tasks required by work assignments.

Resumes for technical staff personnel should be provided as attachments to this section and should clearly show: proposed job title; academic qualifications and dates thereof; complete experience record showing title and specific duties, responsibilities, and assignments by years, beginning with the present and working backwards; indicate what positions were held; and, indicate fully the functions the technical personnel had in connection with any projects relevant to this statement of work.

4. Management Key Personnel (5)

The proposal should describe the demonstrated ability of the proposed key management personnel that will manage and coordinate the activities of both the multi-disciplined technical key personnel, technical staff and the reports function staff.

The proposal should provide as an attachment a resume for each of the key personnel named on the project organization chart. The resumes should clearly show: proposed job title; academic qualifications worthy of rating; complete experience record showing title and specific duties, responsibilities, and assignments by years, beginning with the present and working backwards; indicate

what positions were held; and, indicate fully the responsibilities the key personnel had in connection with any projects relevant to this statement of work.

The proposal should describe the demonstrated ability of the proposed key management personnel to manage cost control and schedule control.

5. Reports Function Key Personnel (5)

The proposal should describe the quality, and demonstrate ability of the proposed reports function key personnel to provide the invoices and reports specified in Sections F and G of the RFP. The proposal should provide as an attachment a resume for each of the key personnel named on the project organization chart. The resumes should clearly show: proposed job title; academic qualifications and dates thereof; special qualifications worthy of rating; complete experience record showing title and specific duties, responsibilities, and assignments by years, beginning with the present and working backwards; indicate what positions were held; and, indicate fully the responsibilities the key personnel had in connection with any project relevant to this statement of work.

6. Availability of Key Personnel (5)

The proposal should address the availability of the proposed key personnel and the percentage of time allotted for the proposed key personnel to work under this contract. The proposal should include a commitment letter for each key personnel which includes direct salary, relocation costs to be paid by the offeror to the individual, percentage of time available to perform under this contract and date available to start performing under this contract and any contingencies.

(b) Cost or pricing proposal instructions.

Your cost or price proposal shall be specific, complete in every detail, and separate from your technical proposal.

(1) General - Submit cost or pricing data on SF 1411, Contract Pricing Proposal Cover Sheet, prepared in accordance with FAR 15.804 and the following:

(i) Clearly identify separate cost or pricing data associated with any:

(A) Options to extend the term of the contract;

(B) Options for the Government to order incremental quantities; and/or

(C) Major tasks, if required by the special instructions.

You may indicate the above cost or price detailed data in narrative form or on a spread sheet, provided that all cost or pricing data is adequately and clearly described. Place recap/summary information on the SF 1411.

(ii) Clearly identify all costs and data in support of the proposed cost/price.

(iii) Submit a current financial statement, including a balance sheet and a statement of profit and loss for the last completed fiscal year. Specify resources available to perform the contract without assistance from any outside source. If sufficient resources are not available, indicate in your proposal the amount required and the anticipated source (i.e., bank loans, letter or lines of credit, etc.).

(iv) If other divisions, subsidiaries, a parent or affiliated companies will perform work or furnish materials under this proposed contract, please provide the name and location of such affiliate and your intercompany pricing policy.

(v) If the contract schedule includes a "Fixed Rates for Services" clause, please provide in your cost proposal a schedule duplicating the format in the clause and include your proposed fixed hourly rates per labor category for the base and any optional contract periods.

(vi) If the contract includes the clause at EPAAR 1552.232-73 "Payments--Fixed-Rate Services Contract," or the clause at FAR 52.232-7 "Payments Under Time and Materials and Labor Hour Contracts," include in your cost proposal any burden rate you will apply to materials, other direct costs, or subcontracts. The Government will include the burden factor as part of its cost proposal evaluation.

(2) Direct Labor.

(i) Attach support schedules indicating types or categories of labor together with labor hours for each category, indicating rate of compensation. Indicate the method used in computing the labor rate. If individual labor rates are proposed, give employee names.

(ii) Indicate whether current rates or escalated rates are used. If escalation is included, state the degree (percent) and methodology.

(iii) State whether any additional direct labor (new hires) will be required during the performance period of this acquisition. If so, state the number required.

(iv) With respect to educational institutions, include the following information for those professional staff members whose salary is expected to be covered by a stipulated salary support agreement pursuant to OMB Circular A-21.

(A) Individual's name;

(B) Annual salary and the period for which the salary is applicable;

(C) List of other research projects or proposals for which salary is allocated, and the proportionate time charged to each; and

(D) Other duties, such as teaching assignments, administrative assignments, and other institutional activities. Show the proportionate time charged to each.

(3) Indirect costs (overhead, general, and administrative expenses).

Unless your proposed indirect rate(s) have recently been accepted by a contracting agency of the Government, provide detailed supporting computations. These computations may include historical as well as budgeted data. Indicate whether your computations are based upon historical or projected data.

(4) Travel expense.

Attach a schedule illustrating how travel was computed.

(5) Consultant service.

Identify the contemplated consultants. State the amount of service estimated to be required and the consultant's quoted daily or hourly rate.

(6) When the cost of a subcontract is substantial (25 percent of the estimated contract value or $10,000, whichever is less), include details of subcontract costs in the same format as the prime Contractor's costs.

(7) Other direct costs.

Attach a schedule illustrating how other direct costs were computed.

(c) Facilities and special equipment, including tooling.

(1) If special purpose facilities or equipment is being proposed, provide a description of the items, details of the proposed cost including competitive prices, and a justification as to why the Government should furnish the equipment or allow its purchase with contract funds.

(2) If fabrication by the prime Contractor is contemplated, include details of material, labor, and overhead.

(3) Identify Government-owned property in the possession of the

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offeror or proposed to be used in the performance of the contract, and the Government agency which has cognizance over the property.

L.15 ADDITIONAL REPRESENTATIONS, CERTIFICATIONS, AND STATEMENTS OF OFFERORS WHOSE PROPOSALS ARE IN THE COMPETITIVE RANGE (EPAAR 1552.215-75) (APR 1984)

An offeror whose proposal is determined to be within the competitive range will be requested to:

(a) Certify the validity of all General Financial and Organizational Information (GFOI) currently on file at EPA;

(b) Update all outdated GFOI on file at EPA; or

(c) Provide all GFOI which may be required and which has not been previously provided.

L.16 TECHNICAL QUESTIONS (EP52.215-110) (APR 1984)

Offerors must submit all technical questions concerning this solicitation in writing to the contract specialist. EPA must receive the questions no later than 15 calendar days after the date of this solicitation. EPA will answer questions which may affect offers in an amendment to the solicitation. EPA will not reference the source of the questions.

L.17 RELEASE OF COST OR PRICING PROPOSALS OUTSIDE THE GOVERNMENT FOR AUDIT (EP52.215-115) (MAR 1989)

Cost or pricing proposals submitted in response to this solicitation may be released outside the Government for audit purposes regardless of whether information contained in such proposals has been claimed or determined to be business confidential. If an outside audit is obtained, the non-Government auditor shall use the information only for audit purposes; shall not disclose any information in the proposals to anyone other than authorized EPA employees without the prior written approval of the Assistant General Counsel responsible for information law matters; and shall return all copies of proposals, as well as any abstracts, to the Government upon completion of the audit. The non-Government auditor shall obtain a written agreement from each of its employees with access to the proposals to honor these limitations prior to allowing the employee access.

PROPOSED TECHNICAL EVALUATION STRATEGY -

The program recommends that the following process be utilized to quickly and efficiently evaluate the qualifications of Offerors under this procurement:

I. WRITTEN PROPOSAL

Written proposals should consist of four sections: Management Approach, Key Personnel, Corporate Experience, and Past Performance, which are each linked to the corresponding evaluation criteria detailed in provision M.3 of this RFP. Further detail on the format and content of the requested information is discussed below.

A. GENERAL INSTRUCTIONS

The written technical proposals shall be prepared using the following guidance:

1. Length

The maximum length of the written technical proposals shall be limited to 50 typewritten pages (25 double sided pages; anything in excess of 50 typewritten pages will not be considered) on 81/2" x 11" paper, using no less than 10 point character size and no less than an average of 3/4" all around for margins. The following items are excluded from the above stated page limitation: letters of transmittal, cover page, table-of-contents, dividers, and briefing charts (maximum 20 pages of charts) to be used in the sample work assignment segment of the oral presentation. Resumes and Past Performance Questionnaires are not excluded from the above stated 50 page limitation. Foldout pages are considered as the total number of 8-1/2 by 11 inch pages or fractions thereof that they fit. Offerors are strongly urged to be as succinct, clear and concise as possible in writing the proposal and adhering to the recommended page limitation.

2. Organization

Offerors are advised to supply all information in the sequence and format specified below. The Offeror's proposal and supporting documentation must provide a sufficient basis for a thorough evaluation of the proposal and provide the information needed to evaluate the proposal in accordance with the evaluation factors set forth in Provision M.3. It is suggested that proposals be placed in binders with dividers clearly indicating the following sections:

a. Management Approach
b. Key Personnel
c. Corporate Experience
d. Past Performance

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3. Charts

In the written proposal, offerors are encouraged to use quantitative and graphical methods to portray facts whenever possible, through the use of charts, lists, matrices, diagrams, tabulations, etc. These charts are not excluded from the page limitation.

4. Prohibition of Cost Data

All costs or pricing details must be omitted from the technical proposal.

5. Exceptions

Any exceptions or conditional assumptions taken with respect to the requirements of this RFP shall be fully explained in the proposal. Please note, however, that exceptions or deviations may render your proposal ineligible for an award without discussions.

B. REQUIRED SECTIONS OF THE WRITTEN TECHNICAL PROPOSAL

1. Management Approach

Offerors shall describe their approach to planning, organizing, and carrying out contract activities as presented in the SOW, so as to ensure effective, efficient, timely, and responsive support. This shall include their description of a proposed management plan, including subcontractors. Offerors shall discuss how they plan to effectively meet the requirements of the contract through the roles and responsibilities of their team members, and through lines of authority and communication within the organization, their ability to integrate the complex tasks of the SOW and oversee their concurrent implementation, and their ability to resolve potential problems arising during contract performance. Offerors should demonstrate their ability to commit personnel and maintain a high degree of responsiveness to the periodic, unpredictable nature of activities associated with the SOW.

Offerors should submit a Labor Mix Matrix for the first year of the contract, demonstrating how they plan to distribute the level of effort among the prime and subcontracting team by P-Level. This matrix should reflect the mix of P - Level hours shown in the Cost Proposal Instructions, Attachment 4.

2. Key Personnel

a. Offerors shall provide resumes for the key personnel proposed in the "Key Personnel" clause (please see the instructions for filling out the solicitation in the Cost Proposal Instructions). The total number of proposed key personnel shall not exceed six (6) individuals.

b. Resumes shall demonstrate that proposed personnel possess the qualifications (i.e., the education and experience) stated in the Section (H) clause entitled "Definition of Labor Classifications" necessary to successfully manage and perform the Statement of Work (SOW). The discussion of key personnel experience shall include:

i. Program Manager - Offerors shall describe the proposed Program Manager's experience and capabilities, which must include organizing and managing large, complex contracts (including managing subcontractors and consultants) similar to the effort in this RFP, and who must have experience in the subject areas identified in the SOW. Please provide the contract title, contract number, project officer's name and current telephone number, contract dollar value and contract length in documenting the Program Manager's past experience. The proposed Program Manager must meet or exceed the minimum labor requirements for the P-4 Level in addition to the requirements stated above. One resume should be submitted for this position.

ii. Project Leaders and Work Assignment Project Managers - Offerors shall describe the experience and capabilities of discipline-specific Project Leaders and Work Assignment Project Managers proposed to support the SOW. No P-Levels are specified for this category. Up to five resumes may be submitted for these positions.

3. Corporate Experience

Offerors shall describe their corporate experience (including subcontractors and affiliates) in providing services that are the same or similar to Tasks 1-11 of the SOW included in Section C. Specifically, offerors shall submit a list of all contracts and subcontracts currently in process, or completed within the past three years, which are similar in nature to this requirement. Contracts listed may include those entered into with federal, state, or local governments, and commercial businesses. Specifically, the Offeror (including all proposed team subcontractors) shall provide the following information for each contract/subcontract listed:

a. name of contracting activity/commercial business;
b. contract title and number;
c. contract type and total contract/subcontract value;
d. brief description of contract/subcontract and the areas or fields of expertise involved;
e. period of performance.
f. any affiliation between offeror and client

This list should demonstrate the Offeror's (including prime contractor, team subcontractors and consultants) experience in managing multi-tasked and multi-disciplinary contracts that are similar to the scope, dollar amount and complexity of this requirement. The Offeror should also demonstrate their experience in resolving problems similar in nature to those expected under this contract.

4. Past Performance

a. Past Performance Questionnaires

i. In addition to the list of corporate experience required above, the Offeror (and all team subcontractors with a proposed subcontract value in excess of $1 million) shall also complete Part A of the Past Performance Questionnaire (Attachment 3) for any previous and/or current contract and/or subcontract work that the Offeror determines is directly related to the requirements under this RFP. Offerors should submit one form for each client or reference for whom they have performed work similar in scope to the requirements in the SOW for this RFP. Multiple Project Summaries describing work performed for the same client under the same contract should be included on the same questionnaire form. Questionnaire forms will count toward the 50-page limit of the Offeror's written proposal.

ii. Offerors should not provide general information concerning their performance on the identified contracts. General performance information will be obtained from the references. Offerors may describe any quality awards or certifications that indicate the Offeror possesses a high-quality process for developing and producing the products or services required. Such awards or certifications include, for example, the Malcolm Baldrige Quality Award, Government quality awards/recognition, and private sector awards or certifications. If not bestowed upon the entire company, identify the segment or division of the company that received the award and/or certification. If the award or certification is more than three (3) years old, present evidence that qualifications still apply.

iii. Offerors shall inform all individuals identified above that EPA Officials will be inquiring into the Offeror's past performance. Offerors should use the "Client Authorization Letter" (Attachment 2), for this purpose. These individuals shall be notified prior to the submittal of this portion of the proposal.

iv. Past Performance information will be used for both responsibility determinations and as an evaluation factor against which Offeror's relative rankings will be compared to assure the best value to the Government. The Government will focus on information that demonstrates quality of performance relative to the size, complexity, and nature of the procurement under consideration. The "Past Performance Questionnaire" (Attachment 3), will be used to collect this information. References other than those identified by the Offeror on the Past Performance Questionnaires may be contacted by the Government and used in the evaluation of the Offeror's past performance.

v. If no responses are received from a reference, the Government will attempt to contact another reference identified by the Offeror, contact a reference not identified by the Offeror, or complete the evaluation with those references who responded. Attempts to obtain responses from a reference will generally not go beyond two telephonic or written messages. The Government is not obligated to contact all references identified by the Offeror.

vi. Feedback received from references will be compared to each other to note differences and similarities, and the past performance evaluation will be based

on all information obtained. Negative responses will only be disclosed to an offeror if discussion are held. Under no circumstances will the individual names of responding references be disclosed.

b. Past Performance Summary

Offerors should prepare a summary statement of the information contained in their Past Performance Questionnaires that discusses how the information provided relates to the subject SOW and the Offeror's overall approach to supporting EPA under this contract. This narrative, which is subject to the 50 page limitation on written proposals, should outline the highlights of the Offeror's previous experience and their overall qualifications for effectively meeting the requirements of the SOW.

II. ORAL PRESENTATIONS TO THE GOVERNMENT

A. GENERAL

Offerors shall demonstrate and present their technical knowledge concerning the SOW, and approach to addressing the issues identified in the "Sample Work Assignments" (Attachment 1), through oral presentations. In addition to the oral presentation on the sample work assignments, the offerors will be asked a series of questions (all offerors will be asked the same questions) related to other areas of the SOW in order to demonstrate their understanding of the SOW and technical expertise relevant to the SOW. The purpose of the oral presentation will be to obtain information to assess the offerors' understanding of the requirements of the SOW, their knowledge and expertise in performing the tasks identified in the SOW, and their proposed key personnel's expertise and knowledge. Only the key personnel specifically identified in the written proposal will be allowed to participate in the Oral Presentations.

B. SCHEDULE FOR PRESENTATIONS

Presentations will be scheduled with offerors as soon as possible after the closing date for receipt of proposals. The order in which offerors will make their presentations to the Government will be determined by a drawing of lots by the Contracting Officer after receipt of written proposals. The presentations will be scheduled as closely together as possible. Once notified of their scheduled presentation date and time, offerors shall complete their presentations on the scheduled date and time. Requests from offerors to reschedule their presentations will not be entertained absent compelling reasons and no rescheduling of presentations will be allowed unless determined necessary by the Government to resolve unanticipated problems.

C. PLACE FOR PRESENTATIONS

Presentations shall be performed in person at EPA Region 9 Offices

D. VIDEOTAPING

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Presentations will be videotaped by the Government. Offerors will be provided a copy of the videotaped presentations if requested. Submission of videotapes or other forms of media containing the presentation are not authorized and such technical proposals shall be rejected.

E. PRESENTATION FORMAT

1. Presentations shall be made by the proposed Program Manager and up to four other members of the proposed Key Personnel staff as determined by the Offeror. Offerors will make their presentations to the EPA selection officials. The presentations must be complete, concise and clear.

2. Offerors shall demonstrate their technical knowledge and understanding of the SOW in presenting their approach to the two Sample Work Assignments (Attachment 1). The presentation shall address:

a. Major issues they identify concerning the work assignment;
b. Major milestones or activities for the SOW tasks and sub-tasks;
c. Estimated time frames/schedules to complete these major milestones or activities;
d. Decision points and responsible parties making the decision;
e. Contractor actions, EPA actions, actions by other parties; and,
f. Potential problems or bottlenecks to project completion and proposed solutions.

3. Offerors will be given a total of ninety (90) minutes, forty-five (45) minutes maximum for each sample work assignment, to make their presentation regarding the two sample Work Assignments. During each 45 minute presentation, offerors will address their technical approach to the sample work assignments, discussing the issues, processes, schedules, roles and responsibilities, potential problems and associated solutions for the work assignment. No exceptions to this time frame will be allowed, and presentations shall not exceed the allotted time. Offerors shall be limited to no more than 20 briefing charts for the entire 90 minute presentation. The briefing charts shall consist of black on clear transparencies (w/o borders or background design, logos, or figures) for use on an overhead projector. EPA will provide the overhead projector. Briefing charts should highlight information in the briefing, not provide a narrative of the briefing content. Offerors shall provide a copy of the briefing charts as an attachment to the technical proposal. Briefing charts submitted with the proposal must be photocopies of the view charts used during the oral presentation. Any substitution of charts will adversely affect the evaluation of the presentation. Offerors are responsible for providing a person to flip the view graph charts, if it will not be done by the briefer. The presenters may use name plates to identify themselves if desired, and the name plates will not count against the 20 chart limit. Offerors will also be allowed to write on a flip chart during both the 90 minute and 60 minute (described below) oral presentations to illustrate their points. EPA will provide the flip chart, flip chart paper, and black pen marker. Flip chart pages used during the oral presentation are not subject to the 50 page written proposal limit.

4. Following the 90 minute presentation on the Sample Work Assignments and any request for clarifications from the Government, offerors will be allowed a 15 minute break. Following the break, offerors will be given six written questions related to other areas of the SOW to answer orally. Offerors will be given sixty (60) minutes to prepare their responses and sixty (60) minutes to present them. Please note that the six questions are intended to be extremely difficult. Potentially, a team of qualified experts could spend days analyzing any one of the issues. The Government expects the offerors to discuss how they would resolve the issues, thereby demonstrating knowledge of all issues concerning identification of PRPs, acquisition and management of supporting information and evidence, elements of liability, applicable case law and statutes, and related program implementation issues.

5. Responses to the questions must be oral, but the team will have access to the Government supplied flip chart during preparation and may use the flip chart (again, black on white background) during the presentation as a visual aid. Offerors are welcome to bring written reference materials to the oral presentation to assist in preparing responses. Use of computers or telephones in preparing for the presentation will not be permitted.

6. Following each of the (ninety and sixty minute) presentations described above, the Government may request clarification of any points addressed which are unclear and may ask for explanation or substantiation by the Offeror on any point which was not adequately supported in the presentation. Any such interchange between the Offeror and the Government will be for the sole purpose of clarification only, and will not constitute discussions within the meaning of FAR 15.610. The Government intends to award a contract without discussions. If the Government determines that discussions and best and final offers (BAFO's) are necessary, Offerors will not be permitted to make any revisions to the oral presentation or to the answers given by the Offeror's team during the question and answer sessions in writing or otherwise.

7. **NO COST OR PRICING** information shall be included in the presentation.

III. TECHNICAL PROPOSAL CRITERIA

Proposals will be evaluated based on the information presented in the oral presentations and written proposals. Such information will demonstrate to the evaluators the offerors' qualifications in regard to the evaluation factors set forth below, which are to be evaluated and weighted in descending order of importance as follows:

Technical Expertise/Sample Work Assignments	30 pts
Key Personnel	25 pts
Past Performance	20 pts
Management Approach	15 pts
Corporate Experience	10 pts

The Technical Panel will utilize the standard rating criteria outlined in EPAAR 1516.6 and summarized below:

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0.0 The element is not addressed, or is totally deficient and without merit.

1.0 The element is addressed but contains deficiencies that can be corrected only by major or significant changes to relevant portions of the proposal.

2.0 Clarification is required. Final scoring of the element will be made following limited discussions with the buying panel.

3.0 The proposal element is adequate. Overall it meets specifications. However, comments will be made on any perceived weaknesses or on areas in which an offeror could improve.

3.5 The proposal is good with some very good features (intermediate merit).

4.0 The proposal is good with some superior features.

4.5 The proposal is very good with some superior features (intermediate merit).

5.0 The proposal is superior in most features.

Offerors will be evaluated based on both the oral presentations and written proposals, as explained below:

A. TECHNICAL EXPERTISE/SAMPLE WORK ASSIGNMENTS

The offerors' technical understanding, knowledge, capability and approach to meet the Statement of Work (SOW) requirements, which include Tasks 1-11 of the SOW, will be evaluated during the ninety and sixty minute oral presentations and as reflected in any materials and references used during the oral presentations. The offeror will be evaluated based on its presentation regarding the sample work assignments and its response to the six (6) questions related to the SOW, which will demonstrate its technical knowledge and understanding of the SOW. (See the Section L provision entitled "Instructions for the Preparation of Technical Proposals", part III "Oral Presentations to the Government.")

B. KEY PERSONNEL

The proposed key personnel will be evaluated against the minimum qualification requirements for education and relevant experience stated in the in the section H clause entitled "Definitions of Labor Classifications" and on the extent to which they possess the appropriate technical knowledge and expertise on the programs and issues described in the SOW. In addition, they will be evaluated on their experience in relevant project management, and possession of substantive, relevant knowledge within their respective subject areas. Within this evaluation category, the Program Manager, Project Leaders, and Work Assignment Project Managers are of equal importance to each other.

The Program Manager will be evaluated on his/her experience and capabilities in organizing and managing large, complex contracts (including management of subcontractors and consultants) similar to the effort in this RFP, and on experience in all of the subject areas identified in the SOW.

The Project Leaders and Work Assignment Project Managers will be evaluated on their experience and capabilities in their respective work areas.

The evaluation of Key Personnel will be based on the written proposal and the oral presentations.

C. **PAST PERFORMANCE**

Offerors' Past Performance will be evaluated based on the information presented on their Past Performance Questionnaire forms (Attachment 3), and on information obtained by the Government from contacting the references identified on those forms and/or on information obtained by the Government from other sources. Offerors' will be evaluated on previous customer satisfaction in areas including quality of performance, technical knowledge, timeliness of performance, cost control, performance of key personnel and overall satisfaction. Additionally, the relevance of the offeror's previous performance to the task areas of the Statement of Work will be considered as part of the past performance evaluation.

Offerors with no past performance history, whose past performance history is clearly not relevant, or for whom past performance data is not available, will be assigned a neutral rating for past performance. Note: If an Offeror does not submit the past performance information required, and EPA discovers that the Offeror, in fact, has relevant past performance history, the Offeror may be deemed ineligible for award.

D. **MANAGEMENT APPROACH**

Offerors will be evaluated on their approach to planning and organizing contract activities as presented in the SOW, including the management of subcontractors and the roles and responsibilities of key personnel. Offerors will be evaluated on the extent to which they can meet the requirements of the contract through clear lines of authority, communication and responsibility; their ability to integrate the complex tasks of the SOW and oversee their concurrent implementation; and their ability to resolve potential problems arising during contract performance. Offerors will be evaluated on their approach to commit personnel and maintain a high degree of responsiveness to the periodic, unpredictable nature of activities associated with the SOW. Offerors will be evaluated on their effective distribution of work between prime and subcontractors to adequately support the SOW. The evaluation of the management approach will be based on the written proposal and on information presented during the oral presentation.

E. **CORPORATE EXPERIENCE**

Offerors will be evaluated on their corporate experience in performing and managing work

similar in scope, dollar value, size, and complexity to the multi-tasked, multidisciplinary requirements specified in the SOW for CEPPO's national and international program, in integrating these interrelated tasks, in providing high quality products and services similar to those described in the SOW, and in performing these tasks concurrently and based on immediate or short lead time tasking. Offerors will be evaluated on their experience in resolving problems similar in nature to the ones expected to occur in the performance of this requirement. The evaluation of corporate experience will be based on the written proposal.

SAMPLE WORK ASSIGNMENT I

EPA has conducted a preliminary assessment/site investigation at the Workshop Notebook Site, 3 Saguaro Hill Road, Farm Township, Arizona. The Site was referred to EPA by the Town's Fire Marshall after his inspection initiated as a result of a report of vandalism at the property. The facility has been abandoned for several years, but was last believed to have been operated by a company which provided outreach and gave seminars and workshops for the unemployed. Tax bills are in the name of Workshop Notebook, and have been addressed to its former President, Homer Harrison. Workshop Notebook was incorporated in the State of Delaware. Both the County Assessor and Farm Township have ceased sending tax bills because the mail is returned by the post office with no forwarding address for Mr. Harrison. Taxes have not been paid for the last five years. The County has not taken the property, apparently due to its environmental condition.

EPA does not know at the present time what the extent of contamination is but suspects that the contamination may extend beyond the legal property boundary of 3 Saguaro Hill Road. There are several containers inside the buildings on Site, as well as buried drums throughout the Site. Labels on some of the drums list company names but no addresses. None of the constituents found on Site appear to be consistent with the business operations of Workshop Notebook.

Assume that the buried drums were the cause of the contamination at the Site. It was subsequently learned that some of the drums were generated by businesses that were proprietorships and the others by corporations. EPA must now locate, notify of potential liability, and determine the financial viability or non-viability of these business entities.

1) How would you locate Mr. Harrison (the right Mr. Harrison) and whether and where he is operating now?

2) How would you determine who owned and operated the Site prior to Workshop Notebook and where those companies are now?

3) How would you find out what became of Workshop Notebook and whether it is operating anywhere else?

4) How would you locate the companies listed on the drums, to include their current address, business form or structure, and the nature of those companies' operations?

5) How would you determine Site abutters (i.e. neighboring or adjacent businesses), and the nature of their operations?

6) How would you assess the financial viability of a proprietorship? A partnership? A corporation?

7) How would you establish which entities, if any are liable for performing or paying for the cleanup? List the entities you believe are or may be liable, why, the information which you have or need to acquire to support liability, and what steps you would take to acquire such information.

8) Are there any other PRPs that should be considered or investigated for this Site? What steps, if any, would you take to identify and build a liability case against these additional PRPSs?

SAMPLE WORK ASSIGNMENT II

EPA has been performing a remedial investigation, including installation of groundwater wells, soil sampling, and groundwater modeling in a large urban basin occupied by a mixture of residential and industrial areas. Groundwater has traditionally been the source of drinking water for approximately 600,000 residents and thousands of businesses within the basin. However, there is a large plume of contaminated groundwater, crossing several city boundaries, with widely varing concentrations of a variety of volatile organic compounds (VOCs), primarily trichloroethylene (TCE) and perchloroethylene (PCE). This plume has begun to contaminate the water wells which some of the municipalities within the basin rely upon, forcing closure of the affected wells. Concentrations of VOCs, which have been measured at a large number of monitoring and groundwater production wells, range between from 2 parts per billion to 12,300 ppb, and it appears that there are a number of hot spots or areas within the plume with high concentrations of VOCs. EPA has identified approximately 35 businesses which it believes, based upon historical operations, location, and soil contamination, are responsible for releases of VOCs which subsequently contaminated the groundwater, and has issued notice letters informing the companies of their potential liability for remediation costs.

EPA has finally put together a plan to clean up groundwater within the basin as well as to prevent further migration of the plume. EPA sent copies of the plan, together with notice letters, to the 35 potentially responsible parties (PRPs), inviting the PRPs to join together, either to implement EPA's plan, or to pay for EPA to perform the clean up. Representatives of the PRPs have come to a meeting with EPA, and have just told EPA that they have 175 large boxes of documents which clearly show that there are hundreds, if not thousands of other PRPs which are also responsible for the groundwater contamination. They inquire why they are being singled out, and what EPA proposes to do about the additional PRPs. EPA's attorney and site project manager have promised the businesses group a response, and have now come to you, their contractor, for assistance by issuing a work assignment to your firm calling for PRP search and negotiation support.

1. Identify the legal and factual issues which are raised by the PRP group's response.

2. Put together a plan of action to rescue the EPA from its quandary, designed to address the legal and factual issues identified in Question 1, above. Address such issues as: What, if anything, EPA should do with the information provided by the PRP group on additional PRPs; What, if anything, should EPA do to support, refute, test, or supplement the information provided; and what, if anything, should be done to expand knowledge of the basin so that both the PRP group and EPA are satisfied that a reasonably thorough PRP search has been done. Provide specific detail regarding all activities which you believe are appropriate.

QUESTIONS

1. Describe the activities you would undertake to determine and/or show whether a parent corporation is liable for the Superfund liabilities of a wholly owned subsidiary company.

2. Describe the circumstances and facts in which a successor corporation may be held liable for the acts or debts of a predecessor corporation.

3. Compare and contrast the theories of direct liability versus alter ego or "piercing the corporate veil."

4. Describe the methods and procedures you would undertake to determine whether a privately held corporation could afford to pay for all or part of a hazardous waste clean up which is anticipated to cost approximately $25 million. (Assume for this question that EPA was willing to use Section 104(e) of CERCLA to support your evaluation.)

5. Describe the system you would use to manage and control 20,000 to 30,000 documents during the course of negotiation and/or litigation. What system or systems would you use to track, retrieve, and sort documents so that the case team could search for and find documents quickly and easily.

6. Describe the process or steps you would follow in preparing a history of the corporate structure, changes in products made, raw materials used, and waste disposal practices, of a factory from the time it opened until the present, assuming that the factory was once an independent business and is now a branch plant of a large, multinational company.

PAST PERFORMANCE QUESTIONNAIRE

a. Name of Contractor:
b. Type of Contract:
c. Period of Performance:
d. # of Work Orders Issues to Date/Total (if applicable):
e. Total Invoiced Costs to Date:
f. Contract Number:
g. Contract Title:
h. Total Value of Contract
i. Total Incurred Costs to Date

Performance Ranking Criteria

0.0 The contractor performed in a totally deficient manner.
1.0 The contractor performed in a deficient manner which only could be corrected by major or significant actions on the part of the client
2.0 N/A
3.0 The contractor performed in an adequate manner. Overall, they met specifications.
3.5 The contractor performed well with some very good features (intermediate merit).
4.0 The contractor performed well with some superior features.
4.5 The contractor performed very well with some superior features (intermediate merit).
5.0 The contractor performed in a superior manner in most features.

Brief Description of the Enforcement Services Provided to the Client

Areas to be Evaluated:

1. Overall Quality of Enforcement Support Services Provided

2. Ability to Meet/Exceed Schedule Requirements

3. Effectiveness of Management of Projects/Subcontractors

4. Innovative Techniques/Procedures Utilized

5. Responsiveness to Technical Direction/Questions

6. Compliance with Cost Estimates/Budgets

7. Overall Customer Satisfaction

8. Remarks on outstanding performance:
(Provide data supporting this observation; you may continue on a separate sheet if needed.)

7. Remarks on unsatisfactory performance:
(Provide data supporting this observation; you may continue on a separate sheet if needed.)

8. Questionnaire completed by:
Title:
Date:

Technical Evaluation Panel Members

The Technical Evaluation Panel will consist of 3 members: The OAM Contracting Officer, Kathleen Engel, the Region 9 Superfund Division Project Officer for this contract, Angie Commisso, and the Region 9 Superfund Senior Civil Investigator, Clifford Davis. In addition, two other members of Region 9 have been instrumental in developing the requirements for this contract and will be available to act in an advisory capacity. They are: David Seter, Section Chief, Site Cleanup Branch and Jo Ann Asami, Senior Attorney, Office of Regional Counsel. Below is a brief description of the qualification of the Region 9 team.

Angie Commisso graduated from the University of Denver in 1981 with a Bachelor's Degree is Business Adminstration and worked in the finance industry for several years after graduation. She has 19 years Federal Government experience in various offices and agencies. During her tenure in Region 9, Angie administered Grants, Cooperative Agreements and Interagency Agreements, worked as a management analyst in the Region's Information Resources Management [illegible] and has worked for the Superfund Division for the last 3 years. Her contracts experience includes being a Project Officer and Deputy Project Officer with Region 9 Superfund contracts, working as a Delivery Order Project Officer on the Agency's Computer Contracts and [illegible] a Client Representative of GSA in administering their Information Technology Contracts at Region 9.

Clifford Davis graduated from the University of California, Santa Cruz, with a B.A. in Earth Sciences in [illegible]70. He subsequently was employed by the Internal Revenue Service for 15 years as a Revenue Officer in the Collection Division, tracing delinquent taxpayers and assets. During that time he completed an A.A. in Business. He has been employed as a Civil Investigator with the Superfund Division of EPA, Region 9 since July 1989, and has completed the Major requirements for a degree in accounting through evening classes at U.C. Berkeley Extension. He has been a work assignment manager for both TES and ESS. He has assisted in writing the Statement of Work for ESS as well as SES, and served on the Technical Evaluation Panel for the [illegible] procurement.

David [illegible]er graduated from Princeton University with a B.S. degree in Civil Engineering in [illegible] He has thirteen years of experience in the field of environmental protection as an engineer, project manager, and supervisor. He obtained his professional engineer's (PE) license in [illegible] the State of New Jersey. In 1987, he also joined EPA Region 3 as an Environmental Engineer in the Water Division. He joined EPA Region 9 in 1993 as a Remedial Project Manager for the San Fernando Valley Superfund Site. As a work assignment manager for EPA under the [illegible] contract, and as a project officer for Cooperative Agreements between EPA and the Los Angeles Department of Water and Power, and the Los Angeles Regional Water Quality Control Board, he has developed a strong understanding of contracting mechanisms. Through his work experience at EPA Regions 3 and 9, he has developed a strong understanding of enforcement mechanisms under the Safe Drinking Water Act (SDWA) and under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA).

ATTACHMENT E

TECHNICAL EVALUATION CRITERIA

TECHNICAL

1. Corporate Technical Experience (10 points)

Offerors will be evaluated on their demonstrated capability in litigation support, both in pre-trial investigations and information gathering, as well as in trial support.

"Capability" is defined as the offeror's demonstrated ability to:

Provide requested documentation and services in accordance with required schedules;
Provide documents that meet the client's needs;
Provide the resources necessary to accomplish assigned work within required schedules, and in a cost efficient manner; and
Manage complex assignments.

2. Technical Approach (43 points)

Offerors will be evaluated on their demonstrated capability in conducting the technical work activities required under this contract.

"Capability" is defined as the offeror's demonstrated ability to:

Provide requested documentation and services in accordance with required schedules;
Provide documents and services that meet the client's needs; and
Provide the resources necessary to accomplish assigned work within required schedules, and in a cost efficient manner.
Accomplish complex assignments.

Offerors will be evaluated for the tasks outlined in the statement of work for each of the following areas:

a. developing evidence of potential liability (7)

b. comprehensive reviews of business records; financial assessments (3)

c. on-line financial research (3)

d. conducting interviews and investigations (3)

e. title searches (3)

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f. data management, document storage and retrieval (3)

g. liability and viability analyses (3)

h. cost documentation (3)

i. negotiation document preparations (3)

j. settlement review (3)

k. workplan evaluation and verification (3)

l. providing qualified expert (3)

m. community relations (3)

MANAGEMENT

1. Corporate Management Experience (10 points)

Offerors will be evaluated on their demonstrated capability in undertaking and effectively managing both the technical and financial aspects of a multi-disciplined technical service contract wherein highly skilled interdisciplinary teams are performing in numerous locations simultaneously, and which are of comparable scope and complexity to the requirements specified in this solicitation.

"Capability" is defined as the offeror's demonstrated ability to:

Provide requested documentation and services in accordance with required schedules;
Provide documents that meet the client's needs;
Provide the resources necessary to accomplish assigned work within required schedules, and in a cost efficient manner; and
Manage complex assignments.

Capability will be reviewed in the following areas:
cost/schedule control;
system design/operation;
case/project analysis;
records management;
quality assurance;
resource utilization;
problem identification and resolution;
managing projects requiring quick start-up and short turnaround deadlines;
management structure;

financial tracking;
workplan development; and
methodologies.

2. Management Plan (12 points)

Offerors will be evaluated on the ability of their proposed plan to ensure the requirements of this contract will be fulfilled.

"Ability" is defined as follows:

a. Lines of authority and communication (2)

The offeror will be evaluated as to whether its management approach will develop and maintain clear lines of authority and communication between staff and management.

b. Problem resolution (2)

The offeror will be evaluated on their demonstrated capability in problem resolution.

"Capability" is defined as the offeror's demonstrated ability to:

Provide requested documentation and services in accordance with required schedules;
Provide documents that meet the client's needs;
Provide the resources necessary to accomplish assigned work within required schedules, and in a cost efficient manner; and
Manage complex assignments.

Capability will be reviewed in the following areas:

Identifying and resolving potential problems that might arise during mobilization and during contract performance;
Responsiveness to meeting changing needs;
Procedures for resolving conflicts on a short turnaround basis; and
Commitment of corporate management of the team subcontractors to the contract and to problem identification and resolution.

c. Financial management (2)

The offeror will be evaluated as to whether its management approach will:

Monitor and ensure that actual mobilization costs incurred during contract performance do not exceed the estimated mobilization costs contained in the offeror's cost proposal;

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Monitor and ensure that team subcontractors submit invoices in accordance with Section VII G of the RFP.

d. Mobilization ability and cost tracking (2)

The offeror will be evaluated as to whether its management approach will, for both routine and short lead-time projects:

Project mobilization costs, including relocations costs;
Ensure monthly reports reflect current information.

e. Quality assurance (2)

The offeror will be evaluated as to whether its management approach will ensure that documents prepared by the offeror, both for program and project purposes, are complete, accurate and delivered on time.

f. Personnel resources (2)

The offeror will be evaluated as to whether its management approach will:

Ensure the required personnel, at the required skill level, perform the work assignments;
Ensure personnel no longer available for this contract will be replaced by qualified personnel.

REPORTS FUNCTION (10 points)

The offeror will be evaluated as to whether its systems and personnel, including those of its team subcontractors, maintain a data base and generate from that data base the financial, management, technical and administrative reports specified in Attachment J and Section VII G of the RFP.

PERSONNEL (15 points)

1. Technical Personnel (5)

The offeror will be evaluated on the number, professional level, qualifications and experience of the proposed technical personnel. Experience should be relevant to the requirements of this statement of work and demonstrate understanding of the technical aspects and working knowledge of the Resource Conservation and Recovery Act (RCRA), Clean Water Act, Clean Air Act, Toxic Substances Control Act and the

Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA) (Superfund), as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA).

2. Management Key Personnel (5)

The offeror will be evaluated on the number, professional level, qualifications and experience of the proposed key management personnel that will manage and coordinate the activities of both the multi-disciplined technical staff and the reports function staff. Discuss the experience of the proposed key management personnel in cost and schedule control.

3. Reports Function Key Personnel (5)

The offeror's technical proposal shall describe the number, professional level, qualifications and experience of the proposed key personnel that will provide the invoices and reports specified in Attachment J and Section VII G of the RFP.

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B. REQUIRED SECTIONS OF THE WRITTEN TECHNICAL PROPOSAL

1. Management Approach

Offerors shall describe their approach to planning, organizing, and carrying out contract activities as presented in the SOW, so as to ensure effective, efficient, timely, and responsive support. This shall include their description of a proposed management plan, including subcontractors. Offerors shall discuss how they plan to effectively meet the requirements of the contract through the roles and responsibilities of their team members, and through lines of authority and communication within the organization, their ability to integrate the complex tasks of the SOW and oversee their concurrent implementation, and their ability to resolve potential problems arising during contract performance. Offerors should demonstrate their ability to commit personnel and maintain a high degree of responsiveness to the periodic, unpredictable nature of activities associated with the SOW.

Offerors should submit a Labor Mix Matrix for the first year of the contract, demonstrating how they plan to distribute the level of effort among the prime and subcontracting team by P-Level. This matrix should reflect the mix of P - Level hours shown in the Cost Proposal Instructions, Attachment 4.

2. Key Personnel

a. Offerors shall provide resumes for the key personnel proposed in the "Key Personnel" clause (please see the instructions for filling out the solicitation in the Cost Proposal Instructions). The total number of proposed key personnel shall not exceed six (6) individuals.

b. The resume shall demonstrate that the proposed personnel possess the qualifications (i.e., the education and experience) stated in the Section (H) clause entitled "Definition of Labor Classifications") necessary to successfully manage and perform the Statement of Work (SOW). The discussion of key personnel experience shall include:

i. Program Manager - Offerors shall describe the proposed Program Manager's experience and capabilities, which must include organizing and managing large, complex contracts (including managing subcontractors and consultants) similar to the effort in this RFP, and who must have experience in the subject areas identified in the SOW. Please provide the contract title, contract number, project officer's name and current telephone number, contract dollar value and contract length in documenting the Program Manager's past experience. The proposed Program Manager must meet or exceed the minimum labor requirements for the P-4 Level in addition to the requirements stated above. One resume should be submitted for this position.

ii. Project Leaders of Work Assignments - Offerors shall describe the experience and capabilities of discipline specific Project Leaders and Work Assignment Project Leaders proposed to support the SOW. No P-Levels are specified for this category. Up to five resumes may be submitted for these positions.

3. Corporate Experience

Offerors shall describe their corporate experience (including subcontractors and affiliates) in providing

services that are the same or similar to Tasks 1-11 of the SOW included in Section C. Specifically, offerors shall submit a list of all contracts and subcontracts currently in process, or completed within the past three years, which are similar in nature to this requirement. Contracts listed may include those entered into with Federal, State and local governments, and commercial businesses. Specifically, the Offeror (including all proposed team subcontractors) shall provide the following information for each contract/subcontract listed:

a. name of contracting activity/commercial business;
b. contract title and number;
c. contract type and total contract/subcontract value;
d. brief description of contract/subcontract and the technology areas involved;
e. period of performance.
f. any affiliation between offeror and client

This list should demonstrate the Offeror's (including prime contractor, team subcontractors and consultants) experience in managing multi-tasked and multi-disciplinary contracts that are similar to the scope, dollar amount and complexity of this requirement. The Offeror should also demonstrate their experience in resolving problems similar in nature to those expected under this contract.

4. <u>Past Performance</u>

a. PAST PERFORMANCE QUESTIONNAIRES

i. In addition to the list of corporate experience required above, the Offeror (and all the subcontractors with a proposed subcontract value in excess of $1 million) shall also complete Part A of the Past Performance Questionnaire (Attachment 3) for any previous and/or current contract and/or subcontract work that the Offeror determines is directly related to the requirements under this RFP. Offerors should submit one form for each client or reference for whom they have performed work similar in scope to the requirements in the SOW for this RFP. Multiple Project Summaries describing work performed for the same client under the same contract should be included on the same questionnaire form. Questionnaire forms will count toward the 50-page limit of the Offeror's written proposal.

ii. Offerors should not provide general information concerning their performance on the identified contracts. General performance information will be obtained from the references. Offerors may describe any quality awards or certifications that indicate the Offeror possesses a high-quality process for developing and producing the products or services required. Such awards or certifications include, for example, the Malcolm Baldrige Quality Award. Government quality awards/recognition, and private sector awards or certifications. If not bestowed upon the entire company, identify the segment or division of the company that received the award and/or certification. If the award or certification is more than three (3) years old, present evidence that qualifications still apply.

iii. Offerors shall inform all individuals identified above that EPA Officials will be inquiring into the Offeror's past performance. Offerors should use the "Client Authorization Letter" (Attachment 2), for this purpose. These individuals shall be notified prior to the submittal of this portion of the proposal.

iv. Past Performance information will be used for both responsibility determinations and as an evaluation factor against which offerors' relative rankings will be compared to assure the best value to the Government. The Government will focus on information that demonstrates quality of performance relative to the

size, complexity, and nature of the procurement under consideration. The "Past Performance Questionnaire" (Attachment 3), will be used to collect this information. References other than those identified by the Offeror on the Past Performance Questionnaires may be contacted by the Government and used in the evaluation of the Offeror's past performance.

v. If no responses are received from a reference, the Government will attempt to contact another reference identified by the Offeror, contact a reference not identified by the Offeror, or complete the evaluation with those references who responded. Attempts to obtain responses from a reference will generally not go beyond two telephonic or written messages. The Government is not obligated to contact all references identified by the Offeror.

vi. Feedback received from references will be compared to each other to note differences and similarities, and the past performance evaluation will be based on all information obtained. Negative responses will only be disclosed to an offeror if discussion are held. Under no circumstances will the individual names of responding references be disclosed.

b. PAST PERFORMANCE SUMMARY

Offerors should prepare a summary statement of the information contained in their Past Performance Questionnaires that discusses how the information provided relates to the subject SOW and the Offeror's overall approach to supporting EPA under this contract. This narrative, which is subject to the 50 page limitation on written proposals, should outline the highlights of the Offeror's previous experience and their overall qualifications for effectively meeting the requirements of the SOW.

Technical Proposal Criteria

Proposals will be evaluated based on the information presented in the oral presentations and written proposals. Such information will demonstrate to the evaluators the offerors' qualifications in regard to the evaluation factors set forth below, which are to be evaluated and weighted in descending order of importance as follows:

T	Technical Expertise/Sample Work Assignments	30 pts
T	Management Approach	25 pts
T	Key Personnel	20 pts
T	Corporate Experience	15 pts
T	Past Performance	10 pts

The Technical Panel will utilize the standard rating criteria outlined in EPAAR 1516.6 and are summarized below.

0.0 The element is not addressed, or is totally deficient and without merit.
1.0 The element is addressed but contains deficiencies that can be corrected only by major or significant changes to relevant portions of the proposal.
2.0 Clarification is required. Final scoring of the element will be made following limited discussions with the buy in panel.
3.0 The proposal element is adequate. Overall it meets specifications. However, comments will be made on any perceived weaknesses or on areas in which an offeror could improve.
3.5 The proposal is good with some very good features (intermediate merit).
4.0 The proposal is good with some superior features.
4.5 The proposal is very good with some superior features (intermediate merit).
5.0 The proposal is superior in most features.

Offerors will be evaluated based on both the oral presentations and written proposals, as explained below:

1. TECHNICAL EXPERTISE/SAMPLE WORK ASSIGNMENTS

The offerors' technical understanding, knowledge, capability and approach to meet the Statement of Work (SOW) requirements, which include Tasks 1-11 of the SOW, will be evaluated during the ninety and sixty minute presentations and as reflected in any materials and references used during the oral presentations. The offeror will be evaluated based on its presentation regarding the sample work assignments and its response to the six (6) questions related to the SOW, which will demonstrate its technical knowledge and understanding of the SOW. (See the Section L provision entitled "Instructions for the Preparation of Technical Proposals," part III "Oral Presentations to the Government.")

2. MANAGEMENT APPROACH

Offerors will be evaluated on their approach to planning and organizing contract activities as presented in the SOW, including the management of subcontractors and the roles and responsibilities of key personnel. Offerors will be evaluated on the extent to which they can meet the requirements of the contract through clear lines of authority, communication and responsibility; their ability to integrate the complex tasks of the SOW and oversee their concurrent implementation; and their ability to resolve potential problems arising during contract performance. Offerors will be evaluated on their approach to commit personnel and maintain a high degree of responsiveness to the periodic, unpredictable nature of activities associated with the SOW. Offerors will be evaluated on their effective distribution of work between prime and subcontractors to adequately support the SOW. The evaluation of the management approach will be based on the written proposal and on information presented during the oral presentation.

3. KEY PERSONNEL

The proposed key personnel will be evaluated against the minimum qualification requirements for education and

relevant experience stated in the in the section H clause entitled "Definitions of Labor Classifications" and on the extent to which they possess the appropriate technical knowledge and expertise on the programs and issues described in the SOW. In addition, they will be evaluated on their experience in relevant project management, and possession of substantive, relevant knowledge within their respective subject areas. Within this evaluation category, the Program Manager and Project Leaders of theWork Assignments are of equal importance to each other

The Program Manager will be evaluated on his/her experience and capabilities in organizing and managing large, complex contracts (including management of subcontractors and consultants) similar to the effort in this RFP, and on experience in all of the subject areas identified in the SOW.

The Project Leaders of the Work Assignments will be evaluated on their experience and capabilities in their respective work areas.

The evaluation of Key Personnel will be based on the written proposal and the oral presentations.

4. CORPORATE EXPERIENCE

Offerors will be evaluated on their corporate experience in performing and managing work similar in scope, dollar value, size, and complexity to the multi-tasked, multidisciplinary requirements specified in the SOW for CEPPO's national and international program, in integrating these interrelated tasks, in providing high quality products and services similar to those described in the SOW, and in performing these tasks concurrently and based on immediate or short lead time tasking. Offerors will be evaluated on their experience in resolving problems similar in nature to the ones expected to occur in the performance of this requirement. The evaluation of corporate experience will be based on the written proposal.

5. PAST PERFORMANCE

Offerors' Past Performance will be evaluated based on the information presented on their Past Performance Questionnaire forms (Attachment 3), and on information obtained by the Government from contacting the references identified on those forms and/or on information obtained by the Government from other sources. Offerors' will be evaluated on previous customer satisfaction in areas including quality of performance, technical knowledge, timeliness of performance, cost control, performance of key personnel and overall satisfaction. Additionally, the relevance of the offeror's previous performance to the task areas of the Statement of Work will be considered as part of the past performance evaluation.

Offerors with no past performance history, whose past performance history is clearly not relevant, or for whom past performance data is not available, will be assigned a neutral rating for past performance. Note: If an offeror does not submit the past performance information required, and EPA discovers that the offeror, in fact, has relevant past performance history, the offeror may be deemed ineligible for award.

Virginia: I have not developed my two work assignment scenarios yet or my 6 questions. Below this is the information that Region 2 submitted.

PROPOSED TECHNICAL EVALUATION STRATEGY - ZES CONTRACT

The program recommends that the following two-step process be utilized to quickly and efficiently evaluate the qualifications of the offerors under this procurement:

STEP 1 WRITTEN PROPOSALS

EPA will issue a CBD synopsis which will direct interested firms to the EPA Region II Bulletin Board and/or the EPA World Wide Web Home Web Page where they will be able to electronically download the technical evaluation criteria, technical proposal instructions, contract statement of work, estimate of contract year one requirements, reports of work and other relevant solicitation documents.

Interested firms will be required to address a total of four streamlined technical evaluation criteria in the form of a brief written proposal and to obtain at least three past performance references which are to be mailed directly to the EPA CO. Firms which fail to submit a written proposal will not be evaluated further. Firms which fail to provide adequate past performance references or which have no past performance on contracts of a similar scope and nature to the ZES will receive a neutral score of "3" in accordance with FASA I requirements.

Proposals will evaluated by a Technical Panel composed of 3-4 enforcement and contract management staff from EPA Region I and 2 (e.g., Project Officer, civil investigator, and deputy project officer) who will prepare a brief summary report documenting their consensus recommended scores for each criteria and recommended questions for the Buyers Panel. Proposals submitted by interested firms shall be limited to the following documents/certificati

! Identify any potential or actual conflicts of interest that may prevent or hinder their performance of any of EPA's ZES requirements, in accordance with the requirements of the provisions "Organizational Conflict of Interest Notification" (EPAAR 1552.209-70, APR 1984) and "Organizational Conflict of Interest Certification" (EPAAR 1552.209-72, APR 1984) by identifying any existing relationships with potentially responsible parties identified in either the Region I or II Site Enforcement Tracking System (SETS). A copy of the SETS list will need to be made available either electronically by the EPA CO and/or a hard copy at headquarters.

! Standard Forms 254 and 255

! Past Performance Questionnaires from on-going or recently completed (in the last three years) contracts or projects similar in scope and complexity to the ZES contract which are to sent directly by the proposers to their clients, and once completed by the client, are to be mailed directly to the EPA Contracting Officer.

! Technical Proposal addressing criteria 1-4 (see next page) will follow this mandatory format requirements:

- 20 pages or less in length, single-sided printing
- 8.5" x 11" paper
- font size not less than 12 point
- COI CERTIFICATIONS. SF 254/255, AND PAST PERFORMANCE QUESTIONNAIRES DO NOT COUNT TOWARDS TECHNICAL PROPOSAL PAGE LIMITATIONS

Criteria to be addressed in the Technical Proposal will include:

1. Past Performance
   (On contracts of a similar scope nature as the ZES) 350 Points

2. Resources
   (In/Near EPA Regions 1 & 2) 250 Points

3. Enforcement Work Assignment Scenario 250 Points

4. Key Personnel
   Program Manager 50 Points
   Civil Investigator(s) 50 Points
   Financial Analyst(s) 50 Points

The Technical Panel will utilize the standard rating criteria outlined in EPAAR 1516.6 and are summarized below:

0.0 The element is not addressed, or is totally deficient and without merit.
1.0 The element is addressed but contains deficiencies that can be corrected only by major or significant changes to relevant portions of the proposal.
2.0 Clarification is required. Final scoring of the element will be made following limited discussions with the buy in panel.
3.0 The proposal element is adequate. Overall it meets specifications. However, comments will be made on any perceived weaknesses or on areas in which an offeror could improve.
3.5 The proposal is good with some very good features (intermediate merit).
4.0 The proposal is good with some superior features.
4.5 The proposal is very good with some superior features (intermediate merit).
5.0 The proposal is superior in most features.

STEP 2 INTERVIEWS

The EPA Buying Panel, composed of the EPA PO and CO, will conduct interviews with all firms who submitted written proposals. Questions raised by the Technical Panel/Buying Panel and responses given by the interested firms will be recorded. At the conclusion of the interview process, the scores developed by the Technical Panel will be reviewed and revised (if needed) by the Buying Panel reflecting any clarifications given by the interested firms during the interviews. A ranking of firms based upon technical qualifications will be developed and the firms with the highest overall technical scores will then have their cost proposals evaluated by headquarters and award will be based upon cost plus technical considerations.

DRAFT Enforcement Work Assignment Scenario (Criteria 2)
PRP Search Scenario

EPA has conducted a preliminary assessment/site investigation at the Workshop Notebook Site, 3 Circle Cove Road, Farm Township, Maine. The Site was referred to EPA by the Town's Fire Marshall after his inspection initiated after a report of vandalism at the property. The Site has been abandoned for several years, but was last known to operate as a company who provided outreach and gave seminars and workshops for the unemployed. Tax bills are in the name of Workshop Notebook, and have been addressed to its former President, Homer Harrison. Workshop Notebook was incorporated in the State of Delaware. The Town has ceased sending the tax bills out because the mail is returned by the post office with no forwarding address for Mr. Harrison. Taxes have not been paid for the last five years. The Town has not taken the property apparently due to its environmental condition.

EPA does not know at the present time what the extent of contamination is but suspects that the contamination may extend beyond the legal property boundary of 3 Circle Cove Road. There are several containers inside the buildings on Site, as well as buried drums throughout the Site. Labels on some of the drums list company names but no addresses. None of the constituents found on Site appear to be consistent with the business operations of Workshop Notebook.

Assume that the buried drums were the cause of the contamination at the site. It was subsequently learned that some of the drums were generated by businesses that were proprietorships and the others by corporations. EPA must now determine the financial viability or non-viability of these business entities.

1) How would you locate Mr. Harrison (the right Mr. Harrison) and whether and where he is operating now

2) How would you determine who owned and operated the Site prior to Workshop Notebook and where those companies are now?

3) How would you find out what became of Workshop Notebook and whether it is operating anywhere else?

4) How would you locate the companies listed on the drums, to include their current address and the nature of those companies' operations?

5) How would you determine Site abutters. and the nature of their operations?

6) How would you determine the financial viability of a proprietorship?

7) How would you determine the financial viability of a corporation?

DRAFT Enforcement Work Assignment Scenario (Criteria 2)
PRP Search Scenario

EPA has conducted a preliminary assessment/site investigation at the Workshop Notebook Site, 3 Circle Cove Road, Farm Township, Maine. The Site was referred to EPA by the Town's Fire Marshall after his inspection initiated after a report of vandalism at the property. The Site has been abandoned for several years, but was last known to operate as a company who provided outreach and gave seminars and workshops for the unemployed. Tax bills are in the name of Workshop Notebook, and have been addressed to its former President, Homer Harrison. Workshop Notebook was incorporated in the State of Delaware. The Town has ceased sending the tax bills out because the mail is returned by the post office with no forwarding address for Mr. Harrison. Taxes have not been paid for the last five years. The Town has not taken the property apparently due to its environmental condition.

EPA does not know at the present time what the extent of contamination is but suspects that the contamination may extend beyond the legal property boundary of 3 Circle Cove Road. There are several containers inside the buildings on Site, as well as buried drums throughout the Site. Labels on some of the drums list company names but no addresses. None of the constituents found on Site appear to be consistent with the business operations of Workshop Notebook.

Assume that the buried drums were the cause of the contamination at the site. It was subsequently learned that some of the drums were generated by businesses that were proprietorships and the others by corporations. EPA must now determine the financial viability or non-viability of these business entities.

1) How would you locate Mr. Harrison (the right Mr. Harrison) and whether and where he is operating now?

2) How would you determine who owned and operated the Site prior to Workshop Notebook and where those companies are now?

3) How would you find out what became of Workshop Notebook and whether it is operating anywhere else?

4) How would you locate the companies listed on the drums, to include their current address and the nature of those companies' operations?

5) How would you determine Site abutters, and the nature of their operations?

6) How would you determine the financial viability of a proprietorship?

7) How would you determine the financial viability of a corporation?

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PAST PERFORMANCE QUESTIONNAIRE
FOR THE ZONE ENFORCEMENT SUPPORT CONTRACT

a. Name of Contractor:
b. Type of Contract:
c. Period of Performance:
d. Number of Work Orders Issues to Date/Total: (if applicable):
e. Total Invoiced Costs to Date:
f. Contract Number:
g. Contract Title:
h. Total Value of Contract
I. Total Incurred Costs to Date

Performance Ranking Criteria

0.0 The contractor performed in a totally deficient manner.
1.0 The contractor performed in a deficient manner which only could be corrected by major or significant actions on the part of the client
2.0 N/A
3.0 The contractor performed in an adequate manner. Overall, they met specifications.
3.5 The contractor performed well with some very good features (intermediate merit).
4.0 The contractor performed well with some superior features.
4.5 The contractor performed very well with some superior features (intermediate merit).
5.0 The contractor performed in a superior manner in most features.

Brief Description of the Enforcement Services Provided to the Client

Areas to be Evaluated:

1. Overall Quality of Enforcement Support Services Provided

2. Ability to Meet/Exceed Schedule Requirements

3. Effectiveness of Management of Projects/Subcontractors

4. Innovative Techniques/Procedures Utilized

5. Responsiveness to Technical Direction/Questions

6. Compliance with Cost Estimates/Budgets

7. Overall Customer Satisfaction

8. Remarks on outstanding performance:
(Provide data supporting this observation; you may continue on a separate sheet if needed.)

9. Remarks on unsatisfactory performance:
(Provide data supporting this observation; you may continue on a separate sheet if needed.)

10. Questionnaire completed by:
Title:
Date:

Post-it® Fax Note 7671	Date 3-28	# of pages ▶ 1
To Kathy Schroer	From LeRoy Moore	
Co./Dept.	Co.	
Phone #	Phone # 444-6981	
Fax # 438-6234	Fax # 444-6523	

March 27, 1998

To: Members of RSAL Oversight Panel
From: LeRoy Moore (303)444-6981 or FAX (303)444-6523
lmoore@igc.org
Re: Actinide Migration issue

This will inform you that the letter to Secretary Peña asking that DOE place the Rocky Flats Actinide Migration Studies under the aegis of the RSAL Oversight Panel has been delayed and won't go out until probably April 10. So, if you have not added your name to the signatories of the letter, you may still do so by contacting me in one of the ways given above.

Perhaps I should have asked for time at one of our meetings to discuss this proposal, since having it happen may markedly increase our overall work load. We all realize that getting good data from the Actinide Migration Studies is crucial for setting RSALs. Yet, as my paper explains, the Actinide Migration Studies as so far conducted are so scandal-ridden that any data coming out of them will almost certainly lack the credibility required for buy-in from the affected public -- like the original RSALs. Hence, the necessity for some kind of direct public oversight of these studies. In the long run, having such a process will save more time than not having it. I happen to think the mission and makeup of our Panel make it the best group to provide this oversight. Incidentally, local governments sent a letter to Rocky Flats late in the fall asking essentially for the same thing my letter seeks. They were turned down by site management -- hence, the appeal to Peña.

Whatever happens with this request, the Actinide Migration Studies eventually will bear heavily on the work of our Panel.

If you want to want to discuss any of this, contact me as above. Let me know too if you prefer not to sign the letter I wrote but intend to send one of your own. Thanks.

SHEET NO. 1 OF

JOB NO. SAL

BY K Schuor

DATE 4/9/98 TIME 4:25 PM

City of Broomfield

One DesCombes Drive • P.O. Box 1415 • Broomfield, Colorado 80020

* I came in 25 min. late —
1. Intro - (missed)
2. Co-Chair Update (missed)
3. RFP Process
   - EPA - Ben
     - someone to record receipt of proposals
     - technical review of proposals by tech eval. panel.
       a) meet min qualif.
       b) ranking - point system
       c) cost
     - award contract
     - avoid conflict of interest
     - does anyone have the appropriate qualifications

       management approach
       key personnel
       past experience
   - DOE - Steve Slaten
     - Grant Administration only
     - receive grant proposal
     - quick turn around time
   - Board Discussion
     - do we want to form a tech. eval. panel
     - Master Schedule - Steering committee
       brainstorming session
       admin RFP
       criteria for eval. proposal
       put out RFP for contractor
       receiving bids
       finalize tech RFP
       develop issue eval. criteria, weighting factors

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SHEET NO. 2 OF

JOB NO.

BY

DATE TIME

City of Broomfield

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- Selection of tech eval. panel for Sci RFP
  " " for Admin RFP
- background info. for RFP
- letter of agreement - organizational interfaces

(get copy of flip chart)

~~A Steering committee~~

Send out master schedule for feedback will be FAXed out to all board members w/ meeting notice & Admin RFP (2)

- steering committee will meet & decide how to delegate work to sub-groups (3)

- Victor & Ken will work on Tech RFP
  Carol would like the tech eval. criteria added into the RFP - Victor will leave a place holder

- Admin Contract - comments by next Thursday to Mickey
  - start compiling a list of addresses for interested parties

- Facilitator Contract - ask for a couple of other peoples

- Memo drafted from RFSHOP to RFCAB to request a sole source contract

SHEET NO. ..... OF .....

JOB NO. .....

BY .....

DATE ..... TIME .....

City of Broomfield

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Announcements -

- Joe wrote a letter to March 30th Denver Post
  see Joe about getting a copy
- Bob Kozick - Memo of Understanding w/ CAB
  was revised a little bit & will go

- Lisa Morgel
  John Tayer
  LeRoy Moore

May

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ROCKY FLATS CITIZENS ADVISORY BOARD

An Advisory Board to the U.S. Department of Energy

MEMORANDUM

of

THE ROCKY FLATS CITIZENS ADVISORY BOARD

regarding

THE ROCKY FLATS RADIONUCLIDE SOIL ACTION LEVELS
INDEPENDENT REVIEW PROJECT

April 8, 1998

WHEREAS, the Rocky Flats Citizens Advisory Board ("CAB") is a 501(c)(3) non-profit Colorado corporation, with a purpose to promote public education regarding the Rocky Flats Environmental Technology Site ("Rocky Flats"), and is the designated site specific advisory board for Rocky Flats, as determined by the U.S. Department of Energy ("DOE"); and

WHEREAS, various individuals representing the public and private sector surrounding Rocky Flats have established an *ad hoc* committee and oversight panel (the "Oversight Panel") for the purpose of overseeing an independent review of the radionuclide soil action levels; and

WHEREAS, DOE has agreed to fund an independent review of the radionuclide soil action levels; and

WHEREAS, DOE has designated CAB, in concurrence with the Oversight Panel, as the appropriate entity to manage and finance the funds necessary to conduct the radionuclide soil action levels review project (the "Project"), which is described in more detail below; and

WHEREAS, as the DOE-selected entity to manage and finance the Project, CAB desires to set forth those tasks which it has agreed to perform in conjunction with certain tasks to be performed by the Oversight Panel:

9035 Wadsworth Parkway Suite 2250 • Westminster, Colorado 80021 • 303-420-7855 • Fax 303-420-7579

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1. PROJECT DESCRIPTION. The Project as referenced herein is described below as follows:

In 1996, DOE, the Colorado Department of Public Health and Environment ("CDPHE"), and the Environmental Protection Agency ("EPA") developed soil action levels for the purpose of establishing interim soil cleanup guidelines for Rocky Flats, which soil action levels have been incorporated as part of the Rocky Flats Cleanup Agreement (the "Soil Action Levels"). Soon after learning about the Soil Action Levels, members of the local community expressed concerns about the numerical values as they were appreciably higher than similar standards or values used for the remediation of other radioactively contaminated locations throughout the world.

In response to requests by the surrounding Rocky Flats stakeholders to address their concerns regarding achievement of the safest level of cleanup of contaminated soils at Rocky Flats, DOE has agreed to fund an independent assessment of the Soil Action Levels and the process used to establish them. DOE has designated CAB as the appropriate financing vehicle for the management of the Project. The Oversight Panel, assisted by various administrative support contractors, will hire and then oversee a technical contractor who will conduct the independent assessment. The Project is estimated to take one year to complete.

2. OVERSIGHT PANEL. The Oversight Panel is made up of the following individuals representing the public and private sector stakeholders as noted:

Hank Stovall (Co-chair), Councilor, City of Broomfield
Mary Harlow (Co-chair), Rocky Flats Coordinator, City of Westminster
LeRoy Moore (Steering Committee member), Rocky Mountain Peace and Justice Center
Robert Kanick (Steering Committee member), citizen of Boulder
Jim McCarthy, City of Arvada
Lisa Morzel, Councilor, City of Boulder
Tom Davidson, Mayor, City of Louisville
Dean Heil, Colorado State University
Ken Starr, Jefferson County
Niels Schonbeck, Health Advisory Panel; Metropolitan State College of Denver
Joe Goldfield, Colorado Coalition for the Prevention of Nuclear War
Joel Selbin, University of Colorado at Denver
Todd Margulies, TM Consulting

The purpose of the Oversight Panel is to employ the services of a technical consultant and administrative support personnel, to prepare for submittal to DOE, CDPHE, and EPA an independent analysis of the Soil Action Levels. The Oversight Panel will oversee the work of the technical consultant and administrative support personnel.

In the event any member of the Oversight Panel should elect to discontinue participating on the Oversight Panel, the Oversight Panel shall appoint a replacement member. Should the Oversight Panel fail to perform the identified tasks as set forth herein, CAB may, at its sole discretion, discontinue the Project and return all uncommitted funds allocated to the Project to DOE.

3. CAB TASKS. CAB is committed to perform the following tasks in connection with the Project ("CAB Tasks"):

a. Prepare and submit to DOE an application for funds to finance the Project (the "Project Funds") based on line-item information provided by and in consultation with the Oversight Panel.

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b. Procure technical consultant services and administrative support services necessary for the project, e.g., accounting, legal and auditing, (the "Project Services"), for the use of and at the reasonable direction of the Oversight Panel, and for CAB's use toward accomplishing the CAB tasks. CAB will collect an administrative fee for time spent by its staff in performance of duties related to the administration of the Project Funds.

c. As necessary, enter into CAB-approved contracts for Project Services on behalf of the Oversight Panel.

d. At its reasonable discretion, authorize and disburse Project Funds for the compensation of the Project Services, subject to legal and other applicable requirements or restrictions.

e. As a federally charted advisory committee, CAB will certify that the Oversight Panel meets the requirements as mandated by the Federal Advisory Committee Act ("FACA") for announcements and openness of meetings. These requirements include timely notice to members of the community for all meetings and work sessions, openness of meetings and the opportunity for public comment and interaction in the Project.

4. OVERSIGHT PANEL TASKS. CAB understands that the Oversight Panel has committed to perform the following tasks in connection with the Project (the "Oversight Panel Tasks"):

a. In consultation with CAB and in accordance with CAB's procurement procedures if required, perform all tasks related to the procurement process, including the development of appropriate requests for proposals, solicitation of interest in proposers, and selection of the technical services consultants and the support services personnel for the Project.

b. Review the findings of the technical services consultant in preparation of a final product, and use the administrative support services as necessary for the Project.

c. Hold monthly work sessions in connection with the Project.

d. Oversee the preparation of and submit to DOE, CDPHE and EPA a written independent analysis by the technical contractor of the DOE-established Soil Action Levels and the process used to establish the Soil Action Levels. Based on its review of the independent analysis, the Oversight Panel may wish to submit its own recommendations to revise the Soil Action Levels to accomplish the purposes of the Project. The contractor-prepared independent analysis and the Oversight Panel recommendations will constitute the final work product for the Project (the "Project Report").

e. During the life of the Project, conduct a public outreach program to share information with members of the general public concerning the Oversight Panel's activities and findings. The outreach program includes the development and distribution of printed materials in connection with the Project, and the advertising and conducting of public meetings regarding the Project.

f. In consultation with CAB, comply with the requirements of FACA, to include providing timely notices of meetings to the public, conducting open meetings, and providing opportunity for public comment and interaction in the Project.

g. Develop the proposed budget line items for provision of technical services, support services, and outreach functions in consultation with CAB. The Oversight Panel will then submit these budget line items to CAB for inclusion in the grant request.

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5. PROJECT FUNDS. To finance the Project, CAB will submit an amendment for additional funds through its existing grant with DOE. CAB will deposit and maintain all unexpended funds in a separate bank account distinct from its own operating account. There will be no commingling of CAB and Project Funds. At no time, unless agreed to in advance by CAB, will CAB operating funds be used for activities or services related to the Project. The expenditure of any Project Funds shall be limited by any restrictions or other parameters set forth in the DOE-approved application documents. Upon completion of the Project, any remaining Project Funds may be returned to DOE, or otherwise used at the direction of DOE.

The expenditure of any Project Funds are subject to the approval of CAB and must comply with CAB's operating and accounting practices.

In the event the allocated Project Funds are not sufficient to finance the Project, CAB may make a subsequent application to DOE for additional Project Funds. However, CAB does not guarantee or otherwise assure in any way whatsoever that there will be sufficient funds to complete the Project. All funds for the Project, including compensation for any Project Services, are subject to the receipt of the Project Funds from DOE.

6. INDEPENDENT FUNCTION. It is of foremost importance, in order to serve the purposes of the Project, that the Oversight Panel exist and perform in a role as independent from CAB, DOE, CDPHE and EPA as possible. CAB will take all appropriate and reasonable steps to preserve the independent function of the Oversight Panel and its analysis of the Soil Action Levels.

7. CAB/OVERSIGHT PANEL COMMUNICATIONS. In furtherance of preserving the independent nature of the Oversight Panel and the final independent analysis of the Soil Action Levels, to the extent necessary to achieve a CAB Task or an Oversight Panel Task, CAB shall, through its Executive Committee, communicate with the co-chairs of the Oversight Panel.

Dated this 9th day of April, 1998

ROCKY FLATS CITIZENS ADVISORY BOARD

By: Mary C. Harlow

Its: Vice Chair

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4/23/98
Session

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ROCKY FLATS - SAL MEETING APRIL 23, 1998

Name	Affiliation	Phone/Fax
1. TODD MARGULIES	TM CONSULTING	(303) 279-6699 CALL IT
2. Dave Shelton	Kaiser-Hill	966-9877 5001
3. Carol Lyons	City of Arvada	
4. BOB KANICK	RFCAB	on file
5. Mary Harlan	Westminster	
6. Ken Korkia	RFCAB	
7. Steve Gunderson	CDPHE	692-3367 / 759-5535
8. VICTOR HOLM	RFCAB	989-9086
9. Brady Wilson	CAB staff	on file
10. John Corsi	Kaiser-Hill	966-6526 966-6153
11. LeRoy Moore	RMPJV	444-6981 Fax 444-6523
12. Niels Schonbeck	HAP and Metro State	556-8327 556-5399 FAX
13. Steve Slater	DOE	966-4839 - 3710
14.		
15.		
16.		
17.		
18.		
19.		
20.		

F-A-X M-E-M-O-R-A-N-D-U-M

TO: DISTRIBUTION

FROM: MARY HARLOW AND HANK STOVALL, CO-CHAIRS

SUBJECT: MEETING REMINDER FOR APRIL 23, 1998

DATE: APRIL 20, 1998

There will be a meeting **THURSDAY, APRIL 23, 1998, 4:00-6:00 PM.**

PLEASE NOTE THE CHANGE IN MEETING LOCATION:

Arvada City Hall- Anne Campbell Room. (Arvada City Hall is at 8101 Ralston Road, located on the North West Corner of Ralston Road and Allison Street, just west of the post office. Enter City Hall through the Police Entrance. The conference room is the first door on the left.)

PROPOSED AGENDA

- 4:00 Introductions
- 4:05 Co-chairs Update
- 4:15 Report from CAB-Ken Korkia
  - Budget (Attachment 1)
- 4:25 Discussion of RFP Process
  - Timeline (Attachment 2)
  - Other
- 4:40 Appoint review panel for selection of the Administrative Services Contractor
  - 5 member panel to review proposals and recommend contractor for board approval
- 4:55 Appoint technical review panel for selection of Technical Contractor
  - 7 member panel will develop selection criteria, review proposals and recommend contractor for board approval
- 5:10 Review Administrative Services RFP (Attachment 3)
- 5:30 Facilitator Contract (Attachment 4)
- 5:40 Public Comment
- 5:50 Other Topics/Future Agenda Items/Action Items
- 5:55 Next Meeting: May 14, 1998- Broomfield Municipal Center
  Zang's Spur Conference Room
- 6:00 Adjourn

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ATTACHMENT 1

BUDGET DETAIL REQUIRED FOR NON-CONSTRUCTION PROGRAMS

Draft - April 2, 1998

A. PERSONNEL

No change is requested to this line item.

B. FRINGE BENEFITS

No change is requested to this line item.

C. TRAVEL

No change is requested to this line item.

D. EQUIPMENT

No change is requested to this line item.

E. SUPPLIES

No change is requested to this line item.

F. CONTRACTUAL $65,259.50

1. CAB Staff $4,992.00

CAB staff members will provide administrative services for this project, including grant management, review of invoices, process requests for payment, etc. The costs are estimated for a duration of the project of 52 weeks, and at the following rate: Board/Staff Coordinator , burdened cost of $28 per hour; and Office Manager, burdened cost of $20 per hour. (Board/Staff Coordinator: 52 weeks x 2 hours per week x $28 per hour = **$2,912.00**. Office Manager: 52 weeks x 2 hours per week x $20 per hour = **$2,080.00**).

2. Attorney Fees $3,000.00

An attorney will draft the contract for the technical contractors or review any documents as necessary. CAB currently contracts attorney services with Ankele, Icenogle, Norton & Seter, which charges $150 per hour for services (20 hours x $150 per hour = **$3,000.00**).

3. Accounting Services $3,600.00

Ongoing accounting services throughout the duration of the project will be provided by Gonzales Consulting Services, which currently provides services to CAB. Additional costs for financial services to a separate fund account as a result of this amendment to CAB's grant funding is estimated at $300 per month ($300 x 12 months = **$3,600.00**).

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4. Procurement Advertising **$2,000.00**

CAB will need to advertise on behalf of the Oversight Panel a request for bids for contractual support services for the panel. This estimate is based on previous CAB costs for advertising a request for interest in bidding on services.

5. Audit **$1,500.00**

One-time financial audit at end of project, to be provided by Johnson, Holscher & Company. Costs are determined based on CAB's annual audit plus an additional percentage to review and audit a separate fund account as a result of this amendment to CAB's grant funding = **$1,500.00.**

6. Meeting Support **$25,425.00**

For project services such as preparation of meeting agendas and materials, meeting minutes, copying, recording, transcription, secretarial services, etc. as determined by the panel and services yet to be contracted, estimated at $75 per hour (16 hours per meeting x 18 meetings per year x $75 per hour = **$21,600.00**). In addition, direct costs for meeting support to be incurred by and reimbursed to the contractor are estimated at:

- Consumable supplies: $100 per month x 12 months = **$1,200.00**
- Postage: $100 per meeting x 18 meetings = **$1,800.00**
- Printing: $25 per month x 12 months = **$300.00**
- Long distance: $25 per month x 12 months = **$300.00**
- Mileage: $12.50 per meeting x 18 meetings = **$225.00**

7. Meeting Facilitation **$12,600.00**

A facilitator has been contracted to coordinate all meetings of the panel. Costs are estimated at $150 per hour (4 hours per meeting x 21 meetings per year* x $150 per hour = **$12,600.00**). [*Note: 3 meetings have already been held for which facilitation services were provided and costs were incurred.]

8. Outreach Costs **$12,142.20**

The panel expects to hold 3 additional public meetings during the life of the project, to discuss the status of the project and to solicit public input. Those meetings will require advertising, postage to mail out notices, printed materials for distribution to the public, additional facilitation services and meeting support, as well as room rental for a larger forum.

a. Advertising **$3,000.00**

Advertising in three local papers, based on current costs for advertising CAB meetings (3 meetings x $1,000 per meeting = **$3,000.00**).

b. Printed Materials **$3,000.00**

For preparation of fact sheets, copies of status reports and notes, or special documents to be distributed to the public (3 meetings x $1,000 per meeting = **$3,000.00**).

c. Postage **$750.00**

To send out post cards or other notices for special public meetings (3 meetings x $250 per meeting = **$750.00**).

d. Facilitation **$1,350.00**

Facilitation services for public meetings, provided by the facilitator for panel meetings (3 hours per meeting x 3 meetings x $150 per hour = **$1,350.00**).

e. Meeting Support **$3,592.20**

Support services for the panel yet to be contracted, estimated at $75 per hour (15 hours per meeting x 3 meetings x $75 per hour = **$3,375.00**). In addition, direct costs for meeting support to be incurred by and reimbursed to the contractor are estimated at:

- Consumable supplies: $50 per meeting x 3 meetings = **$150.00**
- Long distance: $10 per meeting x 2 meetings = **$30.00**
- Mileage: $12.50 per meeting x 3 meetings = **$37.50**

f. Room Rental **$450.00**

To provide a larger room for public meeting participants (3 meetings x $150 per meeting = **$450.00**).

9. Independent/Outside Consultants *

* CAB will submit a revised amendment to request additional grant funds on behalf of the Soil Action Levels Oversight Panel to contract the actual study. These costs have yet to be determined. For more information, please see the attached statement of work.

G) CONSTRUCTION

No change is requested to this line item.

H) OTHER

No change is requested to this line item.

I) INDIRECT COSTS

N/A.

J) PROGRAM INCOME

N/A.

TOTAL GRANT REQUEST = $65,259.50

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SAL BUDGET - as of 4/9/98	1998 Actual	1998 Budget	1998 Remaining	Percent Spent to Date
A. PERSONNEL	0.00	0.00	0.00	NA
FRINGE BENEFITS	0.00	0.00	0.00	NA
TRAVEL	0.00	0.00	0.00	NA
D. EQUIPMENT	0.00	0.00	0.00	NA
E. SUPPLIES	0.00	0.00	0.00	NA
F. CONTRACTUAL	0.00	65,259.20	65,259.20	0%
Board/Staff Coordinator Project Time & Costs	0.00	2,912.00	2,912.00	0%
Office Manager Project Time & Costs	0.00	2,080.00	2,080.00	0%
Attorney Fees	0.00	3,000.00	3,000.00	0%
Accounting Services	0.00	3,600.00	3,600.00	0%
Procurement Advertising	0.00	2,000.00	2,000.00	0%
Audit	0.00	1,500.00	1,500.00	0%
Meeting Support	0.00	25,425.00	25,425.00	0%
Meeting Facilitation	0.00	12,600.00	12,600.00	0%
Outreach - Advertising	0.00	3,000.00	3,000.00	0%
Outreach - Printed Materials	0.00	3,000.00	3,000.00	0%
Outreach - Postage	0.00	750.00	750.00	0%
Outreach - Facilitation	0.00	1,350.00	1,350.00	0%
Outreach - Meeting Support	0.00	3,592.20	3,592.20	0%
Outreach - Room Rental	0.00	450.00	450.00	0%
G. CONSTRUCTION	0.00	0.00	0.00	NA
H. OTHER	0.00	0.00	0.00	NA
I. INDIRECT COSTS	0.00	0.00	0.00	NA
J. PROGRAM INCOME	0.00	0.00	0.00	NA
TOTALS	$0.00	$65,259.20	$65,259.20	0%

ATTACHMENT 2

MASTER SCHEDULE

ADMINISTRATIVE RFP

ITEM	DUE	COM. Y/N	RESPONSIBLE
1. Develop RFP Criteria	April 14		Ken/Victor
2. Review schedule/process Review Admin RFP Select Admin Review Panel Select Tech. Review Panel	April 23		Oversight Panel
3. Receive Grant Money	April 23		DOE
4. Place Ad in Denver Post	April 30		Ken/Mickey/Hank
5. RFP mailed out	May 1		Ken/Mickey
6. Meeting of Bidders	May 8		City of Westminster Ken Korkia
7. Get Proposals Back	May 14		Ken Korkia
8. Review contract rules of Operation developed	May 14		Oversight Panel
9. Review team meets	May 15		Review Panel
10. Review Team meets to select	May 21		Review Panel
11. Interview of finalists/select	May 26		Review Panelr
12. Negotiation/Development	May 27		Review Panel
13. Approval of contractor	May 28		Oversight Panel
14. Contract approved by RFCAB	June 4		RFCAB
15. Est. Project end	June 1		Teamwork by All
16. Start Date of Admin Contract	June 5		Consultant

MASTER SCHEDULE

TECHNICAL RFP

ITEM	DATE	COM.Y/N	RESPONSIBLE
1. Tech.Eval Comm named	April 23		Oversight Panel
2. Complete I RFP Cost Projection	May 6		Victor/Ken
3. Review of RFP	May 14		Oversight Panel
4. Dev. Selection Criteria	May 25		Tech Eval .Comm.
5. Place Ad in Post/Bus.Daily	May 24.		Ken/Hank/Mickey
6. RFP Mailed Out	June 1		Ken/Mickey
7. Submit written questions by prospective bidders	June 19		Ken/Steering Com.
8. Proposals due back	July 17		Ken Korkia
9. Review proposals	July 30		Tech Eval Comm
10. Eval. Comm. Selects	Aug. 5		Tech Eval. Comm
11. Interview	Aug 11/12		Oversight Panel
12. Negotiation/Development			
13. Approval of Contractor	Aug 13		Oversight Panel
14. Contract approved by RFCAB	Sept 3		RFCAB
15. Request for addi. Grant. $			Ken Korkia
16. Award of Contract	Sept 4		

ATTACHMENT 3

DRAFT

REQUEST FOR PROPOSALS

Administrative Support Services for the Rocky Flats Radionuclide Soil Action Levels Oversight Panel

1. PLACE, DATE AND TIME FOR RECEIPT OF PROPOSALS

Proposals to provide administrative support services for the Rocky Flats Radionuclide Soil Action Levels Oversight Panel (hereinafter referred to as the "Oversight Panel"), as described below, will be received by the Rocky Flats Citizens Advisory Board (RFCAB), 9035 Wadsworth Parkway, Suite 2250, Westminster, Colorado 80021, until 4:00 p.m. on Thursday, May 14, 1998.

2. GENERAL INFORMATION AND REQUIREMENTS

2.1 Availability of Information. This Request for Proposals (RFP) is being issued by RFCAB on May 1, 1998. The RFP will be made available to any interested party who requests it. A list of recipients of the RFP may be obtained at the RFCAB office.

General questions about RFCAB should be directed to Ken Korkia, Rocky Flats Citizens Advisory Board, 9035 Wadsworth Parkway, Suite 2250, Westminster, Colorado 80021; phone number (303) 420-7855.

General questions about the Oversight Panel and this RFP may be directed to Hank Stovall, Co-Chair of the Oversight Panel, at (303) 466-5986.

2.2 Minority Businesses. It is the policy of RFCAB that small and minority firms, women's businesses and labor surplus area firms, shall have the maximum opportunity to participate as contractors, subcontractors, suppliers, or vendors. Contractors shall not discriminate on the basis of race, creed, religion, color, national origins, gender, ancestry, age, marital status or disability, in the bidding for and the performance of subcontracts.

2.3 Supplements and Addenda. Any change to the RFP documents issued prior to the date established for submission of proposals will be issued by RFCAB to all recipients of record. A mandatory pre-bidding conference will be held on Friday, May 8, 1:00 p.m. at the Westminster City Hall, Second Floor Council Members Boardroom, 4800 W. 92nd Avenue, Westminster, Colorado. Any clarifications, interpretations and other forms of oral response outside of the pre-bidding conference, whether by RFCAB, the Oversight Panel or others, shall not be construed as valid or binding. In the event that RFCAB or the Oversight Panel deems that an addendum to the RFP is necessary, the addendum will be sent by mail to all recipients of record.

2.4 Withdrawal or Revision of Proposals. A proposer may withdraw or revise a proposal after it has been deposited with RFCAB. Withdrawal of a proposal must be made in writing and must occur prior to the time for receipt of proposals. Any proposal withdrawn for the purpose of revision must be resubmitted in the specified format within the time set for receipt of proposals. Proposals may not be withdrawn after the time set for receipt. The proposer's proposal is a binding offer which shall remain open and irrevocable for sixty days from the date of submission, or until accepted by RFCAB.

2.5 Disqualification of Proposers. The following reasons will be considered sufficient for disqualifying a proposer and the rejection of the proposal or proposals:

2.5.1 Incomplete proposals.
2.5.2 Exemptions taken to the terms and conditions of the RFP.
2.5.3 Evidence of collusion among competing proposers.
2.5.4 Receipt of proposal beyond the date set for receipt.
2.5.5 Evidence of misrepresentations or falsehoods.

2.6 Multiple Proposals. Proposers may join together to submit a joint proposal; however, a lead proposer must be indicated. No more than one proposal will be accepted from any lead proposer. However, subcontractors may team with more than one proposer to provide specialized services.

2.7 Rejection of Proposals. RFCAB and the Oversight Panel reserve the right to reject any or all proposals for any reason or for no reason and to waive informalities in proposals.

3. PROJECT DESCRIPTION

3.1 Background.

In 1996, the Department of Energy, the Colorado Department of Public Health and Environment, and the Environmental Protection Agency established Soil Action Levels for the cleanup of the Rocky Flats Environmental Technology Site. These Soil Action Levels are incorporated into the Rocky Flats Cleanup Agreement.

Soon after learning about the Soil Action Levels, members of the local community expressed concerns about the numerical values as they were appreciably higher than similar standards or values used for the remediation of other radioactively contaminated locations across the globe. Several entities, including the Rocky Flats Citizens Advisory Board, the cities of Westminster and Broomfield, and Congressman David Skaggs called for an independent assessment of the Soil Action Levels and the process used to establish them. Late in 1996, the Department of Energy agreed to fund such a study.

To provide oversight of the study, a panel of thirteen community representatives was formed, known officially as the Rocky Flats Radionuclide Soil Action Levels Oversight Panel. This panel will select a technical contractor to review issues surrounding the Soil Action Levels and oversee the conduct of the study.

In order to fund the study, the Department of Energy will use the existing grant vehicle it has with the Rocky Flats Citizens Advisory Board (RFCAB). RFCAB will be responsible for all aspects involving the administration of the grant monies, including submitting a grant amendment or application, reviewing and approving contracts, and authorizing and disbursing funds to the Oversight Panel's contractors. As the fiduciary agent, RFCAB will negotiate and sign all contracts for any project services. The Oversight Panel will have responsibility for developing requests for proposals and selecting contractors in consultation with RFCAB, and will then oversee the work of these contractors.

As its major project activity, the Oversight Panel will select and oversee the work of an independent technical contractor who will examine issues associated with the Soil Action Levels. At a minimum, the Oversight Panel will meet in work sessions on a monthly basis. At the project's end, the Oversight Panel will review the findings of the contractor and provide a report and/or recommendations to the Department of Energy, the Colorado Department of Public Health and Environment, and the Environmental Protection Agency.

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To conduct efficient operations, the Oversight Panel will require an administrative support services contractor for activities such as preparing agendas, communications and meeting minutes, coordinating the technical services contractor's travel and accommodations, handling meeting logistics, and other miscellaneous functions. As indicated above, the Oversight Panel will meet, at a minimum, in monthly work sessions. Also, during the life of the project, the Oversight Panel will conduct a public outreach program to share information with members of the general public concerning its activities and findings. The administrative support contractor will assist the Oversight Panel in these outreach functions to include development and distribution of printed materials, and the advertisement, arrangement and conduct of the public meetings.

The project duration for the conduct of the independent assessment of the Soil Action Levels is estimated for one year.

3.2 Communications

As described above, RFCAB will handle all matters related to this project for contract administration and financial management. The Oversight Panel will be responsible for the day-to-day direction of the activities for the support services contractor. To facilitate reliable and direct communications between the Oversight Panel and the contractor, the contractor will work with the Steering Committee of the Oversight Panel. This Steering Committee consists of two co-chairs plus two additional members of the Oversight Panel. Communications between the contractor and RFCAB will be limited to matters relating to contract issues and financial matters. This communication will be directed through the Board/Staff Coordinator and the Executive Committee of RFCAB.

For purposes of compensation, the Steering Committee and the Board/Staff Coordinator for RFCAB will review all invoices submitted by the contractor. All monies for compensation will come from RFCAB. Because the funds awarded to the contractor for services performed are from a federal grant source, applicable federal rules for procurement, conduct of activities and compensation must be followed by RFCAB, the Oversight Panel and the contractor.

3.3 Scope of Work

The contract will be based on payment for hours actually worked and materials used in conducting the following types of activities listed below. Materials will be billed at actual cost incurred plus an add-on. The eventual contract will specify a monthly budget for direct reimbursable costs such as consumable supplies, postage, printing, delivery services, mileage reimbursement, and long-distance phone charges.

3.3.1 Oversight Panel Work Sessions

Currently, the Oversight Panel anticipates at least eighteen work sessions to be conducted over the expected twelve month duration of the Project. The projected tasks for the support contractor include:

3.3.1.A Audio record of work sessions: The contractor will provide equipment for and tape record the complete proceedings of the work sessions. These tapes will be stored until the end of the project when they will be returned to RFCAB for archiving.

3.3.1.B Minutes of work sessions and archiving of materials: The contractor will prepare minutes of all work sessions to include major points of discussion, all motions and decisions, and any action items for incomplete work or future agenda items. Any available notes, outlines or view-graphs from formal presentations made to the Oversight Panel will be included as addendum to the minutes. The contractor will collect and maintain all project materials as a record

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of the Project. Upon completion of the Project, these materials will be turned over to RFCAB for archiving.

3.3.1.C Work Session Preparation: Approximately one week before a scheduled meeting, the contractor, working with the Steering Committee will collect, copy and mail to each member a packet consisting of a notice of the meeting, an agenda, draft copies of any motions, letters or other business to be decided at the meeting, and any other material deemed appropriate by the Steering Committee.

3.3.1.D Day-to-Day Operations: The contractor will act as a clearing center for communications to panel members to include distribution of faxes and correspondence, mailing of materials, and phone messaging. Other administrative duties may be required periodically to assure the smooth operation of the Oversight Panel. Should the Oversight Panel produce any reports or other documents over the life of the project, the contractor would assist in their development to include word processing, printing and distribution.

3.3.1.E Coordination with the Oversight Panel: The contractor will be required to meet with the Steering Committee and other project managers at least once per month, or as deemed necessary by the Oversight Panel.

3.3.1.F Support Services During Selection of Technical Support Services Contractors: After securing the services of the administrative support contractor, the Oversight Panel will begin the process of securing bids and selecting a contractor for the technical review of the Soil Action Levels. The administrative support contractor will assist the Oversight Panel in this task to include activities such as word processing, materials preparation, mailing, and other tasks as necessary.

3.3.1.G Logistical Support for the Technical Review Services Contractor: The contractor will coordinate with the Technical Review Services Contractor for any services and arrangements such as travel, lodging and other tasks as necessary.

3.3.2 Public Information Meetings and Outreach

During the life of the technical review project, the Oversight Panel intends to conduct up to three public information meetings as part of a public outreach program. Although all its work sessions will be open to the public, these public information meetings are seen as an additional way to formally provide information to members of the general public and to solicit their feedback on issues related to the project. The administrative support contractor will be asked to perform the following tasks related to the public outreach program:

3.3.2.A Meeting Planning and Conduct: The contractor will, in consultation with the Oversight Panel, make all arrangements for the public meetings including the procurement of meeting locations and necessary equipment, the development and preparation of materials for distribution, logistical arrangements for guests or speakers, preparation of print advertisements, and the preparation and distribution of mailed notices to members of the public. The contractor will be available for these meetings to handle all situations or conditions to ensure that the meetings run smoothly.

3.3.3 General Requirements

The contractor must have access to the following equipment:

1) Computer with word processing, graphics, data processing and electronic communications capability

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2) Broadcast fax machine

3) A scanner capable of character and graphic recognition

4) A copy machine with capabilities for sorting and making several thousand copies per month

5) Telephone with voice messaging capability

6) Metered postage capability

7) Audio recording equipment

4. KEY PROJECT DATES FOR ADMINISTRATIVE SUPPORT SERVICES

The following dates have been established for the Project:

May 1, 1998	RFP for Administrative Support Services is Released
May 8, 1998	Pre-bidders Conference
May 14, 1998	Deadline for Receipt of Proposals
May 15, 1998	Proposal Review Team begins review
May 21, 1998	Review Team meets to select finalists for interviews
May 26, 1998	Interviews for finalists / Selection of winning contractor
May 27, 1998	Negotiation and development of contract begins
May 28, 1998	Approval of contractor choice by Oversight Panel
June 4, 1998	Contract approved by RFCAB
June 5, 1998	Start date for administrative support services contractor
September 4, 1998	Start date for technical review services contractor
June 1, 1999	Estimated project completion

5. FEES BID

The proposer shall indicate a fully burdened hourly rate for services provided as outlined in Section 3.3, Scope of Work.. The contractor will then break this burdened hourly rate into direct labor and indirect costs, and also will indicate how provisions for profit will be factored in. The contractor will indicate any additional mark-up for direct costs. If there are several individuals assigned to this project who will work at different direct labor rates, the proposal must indicate these various direct labor rates by individual, as well as indirect costs and provisions for profit, and a percentage level of effort must be allocated for each individual.

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negotiation or interviews. The Oversight Panel reserves the right to reject any or all proposals at its sole discretion.

6.2.1 Verification. During the evaluation, the Oversight Panel may request proposers to verify certain aspects of their respective proposals. Substantive discussions will not be held with any proposer when requesting verification.

6.2.2 Notifications. The Oversight Panel will notify those proposers who are selected for negotiation or interview. They will also notify in writing all proposers who have not been selected.

6.3 Negotiations and Interviews. The Oversight Panel may elect to conduct negotiations or interviews either sequentially or simultaneously with all proposers selected. Concepts and ideas developed by any proposer or during negotiation may be discussed with all proposers. However, each proposer's documents and pricing will be held in confidence by the Oversight Panel, to the extent allowed under law applicable to recipients of federal grants.

6.3.1 Intent. It is the intent of the Oversight Panel to conduct negotiations or interviews with selected proposers to:

a. Further define aspects of the proposal;

b. Allow the proposer to better demonstrate his or her understanding of the scope of work and the capacity of the proposer's staff to accomplish the work;

c. Allow the Oversight Panel to define final scope of work for the project;

d. Allow the selected proposers to submit a Best and Final Offer for the final scope of work for the project, if the Oversight Panel desires.

6.3.2 Best and Final Offers (BAFO). If desired, the Oversight Panel may request BAFOs following negotiations with selected proposers. The request will include:

a. Notice that negotiations are concluded;

b. Notice that this is the opportunity to submit a BAFO;

c. A requirement that a signed contract accompany the BAFO; and

d. Notice that the BAFO must be received by a specified date and time.

6.4 Final Selection. Following the evaluation and/or negotiation process, the Oversight Panel may select that proposer whose proposal or BAFO is most advantageous considering fees and other factors. It is the intent of the Oversight Panel to contract with one lead proposer to conduct all elements of this project. However, the Oversight Panel reserves the right to contract with more than one firm for separate elements of the project if it is advantageous to the Oversight Panel. After such selection, the Oversight Panel will notify in writing all proposers the name of the selected proposer. The Oversight Panel will not be obligated to provide information to any proposer concerning the basis for non-selection.

6.4 Disposition of Proposals. Submitted proposals shall not be returned and shall become the property of the Oversight Panel and will be turned over to RFCAB for archiving.

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6. SELECTION CRITERIA AND PROCESS

The Oversight Panel may accept a proposal as submitted or it may elect to negotiate with one or more proposers as hereinafter described.

6.1 Selection Criteria. The Oversight Panel will evaluate proposals on the basis of the evaluation criteria listed below:

6.1.1 Any firm selected for this project must be US-owned, and must carry worker's compensation coverage required by their state.

6.1.2 Evaluation Criteria

6.1.2.A Specific Proposal Scoring Criteria (50%)

The following point system will be used in scoring the proposals. Points listed are maximum in each category.

1. Statement of qualifications including descriptions of past experience with similar work (15 points)

2. List of at least 3 references with names, addresses, and current phone numbers (5 points)

2. Letters of client satisfaction from at least 3 previous clients (5 points)

3. Statement of capacity to accomplish the work, staff experience / education (10 points)

4. Current project workload and client list (5 points)

5. Description of how the contractor will accomplish the work (20 points)

6. Project Management - statement on quality control factors, assignment of staff responsibilities (15 points)

7. Description of fiscal management system to be used to track costs, prepare itemized statements for billing of statements, and match expenditures to budget for direct costs. (15 points)

8. Description and age of equipment to be used to perform work functions. (5 points)

9. Fees description and breakdown (5 points)

6.1.2.B Cost (50 %)

After evaluation of the written proposals, the firms deemed most responsive based on the scores in section 6.1.2.A above will be ranked based on cost. The lowest bid, based on the burdened hourly rate and mark-up costs, will receive the highest score.

6.2 Selection for Negotiation. The Oversight Panel will review and evaluate all proposals using the criteria described in Section 6.1 above and may select as many as four for further

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7. PROPOSAL REQUIREMENTS

7.1 Five copies of the completed proposal shall be submitted.

7.2 The proposal shall consist, at a minimum, of the following sections:

a. Work approach, describing how you would accomplish the work tasks, including descriptions of equipment to be used and assignment of key project staff.

b. Work management, including quality and cost control factors and staff responsibilities for work tasks. If more than one firm is involved, how the lead proposer will manage and integrate the work and specific tasks to be performed by team members. Description of process you will use to maintain work tasks and direct costs within budget parameters set forth by the Oversight Panel, and methodology to identify and report budget variances to Oversight Panel and RFCAB project managers.

c. Capacity to accomplish work, including current and projected workload, and qualifications of firm and members of the project staff.

d. Experience of firm and project staff, including a client list for at least three previous years.

e. References, including names, addresses, phone numbers and general project descriptions for at least three clients who are familiar with the quality of the service you performed. As indicated in Section 6.1.2.A, Specific Proposal Scoring Criteria, points will be awarded to those proposers who include letters of client satisfaction with their proposals.

f. Fees, showing burdened hourly rate that is further broken down into direct labor costs, indirect cost and provisions for profit. Mark-ups for direct costs, if applicable, must be indicated. Also, if team members are at different labor rates, the proposal must provide the same breakdown of the assigned hourly rate for each team member and must also indicate the estimated percentage of time allocated to each team member towards completion of the work tasks.

g. Original signature of the lead proposer.

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ATTACHMENT 4

DRAFT

RFCAB PURCHASE ORDER 98-X

April x, 1998

Laura Till
[redacted]

Dear Laura:

The Rocky Flats Citizens Advisory Board (RFCAB) is pleased to request your services under this purchase order for facilitation. You will perform these services on RFCAB's behalf for the Rocky Flats Radionuclide Soil Action Levels Oversight Panel. The period of performance under this Purchase Order is May 1, 1998 through December 31, 1998. We anticipate renewal in 1999 for six months or until the completion of the Oversight Panel's work. Compensation for services rendered will be at the rate of $150 per hour. All invoices will show hours, activities and dates actually worked. RFCAB does not guarantee any minimum amount of work or compensation.

The services and deliverables include, but are not limited to: providing facilitation services during at least one, sometimes two, Oversight Panel meetings per month, for approximately four hours each meeting. You may be requested to facilitate additional meetings on behalf of the Oversight Panel; your services will be requested in advance by the Steering Committee of the Oversight Panel.

Your status will be that of a Consultant. You will not be eligible to participate in RFCAB's employee benefits package and you will be responsible for all tax liabilities in accordance with applicable laws and standard business practices.

In addition, RFCAB reserves the right to terminate this Purchase Order for any purpose to include but not limited to: interruption and/or change in funding or scope of work; failure to comply with reporting/deliverable requirements; delinquent reporting of such deliverable requirements; or for any reason that is deemed to be in the best interest of RFCAB, with written notice to the Consultant. RFCAB will not be responsible for any training the Consultant may require to properly perform their work for RFCAB.

Sincerely,

Tom Marshall, Chair

I agree to the terms and conditions stated above:

Laura Till

City of Broomfield

One DesCombes Drive, Broomfield Colorado 80020

DATE: April 20, 1998
FROM: Kathy Schnoor, Environmental Services PHONE: 438-6363
RE: RF-SAL Oversight Panel # of pages 17

			PHONE	FAX	
	David Abelson	Cong. Skaggs' Ofc	303-650-7886	303-650-7893	
A	Jim McCarthy	City of Arvada	303-431-3042	303-431-3969	
P	Carol Lyons	City of Arvada	303-421-2550	303-431-3911	
P	Lisa Morzel	City of Boulder	[redacted]	303-441-4478	
A	John Tayer	City of Boulder	303-441-3005	303-441-4478	
	Tim Holeman	City of Broomfield	303-355-5492	303-355-5530	
A	Kathy Schnoor	City of Broomfield	303-438-6363	303-438-6234	
P	Hank Stovall	City of Broomfield	303-466-5986	303-469-8554	
P	Tom Davidson	City of Louisville	303-666-6565	303-673-9043	
A	Sam Dixion	City of Westminster	303-426-1202	303-429-5113	
P	Mary Harlow	City of Westminster	303-430-2400 x 2174	303-650-1643	
E	Jackie Berardini	CDPHE	303-692-3472	303-691-7702	
	Herb Betts	CDPHE	303-692-2665	303-782-0188	
	Dr. Norma Morin	CDPHE	303-692-2645	303-782-0188	
	Steve Gunderson	CDPHE	303-692-3367	303-759-5355	
	Steve Tarlton	CDPHE	303-692-3423	303-782-4969	
	Edd Kray	CDPHE	303-966-2115	303-966-5449	
	Carl Spreng	CDPHE	303-692-3358	303-759-5355	
P	Dean Heil	CSU	970-491-6516	970-491-0564	
	Autar Rampertaap, Jim Fiore	DOE HQ	301-903-8191	301-903-3877	
	Jeremy Karpatkin	DOE	303-966-2080	303-966-6633	
	Jessie Roberson	DOE/RFFO	303-966-2025	303-966-6054	
E	Steve Slaten	DOE	303-966-4839	303-966-3710	
E	Tim Rehder	EPA	303-312-6293	303-312-6067	
P	Ken Starr	Jefferson County	303-271-5714	303-271-5702	
	John Corsi	Kaiser Hill	303-966-6526	303-966-6153	
	Dave Shelton	Kaiser Hill	303-966-9877	303-966-5001	
P	Niels Schonbeck	Metro State	303-556-8327	303-556-5399	
A	John Shepherd	Physician/Soc Resp	303-650-4460	303-650-4403	Please call when faxing
A	Victor Holm	RFCAB	303-989-9086	303-980-9076	
P	Bob Kanick	RFCAB	303-444-0049	303-444-0072	
	Ken Korkia	RFCAB	303-420-7855	303-420-7579	
A	Tom Marshall	RFCAB	303-444-6981	303-444-6523	
P	LeRoy Moore	RMPJC	303-444-6981	303-444-6523	
	Deanne Butterfield	RFLII	303-940-6090	303-940-6088	
	Will Neff	RFLII	303-940-6090	303-940-6088	
P	Joel Selbin	UCD Chem Dept	[redacted]	303-556-4776 (W)	
P	Todd Margulies	TM Consulting	303-279-6699	303-279-6699	Call 1st/include 1-303
P	Joe Goldfield	RFCAB-SNM	303-321-7276		

(P=Panel Member, A=Alternate, E=Ex-Officio)

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BROADCAST REPORT

DATE/TIME	4-20-98 6:06PM
LOCAL I. D.	3034386234
LOCAL NAME	CITY BROOMFIELD
LOGO	CITY BROOMFIELD

ART TIME 4-20-98 2:02PM
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13	DIAL GROUP	
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20	93034295113	FAILED 4/21
21	93036501643	GOOD
22	93036917702	GOOD
23	93037820188	GOOD
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25	93039665449	GOOD
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	93039666633	GOOD
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BROADCAST REPORT

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LOGO	CITY BROOMFIELD

ART TIME 4-20-98 9:23PM
OB SIZE 17 PAGES

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36	93039665001	GOOD
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40	93034440072	GOOD
41	93034207579	GOOD
42	93034446523	GOOD
43	93039406088	GOOD
44	93035564776	GOOD
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F-A-X M-E-M-O-R-A-N-D-U-M

TO: DISTRIBUTION

FROM: MARY HARLOW AND HANK STOVALL, CO-CHAIRS

SUBJECT: MEETING REMINDER FOR APRIL 23, 1998

DATE: APRIL 20, 1998

There will be a meeting **THURSDAY, APRIL 23, 1998, 4:00-6:00 PM.**

PLEASE NOTE THE CHANGE IN MEETING LOCATION:

Arvada City Hall- Anne Campbell Room. (Arvada City Hall is at 8101 Ralston Road, located on the North West Corner of Ralston Road and Allison Street, just west of the post office. Enter City Hall through the Police Entrance. The conference room is the first door on the left.)

PROPOSED AGENDA

- 4:00 Introductions
- 4:05 Co-chairs Update
- 4:15 Report from CAB-Ken Korkia
  - Budget (Attachment 1)
- 4:25 Discussion of RFP Process
  - Timeline (Attachment 2)
  - Other
- 4:40 Appoint review panel for selection of the Administrative Services Contractor
  - 5 member panel to review proposals and recommend contractor for board approval
- 4:55 Appoint technical review panel for selection of Technical Contractor
  - 7 member panel will develop selection criteria, review proposals and recommend contractor for board approval

- 5:10 Review Administrative Services RFP (Attachment 3)
- 5:30 Facilitator Contract (Attachment 4)
- 5:40 Public Comment
- 5:50 Other Topics/Future Agenda Items/Action Items
- 5:55 Next Meeting: May 14, 1998- Broomfield Municipal Center
  Zang's Spur Conference Room

- 6:00 Adjourn

ATTACHMENT 1

BUDGET DETAIL REQUIRED FOR NON-CONSTRUCTION PROGRAMS

Draft - April 2, 1998

A. PERSONNEL

No change is requested to this line item.

B. FRINGE BENEFITS

No change is requested to this line item.

C. TRAVEL

No change is requested to this line item.

D. EQUIPMENT

No change is requested to this line item.

E. SUPPLIES

No change is requested to this line item.

F. CONTRACTUAL $65,259.50

1. CAB Staff $4,992.00

CAB staff members will provide administrative services for this project, including grant management, review of invoices, process requests for payment, etc. The costs are estimated for a duration of the project of 52 weeks, and at the following rate: Board/Staff Coordinator, burdened cost of $28 per hour; and Office Manager, burdened cost of $20 per hour. (Board/Staff Coordinator: 52 weeks x 2 hours per week x $28 per hour = **$2,912.00**. Office Manager: 52 weeks x 2 hours per week x $20 per hour = **$2,080.00**).

2. Attorney Fees $3,000.00

An attorney will draft the contract for the technical contractors or review any documents as necessary. CAB currently contracts attorney services with Ankele, Icenogle, Norton & Seter, which charges $150 per hour for services (20 hours x $150 per hour = **$3,000.00**).

3. Accounting Services $3,600.00

Ongoing accounting services throughout the duration of the project will be provided by Gonzales Consulting Services, which currently provides services to CAB. Additional costs for financial services to a separate fund account as a result of this amendment to CAB's grant funding is estimated at $300 per month ($300 x 12 months = **$3,600.00**).

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4. Procurement Advertising **$2,000.00**

CAB will need to advertise on behalf of the Oversight Panel a request for bids for contractual support services for the panel. This estimate is based on previous CAB costs for advertising a request for interest in bidding on services.

5. Audit **$1,500.00**

One-time financial audit at end of project, to be provided by Johnson, Holscher & Company. Costs are determined based on CAB's annual audit plus an additional percentage to review and audit a separate fund account as a result of this amendment to CAB's grant funding = **$1,500.00.**

6. Meeting Support **$25,425.00**

For project services such as preparation of meeting agendas and materials, meeting minutes, copying, recording, transcription, secretarial services, etc. as determined by the panel and services yet to be contracted, estimated at $75 per hour (16 hours per meeting x 18 meetings per year x $75 per hour = **$21,600.00**). In addition, direct costs for meeting support to be incurred by and reimbursed to the contractor are estimated at:

- Consumable supplies: $100 per month x 12 months = **$1,200.00**
- Postage: $100 per meeting x 18 meetings = **$1,800.00**
- Printing: $25 per month x 12 months = **$300.00**
- Long distance: $25 per month x 12 months = **$300.00**
- Mileage: $12.50 per meeting x 18 meetings = **$225.00**

7. Meeting Facilitation **$12,600.00**

A facilitator has been contracted to coordinate all meetings of the panel. Costs are estimated at $150 per hour (4 hours per meeting x 21 meetings per year* x $150 per hour = **$12,600.00**). [*Note: 3 meetings have already been held for which facilitation services were provided and costs were incurred.]

8. Outreach Costs **$12,142.20**

The panel expects to hold 3 additional public meetings during the life of the project, to discuss the status of the project and to solicit public input. Those meetings will require advertising, postage to mail out notices, printed materials for distribution to the public, additional facilitation services and meeting support, as well as room rental for a larger forum.

a. Advertising **$3,000.00**

Advertising in three local papers, based on current costs for advertising CAB meetings (3 meetings x $1,000 per meeting = **$3,000.00**).

b. Printed Materials **$3,000.00**

For preparation of fact sheets, copies of status reports and notes, or special documents to be distributed to the public (3 meetings x $1,000 per meeting = **$3,000.00**).

c. Postage **$750.00**

To send out post cards or other notices for special public meetings (3 meetings x $250 per meeting = **$750.00**).

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d. Facilitation **$1,350.00**

Facilitation services for public meetings, provided by the facilitator for panel meetings (3 hours per meeting x 3 meetings x $150 per hour = **$1,350.00**).

e. Meeting Support **$3,592.20**

Support services for the panel yet to be contracted, estimated at $75 per hour (15 hours per meeting x 3 meetings x $75 per hour = **$3,375.00**). In addition, direct costs for meeting support to be incurred by and reimbursed to the contractor are estimated at:

- Consumable supplies: $50 per meeting x 3 meetings = **$150.00**
- Long distance: $10 per meeting x 2 meetings = **$30.00**
- Mileage: $12.50 per meeting x 3 meetings = **$37.50**

f. Room Rental **$450.00**

To provide a larger room for public meeting participants (3 meetings x $150 per meeting = **$450.00**).

9. Independent/Outside Consultants *

* CAB will submit a revised amendment to request additional grant funds on behalf of the Soil Action Levels Oversight Panel to contract the actual study. These costs have yet to be determined. For more information, please see the attached statement of work.

G) CONSTRUCTION

No change is requested to this line item.

H) OTHER

No change is requested to this line item.

I) INDIRECT COSTS

N/A.

J) PROGRAM INCOME

N/A.

TOTAL GRANT REQUEST = $65,259.50

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SAL BUDGET - as of 4/9/98	1998 Actual	1998 Budget	1998 Remaining	Percent Spent to Date
A. PERSONNEL	0.00	0.00	0.00	NA
B. FRINGE BENEFITS	0.00	0.00	0.00	NA
C. TRAVEL	0.00	0.00	0.00	NA
D. EQUIPMENT	0.00	0.00	0.00	NA
E. SUPPLIES	0.00	0.00	0.00	NA
F. CONTRACTUAL	0.00	65,259.20	65,259.20	0%
Board/Staff Coordinator Project Time & Costs	0.00	2,912.00	2,912.00	0%
Office Manager Project Time & Costs	0.00	2,080.00	2,080.00	0%
Attorney Fees	0.00	3,000.00	3,000.00	0%
Accounting Services	0.00	3,600.00	3,600.00	0%
Procurement Advertising	0.00	2,000.00	2,000.00	0%
Audit	0.00	1,500.00	1,500.00	0%
Meeting Support	0.00	25,425.00	25,425.00	0%
Meeting Facilitation	0.00	12,600.00	12,600.00	0%
Outreach - Advertising	0.00	3,000.00	3,000.00	0%
Outreach - Printed Materials	0.00	3,000.00	3,000.00	0%
Outreach - Postage	0.00	750.00	750.00	0%
Outreach - Facilitation	0.00	1,350.00	1,350.00	0%
Outreach - Meeting Support	0.00	3,592.20	3,592.20	0%
Outreach - Room Rental	0.00	450.00	450.00	0%
G. CONSTRUCTION	0.00	0.00	0.00	NA
H. OTHER	0.00	0.00	0.00	NA
I. INDIRECT COSTS	0.00	0.00	0.00	NA
J. PROGRAM INCOME	0.00	0.00	0.00	NA
TOTALS	$0.00	$65,259.20	$65,259.20	0%

ATTACHMENT 2

MASTER SCHEDULE

ADMINISTRATIVE RFP

ITEM	DUE	COM. Y/N	RESPONSIBLE
1. Develop RFP Criteria	April 14		Ken/Victor
2. Review schedule/process Review Admin RFP Select Admin Review Panel Select Tech. Review Panel	April 23		Oversight Panel
3. Receive Grant Money	April 23		DOE
4. Place Ad in Denver Post	April 30		Ken/Mickey/Hank
5. RFP mailed out	May 1		Ken/Mickey
6. Meeting of Bidders	May 8		City of Westminster Ken Korkia
7. Get Proposals Back	May 14		Ken Korkia
8. Review contract rules of Operation developed	May 14		Oversight Panel
9. Review team meets	May 15		Review Panel
10. Review Team meets to select	May 21		Review Panel
11. Interview of finalists/select	May 26		Review Panelr
12. Negotiation/Development	May 27		Review Panel
13. Approval of contractor	May 28		Oversight Panel
14. Contract approved by RFCAB	June 4		RFCAB
15. Est. Project end	June 1		Teamwork by All
16. Start Date of Admin Contract	June 5		Consultant

MASTER SCHEDULE

TECHNICAL RFP

ITEM	DATE	COM.Y/N	RESPONSIBLE
1. Tech.Eval Comm named	April 23		Oversight Panel
2. Complete I RFP Cost Projection	May 6		Victor/Ken
3. Review of RFP	May 14		Oversight Panel
4. Dev. Selection Criteria	May 25		Tech Eval .Comm.
5. Place Ad in Post/Bus.Daily	May 24.		Ken/Hank/Mickey
6. RFP Mailed Out	June 1		Ken/Mickey
7. Submit written questions by prospective bidders	June 19		Ken/Steering Com.
8. Proposals due back	July 17		Ken Korkia
9. Review proposals	July 30		Tech Eval Comm
10. Eval. Comm. Selects	Aug. 5		Tech Eval. Comm
11. Interview	Aug 11/12		Oversight Panel
12. Negotiation/Development			
13. Approval of Contractor	Aug 13		Oversight Panel
14. Contract approved by RFCAB	Sept 3		RFCAB
15. Request for addi. Grant. $			Ken Korkia
16. Award of Contract	Sept 4		

ATTACHMENT 3

DRAFT

REQUEST FOR PROPOSALS

Administrative Support Services for the Rocky Flats Radionuclide Soil Action Levels Oversight Panel

1. PLACE, DATE AND TIME FOR RECEIPT OF PROPOSALS

Proposals to provide administrative support services for the Rocky Flats Radionuclide Soil Action Levels Oversight Panel (hereinafter referred to as the "Oversight Panel"), as described below, will be received by the Rocky Flats Citizens Advisory Board (RFCAB), 9035 Wadsworth Parkway, Suite 2250, Westminster, Colorado 80021, until 4:00 p.m. on Thursday, May 14, 1998.

2. GENERAL INFORMATION AND REQUIREMENTS

2.1 Availability of Information. This Request for Proposals (RFP) is being issued by RFCAB on May 1, 1998. The RFP will be made available to any interested party who requests it. A list of recipients of the RFP may be obtained at the RFCAB office.

General questions about RFCAB should be directed to Ken Korkia, Rocky Flats Citizens Advisory Board, 9035 Wadsworth Parkway, Suite 2250, Westminster, Colorado 80021; phone number (303) 420-7855.

General questions about the Oversight Panel and this RFP may be directed to Hank Stovall, Co-Chair of the Oversight Panel, at (303) 466-5986.

2.2 Minority Businesses. It is the policy of RFCAB that small and minority firms, women's businesses and labor surplus area firms, shall have the maximum opportunity to participate as contractors, subcontractors, suppliers, or vendors. Contractors shall not discriminate on the basis of race, creed, religion, color, national origins, gender, ancestry, age, marital status or disability, in the bidding for and the performance of subcontracts.

2.3 Supplements and Addenda. Any change to the RFP documents issued prior to the date established for submission of proposals will be issued by RFCAB to all recipients of record. A mandatory pre-bidding conference will be held on Friday, May 8, 1:00 p.m. at the Westminster City Hall, Second Floor Council Members Boardroom, 4800 W. 92nd Avenue, Westminster, Colorado. Any clarifications, interpretations and other forms of oral response outside of the pre-bidding conference, whether by RFCAB, the Oversight Panel or others, shall not be construed as valid or binding. In the event that RFCAB or the Oversight Panel deems that an addendum to the RFP is necessary, the addendum will be sent by mail to all recipients of record.

2.4 Withdrawal or Revision of Proposals. A proposer may withdraw or revise a proposal after it has been deposited with RFCAB. Withdrawal of a proposal must be made in writing and must occur prior to the time for receipt of proposals. Any proposal withdrawn for the purpose of revision must be resubmitted in the specified format within the time set for receipt of proposals. Proposals may not be withdrawn after the time set for receipt. The proposer's proposal is a binding offer which shall remain open and irrevocable for sixty days from the date of submission, or until accepted by RFCAB.

2.5 Disqualification of Proposers. The following reasons will be considered sufficient for disqualifying a proposer and the rejection of the proposal or proposals:

2.5.1 Incomplete proposals.
2.5.2 Exemptions taken to the terms and conditions of the RFP.
2.5.3 Evidence of collusion among competing proposers.
2.5.4 Receipt of proposal beyond the date set for receipt.
2.5.5 Evidence of misrepresentations or falsehoods.

2.6 Multiple Proposals. Proposers may join together to submit a joint proposal; however, a lead proposer must be indicated. No more than one proposal will be accepted from any lead proposer. However, subcontractors may team with more than one proposer to provide specialized services.

2.7 Rejection of Proposals. RFCAB and the Oversight Panel reserve the right to reject any or all proposals for any reason or for no reason and to waive informalities in proposals.

3. PROJECT DESCRIPTION

3.1 Background.

In 1996, the Department of Energy, the Colorado Department of Public Health and Environment, and the Environmental Protection Agency established Soil Action Levels for the cleanup of the Rocky Flats Environmental Technology Site. These Soil Action Levels are incorporated into the Rocky Flats Cleanup Agreement.

Soon after learning about the Soil Action Levels, members of the local community expressed concerns about the numerical values as they were appreciably higher than similar standards or values used for the remediation of other radioactively contaminated locations across the globe. Several entities, including the Rocky Flats Citizens Advisory Board, the cities of Westminster and Broomfield, and Congressman David Skaggs called for an independent assessment of the Soil Action Levels and the process used to establish them. Late in 1996, the Department of Energy agreed to fund such a study.

To provide oversight of the study, a panel of thirteen community representatives was formed, known officially as the Rocky Flats Radionuclide Soil Action Levels Oversight Panel. This panel will select a technical contractor to review issues surrounding the Soil Action Levels and oversee the conduct of the study.

In order to fund the study, the Department of Energy will use the existing grant vehicle it has with the Rocky Flats Citizens Advisory Board (RFCAB). RFCAB will be responsible for all aspects involving the administration of the grant monies, including submitting a grant amendment or application, reviewing and approving contracts, and authorizing and disbursing funds to the Oversight Panel's contractors. As the fiduciary agent, RFCAB will negotiate and sign all contracts for any project services. The Oversight Panel will have responsibility for developing requests for proposals and selecting contractors in consultation with RFCAB, and will then oversee the work of these contractors.

As its major project activity, the Oversight Panel will select and oversee the work of an independent technical contractor who will examine issues associated with the Soil Action Levels. At a minimum, the Oversight Panel will meet in work sessions on a monthly basis. At the project's end, the Oversight Panel will review the findings of the contractor and provide a report and/or recommendations to the Department of Energy, the Colorado Department of Public Health and Environment, and the Environmental Protection Agency.

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To conduct efficient operations, the Oversight Panel will require an administrative support services contractor for activities such as preparing agendas, communications and meeting minutes, coordinating the technical services contractor's travel and accommodations, handling meeting logistics, and other miscellaneous functions. As indicated above, the Oversight Panel will meet, at a minimum, in monthly work sessions. Also, during the life of the project, the Oversight Panel will conduct a public outreach program to share information with members of the general public concerning its activities and findings. The administrative support contractor will assist the Oversight Panel in these outreach functions to include development and distribution of printed materials, and the advertisement, arrangement and conduct of the public meetings.

The project duration for the conduct of the independent assessment of the Soil Action Levels is estimated for one year.

3.2 Communications

As described above, RFCAB will handle all matters related to this project for contract administration and financial management. The Oversight Panel will be responsible for the day-to-day direction of the activities for the support services contractor. To facilitate reliable and direct communications between the Oversight Panel and the contractor, the contractor will work with the Steering Committee of the Oversight Panel. This Steering Committee consists of two co-chairs plus two additional members of the Oversight Panel. Communications between the contractor and RFCAB will be limited to matters relating to contract issues and financial matters. This communication will be directed through the Board/Staff Coordinator and the Executive Committee of RFCAB.

For purposes of compensation, the Steering Committee and the Board/Staff Coordinator for RFCAB will review all invoices submitted by the contractor. All monies for compensation will come from RFCAB. Because the funds awarded to the contractor for services performed are from a federal grant source, applicable federal rules for procurement, conduct of activities and compensation must be followed by RFCAB, the Oversight Panel and the contractor.

3.3 Scope of Work

The contract will be based on payment for hours actually worked and materials used in conducting the following types of activities listed below. Materials will be billed at actual cost incurred plus an add-on. The eventual contract will specify a monthly budget for direct reimbursable costs such as consumable supplies, postage, printing, delivery services, mileage reimbursement, and long-distance phone charges.

3.3.1 Oversight Panel Work Sessions

Currently, the Oversight Panel anticipates at least eighteen work sessions to be conducted over the expected twelve month duration of the Project. The projected tasks for the support contractor include:

3.3.1.A Audio record of work sessions: The contractor will provide equipment for and tape record the complete proceedings of the work sessions. These tapes will be stored until the end of the project when they will be returned to RFCAB for archiving.

3.3.1.B Minutes of work sessions and archiving of materials: The contractor will prepare minutes of all work sessions to include major points of discussion, all motions and decisions, and any action items for incomplete work or future agenda items. Any available notes, outlines or view-graphs from formal presentations made to the Oversight Panel will be included as addendum to the minutes. The contractor will collect and maintain all project materials as a record

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of the Project. Upon completion of the Project, these materials will be turned over to RFCAB for archiving.

3.3.1.C Work Session Preparation: Approximately one week before a scheduled meeting, the contractor, working with the Steering Committee will collect, copy and mail to each member a packet consisting of a notice of the meeting, an agenda, draft copies of any motions, letters or other business to be decided at the meeting, and any other material deemed appropriate by the Steering Committee.

3.3.1.D Day-to-Day Operations: The contractor will act as a clearing center for communications to panel members to include distribution of faxes and correspondence, mailing of materials, and phone messaging. Other administrative duties may be required periodically to assure the smooth operation of the Oversight Panel. Should the Oversight Panel produce any reports or other documents over the life of the project, the contractor would assist in their development to include word processing, printing and distribution.

3.3.1.E Coordination with the Oversight Panel: The contractor will be required to meet with the Steering Committee and other project managers at least once per month, or as deemed necessary by the Oversight Panel.

3.3.1.F Support Services During Selection of Technical Support Services Contractors: After securing the services of the administrative support contractor, the Oversight Panel will begin the process of securing bids and selecting a contractor for the technical review of the Soil Action Levels. The administrative support contractor will assist the Oversight Panel in this task to include activities such as word processing, materials preparation, mailing, and other tasks as necessary.

3.3.1.G Logistical Support for the Technical Review Services Contractor: The contractor will coordinate with the Technical Review Services Contractor for any services and arrangements such as travel, lodging and other tasks as necessary.

3.3.2 Public Information Meetings and Outreach

During the life of the technical review project, the Oversight Panel intends to conduct up to three public information meetings as part of a public outreach program. Although all its work sessions will be open to the public, these public information meetings are seen as an additional way to formally provide information to members of the general public and to solicit their feedback on issues related to the project. The administrative support contractor will be asked to perform the following tasks related to the public outreach program:

3.3.2.A Meeting Planning and Conduct: The contractor will, in consultation with the Oversight Panel, make all arrangements for the public meetings including the procurement of meeting locations and necessary equipment, the development and preparation of materials for distribution, logistical arrangements for guests or speakers, preparation of print advertisements, and the preparation and distribution of mailed notices to members of the public. The contractor will be available for these meetings to handle all situations or conditions to ensure that the meetings run smoothly.

3.3.3 General Requirements

The contractor must have access to the following equipment:

1) Computer with word processing, graphics, data processing and electronic communications capability

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2) Broadcast fax machine

3) A scanner capable of character and graphic recognition

4) A copy machine with capabilities for sorting and making several thousand copies per month

5) Telephone with voice messaging capability

6) Metered postage capability

7) Audio recording equipment

4. KEY PROJECT DATES FOR ADMINISTRATIVE SUPPORT SERVICES

The following dates have been established for the Project:

May 1, 1998	RFP for Administrative Support Services is Released
May 8, 1998	Pre-bidders Conference
May 14, 1998	Deadline for Receipt of Proposals
May 15, 1998	Proposal Review Team begins review
May 21, 1998	Review Team meets to select finalists for interviews
May 26, 1998	Interviews for finalists / Selection of winning contractor
May 27, 1998	Negotiation and development of contract begins
May 28, 1998	Approval of contractor choice by Oversight Panel
June 4, 1998	Contract approved by RFCAB
June 5, 1998	Start date for administrative support services contractor
September 4, 1998	Start date for technical review services contractor
June 1, 1999	Estimated project completion

5. FEES BID

The proposer shall indicate a fully burdened hourly rate for services provided as outlined in Section 3.3, Scope of Work.. The contractor will then break this burdened hourly rate into direct labor and indirect costs, and also will indicate how provisions for profit will be factored in. The contractor will indicate any additional mark-up for direct costs. If there are several individuals assigned to this project who will work at different direct labor rates, the proposal must indicate these various direct labor rates by individual, as well as indirect costs and provisions for profit, and a percentage level of effort must be allocated for each individual.

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6. SELECTION CRITERIA AND PROCESS

The Oversight Panel may accept a proposal as submitted or it may elect to negotiate with one or more proposers as hereinafter described.

6.1 Selection Criteria. The Oversight Panel will evaluate proposals on the basis of the evaluation criteria listed below:

6.1.1 Any firm selected for this project must be US-owned, and must carry worker's compensation coverage required by their state.

6.1.2 Evaluation Criteria

6.1.2.A Specific Proposal Scoring Criteria (50%)

The following point system will be used in scoring the proposals. Points listed are maximum in each category.

1. Statement of qualifications including descriptions of past experience with similar work (15 points)

2. List of at least 3 references with names, addresses, and current phone numbers (5 points)

2. Letters of client satisfaction from at least 3 previous clients (5 points)

3. Statement of capacity to accomplish the work, staff experience / education (10 points)

4. Current project workload and client list (5 points)

5. Description of how the contractor will accomplish the work (20 points)

6. Project Management - statement on quality control factors, assignment of staff responsibilities (15 points)

7. Description of fiscal management system to be used to track costs, prepare itemized statements for billing of statements, and match expenditures to budget for direct costs. (15 points)

8. Description and age of equipment to be used to perform work functions. (5 points)

9. Fees description and breakdown (5 points)

6.1.2.B Cost (50 %)

After evaluation of the written proposals, the firms deemed most responsive based on the scores in section 6.1.2.A above will be ranked based on cost. The lowest bid, based on the burdened hourly rate and mark-up costs, will receive the highest score.

6.2 Selection for Negotiation. The Oversight Panel will review and evaluate all proposals using the criteria described in Section 6.1 above and may select as many as four for further

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negotiation or interviews. The Oversight Panel reserves the right to reject any or all proposals at its sole discretion.

6.2.1 Verification. During the evaluation, the Oversight Panel may request proposers to verify certain aspects of their respective proposals. Substantive discussions will not be held with any proposer when requesting verification.

6.2.2 Notifications. The Oversight Panel will notify those proposers who are selected for negotiation or interview. They will also notify in writing all proposers who have not been selected.

6.3 Negotiations and Interviews. The Oversight Panel may elect to conduct negotiations or interviews either sequentially or simultaneously with all proposers selected. Concepts and ideas developed by any proposer or during negotiation may be discussed with all proposers. However, each proposer's documents and pricing will be held in confidence by the Oversight Panel, to the extent allowed under law applicable to recipients of federal grants.

6.3.1 Intent. It is the intent of the Oversight Panel to conduct negotiations or interviews with selected proposers to:

a. Further define aspects of the proposal;

b. Allow the proposer to better demonstrate his or her understanding of the scope of work and the capacity of the proposer's staff to accomplish the work;

c. Allow the Oversight Panel to define final scope of work for the project;

d. Allow the selected proposers to submit a Best and Final Offer for the final scope of work for the project, if the Oversight Panel desires.

6.3.2 Best and Final Offers (BAFO). If desired, the Oversight Panel may request BAFOs following negotiations with selected proposers. The request will include:

a. Notice that negotiations are concluded;

b. Notice that this is the opportunity to submit a BAFO;

c. A requirement that a signed contract accompany the BAFO; and

d. Notice that the BAFO must be received by a specified date and time.

6.4 Final Selection. Following the evaluation and/or negotiation process, the Oversight Panel may select that proposer whose proposal or BAFO is most advantageous considering fees and other factors. It is the intent of the Oversight Panel to contract with one lead proposer to conduct all elements of this project. However, the Oversight Panel reserves the right to contract with more than one firm for separate elements of the project if it is advantageous to the Oversight Panel. After such selection, the Oversight Panel will notify in writing all proposers the name of the selected proposer. The Oversight Panel will not be obligated to provide information to any proposer concerning the basis for non-selection.

6.4 Disposition of Proposals. Submitted proposals shall not be returned and shall become the property of the Oversight Panel and will be turned over to RFCAB for archiving.

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7. PROPOSAL REQUIREMENTS

7.1 Five copies of the completed proposal shall be submitted.

7.2 The proposal shall consist, at a minimum, of the following sections:

a. Work approach, describing how you would accomplish the work tasks, including descriptions of equipment to be used and assignment of key project staff.

b. Work management, including quality and cost control factors and staff responsibilities for work tasks. If more than one firm is involved, how the lead proposer will manage and integrate the work and specific tasks to be performed by team members. Description of process you will use to maintain work tasks and direct costs within budget parameters set forth by the Oversight Panel, and methodology to identify and report budget variances to Oversight Panel and RFCAB project managers.

c. Capacity to accomplish work, including current and projected workload, and qualifications of firm and members of the project staff.

d. Experience of firm and project staff, including a client list for at least three previous years.

e. References, including names, addresses, phone numbers and general project descriptions for at least three clients who are familiar with the quality of the service you performed. As indicated in Section 6.1.2.A, Specific Proposal Scoring Criteria, points will be awarded to those proposers who include letters of client satisfaction with their proposals.

f. Fees, showing burdened hourly rate that is further broken down into direct labor costs, indirect cost and provisions for profit. Mark-ups for direct costs, if applicable, must be indicated. Also, if team members are at different labor rates, the proposal must provide the same breakdown of the assigned hourly rate for each team member and must also indicate the estimated percentage of time allocated to each team member towards completion of the work tasks.

g. Original signature of the lead proposer.

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ATTACHMENT 4

DRAFT

RFCAB PURCHASE ORDER 98-X

April x, 1998

[redacted]

Dear Laura:

The Rocky Flats Citizens Advisory Board (RFCAB) is pleased to request your services under this purchase order for facilitation. You will perform these services on RFCAB's behalf for the Rocky Flats Radionuclide Soil Action Levels Oversight Panel. The period of performance under this Purchase Order is May 1, 1998 through December 31, 1998. We anticipate renewal in 1999 for six months or until the completion of the Oversight Panel's work. Compensation for services rendered will be at the rate of $150 per hour. All invoices will show hours, activities and dates actually worked. RFCAB does not guarantee any minimum amount of work or compensation.

The services and deliverables include, but are not limited to: providing facilitation services during at least one, sometimes two, Oversight Panel meetings per month, for approximately four hours each meeting. You may be requested to facilitate additional meetings on behalf of the Oversight Panel; your services will be requested in advance by the Steering Committee of the Oversight Panel.

Your status will be that of a Consultant. You will not be eligible to participate in RFCAB's employee benefits package and you will be responsible for all tax liabilities in accordance with applicable laws and standard business practices.

In addition, RFCAB reserves the right to terminate this Purchase Order for any purpose to include but not limited to: interruption and/or change in funding or scope of work; failure to comply with reporting/deliverable requirements; delinquent reporting of such deliverable requirements; or for any reason that is deemed to be in the best interest of RFCAB, with written notice to the Consultant. RFCAB will not be responsible for any training the Consultant may require to properly perform their work for RFCAB.

Sincerely,

Tom Marshall, Chair

I agree to the terms and conditions stated above:

Laura Till

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CITY OF ARVADA

CITY MANAGER'S OFFICE (303) 431-3000
FACSIMILE (303) 431-3911

FACSIMILE

DATE: 4/22/98

OF PAGES SENT 2

	PLEASE DELIVER TO:			FAX #:	
	David Abelson	Cong. Skaggs' Ofc	303-650-7886	303-650-7893	
A	Jim McCarthy	City of Arvada	303-431-3042	303-431-3969	
P	Carol Lyons	City of Arvada	303-421-2550 x3292	303-431-3911	
P	Lisa Morzel	City of Boulder	[redacted]	303-441-4478	
A	John Tayer	City of Boulder	303-441-3005	303-441-4478	
	Tim Holeman	City of Broomfield	303-355-5492	303-355-5530	
A	Kathy Schnoor	City of Broomfield	303-438-6363	303-438-6234	
P	Hank Stovall	City of Broomfield	303-466-5986	303-469-8554	
P	Tom Davidson	City of Louisville	303-666-6565	303-673-9043	
A	Sam Dixion	City of Westminster	303-426-1202	303-429-5113	
P	Mary Harlow	City of Westminster	303-430-2400 x 2174	303-650-1643	
E	Jackie Berardini	CDPHE	303-692-3472	303-691-7702	
	Herb Betts	CDPHE	303-692-2665	303-782-0188	
	Dr. Norma Morin	CDPHE	303-692-2645	303-782-0188	
	Steve Gunderson	CDPHE	303-692-3367	303-759-5355	
	Steve Tarlton	CDPHE	303-692-3423	303-782-4969	
	Edd Kray	CDPHE	303-966-2115	303-966-3449	
	Carl Spreng	CDPHE	303-692-3358	303-759-5355	
P	Dean Heil	CSU	970-491-6516	970-491-0564	
	Autar Rampertaap,				
	Jim Fiore	DOE HQ	301-903-8191	301-903-3877	
	Jeremy Karpatkin	DOE	303-966-2080	303-966-6633	
	Jessie Roberson	DOE/RFFO	303-966-2025	303-966-6054	
E	Steve Slaten	DOE	303-966-4839	303-966-3710	
E	Tim Rehder	EPA	303-312-6293	303-312-6067	
P	Ken Starr	Jefferson County	303-271-5714	303-271-5702	
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P	Niels Schonbeck	Metro State	303-556-8327	303-556-6399	
A	John Shepherd	Physician/Soc Resp	303-650-4460	303-650-4403	Please call when faxing
A	Victor Holm	RFCAB	303-989-9086	303-980-9076	
P	Bob Kanick	RFCAB	303-444-0049	303-444-0072	
	Ken Korkia	RFCAB	303-420-7855	303-420-7579	
A	Tom Marshall	RFCAB	303-444-6981	303-444-6523	
P	LeRoy Moore	RMPJC	303-444-6981	303-444-6523	
	Deanne Butterfield	RFLII	303-940-6090	303-940-6088	
	Will Neff	RFLII	303-940-6090	303-940-6088	
P	Joel Selbin	UCD Chem Dept	[redacted]	303-556-4776 (W)	
P	Todd Margulies	TM Consulting	303-279-6699	303-279-6699	Call 1st/include 1-303

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April 22, 1998

TO: Mary Harlow, City of Westminster
Hank Stovall, City of Broomfield

cc: Kathy Schnoor, City of Broomfield
Panel members

FROM: Carol Lyons, City of Arvada

RE: **Rocky Flats Soil Action Level Oversight Panel**
Proposed Agenda, April 23, 1998

Thanks for the packet of information, including the proposed agenda, faxed to me Monday night for the meeting tomorrow. It looks like a lot of preparation has been done. I have some suggestions for the proposed agenda for the meeting April 23, 1998.

- According to my notes, we agreed at the last two meetings that the panel functioning process would be on the agenda of the next meeting. I do not see it on this proposed agenda. Since it has already been postponed from earlier meetings, I suggest it be placed first on the agenda, with about 45 minutes allotted.

- One comment on the CAB budget: The budget shows $450 for meeting space. There is plenty of meeting space available at Arvada City Hall for no charge, daytime or evening, refreshments provided. What is the $450 for?

- On the schedule for the Administrative RFP, I suggest that the bidders meeting be hosted by a panel member.

I hope the agenda can be revised to include the topic we agreed to discuss earlier. If you have any questions, please let me know.

Carol

Carol E. Lyons
Rocky Flats Coordinator
City of Arvada
P.O. Box 8101
Arvada, CO 80001
(303) 421-2550 ext. 3292
fax (303) 431-3911
[redacted]S

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Chambers - Conference Room Reservation Request

/x / After-hours meeting	/ / Special Requests

/x / Request building to be open between 3:30 pm and 6:30 pm

Meeting Date:	From: 3:30 pm	Room Requested:
Thurs May 14, 1998	To: 6:30 pm	Zang Spur conf rm

Purpose of Meeting: Rocky Flats - Soil Action Level (SAL) group

Employee: Kathy Schnoor/Hank Stovall	# People approx 30
Group: Public Works	City staff present / x / yes / / no

Special equipment needed: ____NA_____

Special instructions/requests: _NA_____

Coffee service will be used (Must be cleaned up) /x/yes / / no

Food service details: (delivery time/by whom/etc.) ____NA_____

Requested by _K Schnoor Phone _6363 Date _4/14/98
Citizen's Assistance Center Confirmation: _____ Date _____

For Facilities Use Only

Confirmed _____ D

Comments:

Liability Waiver Required/Submitted / /

Beth —
SAL Team
May 14th
3:30 - 6:30
Zang Spur

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DOE Communication 966-5993
Kaiser-Hill Communication 966-5754

Rocky Flats Community Advisory

Date: 4/20/98
CA - 26-98

PUBLIC MEETING CALENDAR

Listed below are the upcoming meetings concerning Rocky Flats to be held in April, May and June, 1998. The calendar is distributed every other Monday of each month. **Meeting dates noted by an asterisk (*) are either new meetings, or meetings which have undergone change since publication of the last calendar.** Please contact John Corsi, Kaiser-Hill Community Relations, 966-6526, if you have questions or calendar additions.

APRIL 20, 1998

APRIL 1998

20 **CAB Deactivation and Decommissioning/Closure Plan Focus Group**
Contact: Brady Wilson, CAB, 420-7855
6:00 p.m. - 8:00 p.m., CAB office, 9035 N. Wadsworth, Ste. 2250, Westminster

21 **CAB Plutonium Issues Focus Group**
Contact: Ken Korkia, CAB, 420-7855
7:00 p.m. - 9:00 p.m., Westminster City Hall, lower-level Multi-Purpose Room, 4800 West 92nd Ave., Westminster

23 **Rocky Flats Local Impacts Initiative Board Meeting**
Contact: Sara Taylor, RFLII 940-6090
Half Day Retreat--Time: TBD

29* **Public Participation Focus Group**
Contact: Sara Taylor, RFLII, 940-6090
2:30 p.m. - 4:30 p.m., RFLII office, 5460 Ward Road, Ste. 205, Arvada

MAY 1998

07 **CAB Work Session**
Contact: Deb Thompson, CAB, 420-7855
6:00 p.m. - 9:30 p.m., Westminster City Hall, lower-level Multi-Purpose Room, 4800 West 92nd Ave., Westminster

Rocky Flats Environmental Technology Site
■ P.O. Box 464 ■
Golden, Colorado 80402-0464

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Public Meeting Calendar
April 20, 1998
Page 2

MAY 1998

11 **CAB Site Wide Issues/Budget Focus Group**
Contact: Erin Rogers, CAB, 420-7855
7:00 p.m. - 9:00 p.m., Westminster City Hall, lower-level Multi-Purpose Room, 4800 West 92nd Ave., Westminster

have SAL mtgs included here

18 **CAB Deactivation and Decommissioning/Closure Plan Focus Group**
Contact: Brady Wilson, CAB, 420-7855
6:00 p.m. - 8:00 p.m., Westminster City Hall, lower-level Multi Purpose Room, 4800 West 92nd Ave., Westminster

19 **CAB Plutonium Issues Focus Group**
Contact: Ken Korkia, CAB, 420-7855
7:00 p.m. - 9:00 p.m., Westminster City Hall, lower-level Multi-Purpose Room, 4800 West 92nd Ave., Westminster

20* **Natural Resource Management Policy Public Meeting**
Contact: Mariane Anderson, DOE, 966-6088
7:00 p.m. - 9:00 p.m., Broomfield Senior Center, 280 Lamar Street, Broomfield

26* **State Data Exchange Meeting**
Contact: Steve Nesta, RFETS, 966-6386
1:30 p.m. - 3:30 p.m., Broomfield Senior Center, 280 Lamar Street, Broomfield

June 4th June 25th

26* **Source Term Meeting on Rocky Flats Releases Sponsored by the Health Advisory Panel.**
Contact: Ann Lockhart, CDPHE, 692-2640
9:00 a.m. - 4:00 p.m. Location: TBD

27-28* **Health Advisory Panel Technical Work Session**
Contact: Ann Lockhart, CDPHE, 692-2640
9:00 a.m. - 4:00 p.m. Location: TBD

28 **Rocky Flats Local Impacts Initiative Board Meeting**
Contact: Sara Taylor, RFLII 940-6090
2:00 p.m. - 4:00 p.m., RFLII office, 5460 Ward Road, Ste. 205, Arvada

JUNE 1998

04 **CAB Work Session**
Contact: Deb Thompson, CAB, 420-7855
6:00 p.m. - 9:30 p.m., Westminster City Hall, lower-level Multi-Purpose Room, 4800 West 92nd Ave., Westminster

08 **CAB Site Wide Issues/Budget Focus Group**
Contact: Erin Rogers, CAB, 420-7855
7:00 p.m. - 9:00 p.m., Westminster City Hall, lower-level Multi-Purpose Room, 4800 West 92nd Ave., Westminster

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JUNE 1998

15 **CAB Deactivation and Decommissioning/Closure Plan Focus Group**
Contact: Brady Wilson, CAB, 420-7855
6:00 p.m. - 8:00 p.m., Westminster City Hall, lower-level Multi Purpose Room, 4800 West 92nd Ave., Westminster

16 **CAB Plutonium Issues Focus Group**
Contact: Ken Korkia, CAB, 420-7855
7:00 p.m. - 9:00 p.m., Westminster City Hall, lower-level Multi-Purpose Room, 4800 West 92nd Ave., Westminster

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CITY OF **ARVADA**

CITY MANAGER'S OFFICE (303) 431-3000
FACSIMILE (303) 431-3911

FACSIMILE

DATE: 4-16-98 **# OF PAGES SENT** 6

PLEASE DELIVER TO:
KATHY SCHNOOR
City of Broomfield

FAX #:
438-6234

FROM: Carol Lyons

MESSAGE:

P. O. BOX 8101 ▲ 8101 RALSTON ROAD ▲ ARVADA, COLORADO ▲ 80001-8101

April 16, 1998

TO: Mary Harlow, City of Westminster

cc: Hank Stovall, City of Broomfield
Kathy Schnoor, City of Broomfield

FROM: Carol Lyons, City of Arvada

RE: **Rocky Flats Soil Action Level Oversight Panel**
Administrative Services RFP

Following is the draft RFP for administrative support with my comments marked by hand. Also following are 2 names and addresses of potential bidders who would like to receive the RFP.

I hope my comments are readable. If you have any questions, please let me know.

Carol

Carol E. Lyons
Rocky Flats Coordinator
City of Arvada
P.O. Box 8101
Arvada, CO 80001
(303) 421-2550 ext. 3292
fax (303) 431-3911
[redacted]

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4/9/98

DRAFT * Comments to Mary 4/16/98.

REQUEST FOR PROPOSALS TO PROVIDE ADMINISTRATIVE SUPPORT SERVICES TO THE ROCKY FLATS SOIL ACTION LEVEL OVERSIGHT PANEL

* Potential contractors
* Cc Hank, Kathy

A. Purpose

The Rocky Flats Soil Action Level Oversight Panel (RSALOP) was organized to obtain an independent, scientific review of the interim Soil Action Levels set at the Rocky Flats Environmental Technology Site. The RSALOP will meet over the next year to oversee this review. The organization desires to contract with a firm to provide administrative and secretarial services for the duration of the review.

B. Issuing Organization

This request for proposals is being issued by the Rocky Flats Citizen Advisory Board (RFCAB) which is acting as the contracting entity for the Oversight Panel. Any inquires regarding this RFP should be addressed to? Proposals should be sent to Ken Korkia,

C. Duration of Contract

The contract period will be one year from the date of contract signing unless canceled earlier by the RFCAB. Reason for cancellation (1) instruction from the Oversight Panel (2) the oversight panel is no longer in existence. Such cancellation will be with thirty (30) days notice .

Scope

Work Sessions - 18 meetings

The contract will be based on payment for hours actually worked and materials used in the course of the work. Materials will be billed at actual cost incurred plus an add-on. The contract will specify the amount for direct costs.

what is that? Define.

The scope of projected work will consist of the following:

1. Record of Meetings: The contractor will provide equipment for and tape record the complete proceedings of the work sessions. These tapes will be stored until the end of the project when they will be returned to the RFCAB for archiving.

   * approx. how long & how often are the meetings?

2. Minutes of the meetings will be prepared covering the major points of discussion, and all motions and decisions. Any available notes, outlines or view-graphs from formal presentations made to the panel will be included in the minutes

3. Approximately one week before a scheduled meeting, the contractor, working with the steering committee will collect, copy and mail to each member a packet consisting of a notice of the meeting, an agenda, draft copies of any motions, letters or other business to be decided at the meeting and any other material deemed appropriate by the steering committee.

   change to admin. subcommittee for oversight of this contract

4. Act as a clearing center for communications to panel members to include distribution of faxes and -mail, mailing of materials, and phone messaging.

e

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5. Other administrative duties may be required from time to time beyond the specific scope items.

Change to Admin. Oversight Committee

6. Consultant will be required to meet for consultative purposes with project managers and Steering Committee of RSALOP once or twice per month.

7. The bidder will handle travel arrangements needed during the consultant selection and review process

Public Meetings - 3 How long?

Three public meetings are anticipated. The contractor will be expected to prepare, under the direction of the RSALOP, printed materials for these meetings. A mailing of approximately five hundred invitations is anticipated. Who pays copy, printing, postage?

1. Contractor will arrange for meeting space and prepare materials for the public meetings.

Who supplies mailing list?

D. Equipment Requirement

The bidder will have access to the following types of equipment:

1. Computer with word processing capability.
2. Facilities to send and receive e-mail.
3. A fax machine
4. A scanner capable of scanning documents and graphics.
5. A copier machine capable of making up to several thousand copies per month.
6. A telephone with voice messaging.

E. Schedule of Activities:

RFP mailed to prospective bidders	May 1, 1998
Mandatory bidders meeting	May 8, 1998 10:00 a.m.
Proposal submission dealine d	May 15, 1998
Bid selection	May 22, 1998
Contract finalized and start of work	June 1, 1998

F. Content of Proposal:

At a minimum the proposal must address the following:

1. Statement of qualifications including reference to past experience with similar work.
2. Three references.
3. Statement of capacity to accomplish the work, staff experience/education.
4. Current project workload.
5. Statement of how you would accomplish the work
6. Project Management - statement on quality control factors, assignment of staff responsibilities
7. Description of the accounting system to be used for tracking costs and preparing itemized statements for billing of services to RFCAB.
8. Description and age of equipment to be used to perform work functions.
9. A statement of the fully burdened hourly rates including provision for profit for the various types of work proposed.

* → Limit page numbers (length) of proposal. allow appendices.

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3

10. The add on or overhead rate for materials purchased.
11. The terms of payment.

change to Admin. Oversight Committee.

G. Selection Criteria and Process
Proposals will be reviewed by the Executive Committee of the RSALOP with Ken Korkia of the RFCAB serving as a member of the selection Committee. A proposal may be accepted as submitted by the selection committee or it may elect to negotiate with one or more proposers.

X (delete)

Selection Criteria:
Proposals will be evaluated on the basis of the content proposal.

Evaluation Criteria
Specific Proposal Scoring Criteria.
The following point system will be used in scoring the proposals. Points listed are maximum in each category. Proposers will submit three (3) copies of proposals.

1. Statement of qualifications including reference to past experience with similar work. (10 pts)
2. Three references with previous client satisfaction statements .(5 pts) — This is unreasonable in the time frame.
3. Statement of capacity to accomplish the work, staff experience/education. (10pts)
4. Current project workload.(5 pts)
5. Statement of how you would accomplish the work (15)
6. Project Management - statement on quality control factors, assignment of staff responsibilities. (15)
7. Description of the accounting system to be used for tracking costs and preparing itemized statements for billing of services to RFCAB. (10)
8. Description and age of equipment to be used to perform work functions. (5)
9. A statement of the fully burdened hourly rates including provision for profit for the various type of work performed. (10)
10. The add on or overhead rate for materials purchased. (10)
11. The terms of payment. ← This should not be a criteria.

Delete this

H. Selection for Negotiation. The review team will review and evaluate all proposals using the criteria described above. The review team reserves the right to reject any or all proposals at its sole discretion.

I. **Notification** Ken Korkia (RFCAB), ~~member of the review team~~ will notify those proposers who are selected for negotiation or interview. All proposers who are not selected will be notified in writing.

Negotiations and Interviews The selection team may elect to conduct negotiations or interviews either sequentially or simultaneously with all proposers selected. Concepts and ideas developed by any proposer's or during negotiations may be discussed with all proposers, However, each proposer's documents and pricing will be held in confidence by the Review Team to the extent allowed under law applicable to recipients of federal grants.

J.**Disposition of Proposals**. Submitted proposals shall not be returned and shall become the property of the RFCAB.

Ms. Amy Baker
Technical Administrative Services
2015 Gray Street
Edgewater, CO 80215
239-6059
fax 237-4075

Ms. Robin Richey
[redacted]

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City of Broomfield

One DesCombes Drive, Broomfield Colorado 80020

DATE: April ~~20~~ 21, 1998
FROM: Kathy Schnoor, Environmental Services PHONE: 438-6363
RE: RF-SAL Oversight Panel # of pages ~~17~~ 6 as requested

			PHONE	FAX	
	David Abelson	Cong. Skaggs' Ofc	303-650-7886	303-650-7893	
A	Jim McCarthy	City of Arvada	303-431-3042	303-431-3969	
P	Carol Lyons (Rebecca Schmal - City Mayor's office)	City of Arvada	303-421-2550 x3292	303-431-3911	
P	Lisa Morzel	City of Boulder	[redacted]	303-441-4478	
A	John Tayer	City of Boulder	303-441-3005	303-441-4478	
	Tim Holeman	City of Broomfield	303-355-5492	303-355-5530	
A	Kathy Schnoor	City of Broomfield	303-438-6363	303-438-6234	444-6373 home/cell
P	Hank Stovall	City of Broomfield	303-466-5986	303-469-8554	
P	Tom Davidson	City of Louisville	303-666-6565	303-673-9043	
A	Sam Dixion	City of Westminster	303-426-1202	303-429-5113	
P	Mary Harlow	City of Westminster	303-430-2400 x 2174	303-650-1643	
E	Jackie Berardini	CDPHE	303-692-3472	303-691-7702	
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A	John Shepherd	Physician/Soc Resp	303-650-4460	303-650-4403	Please call when faxing
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P	LeRoy Moore	RMPJC	303-444-6981	303-444-6523	
	~~Deanne Butterfield~~	~~RFLII~~	~~303-940-6090~~	303-940-6088	
	Will Neff	RFLII	303-940-6090	303-940-6088	
P	Joel Selbin	UCD Chem Dept	[redacted]	303-556-4776 (W)	
P	Todd Margulies	TM Consulting	303-279-6699	303-279-6699	Call 1st/include 1-303
P	Joe Goldfield	RFCAB-SNM	303-321-7276		

(P=Panel Member, A=Alternate, E=Ex-Officio)

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5/14/98
Session

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ROCKY FLATS - SAL MEETING

May 14, 1998

Name	Affiliation	Phone/Fax
1. Dean Heil	CSU	970-491-656
2. James McCarthy	Arvada	431-3042, 396
3. Joe Goldfield	Col. Coal., Pu Com. CAB	321-7276
4. Mary Harlan	Westminster	430-2400/2
5. Lethal Moore	RMPJC	444-6981 444-6523
6. Victor Holm	RFCAB	989-9086
7. Russell McCallister	DOE/RFFO	966-8672
8. James S. Stone	RFCC	237-8058
9. DeAnne Butterfield	RFCII	940-6090 940-6088
10.		
11.		
12.		
13.		
14.		
15.		-
16.		
17.		
18.		
19.		
20.		

City of Broomfield

One DesCombes Drive, Broomfield Colorado 80020

DATE: May 11, 1998
FROM: Kathy Schnoor, Environmental Services PHONE: 438-6363
RE: RF-SAL Oversight Panel # of pages 7

			PHONE	FAX	
	David Abelson	Cong. Skaggs' Ofc	303-650-7886	303-650-7893	
A	Jim McCarthy	City of Arvada	303-431-3042	303-431-3969	
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	Herb Betts	CDPHE	303-692-2665	303-782-0188	
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	Steve Tarlton	CDPHE	303-692-3423	303-782-4969	
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	Jeremy Karpatkin	DOE	303-966-2080	303-966-6633	
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	Ken Korkia	RFCAB	303-420-7855	303-420-7579	
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P	Joe Goldfield	RFCAB-SNM	303-321-7276		

(P=Panel Member, A=Alternate, E=Ex-Officio)

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F-A-X M-E-M-O-R-A-N-D-U-M

TO: DISTRIBUTION

FROM: MARY HARLOW AND HANK STOVALL, CO-CHAIRS

SUBJECT: MEETING REMINDER FOR MAY 14, 1998

DATE: MAY 12, 1998

There will be a meeting **THURSDAY, MAY 14, 1998, 4:00-6:00 PM** at the Broomfield Municipal Center in the **Zang's Spur Conference Room.** With summer approaching and vacations being scheduled, it will be more difficult to find convenient meeting times for this large group. In an attempt to avoid conflicts and secure the Zang's Spur conference room for the next three months, please mark off the following dates for tentative RSAL meetings (all from 4:00-6:00PM): May 28, June 11, June 25, July 23, August 6 and August 27.

PROPOSED AGENDA

4:00 Introductions
4:05 Co-chairs Update
- Selection of Administrative Services Contractor

4:15 Report from CAB-Ken Korkia
- Master Schedule (Attachment 1)

4:25 General Oversight Panel Process Discussion
4:35 Appoint technical review panel for selection of Technical Contractor
- 7+ member panel will develop selection criteria, review proposals and recommend contractor for board approval

4:55 Draft Rules of Operation for Administrative Services RFP (Attachment 2)
5:10 Review Contract for Administrative Services
5:20 Review Critical Elements and Selection Criteria in the Draft Technical RFP (Attachment 3)
5:40 Public Comment
5:50 Other Topics/Future Agenda Items/Action Items
5:55 Next Meeting Dates: May 28, 1998- Broomfield Municipal Center
Zang's Spur Conference Room
6:00 Adjourn

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ATTACHMENT 1

MASTER SCHEDULE

ADMINISTRATIVE RFP

ITEM	DUE	COM. Y/N	RESPONSIBLE
1. Develop RFP Criteria	April 14	Y	Ken/Victor
2. Review schedule/process Review Admin RFP Select Admin Review Panel Select Tech. Review Panel	April 23		Oversight Panel
3. DOE Approval Grant	April 23	Y	DOE
4. Place Ad in Denver Post	April 30	Y	Ken/Mickey/Hank
5. RFP mailed out	May 1	Y	Ken/Mickey
6. Meeting of Bidders	May 8	Y	City of Westminster Ken Korkia
7. Get Proposals Back	May 14		Ken Korkia
8. Review contract rules of Operation developed	May 14		Oversight Panel
9. Review team meets	May 15		Review Panel
10. Review Team meets to select	May 21		Review Panel
11. Interview of finalists/select	May 26		Review Panelr
12. Negotiation/Development	May 27		Review Panel
13. Approval of contractor	May 28		Oversight Panel
14. Contract approved by RFCAB	June 4		RFCAB
15. Est. Project end	June 1		Teamwork by All
16. Start Date of Admin Contract	June 5		Consultant

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MASTER SCHEDULE

TECHNICAL RFP

ITEM	DATE	COM.Y/N	RESPONSIBLE
1. Tech.Eval Comm named	April 23		Oversight Panel
2. Complete I RFP Cost Projection	May 6	Y	Victor/Ken
3. Review of RFP Dev. Selection Criteria	May 14		Oversight Panel
4. Place Ad in Post/Bus.Daily	May 24.		Ken/Hank/Mickey
5. RFP Mailed Out	June 1		Ken/Mickey
6. Submit written questions by	June 19		Ken/Steering Com.
7. Proposals due back	July 17		Ken Korkia
8. Review Proposals	July 30		Tech. Eval Comm.
9 Eval. Comm. Selects	Aug. 5		Tech Eval. Comm
10. Interview	Aug 11/12		Oversight Panel
11. Negotiation/Development	Sept. 12		
12. Approval of Contractor	Aug 13		Oversight Panel
13. Contract approved by RFCAB	Sept 3		RFCAB
14. Request for addl. Grant. $	Aug 1		Ken Korkia
15. Award of Contract	Sept 4		

ATTACHMENT 2

DRAFT

The information for this draft was provided by Leroy Moore.
Item #5 is an addition.

MANAGEMENT AND OPERATIONS OF THE RFSALOP

PROCESS

1. Panel Co-Chairs will convene a meeting of the Steering committee several days prior to each Oversight Panel meeting to set up an agenda for the Panel meeting and to discuss issues that may need to be addressed by the Panel. This meeting could be a teleconference.

2. The Administrative Services contractor will provide an administrative staff person at the Steering Committee Meetings. This person will take prepare a report for the Oversight Committee stating who attended the Committee meting, decisions made and develop the agenda at this meeting. The agenda will be mailed to the facilitator as soon as it is developed so that she can be prepared for meeting.

3. All members of the RASAL Oversight Panel are invited to contact any member of the Steering Committee with any concerns that may come up between Panel meetings, with the expectation that Steering Committee members will bring these concerns to the Committee meetings.

4. Oversight Panel members and alternates will direct questions, requests for items to be faxed, copied or typed to the Steering Committee members who will then contact the co-chairs to inform them of the requests. The co-chairs will interface directly with the Administrative contractor for all administrative matters of the panel. Ken Korkia, RFCAB will also contact the contractor directly. This will serve to reduce the confusion that could result from to many points of contact. (This process will also be used for the technical contractor with the exception that the administrative contractor will also interface with them to set up meetings fax documents etc.).

5. Personnel from DOE., EPA, and CDPHE will be asked to channel any communications to the Steering Committee and/or Panel by contacting either of the Panel Co-Chairs.

6. The Administrative contractor staffer will send minutes, agendas, announcements and other pertinent information to each Panel member in advance of Oversight Panel meetings. The information could be mailed, faxed, or e-mailed, depending on what the member specifies.

ATTACHMENT 3

Draft Technical Proposal Evaluation Criteria

The evaluation criteria were broken into four major categories. Each category was assigned a percentage value of the total evaluation. Then within each category 100 points were assigned to the individual significant issues to be evaluated. Therefore a final evaluation would involve the totaling the number of points for each category and multiplying the overall category percentage for that category by the percentage of points counted (e.g.., for Overall Qualities of the Firm 35% x 78/100 pts. = 27.3 score). The calculated totals for each category are then added to form a total score.

1) Overall Qualities of the Firm (35%)

- Relevant experience (15 points)
  - Modeling (10 pts. ?)
  - Radiological (5 pts. ?)
- National/International stature (10 pts.)
- Capacity to do job (15 pts.)
- Client list/Specific related projects (10 pts.)
- References (8 pts.)
- Experience and qualifications of personnel (15 pts.)
- Minimal conflicts of interest (7 pts.)
- Financial viability (10 pts.)
- Physical resources (10 pts.)

2) Approach to the Project (35%)

- Technical approach (50 pts.)
  - Cleanup levels at other sites (7 pts.)
  - Computer models (7 pts.)
  - Inputs and assumptions (7 pts.)
  - Methodology (7 pts.)
  - Independent calculation (8 pts.)
  - Protocols (7 pts.)
  - Actinide migration (7 pts.)
- Management approach (20 pts.)
  - Assignment of key staff

- QC/peer reviews
- Timeline/meeting deadlines

❖ Fiscal management (20 pts.)
- Plans to meet budget

❖ Planned Interaction with Panel (10 pts.)

3) Overall Quality of the Proposal (5%)

❖ Presentation (34 pts.)

❖ Comprehensibility (33 pts.)

❖ Completeness (33 pts.)
- Client list
- Resumes of key staff
- Staffing plan
- Fiscal management plan
- Cost breakdown
- Letters of recommendation
- Additional proposal recommendations

4) Cost (25%)

❖ Lowest price (70 pts.)

❖ Hourly rates (who's doing what work?) (10 pts.)

❖ Minimal/reasonable cost markup (10 pts.)

❖ Minimal/reasonable indirect costs (overhead) (10 pts.)

It has also been recommended to perform a calculation of the "Cost/Benefit Relative Value" which is defined as follows:

$$\textbf{CBRV} = \frac{\textbf{Average for all Reviewers [Total Evaluation Score for Categories 1 – 3 above]}}{\textbf{Total Bid Cost}}$$

The higher the CBRV means the higher evaluated worth per dollar. This can be used as an additional measure of proposal value which can be used to augment the scoring based on the above criteria or in place of the "Cost" category altogether.

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DATE/TIME	5-12-98 10:25AM
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LOGO	CITY BROOMFIELD

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27	919704910564	FAILED - busy
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LOGO	CITY BROOMFIELD

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REQUEST FOR PROPOSALS TO REVIEW THE RADIOLOGIC SOIL ACTION LEVELS AT THE ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

Section I
Administrative Information

A. Purpose: The purpose of this RFP is to obtain an independent scientific review of the Radiological Soil Action Levels (RSAL) established for the cleanup of the Rocky Flats Environmental Technology Site (RFETS). The review will evaluate the methods as well as the accuracy and applicability of the input parameters used to calculate the current RSALs. The review will also encompass models, methodologies, and cleanup standards that may exist or are being developed for other sites and their applicability to the Rocky Flats site. Based on the findings of this investigation, a recommendation will be developed for the RSALs for transuranic elements in the surface soils at Rocky Flats that will be protective of surface waters leaving the site, future users and surrounding communities.

B. Background: The Rocky Flats Environmental Technology Site (RFETS) was constructed in 1951. The site served as a production facility to manufacture components for nuclear weapons. As a result of operations, the soil at RFETS is contaminated with various actinides including plutonium and americium. In 1989 operations at the plant were shut down due to safety and production problems. In 1992 the decision was made to permanently close the plant. The site's current operations involve stabilization and disposition of plutonium, decontamination and deactivation of radionuclide contaminated buildings, remediation of environmental damage, and waste management.

As the concluding step of the Rocky Flats Cleanup Agreement (RFCA), on October 18,1996, the Department Of Energy (DOE) and its regulators Environmental Protection Agency (EPA) and Colorado Department of Public Health and Environment (CDPHE) adopted interim Radionuclide Soil Action Levels for the RFETS. Intended to be protective of people using the site after closure, these action levels set the upper limits for the radionuclides (primarily plutonium and americium) that would be left in the soil at Rocky Flats after cleanup. The levels adapted did not consider effects to off-site communities. The method used was dose based. The dose chosen was based on Draft Title 40 of the Code of Federal Regulations, Part 196 dated Feb 16, 1996. This regulation mandates that the basic dose standard is 15 mrem/yr. The draft rule makes provision for restricted land use. The 15 mrem/yr would apply to the restricted use but in that case the exposure resulting from unrestricted use must also be assessed. This dose can not exceed 85 mrem/yr. The method of converting dose to radiologic soil concentrations was based on the use of RESRAD (Residual Radiation) a program developed by Argonne National Laboratory. The final report *Action Levels for Radionulides in Soils for the Rocky Flats Cleanup Agreement* is included with this RFP as appendix A.

In response to public concerns that these RSALs might be too high, DOE agreed to an independent review of the methods used to convert given dose levels to soil contamination levels. DOE would not agree to a review of the safety or appropriateness of the dose standard in Part 196. A community review group known as The Radionuclide Soil Action Level Oversight Panel (RSALOP) was created to define the project and to oversee this review from initiation to completion. In order to fund the study, the DOE will use the existing grant vehicle it has with the Rocky Flats Citizen Advisory Board (RFCAB). RFCAB will be responsible for all aspects involving the administration of the grant monies, including submitting a grant amendment or application, reviewing and approving contracts, and authorizing and disbursing funds to the Oversight Panel's contractors. As the fiduciary agent, RFCAB will negotiate and sign all contracts for any project services. The Oversight Panel will have responsibility for developing requests for

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proposals and selecting contractors in consultation with RFCAB, and will then oversee the work of these contractors.

C. Issuing Office: This request for proposals is being issued by the Rocky Flats Citizens Advisory Board (RFCAB) which is acting as the contracting entity for the Oversight Panel. RFCAB is a nonprofit corporation chartered under the Federal Advisory Committee Act (FACA) as a Site Specific Advisory Board (SSAB).

D. Schedule of Activities:

1. RFP mailed to prospective bidders	June 1, 1998
2. Written inquiries deadline	June 24, 1998
3. Proposal Submission Deadline	July 16, 1998 Time 3:00 P. M.

E. Proposal Submission: Proposals must be received on or before 3:00 p.m. MDT, July 16,1998. Late proposals will not be accepted. The proposal package should be delivered or mailed to:

Rocky Flats Citizens Advisory Board
9035 Wadsworth Parkway
Suite 2250
Westminster, CO. 80221

Eight (8) copies (including original) of the complete proposal must be submitted and sealed in a package. The outside of the package should bear the bidders name and the title of the proposal, *A Review of the Radiologic Soil Action Levels at the Rocky Flats Environmental Technology Site*. Proposals must be signed in ink by the bidder or an officer of the company who is authorized to bind the bidder to the proposal. The bids be will opened and turned over to the evaluation committee at 4:00 P.M., June 16, 1998.

Section II.
Other Requirements and Conditions

A. Availability of Information: The RFP will be made available to any interested party who requests it. A list of recipients of the RFP may be obtained at the RFCAB office.

General questions about RFCAB should be directed to Ken Korkia, Rocky Flats Citizens Advisory Board, 9035 Wadsworth Parkway, Suite 2250, Westminster, Colorado 80021; phone number (303) 420-7855.

General questions about the Oversight Panel and this RFP may be directed to Hank Stoval, Co-Chair of the Oversight Panel, at (303) 466-5986.

Specific inquires about the scope or terms of this RFP can be made in writing to Ken Korkia, Rocky Flats Citizens Advisory Board, 9035 Wadsworth Parkway, Suite 2250, Westminster, Colorado 80021; FAX (303) 420-7579. Such questions must be received on or before June 24,1998. Written responses to questions received will be mailed to all recipients of record on or before June 30. 1998. Any clarifications, interpretations and other forms of oral response outside of the formal inquiry process, whether by RFCAB, the Oversight Panel or others, shall not be construed as valid or binding. In the event that RFCAB or the Oversight Panel deems that an addendum to the RFP is necessary, the addendum will be sent by mail to all recipients of record.

B. Minority Businesses: It is the policy of RFCAB that small and minority firms, women's businesses and labor surplus area firms, shall have the maximum opportunity to participate as contractors, subcontractors, suppliers, or vendors. Contractors shall not discriminate on the basis of race, creed, religion, color, national origins, gender, ancestry, age, marital status or disability, in the bidding for and the performance of subcontracts.

C. Withdrawal or Revisions of Proposals: A bidder may withdraw or revise a proposal after it has been deposited with RFCAB. Withdrawal of a proposal must be made in writing and occur prior to the time for receipt of proposals. Any proposal withdrawn for the purpose of revision must be resubmitted in the specified format within the time set for receipt of proposals. Proposals may not be withdrawn after the time set for receipt. Proposals are bidding offers which shall remain open and irrevocable for sixty days from the time they are opened.

D. Disqualification of Bidders: The following reasons will be considered sufficient for disqualification of the bidder and the rejection of the proposal:

- Incomplete proposals.
- Exemptions or exceptions taken to the terms and conditions of this RFP.
- Evidence of collusion among competing bidders.
- Receipt of a proposal after the date and time set for receipt.
- Evidence of misrepresentations or falsehoods.

E. Rejection of Proposals: The Rocky Flats Citizens Advisory Board reserves the right to reject any or all proposals.

F. Multiple Proposals: Bidders may join together to submit a joint proposal, however a lead proper must be indicated. No more than one proposal will be accepted from any lead proposer. Subcontractors may team with more than one lead proposer to provide specialized services.

G. Disposition of proposals: Submitted proposals will not be returned and will become the property of the RFCAB.

H. Incurring Costs: The RFCAB is not liable for any costs incurred by bidders prior to issuance of a contract.

Section III
Project Description and Scope

A. Project Description: The contractor will work for the Oversight Panel in conducting a review of the interim RSALs set for Rocky Flats. The contractor will be expected to submit a comprehensive final report. The contractor will also be expected to propose a method of peer review. The contractor will provide the Oversight Panel with a set of recommendations. The panel will incorporate comments received from the public into a final recommendation for inclusion by DOE and the regulators in RFCA.

The contractor is being requested to investigate the following:

- to review models, methodologies, and cleanup levels that may exist or are being developed for other radionuclide contaminated sites as to how they may apply to the RFETS site-specific situation,
- to review the existing analysis used to set the current RFETS RSALs as to its accuracy and appropriateness,
- based on the results of the above investigations, to calculate an independent set of RSALs.

The study will use existing RFETS site data to the maximum extent possible. It will be the responsibility of the contractor to determine the sufficiency and quality of this data and to inform the Oversight Panel at an early date if additional data is required. The contractor may suggest that the scope of study be modified. However, at a minimum, the modified proposals are requested to address the issues as discussed throughout this RFP. Specifically the contractor will be required to perform the following:

B. Scope of Work: Specifically the contractor is expected to perform the following

1. Cleanup Levels at Other Sites

Actions:

- Identify and evaluate cleanup levels and/or action levels (i.e., RSALs) which exist or are projected for use at other radionuclide contaminated sites (particularly with plutonium and americium) and the processes/models used to determine them as to their applicability in setting cleanup levels at RFETS.
- Identify any processes/models that were or are being used to determine offsite impacts to communities from onsite cleanup levels.
- Provide a summary of this evaluation itemizing the reasons why such levels or processes/models are or are not applicable for use in assessing cleanup levels for RFETS.

Considerations:

This study should concentrate on examples of soil similarly contaminated with transuranic elements and, in particular, plutonium and americium. Of particular interest is the reasoning that went into the setting of these cleanup levels and the subsequent history of the site, including any cleanup. The study should compare the cleanup and/or action levels within the context of site-specific conditions, projected land use, and the then existing risk assessments and dose standards. This portion of the study will be used to place the calculated RFETS values in context.

2. Computer Models

Actions:

- Identify and evaluate all relevant available or emergent computer models which can be used to calculate radionuclide contamination levels in soils based on a given dose rate.
- Evaluated the models to determine which are most applicable and best suited to model the site-specific conditions at RFETS.
- Provide a description of these models, a summary of the strengths and weaknesses of each, and a recommendation for the most appropriate model(s).

Considerations:

Models that are inappropriate to the RFETS site conditions, obsolete, or which cannot be readily validated should not be included. The RESRAD model must be included due its use in determining the current RSALs. A comparison of the different models using RFETS site-specific data would be useful. The contractor is encouraged to find computer codes capable of modeling both on-site and off-site dose rates. If no models exist for this determination, the contractor will review off-site migration/impacts over time/distance for various cleanup levels. It is possible that no one model will prove satisfactory for determining both, but that a combination of models may be necessary. The contractor will be expected to recommend the most appropriate model(s) for the RFETS site-specific conditions and to justify this recommendation. Whichever model or models are recommended should be thoroughly validated. It is not necessary that the contractor perform this validation; peer reviewed, published studies will suffice. In the event that RESRAD is not recommended, RESRAD should be run in parallel with the recommended model(s) as a comparison.

3. Inputs and Assumptions

Actions:
Evaluate the input parameters, inputs, default inputs, and assumptions for the current analysis (RESRAD) used to set the RSALs at RFETS. At a minimum this evaluation must satisfy the following: Are the input parameters, inputs, default inputs, and assumptions adequate, accurate, and credible in simulating the conditions at RFETS, given the future land use scenarios envisioned in RFCA, and the subsequent conversion to dose rate/contamination levels?

a) For each of the input parameters, what is the sensitivity of the input values in terms of resulting contamination levels?

b) For each of the input parameters, what is the distribution of possible input values? Identify each of these based on the sensitivities determined in b) above from least conservative to most conservative with conservative meaning that which results in lower contamination levels given a certain dose limit. Quantify the uncertainties of the inputs or input distributions.

c) For each of the input distributions in c) above, identify an input value which can be considered "reasonable" or "best estimate". Provide the reasoning for these choices.

Considerations:

All of the input parameters to the model need to be examined. Parameters that are easily confirmed, non site-specific parameters, or those which are specified by the EPA or other regulatory agencies should be noted as such. If the investigation indicates that such values are not appropriate, alternatives should be recommended. Parameters for which there are site-specific input data for RFETS should be identified and a thorough study of the distribution of possible values should be performed.

4. Methodology

Actions:

- Identify and evaluate the methodologies which can be used to select or combine the necessary inputs/outputs for a given computer model in determining contamination levels for a given dose limit.
- Within 1 month of the start of the contract, present to the Oversight Panel and stakeholders a summary of these methodologies along with a recommendation and justification as to the best suited for such an analysis.
- Compare or contrast this recommended methodology with that used in the existing RESRAD analysis.

Considerations:

It is understood that there are several methodologies (e.g., bounding, best estimate, conservative, probabilistic risk assessment, etc.) which can be used to shape the inputs for such an analysis. The question as to "how conservative is conservative?" makes this a subjective rather than simply a scientific issue because the affected communities must accept the risks involved. Therefore, the Oversight Panel wishes to fully understand the nature and implications of each of the potential methodologies to ensure that the methodology chosen can best produce credible and defensible results from this independent review which will be acceptable to the broadest range of stakeholders.

5. Independent Calculation

Actions:

- Using the methodology recommended in 4. above, select/combine the inputs identified in 3. above as well as any new inputs required by the model recommended in 2. above in that model to calculate contamination levels for the dose limits set for each of the RFCA land use scenarios assumed in the original analysis. This includes a residential scenario.
- As part of the calculations, include a statement of the assumptions and level of uncertainty involved in the specific approach utilized. State the dose limits in terms of risk.

6. Protocols

Actions:

- As an integral part of the recommendations about the RSALs, recommend specific soil sampling procedures to be followed as an appropriate method of monitoring actinide concentrations in soil before and after remediation.

Considerations:

It is necessary to find a scientifically credible method for guaranteeing that the cleanup levels will actually be met in terms of what contamination levels are ultimately measured at the site. This study should clearly delineate such parameters as sample spacing, depth of samples, sampling methods, and all associated quality assurance which ensure that the methods used for measuring contamination before and after any remediation are directly applicable to the parameters used for setting the cleanup levels. The technical literature on valid statistical approaches should be reviewed to verify sampling methods and recommend approaches that are appropriate for the cleanup at RFETS.

7. Actinide Migration

Actions:

- Meet with the Actinide Migration Panel to share information in order to ascertain the applicability of any results from the actinide migration studies on the inputs to the modeling for this analysis.
- Study these results and any other relevant data and make a preliminary determination of what impact these will have on the results such as obtained in 5. above.

Considerations:

Ultimately, cleanup levels must be protective of off-site residents. Calculations for the existing RSALs only considered on-site exposure scenarios. Since off-site air and water quality standards are more restrictive, it is possible these standards will control the cleanup. How can the issue of plutonium migration be incorporated into an evaluation of the RSALs? An Actinide Migration Study is currently underway. The final results of this study will not be ready in time to be used in this study. Some preliminary results will however be available. It is understood that any conclusions that can be based on this are tentative pending the completion of the Actinide Migration Study. The contractor should, however, identify the data needs of this study as early as possible in order to facilitate the collection and analysis of additional data needed.

C. Interfacing and Responsibilities: The Oversight Panel intends to an active participant in the study. The general responsibilities of the contractor are to gather factual information, render expert interpretations of data, and propose options for different end points or goals based on these interpretations. The contractor is expected to engage in an open exchange of ideas and to be responsive to technical and nontechnical concerns and suggestions of the panel.

Specifically, the contractor will:

- Maintain an ongoing written log of all meetings, correspondence and telephone conversations with panel members, regulatory agencies and others noting the purpose of the call.
- Meet with the Oversight Panel on a monthly basis at a regular scheduled meeting.

2. The general responsibilities of the Oversight Panel are (1) to oversee and critique the work of the contractor; and (2) to integrate the findings of the contractor with relevant policy issues at RFETS to produce policy recommendations accompanied by a clear account of supporting evidence and reasoning. The panel is responsible for reviewing written reports submitted by the contractor and informing the contractor of its assessment and suggestions in a timely manner.

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3. The scope and deliverables of this RFP are to be contracted at a fixed price. Meetings and presentations are to be contracted at an hourly rate, but are not too exceed 240 man-hours.
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D. Deliverables: The contractor will be expected to prepare a comprehensive technical report of this study, including the methods used and the results of the independent review of the RSALs. The main body of the report should be directed to the level of the educated public. The contractor should include appendices that include more technical details. A sufficient number of copies are to be provided for all interested parties (not to exceed 100).

The contractor will be expected to work with the Oversight Panel to prepare a separate summary to be directed to the general public that has no prior knowledge of the RSALs. This report should be suitable for inclusion in newsletters or general circulation newspapers.

After agreement on the scope of work, the contractor will provide a schedule for meeting the requirements of this RFP.
Monthly progress reports will be prepared for distribution at monthly meetings. They should include a summary of progress to date, a plan for the rest of the project and draft sections of the final report.

E. Schedule/Timeline: To ensure that the contractor is aware of the concerns of the affected public, the public will be invited to attend an informational meeting at the beginning of this contract. Meetings will then be held biweekly initially for a time period to be determined. At least two of these meetings will be held at night.

Thereafter, monthly meetings will be held which will consist of two nightly sessions. The first night will be devoted to a technical session summarizing the work to date. The second night will be a business session where plans and methods of research will be discussed. The contractor will have sufficient staff present to answer questions. During the day between the meetings, the contractor team is to be available for discussions or technical briefings with panel members or members of the public.

The following schedule is proposed:

September 5, 1998	Start Work
September	Biweekly Meetings
October	Monthly Meeting
November	Monthly Meeting
December	Monthly Meeting
January 1999	Monthly Meeting
February	Monthly meeting and presentation of draft report
March	Monthly meeting and presentation of final report
April	Presentation of results for special RFCA review

Section IV
Proposal Requirements

Proposals must as a minimum address the following:

A. Previous Experience: The proposal should include a short history of the company. A discussion of relevant past experience that would qualify the company to perform this review. A client list for the last three years is required. At least three of these clients should be included as references.

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B. Personnel: Bidder will submit resumes or curricular vitae including relevant publications for the key personnel that will work on the project. A plan indicating the responsibilities of the key personnel should be included. The contractor shall also provide an organizational chart in order to identify the various responsibilities of key project team members. The contract will specify that substitution of these persons requires written approval of the Oversight Panel.

C: Proposal of Work: The proposal should address each of the scope items and indicate the proposers understanding of the work required. The proposal may expand the work to be performed on any scope item; however it must at least review the work specified. A detailed plan including personnel to be used and a schedule must be presented.

D. Work Management: The proposal should include a detailed estimate of the number of hours anticipated to complete the review. The estimate should include a breakdown showing who will be performing each task. The proposal should include a description of the procedures to be used to control cost and to maintain the schedule. These procedures should include methods to identify budget variances at the earliest possible time. Money available for this project is thought to be adequate to perform the work outlined in the scope; however, the successful conclusion of the project will require efficient cost control procedures.

E. Interface with the Oversight Panel: The Oversight Panel intends to be an active participant in the study. It is very important for the contractor to gain the trust of the Panel. The contractor is expected to inform and educate the Panel and to seek its advice in every phase of the study. The proposal should address the bidders understanding of this relationship and propose methods and plans to insure its success.

F. Peer review: The proposal should suggest one or more plans for peer review. Of particular importance will be how the experts are to be chosen and how the review will conducted. Timeliness of the suggested peer review will be important.

G. Work Schedule: The expectation of the Oversight Panel is that the review should begin in early September 1998 and be complete in the spring of 1999. The proposal should specify a schedule for the review. The Panel expects to be an active participant in the review and plans to meet no more often than biweekly. The proposed schedule should make considerations for this meeting schedule.

H. Fees Bid: Contract payments will be for time actually worked and for materials and services actually used. The proposer shall provide the fully burdened hourly rates, plus a provision for profit, of all persons expected to work on the project. This breakdown should correspond to the plan set out above in parts B and C. The contract will specify that payment will be limited to eight hours per day for any individual. Services and materials will be paid at actual cost plus a mark-up. The proposal should specify this mark-up. The contract will limit domestic airfares to full fare unrestricted coach class. The proposal should indicate the total *not to exceed costs* for the project.

Section V
Evaluation of Bids

A. Evaluation Process: An Evaluation Committee made up of members from the RSALOP will judge the merit of the proposals received in accordance with the criteria defined herein. The recommendations of this committee will be forwarded to the entire panel for review and approval. The sole objective of the evaluation committee will be to recommend the bidder whose proposal is most responsive to the RSAL review needs and can be carried out within the available resources. The specifications within this RFP represent the minimum performance necessary for response.

The RFCAB reserves the right, at the discretion of the Evaluation Panel, to invite one or more bidders to attend an interview for the purpose of better explaining their proposal and negotiating a contract.

B. Evaluation Criteria:

1. Previous experience and background of the contractor and his key personnel relevant to this RFP will be evaluated. Of special importance will the background and scientific standing of the Principle Investigator. The contract will specifically state that, unless mutually agreed on in writing, the key personnel will work on the project until completion.
2. Adequacy and completeness of the proposal with regard to information specified in the RFP.
3. Technical content of the proposal, methodology, and appropriateness to the project. Of particular importance is the description of how the contractor intends to handle each of the items in the scope of work.
4. The proposal will be evaluated on how well it addresses the interface between the Oversight Panel and the contractor.
5. Each bidder will submit an estimate of the hours to be worked by each of the key personnel to be assigned to this project. The bidder will also submit a schedule of hourly rates to be charged for the services of these personnel. In addition the bidder will estimate overhead and other charges for the project. The costs submitted will be evaluated both on of the estimate of the total hours to be worked and the cost per hour. Cost controls to be used will also be evaluated.

C. Scoring:

400

COST ESTIMATE FOR SOIL ACTION LEVEL STUDY

Victor Holm Feb 12,1998

RFP Scope Items			1760 hr
1. Cleanup Levels at Other Sites		400 hr	
A. Sites that set the level directly e.g. Eniwetok, Johnson island	80 hr		
B. Sites that used dose-response model other than RESRAD e.g. West Valley	80 hr		
C. Sites that used RESRAD e.g. Hanford, Nev test site	80 hr		
D. Other Sites	40 hr		
E. Comparison of previous studies to RFETS	80 hr		
G. Report	40 hr		
2. Computer Models		280 hr	
A. Search and documenting existing models	120 hr		
B. Side by side comparisons	120 hr		
C. Selection and report	40 hr		
3. Inputs and assumption		480 hr	
A. Identification of parameters	80 hr		
B. Determination of parameter sensitivity	200 hr		
C. Determination of range and distribution	200 hr		
4. Methodology		200 hr	
A. Report to panel on possible methodologies	80 hr		
B. Prepare plan on method of calculation	120 hr		
5. Independent Calculation		160 hr	
6. Protocols		120 hr	
7. Actinide Migration		120 hr	
Deliverables			640 hr
Meetings with panel two days each 5 meetings		240 hr	
Additional meetings		40 hr	
Progress reports 8 ea		20 hr	
Final reports		120 hr	
Contingency		220 hr	
Total project			2400 hr

401

05/04/1998

E-Mail Addresses for RF SAL Oversight Panel & Other Participants

Panel Members:

Dean Heil	dheil@ lamar.colostate.edu
Lisa Morzel	morzell@ci.boulder.co.us
Todd Margulies	[redacted]
Joel Selbin	jselbin@carbon.cudenver.edu
Niels Schonbeck	schonben@clem.mscd.edu
Mary Harlow	mharlow@ci.westminster.co.us
Carol Lyons	clyons@city.ci.arvada.co.us
Bob Kanick	[redacted]
Tom Davidson	thomas.davidson@rfets.gov
Joe Goldfield	[redacted]

Alternates:

Victor Holm	[redacted]
Kathy Schnoor	[redacted]
Tom Marshall	[redacted]
James McCarthy	Jim-m@city.ci.arvada.co.us

Ex-Officio Members:

Steve Slaten	steve.slaten@rfets.gov
Jackie Berardini	jackie.berardini@state.co.us
Tim Rehder	rehder.timothy@epamail.epa.gov

Others:

Dave Shelton	dave.shelton@rfets.gov
Steve Gunderson	steve.gunderson@state.co.us
Laura Till	[redacted]
John Corsi	john.corsi@rfets.gov

402

5/28/98
Session

403

ROCKY FLATS - SAL MEETING

May 28, 1998

Name	Affiliation	Phone/Fax
1. LeRoy Moore	RMPJC	444-6981 444-6523
2. Kathy Schnoor	City of Broomfield	438-6363 438-6234
3. Dean Hil	CSU	
4. BOB KANICK	RFCAB	
5. VICTOR HOLM	RFCAB	
6. Dennis Connors	K-H Communication	966-8164/966-6153
7. Jeremy Karpatkin	DOE Communication	966-5993/966-6633
8. [illegible]	SOERP	204446446
9. Ken Korkia	RFCAB	420-7855 420-7579
10. Brady Wilson	CAB	"
11. Russell McCallister	DOE/RFFO/EC	966-9692 -3710
12. Carol E. Lyons	City of Arvada	
13. HANK STOVALL	CITY OF BROOMFIELD	466-5986
14. Mary Harlow	City of Westminster	on file
15. Niels Schonbeck	Metro State Col. of Denver; HAP	556-8327; 556-5399
16. Joe Goldfield	Pu Focus Group, CAB	321-7276
17. Tom Davidson	City of Louisville	966-2235 966 4048
18.		
19.		
20.		

404

City of Broomfield

One DesCombes Drive, Broomfield Colorado 80020

DATE: May 19, 1998
FROM: Kathy Schnoor, Environmental Services PHONE: 438-6363
RE: RF-SAL Oversight Panel # of pages __2__

			PHONE	FAX	
	David Abelson	Cong. Skaggs' Ofc	303-650-7886	303-650-7893	
A	Jim McCarthy	City of Arvada	303-431-3042	303-431-3969	
P	Carol Lyons	City of Arvada	303-421-2550 x3292	303-431-3911	
P	Lisa Morzel	City of Boulder	[redacted]	303-441-4478	
		City of Boulder	303-441-3005	303-441-4478	
		City of Broomfield	303-355-5492	303-355-5530	
		City of Broomfield	303-438-6363	303-438-6234	
		City of Broomfield	303-466-5986	303-438-6296	
		City of Louisville	303-666-6565	303-673-9043	
		City of Westminster	303-426-1202	303-429-5113	
		City of Westminster	303-430-2400 x 2174	303-650-1643	
		CDPHE	303-692-3472	303-691-7702	
	Herb Betts	CDPHE	303-692-2665	303-782-0188	
	Dr. Norma Morin	CDPHE	303-692-2645	303-782-0188	
	Steve Gunderson	CDPHE	303-692-3367	303-759-5355	
	Steve Tarlton	CDPHE	303-692-3423	303-782-4969	
	Edd Kray	CDPHE	303-966-2115	303-966-5449	
	Carl Spreng	CDPHE	303-692-3358	303-759-5355	
P	Dean Heil	CSU	970-491-6516	970-491-0564	
	Autar Rampertaap,				
	Jim Fiore	DOE HQ	301-903-8191	301-903-3877	
	Jeremy Karpatkin	DOE	303-966-2080	303-966-6633	
	Jessie Roberson	DOE/RFFO	303-966-2025	303-966-6054	
E	Steve Slaten	DOE	303-966-4839	303-966-3710	
E	Tim Rehder	EPA	303-312-6293	303-312-6067	
P	Ken Starr	Jefferson County	303-271-5714	303-271-5702	
	John Corsi	Kaiser Hill	303-966-6526	303-966-6153	
	Dave Shelton	Kaiser Hill	303-966-9877	303-966-5001	
P	Niels Schonbeck	Metro State	303-556-8327	303-556-5399	
A	John Shepherd	Physician/Soc Resp	303-650-4460	303-650-4403	Please call when faxing
A	Victor Holm	RFCAB	303-989-9086	303-980-9076	
P	Bob Kanick	RFCAB	303-444-0049	303-444-0072	
	Ken Korkia	RFCAB	303-420-7855	303-420-7579	
A	Tom Marshall	RFCAB	303-444-6981	303-444-6523	
P	LeRoy Moore	RMPJC	303-444-6981	303-444-6523	
	Deanne Butterfield	RFLII	303-940-6090	303-940-6088	
	Will Neff	RFLII	303-940-6090	303-940-6088	
P	Joel Selbin	UCD Chem Dept	[redacted]	303-556-4776 (W)	
P	Todd Margulies	TM Consulting	303-279-6699	303-279-6699	Call 1st/include 1-303
P	Joe Goldfield	RFCAB-SNM	303-321-7276		

(P=Panel Member, A=Alternate, E=Ex-Officio)

tried to phone but phone was on fax. mailed memo!

Joel filled in out of country fel 6/10

405

F-A-X M-E-M-O-R-A-N-D-U-M

TO: DISTRIBUTION

FROM: MARY HARLOW AND HANK STOVALL, CO-CHAIRS

SUBJECT: STEERING COMMITTEE MEETING MAY 21, 1998

DATE: MAY 19, 1998

There will be a steering committee meeting **THURSDAY, MAY 21, 1998, 4:00 PM** at the **RFCAB Office** (9035 Wadsworth Parkway, Suite 2250) immediately following the 2:00PM meeting of the subcommittee reviewing the administrative services proposals. Interviews for the finalists for the administrative services contract will be held on Tuesday May 26th at the RFCAB office. All interested panel members are encouraged to attend. For more information on either meeting, please call Mary Harlow at 430-2400 X 2174.

2/06

BROADCAST REPORT

DATE/TIME	5-19-98 2:47PM
LOCAL I. D.	3034386234
LOCAL NAME	CITY BROOMFIELD
LOGO	CITY BROOMFIELD

ART TIME 5-19-98 2:09PM
JOB SIZE 2 PAGES

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BROADCAST REPORT

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LOGO	CITY BROOMFIELD

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DIAL GROUP	DIRECTORY NUMBERS
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XEROX TELECOPIER 7021

408

City of Broomfield

One DesCombes Drive, Broomfield Colorado 80020

DATE: _____, 1998
FROM: Kathy Schnoor, Environmental Services PHONE: 438-6363
RE: RF-SAL Oversight Panel # of pages _____

			PHONE	FAX		
	David Abelson	Cong. Skaggs' Ofc	303-650-7886	303-650-7893		15
A	Jim McCarthy	City of Arvada	303-431-3042	303-431-3969		16
P	Carol Lyons	City of Arvada	303-421-2550 x3292	303-431-3911		45
P	Lisa Morzel	City of Boulder	[redacted]	303-441-4478		17
A	John Tayer	City of Boulder	303-441-3005	303-441-4478		17
	Tim Holeman	City of Broomfield	303-355-5492	303-355-5530		18
A	Kathy Schnoor	City of Broomfield	303-438-6363	303-438-6234		
P	Hank Stovall	City of Broomfield	303-466-5986	303-469-8554		
P	Tom Davidson	City of Louisville	303-666-6565	303-673-9043		19
A	Sam Dixion	City of Westminster	303-426-1202	303-429-5113		20
P	Mary Harlow	City of Westminster	303-430-2400 x 2174	303-650-1643		21
E	Jackie Berardini	CDPHE	303-692-3472	303-691-7702		22
	Herb Betts	CDPHE	303-692-2665	303-782-0188		23
	Dr. Norma Morin	CDPHE	303-692-2645	303-782-0188		23
	Steve Gunderson	CDPHE	303-692-3022	303-782-4969		24
	Steve Tarlton	CDPHE	303-692-3423	303-782-4969		24
	Edd Kray	CDPHE	303-966-2115	303-966-5449		25
	Carl Spreng	CDPHE	303-692-3358	303-759-5355		26
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	Deanne Butterfield	RFLII	303-940-6090	303-940-6088		43
	Will Neff	RFLII	303-940-6090	303-940-6088		43
P	Joel Selbin	UCD Chem Dept	[redacted]	303-556-4776 (W)		44
P	Todd Margulies	TM Consulting	303-279-6699	303-279-6699	Call 1st/include 1-303	
P	Joe Goldfield	RFCAB-SNM	303-321-7276			

(P=Panel Member, A=Alternate, E=Ex-Officio)

409

DIAL DIRECTORY

DATE/TIME	3-25-98 11:16AM
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LOGO	CITY BROOMFIELD

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DIAL GROUP	DIRECTORY NUMBERS
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14	36 37 38 39 40 41 42 43 44 45
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XEROX TELECOPIER 7021

410

F-A-X M-E-M-O-R-A-N-D-U-M

TO: DISTRIBUTION

FROM: MARY HARLOW AND HANK STOVALL, CO-CHAIRS

SUBJECT: MEETING REMINDER FOR MAY 28, 1998

DATE: MAY 21, 1998

There will be a meeting **THURSDAY, MAY 28, 1998, 4:00-7:00 PM** at the Broomfield Municipal Center in the **Zang's Spur Conference Room.** With summer approaching and vacations being scheduled, it will be more difficult to find convenient meeting times for this large group. Please note the following dates for tentative RSAL meetings (all from 4:00-6:00PM): June 25, July 23, August 6 and August 27.

PROPOSED AGENDA

4:00 Introductions
4:05 Co-chairs Update
4:15 Oversight Panel Discussion-Ideas for Process
5:00 Review the Technical RFP
- Refined Evaluation Criteria
- Definition of Conflicts of Interest

5:30 break >

6:30 Award Contract for Administrative Services - AIMSI
6:45 Public Comment
6:50 Other Topics/Future Agenda Items/Action Items
6:55 Next Meeting Dates: June 25, 1998- Broomfield Municipal Center
Zang's Spur Conference Room
7:00 Adjourn

411

City of Broomfield

One DesCombes Drive, Broomfield Colorado 80020

DATE: May 26, 1998
FROM: Kathy Schnoor, Environmental Services PHONE: 438-6363
RE: RF-SAL Oversight Panel # of pages ___2___

			PHONE	FAX	
	David Abelson	Cong. Skaggs' Ofc	303-650-7886	303-650-7893	
A	Jim McCarthy	City of Arvada	303-431-3042	303-431-3969	
P	Carol Lyons	City of Arvada	303-421-2550	303-431-3911	
P	Lisa Morzel	City of Boulder	[redacted]	303-441-4478	called
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A	Kathy Schnoor	City of Broomfield	303-438-6363	303-438-6234	
P	Hank Stovall	City of Broomfield	303-466-5986	303-438-6296	mail
P	Tom Davidson	City of Louisville	303-666-6565	303-673-9043	
A	Sam Dixion	City of Westminster	303-426-1202	303-429-5113	
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~~E~~	~~Jackie Berardini~~	CDPHE	303-692-3472	303-691-7702	
	~~Herb Betts~~	CDPHE	303-692-2665	303-782-0188	
	Dr. Norma Morin	CDPHE	303-692-2645	303-782-0188	
E	Steve Gunderson	CDPHE	303-692-3367	303-759-5355	
	~~Steve Tarlton~~	CDPHE	303-692-3423	303-782-4969	
	~~Edd Kray~~	CDPHE	303-966-2115	303-966-5449	
	Carl Spreng	CDPHE	303-692-3358	303-759-5355	
P	Dean Heil	CSU	970-491-6516	970-491-0564	
	Autar Rampertaap,				
	Jim Fiore	DOE HQ	301-903-8191	301-903-3877	
	Jeremy Karpatkin	DOE	303-966-2080	303-966-6633	
	Jessie Roberson	DOE/RFFO	303-966-2025	303-966-6054	
E	Steve Slaten	DOE	303-966-4839	303-966-3710	
E	Tim Rehder	EPA	303-312-6293	303-312-6067	
P	Ken Starr	Jefferson County	303-271-5714	303-271-5702	
	John Corsi	Kaiser Hill	303-966-6526	303-966-6153	
	Dave Shelton	Kaiser Hill	303-966-9877	303-966-5001	
P	Niels Schonbeck	Metro State	303-556-8327	303-556-5399	called
A	John Shepherd	Physician/Soc Resp	303-650-4460	303-650-4403	Please call when faxing
A	Victor Holm	RFCAB	303-989-9086	303-980-9076	
P	Bob Kanick	RFCAB	303-444-0049	303-444-0072	
	Ken Korkia	RFCAB	303-420-7855	303-420-7579	
A	Tom Marshall	RFCAB	303-444-6981	303-444-6523	
P	LeRoy Moore	RMPJC	303-444-6981	303-444-6523	
	Deanne Butterfield	RFLII	303-940-6090	303-940-6088	
	Will Neff	RFLII	303-940-6090	303-940-6088	
P	Joel Selbin	UCD Chem Dept	3[redacted]	303-556-4776 (W)	mailed
P	Todd Margulies	TM Consulting	303-279-6699	303-279-6699	Call 1st/include 1-303 mailed called
P	Joe Goldfield	RFCAB-SNM	303-321-7276		called mailed

(P=Panel Member, A=Alternate, E=Ex-Officio)

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BROADCAST REPORT

DATE/TIME	5-26-98 10:21AM
LOCAL I. D.	3034386234
LOCAL NAME	CITY BROOMFIELD
LOGO	CITY BROOMFIELD

START TIME 5-26-98 9:43AM
JOB SIZE 2 PAGES

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37	93035565399	GOOD
38	93036504403	GOOD
39	93039809076	GOOD
40	93034440072	GOOD
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42	93034446523	GOOD
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BROADCAST REPORT

DATE/TIME	5-26-98 9:42AM
LOCAL I. D.	3034386234
LOCAL NAME	CITY BROOMFIELD
LOGO	CITY BROOMFIELD

START TIME 5-26-98 8:44AM
JOB SIZE 2 PAGES

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26	93037595355	GOOD
27	919704910564	GOOD
28	913019033877	GOOD
29	93039666633	GOOD
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DRAFT

REQUEST FOR PROPOSALS TO REVIEW THE RADIONUCLIDE SOIL ACTION LEVELS AT THE ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

June 1, 1998

Section I
Announcement

The Rocky Flats Citizens Advisory Board (RFCAB) announces its Request for Proposals (RFP) and invites interested parties (Proposers) to submit appropriate documentation as further described herein in connection with the performance of independent study of the Radionuclide Soil Action Levels established for cleanup of the Rocky Flats Environmental Technology Site. This RFP is a solicitation of entities qualified to provide the scientific evaluation study, and work with the designated Oversight Panel in performance of such study, as more specifically described herein (the Project). Each Proposer wishing to propose on the Project is invited to submit a Proposal which in this document shall mean the complete response of the Proposer to the RFP. **The deadline for receipt of the Proposals by RFCAB is 3:00 p.m. (MDT), July 16, 1998.**

Section II
Administrative Information

A. Purpose: The Rocky Flats Citizens Advisory Board (RFCAB) invites qualified individuals/firms to submit a proposal to conduct an independent scientific review of the Radionuclide Soil Action Levels (RSALs) established for the cleanup of the Rocky Flats Environmental Technology Site (RFETS). The review will evaluate the methods as well as the accuracy and applicability of the input parameters used to calculate the current RSALs. The review will also encompass models, methodologies, and cleanup standards that may exist or are being developed for other sites and their applicability to the Rocky Flats site. Based on the findings of this investigation, a recommendation will be developed for the RSALs for transuranic elements in the surface soils at Rocky Flats that will be protective of surface waters leaving the site, future users and surrounding communities.

B. Background: The Rocky Flats Environmental Technology Site (RFETS) was constructed in 1951. The site served as a production facility to manufacture components for nuclear weapons. As a result of operations, the soil at RFETS is contaminated with various actinides including plutonium and americium. In 1989, operations at the plant were shut down due to safety and production problems. In 1992, the decision was made to permanently close the plant. The site's current operations involve stabilization and disposition of plutonium, decontamination and deactivation of radionuclide contaminated buildings, remediation of environmental damage, and waste management.

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As the concluding step of the Rocky Flats Cleanup Agreement (RFCA), on October 18, 1996, the Department of Energy (DOE) and its regulators - the Environmental Protection Agency (EPA) and the Colorado Department of Public Health and Environment (CDPHE) - adopted interim Radionuclide Soil Action Levels for RFETS. Intended to be protective of people using the site after closure, these action levels set the upper limits for the radionuclides (primarily plutonium and americium) that would be left in the soil at Rocky Flats after cleanup. The levels adopted did not consider effects to off-site communities. The method used was dose based. The dose chosen was based on Draft Title 40 of the Code of Federal Regulations, Part 196, dated February 16, 1996. This regulation mandates that the basic dose standard is 15 mrem/yr. The draft rule makes provision for restricted land use. The 15 mrem/yr would apply to the restricted use but in that case the exposure resulting from unrestricted use must also be assessed. This dose cannot exceed 85 mrem/yr. The method of converting dose to radiological soil concentrations was based on the use of RESRAD (Residual Radiation), a program developed by Argonne National Laboratory. The final report *Action Levels for Radionuclides in Soils for the Rocky Flats Cleanup Agreement* is available for review on the RFCAB web site (http://www.rfcab.org/SALOP.html).

In response to public concerns that these RSALs might be too high, DOE agreed to an independent review of the methods used to convert given dose levels to soil contamination levels. DOE would not agree to a review of the safety or appropriateness of the dose standard in Part 196. A community review group known as the Radionuclide Soil Action Level Oversight Panel (Oversight Panel) was created to define the project and to oversee this review from initiation to completion. In order to fund the study and to comply with the Federal Advisory Committee Act (FACA), DOE will use the existing grant vehicle it has with RFCAB. RFCAB will be responsible for all aspects involving the administration of the grant monies, including submitting a grant amendment or application, reviewing and approving contracts, and authorizing and disbursing funds for the study. RFCAB will negotiate and sign all contracts for any project services. The Oversight Panel will have responsibility for developing requests for proposals and selecting contractors in consultation with RFCAB, and will then oversee the study.

C. Issuing Office: This request for proposals is being issued by RFCAB, which is acting as the contracting entity for the Oversight Panel. RFCAB is a nonprofit corporation chartered under FACA as a Site Specific Advisory Board (SSAB) for the U.S. Department of Energy.

D. Schedule of Activities:

1. RFP mailed to prospective Proposers	June 1, 1998
2. Written inquiries deadline	June 24, 1998
3. Proposal submission deadline	July 16, 1998 (time 3:00 p.m. MDT)

E. Proposal Submission: Proposals must be received on or before 3:00 p.m. MDT, July 16, 1998. Late proposals will not be accepted. The proposal package should be delivered or mailed to:

Rocky Flats Citizens Advisory Board
9035 Wadsworth Parkway, Suite 2250
Westminster, CO 80021

Eight (8) copies (including original) of the complete proposal must be submitted and sealed in a package. The outside of the package should bear the Proposers name and the title of the proposal, *A Review of the Radiological Soil Action Levels at the Rocky Flats Environmental Technology Site*. Proposals must be signed in ink by the Proposer or an officer of the company who is authorized to bind the Proposer to the proposal. The proposals be will opened and turned over to the Evaluation Committee at 4:00 p.m. MDT, July 16, 1998.

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Section III
Other Requirements and Conditions

A. Availability of Information: This RFP will be made available to any interested party who requests it. A list of recipients of the RFP may be obtained at the RFCAB office.

Inquiries about the scope or terms of this RFP can be made in writing to Ken Korkia, Rocky Flats Citizens Advisory Board, 9035 Wadsworth Parkway, Suite 2250, Westminster, Colorado 80021; FAX (303) 420-7579. Such questions must be received on or before June 24, 1998. Written responses to questions received will be mailed to all recipients of record on or before June 30, 1998. Any replies to these questions which RFCAB elects to answer will become an addendum to this RFP. Any clarifications, interpretations and other forms of oral response outside of the formal inquiry process, whether by RFCAB, the Oversight Panel or others, shall not be construed as valid or binding. In the event that RFCAB or the Oversight Panel deems that an addendum to the RFP is necessary, the addendum will be sent by mail to all recipients of record.

The Proposer should be familiar with the report *Action Levels for Radionuclides in Soils for the Rocky Flats Cleanup Agreement*, which can be obtained from RFCAB's web site. Numerous other background reports and studies on Rocky Flats can be found at the Department of Energy Public Reading Room, located at Front Range Community College in Westminster, Colorado. The address for the Public Reading Room is 3705 112th Avenue. The phone number is (303) 469-4435.

B. RFCAB's Right to Conduct Investigations: RFCAB may conduct such investigation as it deems necessary to assist in the evaluation of any proposal and to establish the responsibility, qualifications and financial ability of the Proposer to do the proposed work in accordance with the RFP and to RFCAB's satisfaction within the prescribed time.

C. Withdrawal or Revisions of Proposals: Upon written notice to RFCAB, a Proposer may withdraw or revise a proposal after it has been deposited with RFCAB. Withdrawal of a proposal must be made in writing and occur prior to the time for receipt of proposals. Any proposal withdrawn for the purpose of revision must be resubmitted in the specified format within the time set for receipt of proposals. Proposals may not be withdrawn after the time set for receipt. Proposals are binding offers, which shall remain open and irrevocable for sixty (60) days from the time they are opened by RFCAB, or until accepted by RFCAB through execution of a final approved contract.

D. Disqualification of Proposers: The Proposer may be disqualified for reasons including the following, without limitation:

- Incomplete proposals.
- Exemptions or exceptions taken to the terms and conditions of this RFP.
- Evidence of collusion among competing Proposers.
- Receipt of a proposal after the date and time set for receipt.
- Evidence of misrepresentations or falsehoods.

E. Rejection of Proposals: The Rocky Flats Citizens Advisory Board reserves the right to reject any or all proposals.

F. Multiple Proposals: Proposers may join together to submit a joint proposal; however, a lead Proposer must be indicated. No more than one proposal will be accepted from any lead Proposer. Subcontractors may team with more than one lead Proposer to provide specialized services.

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G. Disposition of proposals: Submitted proposals will not be returned and will become the property of the RFCAB.

H. Incurring Costs: RFCAB is not liable for any costs incurred by Proposers prior to issuance of a contract.

I. Conflicts of Interest: RFCAB acknowledges that potential Proposers may have direct or indirect conflicts of interest with the Department of Energy, RFCAB, or the Oversight Panel. RFCAB will evaluate the Proposers in consideration of the extent of such conflict of interest.

Section IV
Project Description and Scope

A. Project Description: The contractor will coordinate with the Oversight Panel in conducting a review of the interim RSALs set for Rocky Flats. The contractor will be expected to submit a comprehensive final report. The contractor will also be expected to propose a method of peer review. The contractor will provide the Oversight Panel with a set of recommendations. The panel will incorporate comments received from the public into a final recommendation for inclusion by DOE and the regulators in RFCA.

The contractor is being requested to investigate the following:

- to review models, methodologies, and cleanup levels that may exist or are being developed for other radionuclide contaminated sites as to how they may apply to the RFETS site-specific situation;
- to review the existing analysis used to set the current RFETS RSALs as to its accuracy and appropriateness; and
- based on the results of the above investigations, to calculate an independent set of RSALs.

The study will use existing RFETS site data to the maximum extent possible. It will be the responsibility of the contractor to determine the sufficiency and quality of this data and to inform the Oversight Panel at an early date if additional data is required. The contractor may suggest that the scope of study be modified. However, at a minimum, the modified proposals are requested to address the issues as discussed throughout this RFP.

B. Scope of Work: The contractor will be required to perform the following:

1. Cleanup Levels at Other Sites

Actions:

- Identify and evaluate cleanup levels and/or action levels (i.e., RSALs) which exist or are projected for use at other radionuclide contaminated sites (particularly with plutonium and americium) and the processes/models used to determine them as to their applicability in setting cleanup levels at RFETS.
- Identify any processes/models that were or are being used to determine off-site impacts to communities from on-site cleanup levels.
- Provide a summary of this evaluation itemizing the reasons why such levels or processes/models are or are not applicable for use in assessing cleanup levels for RFETS.

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Considerations:

- This study should concentrate on examples of soil similarly contaminated with transuranic elements and, in particular, plutonium and americium. Of particular interest is the reasoning that went into the setting of these cleanup levels and the subsequent history of the site, including any cleanup. The study should compare the cleanup and/or action levels within the context of site-specific conditions, projected land use, and the then-existing risk assessments and dose standards. This portion of the study will be used to place the calculated RFETS values in context.

2. Computer Models

Actions:

- Identify and evaluate all relevant available or emergent computer models which can be used to calculate radionuclide contamination levels in soils based on a given dose rate.
- Evaluate the models to determine which are most applicable and best suited to model the site-specific conditions at RFETS.
- Provide a description of these models, a summary of the strengths and weaknesses of each, and a recommendation for the most appropriate model(s).

Considerations:

- Models that are inappropriate to RFETS site conditions, obsolete, or which cannot be readily validated should not be included. The RESRAD model must be included due to its use in determining the current RSALs. A comparison of the different models using RFETS site-specific data would be useful. The contractor is encouraged to find computer codes capable of modeling both on-site and off-site dose rates. If no models exist for this determination, the contractor will review off-site migration/impacts over time/distance for various cleanup levels. It is possible that no one model will prove satisfactory for determining both, but that a combination of models may be necessary. The contractor will be expected to recommend the most appropriate model(s) for RFETS site-specific conditions and to justify this recommendation. Whichever model or models are recommended should be thoroughly validated. It is not necessary that the contractor perform this validation; peer reviewed, published studies will suffice. In the event that RESRAD is not recommended, RESRAD should be run in parallel with the recommended model(s) as a comparison.

3. Inputs and Assumptions

Actions:

- Evaluate the input parameters, inputs, default inputs, and assumptions for the current analysis (RESRAD) used to set the RSALs at RFETS. At a minimum, this evaluation must satisfy the following: Are the input parameters, inputs, default inputs, and assumptions adequate, accurate, and credible in simulating the conditions at RFETS, given the future land use scenarios envisioned in RFCA, and the subsequent conversion to dose rate/contamination levels?

  (a) For each of the input parameters, what is the sensitivity of the input values in terms of resulting contamination levels?
  (b) For each of the input parameters, what is the distribution of possible input values? Identify each of these based on the sensitivities determined in (a) above from least conservative to most conservative, with conservative meaning that which results in lower contamination levels given a certain dose limit. Quantify the uncertainties of the inputs or input distributions.

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(c) For each of the input distributions in (b) above, identify an input value which can be considered "reasonable" or "best estimate." Provide the reasoning for these choices.

Considerations:

- All of the input parameters to the model need to be examined. Parameters that are easily confirmed, non site-specific parameters, or those which are specified by the EPA or other regulatory agencies, should be noted as such. If the investigation indicates that such values are not appropriate, alternatives should be recommended. Parameters for which there are site-specific input data for RFETS should be identified and a thorough study of the distribution of possible values should be performed.

4. Methodology

Actions:

- Identify and evaluate the methodologies which can be used to select or combine the necessary inputs/outputs for a given computer model in determining contamination levels for a given dose limit.
- Within one (1) month of the start of the contract, present to the Oversight Panel and stakeholders a summary of these methodologies along with a recommendation and justification as to the best suited for such an analysis.
- Compare or contrast this recommended methodology with that used in the existing RESRAD analysis.

Considerations:

- It is understood that there are several methodologies (e.g., bounding, best estimate, conservative, probabilistic risk assessment, etc.) which can be used to shape the inputs for such an analysis. The question as to "how conservative is conservative?" makes this a subjective rather than simply a scientific issue, because the affected communities must accept the risks involved. Therefore, the Oversight Panel wishes to fully understand the nature and implications of each of the potential methodologies to ensure that the methodology chosen can best produce credible and defensible results from this independent review which will be acceptable to the broadest range of stakeholders.

5. Independent Calculation

Actions:

- Using the methodology recommended in 4. above, select/combine the inputs identified in 3. above, as well as any new inputs required by the model recommended in 2. above in that model to calculate contamination levels for the dose limits set for each of the RFCA land use scenarios assumed in the original analysis. This includes a residential scenario.
- As part of the calculations, include a statement of the assumptions and level of uncertainty involved in the specific approach utilized. State the dose limits in terms of risk.

6. Protocols

Actions:

- As an integral part of the recommendations about the RSALs, recommend specific soil sampling procedures to be followed as an appropriate method of monitoring actinide concentrations in soil before and after remediation.

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Considerations:

- It is necessary to find a scientifically credible method for guaranteeing that the cleanup levels will actually be met in terms of what contamination levels are ultimately measured at the site. This study should clearly delineate such parameters as sample spacing, depth of samples, sampling methods, and all associated quality assurance which ensures that the methods used for measuring contamination before and after any remediation are directly applicable to the parameters used for setting the cleanup levels. The technical literature on valid statistical approaches should be reviewed to verify sampling methods and recommend approaches that are appropriate for the cleanup at RFETS.

7. Actinide Migration

Actions:

- Meet with the Actinide Migration Panel to share information in order to ascertain the applicability of any results from the actinide migration studies on the inputs to the modeling for this analysis.
- Study these results and any other relevant data and make a preliminary determination of what impact these will have on the results such as obtained in 5. above.

Considerations:

- Ultimately, cleanup levels must be protective of off-site residents. Calculations for the existing RSALs only considered on-site exposure scenarios. Since off-site air and water quality standards are more restrictive, it is possible these standards will control the cleanup. How can the issue of plutonium migration be incorporated into an evaluation of the RSALs? An Actinide Migration Study is currently underway. The final results of this study will not be ready in time to be used in this study. Some preliminary results will, however, be available. It is understood that any conclusions that can be based on this are tentative pending the completion of the Actinide Migration Study. The contractor should, however, identify the data needs of this study as early as possible in order to facilitate the collection and analysis of additional data needed.

C. Interfacing and Responsibilities: The Oversight Panel will be an active participant in the study.

1. The general responsibilities of the contractor are to gather factual information, render expert interpretations of data, and propose options for different end points or goals based on these interpretations. The contractor is expected to engage in an open exchange of ideas and to be responsive to technical and non-technical concerns and suggestions of the panel.

   The contractor will also:

   - Maintain an ongoing written log of all meetings, correspondence and telephone conversations with panel members, regulatory agencies and others, noting the purpose of the call.
   - Meet with the Oversight Panel on a monthly basis at a regularly scheduled meeting.

2. It is expected that the Oversight Panel will oversee and critique the work of the contractor, and integrate the findings of the contractor with relevant policy issues at RFETS to produce policy recommendations accompanied by a clear account of supporting evidence and reasoning. The panel will review written reports submitted by the contractor and inform the contractor of its assessment and suggestions in a timely manner.

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D. Deliverables: The contractor will be expected to prepare a comprehensive technical report of this study, including the methods used and the results of the independent review of the RSALs. The main body of the report should be directed to the level of the educated public. The contractor should include appendices that include more technical details. A sufficient number of copies are to be provided for all interested parties (not to exceed 100).

The contractor will be expected to work with the Oversight Panel to prepare a separate summary to be directed to the general public that has no prior knowledge of the RSALs. This report should be suitable for inclusion in newsletters or general circulation newspapers.

Monthly progress reports will be prepared for distribution at monthly meetings. They should include a summary of progress to date, a plan for the rest of the project, and draft sections of the final report.

E. Schedule/Timeline: At the time of contract signing, the parties will agree on a timeline. The study is expected to last up to one year.

To ensure that the contractor is aware of the concerns of the affected public, the public will be invited to attend an informational meeting at the beginning of this contract. Two other public informational meetings will be held over the course of the contract.

Monthly meetings will be held with the Oversight Panel. These meetings will be held in the late afternoon or evening. The meetings will consist of a technical session summarizing the work to date, and a business session where administrative matters will be discussed. The contractor will have sufficient staff present to answer questions. During the afternoon of the meeting day, the contractor is to be available at the RFCAB office or other designated location for discussions or technical briefings with panel members or the public.

The following schedule is proposed as a maximum:

September 5, 1998	Start Work
October	Monthly Meeting
November	Monthly Meeting
December	Monthly Meeting
January 1999	Monthly Meeting
February	Monthly Meeting
March	Monthly Meeting
April	Monthly Meeting
May	Monthly Meeting
June	Monthly meeting and presentation of draft report
July	Monthly meeting and presentation of final report
August	Presentation of results for special Rocky Flats Cleanup Agreement (RFCA) review

Section V
Proposal Requirements

Proposals must as a minimum address the following:

A. Previous Experience: The proposal should include a short history of the company, as well as a discussion of relevant past experience that would qualify the company to perform this review. A client list for the last three years is required. At least three of these clients should be included as references.

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B. Personnel: Proposer will submit resumes or curricula vitae including relevant publications for the key personnel that will work on the project. A plan indicating the responsibilities of the key personnel should be included. The contractor shall also provide an organizational chart in order to identify the various responsibilities of key project team members. The contract will specify that substitution of these persons requires written approval of RFCAB.

C. Proposal of Work: The proposal should address each of the scope items and indicate the Proposer's understanding of the work required. The proposal may expand the work to be performed on any scope item; however, it must at least review the work specified. A detailed plan including personnel to be used and a schedule for each scope item must be presented.

D. Work and Fiscal Management: The proposal should include a detailed estimate of the number of hours anticipated to complete the review. The estimate should include a breakdown showing who will be performing each task. The proposal should include a description of the procedures to be used to control costs and to maintain the schedule. These procedures should include methods to identify budget variances at the earliest possible time. Money available for this project is thought to be adequate to perform the work outlined in the scope; however, the successful conclusion of the project will require efficient cost control procedures.

E. Interface with the Oversight Panel: The Oversight Panel will be an active participant in the study. It is very important for the contractor to gain the trust of the Panel. The contractor is expected to inform and educate the Panel and to seek its advice in every phase of the study. The proposal should address the Proposer's understanding of this relationship and propose methods and plans to ensure its success.

F. Peer Review: The proposal should suggest one or more plans for peer review. Of particular importance will be how the experts are to be chosen and how the review will conducted. Timeliness of the suggested peer review will be important.

G. Work Schedule: The expectation of the Oversight Panel is that the review should begin in early September 1998 and be completed in less than one year. The proposal should specify a schedule for the review. The Panel expects to be an active participant in the review and plans to meet no more often than biweekly. Therefore, it is doubtful if the project can be completed in less than nine months. The proposed schedule should make considerations for this meeting schedule.

H. Fees Bid: Contract payments will be for time actually worked and for materials and services actually used. The Proposer shall provide the fully burdened hourly rates including a provision for profit, of all persons expected to work on the project. This breakdown should correspond to the plan set out above in parts B and C. Services and materials will be paid at actual cost plus a mark-up. The proposal should specify this mark-up. The proposal should indicate the total *not to exceed costs* for the project.

I. Length of Proposals: Proposals will be limited to 50 pages, inclusive of all materials and supporting documentation to fulfill the requirements as listed above.

Section VI
Evaluation of Proposals

A. Evaluation Process: RFCAB shall establish the proposal evaluation committee(s) ("Evaluation Committee") in its sole discretion and judgment, to review and evaluate each Proposal submitted in response to this RFP. Unless all Proposals are rejected, the Evaluation Committee shall rank the Proposers. RFCAB reserves the right to: (1) accept or approve for negotiation the Proposal of the highest ranked Proposer; (2) accept or approve for negotiation a Proposer other than the Proposer ranked highest by the Evaluation Committee; or (3) reject all of the Proposers.

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RFCAB will advise its preferred Proposal whether RFCAB wishes to accept the Proposer's offer (Proposal) and enter into a contract or negotiate a contract with such Proposer. The Proposals of all Proposers shall remain binding and irrevocable offers, for sixty (60) days from the time of submission, notwithstanding RFCAB's notice to a negotiation with the preferred Proposer. If negotiations with the initial preferred Proposer are not successfully concluded, RFCAB may, at its option, advise the next highest ranked Proposer and commence negotiations with such Proposer.

The Evaluation Committee will judge the merit of the Proposals received in accordance with the criteria defined herein. The recommendations of this committee will be forwarded to the entire panel for review and approval. During the evaluation, the Evaluation Committee may request Proposers to verify certain aspects of their respective proposals. Substantive discussions will not be held with any Proposer when requesting verification. The sole objective of the Evaluation Committee will be to recommend the Proposer whose Proposal is most responsive to the RSAL review needs and can be carried out within the available resources. The specifications within this RFP represent the minimum performance necessary for response.

RFCAB reserves the right, at the discretion of the Evaluation Committee, to invite one or more Proposers to attend an interview for the purpose of better explaining their proposal and negotiating a contract. Concepts and ideas developed by any Proposer or during negotiation may be discussed with all Proposers. However, each Proposer's documents and pricing will be held in confidence by the Evaluation Committee, to the extent allowed under law applicable to recipients of federal grants. It is the intent of the Evaluation Committee to conduct negotiations or interviews with selected Proposers to:

- further define aspects of the proposal;
- allow the Proposer to better demonstrate his or her understanding of the scope of work and the capacity of the Proposer's staff to accomplish the work;
- allow the Oversight Panel to better define final scope of work for the Project; and
- allow the selected Proposers to submit a Best and Final Offer for the final scope for the Project, if the Oversight Panel desires.

If the Oversight Panel desires, it may request Best and Final Offers (BAFOs) following negotiations with selected Proposers. The request will include:

- notice that negotiations are concluded;
- notice that this is the opportunity to submit a BAFO;
- a requirement that a signed contract accompany the BAFO; and
- notice that the BAFO must be received by a specified date and time.

Following the evaluation and/or negotiation process, the Oversight Panel may select that Proposer whose proposal is most advantageous considering fees and other factors. It is the intent of the Oversight Panel to contract with one lead Proposer to conduct all elements of this project. However, the Oversight Panel through RFCAB reserves the right to contract with more than one firm for separate elements of the project if its is advantageous to the Oversight Panel. After such selection, the Oversight Panel through RFCAB will notify in writing all Proposers the name of the selected Proposer. Neither the Oversight Panel nor RFCAB will be obligated to provide information to any Proposer concerning the basis for non-selection.

Submitted proposals shall not be returned and shall become the property of the Oversight Panel and will be turned over to RFCAB for archiving.

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B. Evaluation Criteria: The evaluation criteria will consist of four major categories. Each category is assigned a percentage value of the total evaluation. Then within each category, 100 total points are distributed to the individual significant issues to be evaluated. After scoring, the total number of points for each category will be determined and multiplied by the overall category percentage (e.g., for Overall Qualities of the Firm 35% x 78/100 points = 27.3 score). The calculated totals for each category will then added to form a total score.

1. Approach to the Project (35%)

Technical approach for each of the following work tasks (50 points):

- Evaluation of cleanup levels at other sites (8 points)
- Identifying and assessing relevant computer models (8 points)
- Evaluation of modeling inputs and assumptions (8 points)
- Evaluation of possible methodologies (8 points)
- Performance of an independent calculation (8 points)
- Recommendation of protocols (5 points)
- Interaction with actinide migration panel (5 points)

Management approach which includes the following parameters (20 points):

- Assignment of key staff
- Quality control of calculations, computer codes, and written documents
- Summary of proposed peer review approach
- Meeting of deadlines in the proposed/final project timeline

Overall fiscal management plan and its plan to meet the agreed budget (20 points)

Planned interaction with Panel (10 points)

- Communication of results
- Incorporation of panel feedback

2. Overall Qualities of the Firm (35%)

Relevant experience (25 points)

- Computer modeling relevant to the type of analysis required (10 points)
- Radiological and environmental issues (5 points)
- Public involvement issues (10 points)

Recognized professional stature (10 points)

Capacity (both financial and organizational) to do job (15 points)

Client list/specific related projects (10 points)

References (8 points)

Experience and qualifications of personnel (15 points)

Demonstration of ability to perform an independent scientific study (7 points)

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Physical resources (10 points)

3. Overall Quality of the Proposal (5%)

Presentation (34 points)

Comprehensibility (33 points)

Completeness (33 points)

- Client list
- Resumes of key staff
- Staffing plan
- Fiscal management plan
- Cost breakdown
- Letters of recommendation
- Additional proposal recommendations

4. Cost (25%)

Price (70 points)

Hourly rates in conjunction with assignment of key staff (10 points)

Minimal/reasonable cost mark-up (10 points)

Minimal/reasonable indirect costs (overhead) (10 points)

RFCAB may also perform a calculation of the "Cost/Benefit Relative Value" which is defined as follows:

$$\text{CBRV} = \frac{\text{Average for all Reviewers [Total Evaluation Score for Categories 1 – 3 above]}}{\text{Total Bid Cost}}$$

The higher the CBRV means the higher evaluated worth per dollar. This may be used as an additional measure of proposal value which can be used to augment the scoring based on the above criteria or in place of the "Cost" category altogether.

Section VII
Contractual Information

A. Contract Requirements: The successful Proposer shall be expected to enter into a Contract for the Project Services, prepared by RFCAB, which shall include, without limitation, the following provisions which shall be binding upon the Contractor.

1. Insurance. Contractor shall acquire and maintain, during the term of this Contract, including any extensions of the term, statutory worker's compensation insurance coverage, commercial general liability insurance coverage, professional liability insurance coverage and auto liability insurance, in the minimum amounts set forth below:

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a) Worker's compensation insurance: In accordance with applicable law; and
b) Commercial general liability insurance: In the minimum amount of $1,000,000 general aggregate.
c) Professional liability insurance: Professional liability insurance in the amount of $1,000,000, each occurrence.
d) Auto liability insurance: In the minimum amount of $1,000,000, covering any automobile.

2. Work Product. All work product of Contractor prepared pursuant to this Contract, including but not limited to all maps, plans, drawings, specifications, reports, electronic files and other documents, in whatever form (Work Product), shall become the property of RFCAB under all circumstances, regardless of whether Contractor is terminated. All Work Product shall be provided to RFCAB at the time of completion of any of the Services described in Exhibit A, at the request of RFCAB, or in any event, at the time of termination of this Contract. At any time, RFCAB may obtain reproducible copies of Contractor's Work Product.

3. Federal Requirements: This Contract is awarded pursuant to a grant received by RFCAB under the direction of the U.S. Department of Energy and in compliance with the requirements imposed by the awarding federal agency, including without limitation:

a) All Work Product, as defined in paragraph _____, shall be subject to the copyright and publishing provisions of the Department of Energy regulations.

b) All Work Product, as defined in paragraph _____, shall be subject to the Department of Energy's policies and procedures concerning patent rights.

c) The Department of Energy requires that RFCAB submit annual reports to the Department of Energy for each year that RFCAB continues to receive federal assistance, and for one year thereafter, which reports shall include the status of RFCAB's activities funded by the grant, the costs incurred for each completed and/or partially completed activity, and any operational costs of activities, the degree to which the activities have achieved their goals, and the overall effectiveness of the economic assistance provided in meeting the adjustment needs of the area.

d) RFCAB, the Department of Energy, the Comptroller General of the United States, or any of their duly authorized representatives shall have access to any books, documents, papers, and records of Contractor which are directly pertinent to this Contract for the purpose of making audit, examination, excerpts and transcriptions.

e) This Contract is further subject to the following DOE-required federal rules and regulations:

i) Assurances - Non-Construction Programs
ii) CFR Part 1040 - Assurance of Compliance, Nondiscrimination in Federally Assisted Programs
iii) CFR Part 1036 - Certification Regarding Debarment, Suspension, and Other Responsibility Matters - Primary Covered Transactions
iv) CFR Part 601 - Restrictions on Lobbying
v) CFR Part 1036, Appendix C - Certification Regarding Drug-Free Workplace Requirements

4. Indemnification: Contractor hereby agrees to indemnify and hold harmless RFCAB and each of its directors, employees, agents and consultants, from and against any and all claims, demands, losses, liabilities, actions, lawsuits and expenses (including reasonable attorneys' fees), arising directly or indirectly, in whole or in part, from the negligence or any criminal or tortious act or omission of Contractor or any of its agents or employees, in connection with this Contract and/or Contractor's Services or work hereunder, whether within or beyond the scope of its, his or her duties or authority hereunder. The provisions of this paragraph shall survive termination of this Contract.

5. Condition to Funding. The Contractor acknowledges and agrees that RFCAB's performance under this Contract, including compensation to be paid to the Contractor hereunder, is expressly conditioned upon the availability of funds under RFCAB's grant with DOE. In the event such grant funds are not made available to RFCAB, then this Contract may be terminated.

6. Method of Payment. Fees for services rendered under this Contract will be paid to the Contractor by the following methods:

   a) A start-up fee of ten percent (10%), or other amount as negotiated between RFCAB and Contractor, shall be paid to Contractor at the time Contract is signed.
   b) Following goals and timelines as developed in the Contract's Work Plan and Scope of Work, Contractor shall be paid fees upon satisfactory completion of significant milestones. The specific fee to be awarded for satisfactory completion of each milestone shall be negotiated in advance and be made part of the Contract.
   c) Contractor shall be reimbursed for actual Project operating costs (travel expenses, materials, postage, supplies, etc.) on a monthly basis upon receipt and approval of detailed invoices to RFCAB.
   d) RFCAB will withhold final payment of ten percent (10%) of the total Contract amount, to be paid to Contractor upon satisfactory and timely completion of all milestones as developed in the Project's Work Plan and Scope of Work.

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ROCKY FLATS CITIZENS ADVISORY BOARD

An Advisory Board to the U.S. Department of Energy

MEMORANDUM

TO: Soil Action Levels Oversight Panel Members

FROM: Ken Korkia

DATE: April 30, 1998

SUBJECT: Development of Proposal Review Criteria for the Technical Services Contractor

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Just a reminder that a meeting has been set to develop proposal review criteria for the technical services contractor. This meeting will be held at the Citizens Advisory Board office, 9035 Wadsworth Parkway, Suite 2250 in Westminster on **Wednesday, May 6 at 5:00 p.m.**

At the last meeting of the Oversight Panel, I was asked to put down some ideas on how to go about developing these review criteria. My ideas are listed below. I look forward to seeing everyone interested in this important part of the project on Wednesday. If you have any questions or need directions to our office, please call me at 420-7855.

Considerations for Technical Services Proposal Evaluation Criteria

There are four major areas for review and assignment of points:

1) Overall qualities of the firm: (recommend range of 30 - 35 % of total points awarded)

Determinations need to be made concerning what qualities are considered important for this job and then points are assigned based on how one wants to reward the bidder for having these important qualities. For example, if having a company who has been in business for a long time is important, you would assign a premium to a category such as experience. If certain qualities such as previous experience with radiological materials or modeling is important, these qualities are listed and points assigned. The following are general categories within this area for which points are developed.

- experience as a firm - What type of projects have they worked on before? How long have they been in business? Are there particular areas of specialty that you would like to emphasize, such as experience in modeling, experience with radiological materials, experience in a regulatory environment? How well have they been received by previous employers? Other?

9035 Wadsworth Parkway Suite 2250 • Westminster, Colorado 80021 • 303-420-7855 • Fax 303-420-7579

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- current client list - Who do they work for currently? Is there potential or perceived conflicts of interest? Do they have the time to work on this project, based on their current project load? Other?
- experience and qualifications of key project personnel - What is their experience and areas of expertise? What experience does the Oversight Panel consider important, such as health physics, modeling, etc.? What are their educational backgrounds? Who have they worked for in the past? Other?
- other?

2) Approach to the Project: (recommend range of 30 - 35 % of total points awarded)

This part of the evaluation focuses on how well the bidder responds to and describes how he or she will approach the project. The specific tasks should be listed and then points assigned to each one. The contractor with the best approach would receive the most points. Being able to do the technical work is important, but how well the contractor manages the project also is important, such as staffing, quality control, scheduling, etc.. These important management criteria will be listed and points will be assigned to each. Finally, fiscal management is important if the project is to come in within a specified budget.

- technical approach: How well does the contractor describe the approach for each of the specified tasks? Other?
- management approach: How well does the contractor describe overall management of the project in key areas such as assignment of key staff, quality control, meeting deadlines, coordinating with the Oversight Panel, etc? Other?
- fiscal management: ?How will the contractor keep within the specified budget? What are the fiscal controls the contractor will use? Other?
- other?

3) Overall quality of the Proposal: (recommend 5 - 10 % of total points awarded)

Not as significant in terms of overall percentage of points that will be awarded, but how well the bidder presents information is an important consideration. The quality of the proposal may well represent the overall quality of work the potential contractor will perform on the project. Clearly understandable proposals should be rewarded over those in which the evaluator has to hunt for information.

- How well does the proposal provide information for evaluation of key areas such as providing client list, providing resumes of key staff, providing a staffing plan, providing a fiscal management plan, providing an understandable cost breakdown, providing letters of recommendation in the proposal, providing a list of additional recommendations, etc?
- other?

4) Cost: (recommend 25 - 30 % of total points awarded in this category)

The bidders will provide a single price bid number that will include an overall breakdown of costs. This breakdown will include an estimate of the number of hours for each member of the project team multiplied by a burdened hourly rate that includes direct labor cost, indirect costs and provision for profit. Any additional direct costs mark-up will also be listed.

5) Other?

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424

City of Broomfield

One DesCombes Drive, Broomfield Colorado 80020

DATE: May 4, 1998
FROM: Kathy Schnoor - for Ken Korkia, RFCAB PHONE: 438-6363
RE: RF-SAL Oversight Panel **May 6 mtg** # of pages 3

			PHONE	FAX	
	David Abelson	Cong. Skaggs' Ofc	303-650-7886	303-650-7893	
A	Jim McCarthy	City of Arvada	303-431-3042	303-431-3969	
P	Carol Lyons	City of Arvada	303-421-2550 x3292	303-431-3911	
P	Lisa Morzel	City of Boulder	[redacted]	303-441-4478	
A	John Tayer	City of Boulder	303-441-3005	303-441-4478	
	Tim Holeman	City of Broomfield	303-355-5492	303-355-5530	
A	Kathy Schnoor	City of Broomfield	303-438-6363	303-438-6234	
P	Hank Stovall	City of Broomfield	303-466-5986	303-469-8554	
P	Tom Davidson	City of Louisville	303-666-6565	303-673-9043	
A	Sam Dixion	City of Westminster	303-426-1202	303-429-5113	
P	Mary Harlow	City of Westminster	303-430-2400 x 2174	303-650-1643	
E	Jackie Berardini	CDPHE	303-692-3472	303-691-7702	
	Herb Betts	CDPHE	303-692-2665	303-782-0188	
	Dr. Norma Morin	CDPHE	303-692-2645	303-782-0188	
	Steve Gunderson	CDPHE	303-692-3367	303-759-5355	
	Steve Tarlton	CDPHE	303-692-3423	303-782-4969	
	Edd Kray	CDPHE	303-966-2115	303-966-5449	
	Carl Spreng	CDPHE	303-692-3358	303-759-5355	
P	Dean Heil	CSU	970-491-6516	970-491-0564	
	Autar Rampertaap,				
	Jim Fiore	DOE HQ	301-903-8191	301-903-3877	
	Jeremy Karpatkin	DOE	303-966-2080	303-966-6633	
	Jessie Roberson	DOE/RFFO	303-966-2025	303-966-6054	
E	Steve Slaten	DOE	303-966-4839	303-966-3710	
E	Tim Rehder	EPA	303-312-6293	303-312-6067	
P	Ken Starr	Jefferson County	303-271-5714	303-271-5702	
	John Corsi	Kaiser Hill	303-966-6526	303-966-6153	
	Dave Shelton	Kaiser Hill	303-966-9877	303-966-5001	
P	Niels Schonbeck	Metro State	303-556-8327	303-556-5399	
A	John Shepherd	Physician/Soc Resp	303-650-4460	303-650-4403	Please call when faxing
A	Victor Holm	RFCAB	303-989-9086	303-980-9076	
P	Bob Kanick	RFCAB	303-444-0049	303-444-0072	
	Ken Korkia	RFCAB	303-420-7855	303-420-7579	
A	Tom Marshall	RFCAB	303-444-6981	303-444-6523	
P	LeRoy Moore	RMPJC	303-444-6981	303-444-6523	
	Deanne Butterfield	RFLII	303-940-6090	303-940-6088	
	Will Neff	RFLII	303-940-6090	303-940-6088	
P	Joel Selbin	UCD Chem Dept	[redacted]	303-556-4776 (W)	
P	Todd Margulies	TM Consulting	303-279-6699	303-279-6699	Call 1st/include 1-303
P	Joe Goldfield	RFCAB-SNM	303-321-7276		

(P=Panel Member, A=Alternate, E=Ex-Officio)

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REQUEST FOR PROPOSALS TO REVIEW THE RADIOLOGIC SOIL ACTION LEVELS AT THE ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

Section I
Administrative Information

A. Purpose: The purpose of this RFP is to obtain an independent scientific review of the Radiological Soil Action Levels (RSAL) established for the cleanup of the Rocky Flats Environmental Technology Site (RFETS). The review will evaluate the methods as well as the accuracy and applicability of the input parameters used to calculate the current RSALs. The review will also encompass models, methodologies, and cleanup standards that may exist or are being developed for other sites and their applicability to the Rocky Flats site. Based on the findings of this investigation, a recommendation will be developed for the RSALs for transuranic elements in the surface soils at Rocky Flats that will be protective of surface waters leaving the site, future users and surrounding communities.

B. Background: The Rocky Flats Environmental Technology Site (RFETS) was constructed in 1951. The site served as a production facility to manufacture components for nuclear weapons. As a result of operations, the soil at RFETS is contaminated with various actinides including plutonium and americium. In 1989 operations at the plant were shut down due to safety and production problems. In 1992 the decision was made to permanently close the plant. The site's current operations involve stabilization and disposition of plutonium, decontamination and deactivation of radionuclide contaminated buildings, remediation of environmental damage, and waste management.

As the concluding step of the Rocky Flats Cleanup Agreement (RFCA), on October 18,1996, the Department Of Energy (DOE) and its regulators Environmental Protection Agency (EPA) and Colorado Department of Public Health and Environment (CDPHE) adopted interim Radionuclide Soil Action Levels for the RFETS. Intended to be protective of people using the site after closure, these action levels set the upper limits for the radionuclides (primarily plutonium and americium) that would be left in the soil at Rocky Flats after cleanup. The levels adapted did not consider effects to off-site communities. The method used was dose based. The dose chosen was based on Draft Title 40 of the Code of Federal Regulations, Part 196 dated Feb 16, 1996. This regulation mandates that the basic dose standard is 15 mrem/yr. The draft rule makes provision for restricted land use. The 15 mrem/yr would apply to the restricted use but in that case the exposure resulting from unrestricted use must also be assessed. This dose can not exceed 85 mrem/yr. The method of converting dose to radiologic soil concentrations was based on the use of RESRAD (Residual Radiation) a program developed by Argonne National Laboratory. The final report *Action Levels for Radionulides in Soils for the Rocky Flats Cleanup Agreement* is included with this RFP as appendix A.

In response to public concerns that these RSALs might be too high, DOE agreed to an independent review of the methods used to convert given dose levels to soil contamination levels. DOE would not agree to a review of the safety or appropriateness of the dose standard in Part 196. A community review group known as The Radionuclide Soil Action Level Oversight Panel (RSALOP) was created to define the project and to oversee this review from initiation to completion. In order to fund the study, the DOE will use the existing grant vehicle it has with the Rocky Flats Citizen Advisory Board (RFCAB). RFCAB will be responsible for all aspects involving the administration of the grant monies, including submitting a grant amendment or application, reviewing and approving contracts, and authorizing and disbursing funds to the Oversight Panel's contractors. As the fiduciary agent, RFCAB will negotiate and sign all contracts for any project services. The Oversight Panel will have responsibility for developing requests for

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proposals and selecting contractors in consultation with RFCAB, and will then oversee the work of these contractors.

C. Issuing Office: This request for proposals is being issued by the Rocky Flats Citizens Advisory Board (RFCAB) which is acting as the contracting entity for the Oversight Panel. RFCAB is a nonprofit corporation chartered under the Federal Advisory Committee Act (FACA) as a Site Specific Advisory Board (SSAB).

D. Schedule of Activities:

1. RFP mailed to prospective bidders	June 1, 1998
2. Written inquiries deadline	June 24, 1998
3. Proposal Submission Deadline	July 16, 1998 Time 3:00 P. M.

E. Proposal Submission: Proposals must be received on or before 3:00 p.m. MDT, July 16,1998. Late proposals will not be accepted. The proposal package should be delivered or mailed to:

Rocky Flats Citizens Advisory Board
9035 Wadsworth Parkway
Suite 2250
Westminster, CO. 80221

Eight (8) copies (including original) of the complete proposal must be submitted and sealed in a package. The outside of the package should bear the bidders name and the title of the proposal, *A Review of the Radiologic Soil Action Levels at the Rocky Flats Environmental Technology Site.* Proposals must be signed in ink by the bidder or an officer of the company who is authorized to bind the bidder to the proposal. The bids be will opened and turned over to the evaluation committee at 4:00 P.M., June 16, 1998.

Section II.
Other Requirements and Conditions

A. Availability of Information: The RFP will be made available to any interested party who requests it. A list of recipients of the RFP may be obtained at the RFCAB office.

General questions about RFCAB should be directed to Ken Korkia, Rocky Flats Citizens Advisory Board, 9035 Wadsworth Parkway, Suite 2250, Westminster, Colorado 80021; phone number (303) 420-7855.

General questions about the Oversight Panel and this RFP may be directed to Hank Stoval, Co-Chair of the Oversight Panel, at (303) 466-5986.

Specific inquires about the scope or terms of this RFP can be made in writing to Ken Korkia, Rocky Flats Citizens Advisory Board, 9035 Wadsworth Parkway, Suite 2250, Westminster, Colorado 80021; FAX (303) 420-7579. Such questions must be received on or before June 24,1998. Written responses to questions received will be mailed to all recipients of record on or before June 30. 1998. Any clarifications, interpretations and other forms of oral response outside of the formal inquiry process, whether by RFCAB, the Oversight Panel or others, shall not be construed as valid or binding. In the event that RFCAB or the Oversight Panel deems that an addendum to the RFP is necessary, the addendum will be sent by mail to all recipients of record.

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B. Minority Businesses: It is the policy of RFCAB that small and minority firms, women's businesses and labor surplus area firms, shall have the maximum opportunity to participate as contractors, subcontractors, suppliers, or vendors. Contractors shall not discriminate on the basis of race, creed, religion, color, national origins, gender, ancestry, age, marital status or disability, in the bidding for and the performance of subcontracts.

C. Withdrawal or Revisions of Proposals: A bidder may withdraw or revise a proposal after it has been deposited with RFCAB. Withdrawal of a proposal must be made in writing and occur prior to the time for receipt of proposals. Any proposal withdrawn for the purpose of revision must be resubmitted in the specified format within the time set for receipt of proposals. Proposals may not be withdrawn after the time set for receipt. Proposals are bidding offers which shall remain open and irrevocable for sixty days from the time they are opened.

D. Disqualification of Bidders: The following reasons will be considered sufficient for disqualification of the bidder and the rejection of the proposal:

- Incomplete proposals.
- Exemptions or exceptions taken to the terms and conditions of this RFP.
- Evidence of collusion among competing bidders.
- Receipt of a proposal after the date and time set for receipt.
- Evidence of misrepresentations or falsehoods.
- conflict of interest as perceived by the panel

E. Rejection of Proposals: The Rocky Flats Citizens Advisory Board reserves the right to reject any or all proposals.

F. Multiple Proposals: Bidders may join together to submit a joint proposal, however a lead proper must be indicated. No more than one proposal will be accepted from any lead proposer. Subcontractors may team with more than one lead proposer to provide specialized services.

G. Disposition of proposals: Submitted proposals will not be returned and will become the property of the RFCAB.

H. Incurring Costs: The RFCAB is not liable for any costs incurred by bidders prior to issuance of a contract.

Section III
Project Description and Scope

A. Project Description: The contractor will work for the Oversight Panel in conducting a review of the interim RSALs set for Rocky Flats. The contractor will be expected to submit a comprehensive final report. The contractor will also be expected to propose a method of peer review. The contractor will provide the Oversight Panel with a set of recommendations. The panel will incorporate comments received from the public into a final recommendation for inclusion by DOE and the regulators in RFCA.

The contractor is being requested to investigate the following:

- to review models, methodologies, and cleanup levels that may exist or are being developed for other radionuclide contaminated sites as to how they may apply to the RFETS site-specific situation,
- to review the existing analysis used to set the current RFETS RSALs as to its accuracy and appropriateness,
- based on the results of the above investigations, to calculate an independent set of RSALs.

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The study will use existing RFETS site data to the maximum extent possible. It will be the responsibility of the contractor to determine the sufficiency and quality of this data and to inform the Oversight Panel at an early date if additional data is required. The contractor may suggest that the scope of study be modified. However, at a minimum, the modified proposals are requested to address the issues as discussed throughout this RFP. Specifically the contractor will be required to perform the following:

B. Scope of Work: Specifically the contractor is expected to perform the following

1. Cleanup Levels at Other Sites

Actions:

- Identify and evaluate cleanup levels and/or action levels (i.e., RSALs) which exist or are projected for use at other radionuclide contaminated sites (particularly with plutonium and americium) and the processes/models used to determine them as to their applicability in setting cleanup levels at RFETS.
- Identify any processes/models that were or are being used to determine offsite impacts to communities from onsite cleanup levels.
- Provide a summary of this evaluation itemizing the reasons why such levels or processes/models are or are not applicable for use in assessing cleanup levels for RFETS.

Considerations:

This study should concentrate on examples of soil similarly contaminated with transuranic elements and, in particular, plutonium and americium. Of particular interest is the reasoning that went into the setting of these cleanup levels and the subsequent history of the site, including any cleanup. The study should compare the cleanup and/or action levels within the context of site-specific conditions, projected land use, and the then existing risk assessments and dose standards. This portion of the study will be used to place the calculated RFETS values in context.

2. Computer Models

Actions:

- Identify and evaluate all relevant available or emergent computer models which can be used to calculate radionuclide contamination levels in soils based on a given dose rate.
- Evaluated the models to determine which are most applicable and best suited to model the site-specific conditions at RFETS.
- Provide a description of these models, a summary of the strengths and weaknesses of each, and a recommendation for the most appropriate model(s).

Considerations:

Models that are inappropriate to the RFETS site conditions, obsolete, or which cannot be readily validated should not be included. The RESRAD model must be included due its use in determining the current RSALs. A comparison of the different models using RFETS site-specific data would be useful. The contractor is encouraged to find computer codes capable of modeling both on-site and off-site dose rates. If no models exist for this determination, the contractor will review off-site migration/impacts over time/distance for various cleanup levels. It is possible that no one model will prove satisfactory for determining both, but that a combination of models may be necessary. The contractor will be expected to recommend the most appropriate model(s) for the RFETS site-specific conditions and to justify this recommendation. Whichever model or models are recommended should be thoroughly validated. It is not necessary that the contractor perform this validation; peer reviewed, published studies will suffice. In the event that RESRAD is not recommended, RESRAD should be run in parallel with the recommended model(s) as a comparison.

3. Inputs and Assumptions

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Actions:
Evaluate the input parameters, inputs, default inputs, and assumptions for the current analysis (RESRAD) used to set the RSALs at RFETS. At a minimum this evaluation must satisfy the following: Are the input parameters, inputs, default inputs, and assumptions adequate, accurate, and credible in simulating the conditions at RFETS, given the future land use scenarios envisioned in RFCA, and the subsequent conversion to dose rate/contamination levels?

a) For each of the input parameters, what is the sensitivity of the input values in terms of resulting contamination levels?

b) For each of the input parameters, what is the distribution of possible input values? Identify each of these based on the sensitivities determined in b) above from least conservative to most conservative with conservative meaning that which results in lower contamination levels given a certain dose limit. Quantify the uncertainties of the inputs or input distributions.

c) For each of the input distributions in c) above, identify an input value which can be considered "reasonable" or "best estimate". Provide the reasoning for these choices.

Considerations:

All of the input parameters to the model need to be examined. Parameters that are easily confirmed, non site-specific parameters, or those which are specified by the EPA or other regulatory agencies should be noted as such. If the investigation indicates that such values are not appropriate, alternatives should be recommended. Parameters for which there are site-specific input data for RFETS should be identified and a thorough study of the distribution of possible values should be performed.

4. Methodology

Actions:

- Identify and evaluate the methodologies which can be used to select or combine the necessary inputs/outputs for a given computer model in determining contamination levels for a given dose limit.
- Within 1 month of the start of the contract, present to the Oversight Panel and stakeholders a summary of these methodologies along with a recommendation and justification as to the best suited for such an analysis.
- Compare or contrast this recommended methodology with that used in the existing RESRAD analysis.

Considerations:

It is understood that there are several methodologies (e.g., bounding, best estimate, conservative, probabilistic risk assessment, etc.) which can be used to shape the inputs for such an analysis. The question as to "how conservative is conservative?" makes this a subjective rather than simply a scientific issue because the affected communities must accept the risks involved. Therefore, the Oversight Panel wishes to fully understand the nature and implications of each of the potential methodologies to ensure that the methodology chosen can best produce credible and defensible results from this independent review which will be acceptable to the broadest range of stakeholders.

5. Independent Calculation

Actions:

- Using the methodology recommended in 4. above, select/combine the inputs identified in 3. above as well as any new inputs required by the model recommended in 2. above in that model to calculate contamination levels for the dose limits set for each of the RFCA land use scenarios assumed in the original analysis. This includes a residential scenario.
- As part of the calculations, include a statement of the assumptions and level of uncertainty involved in the specific approach utilized. State the dose limits in terms of risk.

6. Protocols

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Actions:

As an integral part of the recommendations about the RSALs, recommend specific soil sampling procedures to be followed as an appropriate method of monitoring actinide concentrations in soil before and after remediation.

Considerations:

It is necessary to find a scientifically credible method for guaranteeing that the cleanup levels will actually be met in terms of what contamination levels are ultimately measured at the site. This study should clearly delineate such parameters as sample spacing, depth of samples, sampling methods, and all associated quality assurance which ensure that the methods used for measuring contamination before and after any remediation are directly applicable to the parameters used for setting the cleanup levels. The technical literature on valid statistical approaches should be reviewed to verify sampling methods and recommend approaches that are appropriate for the cleanup at RFETS.

7. Actinide Migration

Actions:

Meet with the Actinide Migration Panel to share information in order to ascertain the applicability of any results from the actinide migration studies on the inputs to the modeling for this analysis.

Study these results and any other relevant data and make a preliminary determination of what impact these will have on the results such as obtained in 5. above.

Considerations:

Ultimately, cleanup levels must be protective of off-site residents. Calculations for the existing RSALs only considered on-site exposure scenarios. Since off-site air and water quality standards are more restrictive, it is possible these standards will control the cleanup. How can the issue of plutonium migration be incorporated into an evaluation of the RSALs? An Actinide Migration Study is currently underway. The final results of this study will not be ready in time to be used in this study. Some preliminary results will however be available. It is understood that any conclusions that can be based on this are tentative pending the completion of the Actinide Migration Study. The contractor should, however, identify the data needs of this study as early as possible in order to facilitate the collection and analysis of additional data needed.

C. Interfacing and Responsibilities: The Oversight Panel intends to an active participant in the study. The general responsibilities of the contractor are to gather factual information, render expert interpretations of data, and propose options for different end points or goals based on these interpretations. The contractor is expected to engage in an open exchange of ideas and to be responsive to technical and nontechnical concerns and suggestions of the panel.

Specifically, the contractor will:

Maintain an ongoing written log of all meetings, correspondence and telephone conversations with panel members, regulatory agencies and others noting the purpose of the call.

Meet with the Oversight Panel on a monthly basis at a regular scheduled meeting.

2. The general responsibilities of the Oversight Panel are (1) to oversee and critique the work of the contractor; and (2) to integrate the findings of the contractor with relevant policy issues at RFETS to produce policy recommendations accompanied by a clear account of supporting evidence and reasoning. The panel is responsible for reviewing written reports submitted by the contractor and informing the contractor of its assessment and suggestions in a timely manner.

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3. The scope and deliverables of this RFP are to be contracted at a fixed price. Meetings and presentations are to be contracted at an hourly rate, but are not too exceed 240 man-hours.
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D. Deliverables: The contractor will be expected to prepare a comprehensive technical report of this study, including the methods used and the results of the independent review of the RSALs. The main body of the report should be directed to the level of the educated public. The contractor should include appendices that include more technical details. A sufficient number of copies are to be provided for all interested parties (not to exceed 100).

The contractor will be expected to work with the Oversight Panel to prepare a separate summary to be directed to the general public that has no prior knowledge of the RSALs. This report should be suitable for inclusion in newsletters or general circulation newspapers.

After agreement on the scope of work, the contractor will provide a schedule for meeting the requirements of this RFP.
Monthly progress reports will be prepared for distribution at monthly meetings. They should include a summary of progress to date, a plan for the rest of the project and draft sections of the final report.

E. Schedule/Timeline: To ensure that the contractor is aware of the concerns of the affected public, the public will be invited to attend an informational meeting at the beginning of this contract. Meetings will then be held biweekly initially for a time period to be determined. At least two of these meetings will be held at night.

Thereafter, monthly meetings will be held which will consist of two nightly sessions. The first night will be devoted to a technical session summarizing the work to date. The second night will be a business session where plans and methods of research will be discussed. The contractor will have sufficient staff present to answer questions. During the day between the meetings, the contractor team is to be available for discussions or technical briefings with panel members or members of the public.

The following schedule is proposed:

September 5, 1998	Start Work
September	Biweekly Meetings
October	Monthly Meeting
November	Monthly Meeting
December	Monthly Meeting
January 1999	Monthly Meeting
February	Monthly meeting and presentation of draft report
March	Monthly meeting and presentation of final report
April	Presentation of results for special RFCA review

Section IV
Proposal Requirements

Proposals must as a minimum address the following:

A. Previous Experience: The proposal should include a short history of the company. A discussion of relevant past experience that would qualify the company to perform this review. A client list for the last three years is required. At least three of these clients should be included as references.

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B. Personnel: Bidder will submit resumes or curricular vitae including relevant publications for the key personnel that will work on the project. A plan indicating the responsibilities of the key personnel should be included. The contractor shall also provide an organizational chart in order to identify the various responsibilities of key project team members. The contract will specify that substitution of these persons requires written approval of the Oversight Panel.

C: Proposal of Work: The proposal should address each of the scope items and indicate the proposers understanding of the work required. The proposal may expand the work to be performed on any scope item; however it must at least review the work specified. A detailed plan including personnel to be used and a schedule must be presented.

D. Work Management: The proposal should include a detailed estimate of the number of hours anticipated to complete the review. The estimate should include a breakdown showing who will be performing each task. The proposal should include a description of the procedures to be used to control cost and to maintain the schedule. These procedures should include methods to identify budget variances at the earliest possible time. Money available for this project is thought to be adequate to perform the work outlined in the scope; however, the successful conclusion of the project will require efficient cost control procedures.

E. Interface with the Oversight Panel: The Oversight Panel intends to be an active participant in the study. It is very important for the contractor to gain the trust of the Panel. The contractor is expected to inform and educate the Panel and to seek its advice in every phase of the study. The proposal should address the bidders understanding of this relationship and propose methods and plans to insure its success.

F. Peer review: The proposal should suggest one or more plans for peer review. Of particular importance will be how the experts are to be chosen and how the review will conducted. Timeliness of the suggested peer review will be important.

G. Work Schedule: The expectation of the Oversight Panel is that the review should begin in early September 1998 and be complete in the spring of 1999. The proposal should specify a schedule for the review. The Panel expects to be an active participant in the review and plans to meet no more often than biweekly. The proposed schedule should make considerations for this meeting schedule.

H. Fees Bid: Contract payments will be for time actually worked and for materials and services actually used. The proposer shall provide the fully burdened hourly rates, plus a provision for profit, of all persons expected to work on the project. This breakdown should correspond to the plan set out above in parts B and C. The contract will specify that payment will be limited to eight hours per day for any individual. Services and materials will be paid at actual cost plus a mark-up. The proposal should specify this mark-up. The contract will limit domestic airfares to full fare unrestricted coach class. The proposal should indicate the total *not to exceed costs* for the project.

Section V
Evaluation of Bids

A. Evaluation Process: An Evaluation Committee made up of members from the RSALOP will judge the merit of the proposals received in accordance with the criteria defined herein. The recommendations of this committee will be forwarded to the entire panel for review and approval. The sole objective of the evaluation committee will be to recommend the bidder whose proposal is most responsive to the RSAL review needs and can be carried out within the available resources. The specifications within this RFP represent the minimum performance necessary for response.

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The RFCAB reserves the right, at the discretion of the Evaluation Panel, to invite one or more bidders to attend an interview for the purpose of better explaining their proposal and negotiating a contract.

B. Evaluation Criteria:

1. Previous experience and background of the contractor and his key personnel relevant to this RFP will be evaluated. Of special importance will the background and scientific standing of the Principle Investigator. The contract will specifically state that, unless mutually agreed on in writing, the key personnel will work on the project until completion.
2. Adequacy and completeness of the proposal with regard to information specified in the RFP.
3. Technical content of the proposal, methodology, and appropriateness to the project. Of particular importance is the description of how the contractor intends to handle each of the items in the scope of work.
4. The proposal will be evaluated on how well it addresses the interface between the Oversight Panel and the contractor.
5. Each bidder will submit an estimate of the hours to be worked by each of the key personnel to be assigned to this project. The bidder will also submit a schedule of hourly rates to be charged for the services of these personnel. In addition the bidder will estimate overhead and other charges for the project. The costs submitted will be evaluated both on of the estimate of the total hours to be worked and the cost per hour. Cost controls to be used will also be evaluated.

C. Scoring:

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ROCKY FLATS CITIZENS ADVISORY BOARD

An Advisory Board to the U.S. Department of Energy

FAX TRANSMITTAL FORM

DATE: 5/4

TO: Kathy Schnoor

FAX NO:

FROM: Ken Korkia

NO. OF PAGES: 10
(including cover page)

Message:

Kathy:

Victor Holm has a longer draft now available for the Technical Services RFP. Has he contacted you about distribution?

Ken

9035 Wadsworth Parkway Suite 2250 • Westminster, Colorado 80021 • 303-420-7855 • Fax 303-420-7579

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Environmental Monitoring Contract Research Proposals
Evaluation Sheet

Proposer's Name:_____

Criteria [Max Points]	Points Scored	Comments
Description of methodology to assess current environmental monitoring program (Task 1) [20 points]		
Description of methodology to assess temporary or project-specific monitoring programs (Task 1) [20 points]		
Description of methodology to assess adequacy of current monitoring, i.e, critical analysis (Task 2) [30 points]		
Description of methodology to determine / assess needs of community stakeholders (Task 2) [20 points]		
Description of past work experience related to assessment of environmental monitoring (All tasks) [20 points]		
Description of professional experience / qualifications of personnel for Task 1 [20 points]		
Description of professional experience / qualifications of personnel for Task 2 [20 points]		
Description of professional experience / qualifications of personnel for Task 3 [20 points]		

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Criteria [Max Points]	Points Scored	Comments
Previous client satisfaction [10 points]		
Quality and cost control factors [10 points]		
Definition of staff responsibilities / coordination of multiple firms (if applicable) [10 points]		
Current client list [10 points]		
Cost breakdown [10 points[		

Total points: _____

Total Cost: _____

Additional Comments:

BROADCAST REPORT

DATE/TIME 4-30-98 11:34AM
LOCAL I. D. 3034386234
LOCAL NAME CITY BROOMFIELD
LOGO CITY BROOMFIELD

START TIME 4-30-98 10:29AM
JOB SIZE 3 PAGES

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41	93034207579	GOOD
42	93034446523	FAILED sent 4/30/97
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City of Broomfield

One DesCombes Drive, Broomfield Colorado 80020

DATE: April 30, 1998
FROM: Kathy Schnoor, Environmental Services PHONE: 438-6363
RE: RF-SAL Oversight Panel # of pages 3

			PHONE	FAX	
	David Abelson	Cong. Skaggs' Ofc	303-650-7886	303-650-7893	
A	Jim McCarthy	City of Arvada	303-431-3042	303-431-3969	
P	Carol Lyons	City of Arvada	303-421-2550 x32[redacted]	303-431-3911	
P	Lisa Morzel	City of Boulder	[redacted]	303-441-4478	
A	John Tayer	City of Boulder	303-441-3005	303-441-4478	
	Tim Holeman	City of Broomfield	303-355-5492	303-355-5530	
A	Kathy Schnoor	City of Broomfield	303-438-6363	303-438-6234	
P	Hank Stovall	City of Broomfield	303-466-5986	303-469-8554	
P	Tom Davidson	City of Louisville	303-666-6565	303-673-9043	
A	Sam Dixion	City of Westminster	303-426-1202	303-429-5113	
P	Mary Harlow	City of Westminster	303-430-2400 x 2174	303-650-1643	
E	Jackie Berardini	CDPHE	303-692-3472	303-691-7702	
	Herb Betts	CDPHE	303-692-2665	303-782-0188	
	Dr. Norma Morin	CDPHE	303-692-2645	303-782-0188	
	Steve Gunderson	CDPHE	303-692-3367	303-759-5355	
	Steve Tarlton	CDPHE	303-692-3423	303-782-4969	
	Edd Kray	CDPHE	303-966-2115	303-966-5449	
	Carl Spreng	CDPHE	303-692-3358	303-759-5355	
P	Dean Heil	CSU	970-491-6516	970-491-0564	
	Autar Rampertaap, Jim Fiore	DOE HQ	301-903-8191	301-903-3877	
	Jeremy Karpatkin	DOE	303-966-2080	303-966-6633	
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E	Tim Rehder	EPA	303-312-6293	303-312-6067	
P	Ken Starr	Jefferson County	303-271-5714	303-271-5702	
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	Dave Shelton	Kaiser Hill	303-966-9877	303-966-5001	
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	Will Neff	RFLII	303-940-6090	303-940-6088	
P	Joel Selbin	UCD Chem Dept	[redacted]	303-556-4776 (W)	
P	Todd Margulies	TM Consulting	303-279-6699	303-279-6699	Call 1st/include 1-303
P	Joe Goldfield	RFCAB-SNM	303-321-7276		

(P=Panel Member, A=Alternate, E=Ex-Officio)

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F-A-X M-E-M-O-R-A-N-D-U-M

TO: DISTRIBUTION

FROM: MARY HARLOW AND BOB KANICK

SUBJECT: SUB-COMMITTEE MEETING NOTICES

DATE: APRIL 30, 1998

There will be a meeting to develop the evaluation criteria to be used in evaluating the bids for the technical (RSAL independent review) contract on **Wednesday, May 6, 1998 at 5 PM** at the **RFCAB office**, 9035 Wadsworth Parkway, Suite 2250 (call 420-7855 for directions). It is not anticipated that this meeting will require more than 1 hour. Anybody wishing to contribute may attend. However, the draft created as a result of this meeting will be FAXed to everybody for comment prior to the May 14th meeting.

Please contact Bob Kanick (303-444-0049) if you have any questions or comments on this meeting.

A meeting of the bidders for the administrative services contract will be held on **Friday, May 8, 1998 from 1-3 PM** in the **Westminster City Council Boardroom** (second floor of Westminster City Hall). The administrative services review panel as well as Ken Korkia-RFCAB, will be available to answer questions that prospective bidders may have. The review panel members are Ken Korkia-RFCAB, Hank Stovall-Broomfield City Council, Mary Harlow-City of Westminster/RFCAB, and Carol Lyons-City of Arvada. Oversight Panel Members are welcome to attend.

Please contact Mary Harlow (303-430-2400 X 2174) if you have any questions or comments on this meeting.

The attached e-mail address list has been updated. Please note the corrected address for Bob Kanick. Please contact Kathy Schnoor (303-438-6363) with any additions or corrections to the e-mail list.

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04/30/1998

E-Mail Addresses for RF SAL Oversight Panel & Other Participants

Panel Members:

Dean Heil	dheil@ lamar.colostate.edu
Lisa Morzel	morzell@ci.boulder.co.us
Todd Margulies	[redacted]
Joel Selbin	jselbin@carbon.cudenver.edu
Niels Schonbeck	schonben@clem.mscd.edu
Mary Harlow	mharlow@ci.westminster.co.us
James McCarthy	jim-m@city.ci.arvada.co.us
Bob Kanick	[redacted]
Tom Davidson	thomas.davidson@rfets.gov
Joe Goldfield	[redacted]
Carol Lyons	clyons@city.ci.arvada.co.us

Alternates:

Victor Holm	[redacted]
Kathy Schnoor	[redacted]n
Tom Marshall	[redacted]

Ex-Officio Members:

Steve Slaten	steve.slaten@rfets.gov
Jackie Berardini	jackie.berardini@state.co.us
Tim Rehder	rehder.timothy@epamail.epa.gov

Others:

Dave Shelton	dave.shelton@rfets.gov
Steve Gunderson	steve.gunderson@state.co.us
Laura Till	[redacted]
John Corsi	john.corsi@rfets.gov

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There will be a meeting to refine the evaluation criteria for the technical RFP on Wednesday, May 20th at 5 PM at the RFCAB office (9035 Wadsworth Parkway, Suite 2250) for all those who are interested in attending. Based on the last meeting of the Oversight Panel, the need to possibly restructure the criteria to follow the flow of the RFP or at least add further clarifying remarks was identified. There will also be a discussion and formulation of the concept of "conflict of interest" for the proposing contractors. Please formulate your comments based on the draft which was sent out as Attachment 3 of the May 11th fax and either bring them to this meeting or forward them to Bob Kanick per below. The meeting will be limited to 2 hours.

Bob Kanick
Phone: (303) 444-0049
Fax: (303) 444-0072
[redacted]

			PHONE	FAX	
	David Abelson	Cong. Skaggs' Ofc	303-650-7886	303-650-7893	
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A	John Tayer	City of Boulder	[redacted]	303-441-4478	
	Tim Holeman	City of Broomfield	303-355-5492	303-355-5530	
A	Kathy Schnoor	City of Broomfield	303-438-6363	303-438-6234	
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P	Tom Davidson	City of Louisville	303-666-6565	303-673-9043	
A	Sam Dixion	City of Westminster	303-426-1282	303-429-5113	
P	Mary Harlow	City of Westminster	303-430-2400 x 2174	303-650-1643	
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	Autar Rampertaap,				
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	Will Neff	RFLII	303-940-6090	303-940-6088	
P	Joel Selbin	UCD Chem Dept	[redacted]	303-556-4776 (W)	
P	Todd Margulies	TM Consulting	303-279-6699	303-279-6699	Call 1st/include 1-303
P	[illegible]	RFCAB SPM	303-321-7276		

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ROCKY FLATS CITIZENS ADVISORY BOARD

An Advisory Board to the U.S. Department of Energy

FAX TRANSMITTAL FORM

DATE: 5/15

TO: please deliver to the following

FAX NO:

FROM: Ken Korkia

NO. OF PAGES: 2
(including cover page)

			PHONE	FAX	
	David Abeiana	Cong. Skaggs' Ofc	303-650-7886	303-650-7893	
A	Jim McCarthy	City of Arvada	303-431-3042	303-431-3969	
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A	John Tayer	City of Boulder	303-441-3085	303-441-4478	
	Tim Holeman	City of Broomfield	303-355-5492	303-353-5538	
A	Kathy Schnoor	City of Broomfield	303-438-6363	303-439-6234	
P	Hank Stovall	City of Broomfield	303-466-5986	303-469-8554	
P	Tom Davidson	City of Louisville	303-666-6565	303-673-9843	
A	Sam Dixion	City of Westminster	303-426-1202	303-429-5112	
P	Mary Harlow	City of Westminster	303-430-2400 x 2174	303-650-1643	
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P	Joe Goldfield	RFCAB-SNM	303-321-7376		

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ROCKY FLATS CITIZENS ADVISORY BOARD

An Advisory Board to the U.S. Department of Energy

MEMORANDUM

TO: Soil Action Levels Oversight Panel Members

FROM: Ken Korkia

DATE: May 15, 1998

SUBJECT: Meeting with Attorney to Discuss Technical Services RFP

As discussed at last evening's meeting, a meeting with the attorney to discuss the technical services RFP has been arranged. This meeting will be held on **Thursday, May 21, 10:00 a.m.** at the CAB office. CAB's office is located at 9035 Wadsworth Parkway, Suite 2250 in Westminster. All interested Panel members are encouraged to attend.

9035 Wadsworth Parkway Suite 2250 • Westminster, Colorado 80021 • 303-420-7855 • Fax 303-420-7579

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To: [unknown], INTERNET:tmarshall@igc.org
To: [unknown], INTERNET:[redacted]
To: [redacted]ter.co.us
To: [unknown], INTERNET:morzell@ci.boulder.co.us
To: [unknown], kschnoor
From: VHOLM, INTERNET:[redacted]
Date: 5/4/98, 1:06 AM
Re: Cost Estimate

Sender: [redacted]
Message-ID: <9f86b083.354d68a4@aol.com>
Date: Mon, 4 May 1998 03:05:07 EDT
To: [redacted]s, [redacted]g
Mime-Version: 1.0
Subject: Cost Estimate
Content-type: multipart/mixed;
boundary="part0_894265507_boundary"
X-Mailer: AOL 3.0 for Windows 95 sub 62

To: Hank Stovall, Mary Harlow, LeRoy Moore, Lisa Morzel, Bob Kanick

Attached are two files in Microsoft Word format:

The first is the draft technical RFP. I have not edited the scope section that was previously approved by the panel. I did move some parts unchanged to other sections where I felt they fit in better. The paragraph in question marks on page 8 contradicts the part on fees that I propose on page 10. We can decide on Wednesday to keep the contract fixed price or time and materials based. The section on evaluation is incomplete since I did not want to get too far ahead of the committee.

The second file is an estimate of the hours required to complete the work. It is basically unchanged since February except for some minor cleanup.

If anyone has any difficulty downloading the files call me at 989-9086 and I will make other arrangements.

If you would like I will E-Mail this material to the other members of the Evaluation Committee.

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Group Agreements

⇒ Panel members and ex-officio members participate in general discussions.

⇒ Alternates, agency members, and public may be invited to speak by panel or ex-officio members.

⇒ The public will be given an opportunity to speak for a fixed period of time before the panel makes decisions.

* Put your name tag upright when wanting to be recognized to speak.
* Speak only when called on by the facilitator.
* Focus on topics on the agenda. (Don't bring up other issues, "old grudges.")
* Avoid side conversations.
* If you're wanting to speak on an issue and don't want to wait in line, raise hand.
* Be on time.
* Start and end meetings on time.
* Show respect by:
  - no put-downs
  - no personal attacks
* No interruptions.
* Minutes will be approved at the beginning of the meeting.

<u>Decision-Making</u>

1. This group is committed to consensus.
2. If there is a deadline and a decision must be reached and for whatever reason, the group is unable to reach consensus in time for that deadline, a vote will be taken. A 2/3 majority is needed to pass a vote.

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3. If a vote is taken and an issue is not passed by a 2/3 majority, yet another decision has not been reached, and the deadline is still an issue, at the end of the meeting, the issue will be revisited briefly for discussion, followed by a vote in which a simple majority can pass an issue.

4. In general, once a decision is made, it will not be revisited. If new information arises or a member feels a strong need to revisit a decision, the group will decide if it will revisit the decision at that time.

5. A record will be kept indicating whether decisions were made by consensus, a 2/3 majority vote, or a simple majority vote. The group will decide on a case by case basis whether or not to indicate in reports whether the decision was made by majority vote or consensus. Also, if a decision was not made by consensus, the group will decide on a case by case basis whether to discuss reasons for positions of majority and minority in the reports.

6. Ex-officio members are included in discussions but not in decision-making.

2/12/98
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ROCKY FLATS CITIZENS ADVISORY BOARD

An Advisory Board to the U.S. Department of Energy

FAX TRANSMITTAL FORM

DATE: 5/27

TO: please deliver to the following

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FROM: Ken Korkia

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Message:

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DRAFT

REQUEST FOR PROPOSALS TO REVIEW THE RADIONUCLIDE SOIL ACTION LEVELS AT THE ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

June 1, 1998

Section I
Announcement

The Rocky Flats Citizens Advisory Board (RFCAB) announces its Request for Proposals (RFP) and invites interested parties (Proposers) to submit appropriate documentation as further described herein in connection with the performance of independent study of the Radionuclide Soil Action Levels established for cleanup of the Rocky Flats Environmental Technology Site. This RFP is a solicitation of entities qualified to provide the scientific evaluation study, and work with the designated Oversight Panel in performance of such study, as more specifically described herein (the Project). Each Proposer wishing to propose on the Project is invited to submit a Proposal which in this document shall mean the complete response of the Proposer to the RFP. **The deadline for receipt of the Proposals by RFCAB is 3:00 p.m. (MDT), July 16, 1998.**

Section II
Administrative Information

A. Purpose: The Rocky Flats Citizens Advisory Board (RFCAB) invites qualified individuals/firms to submit a proposal to conduct an independent scientific review of the Radionuclide Soil Action Levels (RSALs) established for the cleanup of the Rocky Flats Environmental Technology Site (RFETS). The review will evaluate the methods as well as the accuracy and applicability of the input parameters used to calculate the current RSALs. The review will also encompass models, methodologies, and cleanup standards that may exist or are being developed for other sites and their applicability to the Rocky Flats site. Based on the findings of this investigation, a recommendation will be developed for the RSALs for transuranic elements in the surface soils at Rocky Flats that will be protective of surface waters leaving the site, future users and surrounding communities.

B. Background: The Rocky Flats Environmental Technology Site (RFETS) was constructed in 1951. The site served as a production facility to manufacture components for nuclear weapons. As a result of operations, the soil at RFETS is contaminated with various actinides including plutonium and americium. In 1989, operations at the plant were shut down due to safety and production problems. In 1992, the decision was made to permanently close the plant. The site's current operations involve stabilization and disposition of plutonium, decontamination and deactivation of radionuclide contaminated buildings, remediation of environmental damage, and waste management.

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As the concluding step of the Rocky Flats Cleanup Agreement (RFCA), on October 18, 1996, the Department of Energy (DOE) and its regulators - the Environmental Protection Agency (EPA) and the Colorado Department of Public Health and Environment (CDPHE) - adopted interim Radionuclide Soil Action Levels for RFETS. Intended to be protective of people using the site after closure, these action levels set the upper limits for the radionuclides (primarily plutonium and americium) that would be left in the soil at Rocky Flats after cleanup. The levels adopted did not consider effects to off-site communities. The method used was dose based. The dose chosen was based on Draft Title 40 of the Code of Federal Regulations, Part 196, dated February 16, 1996. This regulation mandates that the basic dose standard is 15 mrem/yr. The draft rule makes provision for restricted land use. The 15 mrem/yr would apply to the restricted use but in that case the exposure resulting from unrestricted use must also be assessed. This dose cannot exceed 85 mrem/yr. The method of converting dose to radiological soil concentrations was based on the use of RESRAD (Residual Radiation), a program developed by Argonne National Laboratory. The final report *Action Levels for Radionuclides in Soils for the Rocky Flats Cleanup Agreement* is available for review on the RFCAB web site (http://www.rfcab.org/SALOP.html).

In response to public concerns that these RSALs might be too high, DOE agreed to an independent review of the methods used to convert given dose levels to soil contamination levels. DOE would not agree to a review of the safety or appropriateness of the dose standard in Part 196. A community review group known as the Radionuclide Soil Action Level Oversight Panel (Oversight Panel) was created to define the project and to oversee this review from initiation to completion. In order to fund the study and to comply with the Federal Advisory Committee Act (FACA), DOE will use the existing grant vehicle it has with RFCAB. RFCAB will be responsible for all aspects involving the administration of the grant monies, including submitting a grant amendment or application, reviewing and approving contracts, and authorizing and disbursing funds for the study. RFCAB will negotiate and sign all contracts for any project services. The Oversight Panel will have responsibility for developing requests for proposals and selecting contractors in consultation with RFCAB, and will then oversee the study.

C. Issuing Office: This request for proposals is being issued by RFCAB, which is acting as the contracting entity for the Oversight Panel. RFCAB is a nonprofit corporation chartered under FACA as a Site Specific Advisory Board (SSAB) for the U.S. Department of Energy.

D. Schedule of Activities:

1. RFP mailed to prospective Proposers	June 1, 1998
2. Written inquiries deadline	June 24, 1998
3. Proposal submission deadline	July 16, 1998 (time 3:00 p.m. MDT)

E. Proposal Submission: Proposals must be received on or before 3:00 p.m. MDT, July 16, 1998. Late proposals will not be accepted. The proposal package should be delivered or mailed to:

Rocky Flats Citizens Advisory Board
9035 Wadsworth Parkway, Suite 2250
Westminster, CO 80021

Eight (8) copies (including original) of the complete proposal must be submitted and sealed in a package. The outside of the package should bear the Proposers name and the title of the proposal, *A Review of the Radiological Soil Action Levels at the Rocky Flats Environmental Technology Site*. Proposals must be signed in ink by the Proposer or an officer of the company who is authorized to bind the Proposer to the proposal. The proposals be will opened and turned over to the Evaluation Committee at 4:00 p.m. MDT, July 16, 1998.

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Section III
Other Requirements and Conditions

A. Availability of Information: This RFP will be made available to any interested party who requests it. A list of recipients of the RFP may be obtained at the RFCAB office.

Inquiries about the scope or terms of this RFP can be made in writing to Ken Korkia, Rocky Flats Citizens Advisory Board, 9035 Wadsworth Parkway, Suite 2250, Westminster, Colorado 80021; FAX (303) 420-7579. Such questions must be received on or before June 24, 1998. Written responses to questions received will be mailed to all recipients of record on or before June 30, 1998. Any replies to these questions which RFCAB elects to answer will become an addendum to this RFP. Any clarifications, interpretations and other forms of oral response outside of the formal inquiry process, whether by RFCAB, the Oversight Panel or others, shall not be construed as valid or binding. In the event that RFCAB or the Oversight Panel deems that an addendum to the RFP is necessary, the addendum will be sent by mail to all recipients of record.

The Proposer should be familiar with the report *Action Levels for Radionuclides in Soils for the Rocky Flats Cleanup Agreement*, which can be obtained from RFCAB's web site. Numerous other background reports and studies on Rocky Flats can be found at the Department of Energy Public Reading Room, located at Front Range Community College in Westminster, Colorado. The address for the Public Reading Room is 3705 112th Avenue. The phone number is (303) 469-4435.

B. RFCAB's Right to Conduct Investigations: RFCAB may conduct such investigation as it deems necessary to assist in the evaluation of any proposal and to establish the responsibility, qualifications and financial ability of the Proposer to do the proposed work in accordance with the RFP and to RFCAB's satisfaction within the prescribed time.

C. Withdrawal or Revisions of Proposals: Upon written notice to RFCAB, a Proposer may withdraw or revise a proposal after it has been deposited with RFCAB. Withdrawal of a proposal must be made in writing and occur prior to the time for receipt of proposals. Any proposal withdrawn for the purpose of revision must be resubmitted in the specified format within the time set for receipt of proposals. Proposals may not be withdrawn after the time set for receipt. Proposals are binding offers, which shall remain open and irrevocable for sixty (60) days from the time they are opened by RFCAB, or until accepted by RFCAB through execution of a final approved contract.

D. Disqualification of Proposers: The Proposer may be disqualified for reasons including the following, without limitation:

- Incomplete proposals.
- Exemptions or exceptions taken to the terms and conditions of this RFP.
- Evidence of collusion among competing Proposers.
- Receipt of a proposal after the date and time set for receipt.
- Evidence of misrepresentations or falsehoods.

E. Rejection of Proposals: The Rocky Flats Citizens Advisory Board reserves the right to reject any or all proposals.

F. Multiple Proposals: Proposers may join together to submit a joint proposal; however, a lead Proposer must be indicated. No more than one proposal will be accepted from any lead Proposer. Subcontractors may team with more than one lead Proposer to provide specialized services.

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G. Disposition of proposals: Submitted proposals will not be returned and will become the property of the RFCAB.

H. Incurring Costs: RFCAB is not liable for any costs incurred by Proposers prior to issuance of a contract.

I. Conflicts of Interest: RFCAB through the proposal eval. committee, acknowledges that potential Proposers may have direct or indirect conflicts of interest with the Department of Energy, RFCAB, or the Oversight Panel. RFCAB will evaluate the Proposers in consideration of the extent of such conflict of interest.

Section IV
Project Description and Scope

A. Project Description: The contractor will coordinate with the Oversight Panel in conducting a review of the interim RSALs set for Rocky Flats. The contractor will be expected to submit a comprehensive final report. The contractor will also be expected to propose a method of peer review. The contractor will provide the Oversight Panel with a set of recommendations. The panel will incorporate comments received from the public into a final recommendation for inclusion by DOE and the regulators in RFCA.

The contractor is being requested to investigate the following:

- to review models, methodologies, and cleanup levels that may exist or are being developed for other radionuclide contaminated sites as to how they may apply to the RFETS site-specific situation;
- to review the existing analysis used to set the current RFETS RSALs as to its accuracy, and appropriateness, and methodology
- based on the results of the above investigations, to calculate an independent set of RSALs.

The study will use existing RFETS site data to the maximum extent possible. It will be the responsibility of the contractor to determine the sufficiency and quality of this data and to inform the Oversight Panel at an early date if additional data is required. The contractor may suggest that the scope of study be modified. However, at a minimum, the modified proposals are requested to address the issues as discussed throughout this RFP.

B. Scope of Work: The contractor will be required to perform the following: actions. The considerations are given to help place these actions in context, but may be questioned & or modified as needed.

1. Cleanup Levels at Other Sites

Actions:

- Identify and evaluate cleanup levels and/or action levels (i.e., RSALs) which exist or are projected for use at other radionuclide contaminated sites (particularly with plutonium and americium) and the processes/models used to determine them as to their applicability in setting cleanup levels at RFETS.
- Identify any processes/models that were or are being used to determine off-site impacts to communities from on-site cleanup levels.
- Provide a summary of this evaluation itemizing the reasons why such levels or processes/models are or are not applicable for use in assessing cleanup levels for RFETS.

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Considerations:

- This study should concentrate on examples of soil similarly contaminated with transuranic elements and, in particular, plutonium and americium. Of particular interest is the reasoning that went into the setting of these cleanup levels and the subsequent history of the site, including any cleanup. The study should compare the cleanup and/or action levels within the context of site-specific conditions, projected land use, and the then-existing risk assessments and dose standards. This portion of the study will be used to place the calculated RFETS values in context.

2. Computer Models

Actions:

- Identify and evaluate all relevant available or emergent computer models which can be used to calculate radionuclide contamination levels in soils based on a given dose rate.
- Evaluate the models to determine which are most applicable and best suited to model the site-specific conditions at RFETS.
- Provide a description of these models, a summary of the strengths and weaknesses of each, and a recommendation for the most appropriate model(s).

Considerations:

- Models that are inappropriate to RFETS site conditions, obsolete, or which cannot be readily validated should not be included. The RESRAD model must be included due to its use in determining the current RSALs. A comparison of the different models using RFETS site-specific data would be useful. The contractor is encouraged to find computer codes capable of modeling both on-site and off-site dose rates. If no models exist for this determination, the contractor will review off-site migration/impacts over time/distance for various cleanup levels. It is possible that no one model will prove satisfactory for determining both, but that a combination of models may be necessary. The contractor will be expected to recommend the most appropriate model(s) for RFETS site-specific conditions and to justify this recommendation. Whichever model or models are recommended should be thoroughly validated. It is not necessary that the contractor perform this validation; peer reviewed, published studies will suffice. In the event that RESRAD is not recommended, RESRAD should be run in parallel with the recommended model(s) as a comparison.

3. Inputs and Assumptions

Actions:

- Evaluate the input parameters, inputs, default inputs, and assumptions for the current analysis (RESRAD) used to set the RSALs at RFETS. At a minimum, this evaluation must satisfy the following: Are the input parameters, inputs, default inputs, and assumptions adequate, accurate, and credible in simulating the conditions at RFETS, given the future land use scenarios envisioned in RFCA, and the subsequent conversion to dose rate/contamination levels?

(a)

b(a) For each of the input parameters, what is the sensitivity of the input values in terms of resulting contamination levels?

c(b) For each of the input parameters, what is the distribution of possible input values? Identify each of these based on the sensitivities determined in (a) above from least conservative to most conservative, with conservative meaning that which results in lower contamination levels given a certain dose limit. Quantify the uncertainties of the inputs or input distributions.

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d (c) For each of the input distributions in (b) above, identify an input value which can be considered "reasonable" or "best estimate." Provide the reasoning for these choices.

Considerations:

- All of the input parameters to the model need to be examined. Parameters that are easily confirmed, non site-specific parameters, or those which are specified by the EPA or other regulatory agencies, should be noted as such. If the investigation indicates that such values are not appropriate, alternatives should be recommended. Parameters for which there are site-specific input data for RFETS should be identified and a thorough study of the distribution of possible values should be performed.

4. Methodology

Actions:

- Identify and evaluate the methodologies which can be used to select or combine the necessary inputs/outputs for a given computer model in determining contamination levels for a given dose limit.
- Within one (1) month of the start of the contract, present to the Oversight Panel and stakeholders a summary of these methodologies along with a recommendation and justification as to the best suited for such an analysis.
- Compare or contrast this recommended methodology with that used in the existing RESRAD analysis.

Considerations:

- It is understood that there are several methodologies (e.g., bounding, best estimate, conservative, probabilistic risk assessment, etc.) which can be used to shape the inputs for such an analysis. The question as to "how conservative is conservative?" makes this a subjective rather than simply a scientific issue, because the affected communities must accept the risks involved. Therefore, the Oversight Panel wishes to fully understand the nature and implications of each of the potential methodologies to ensure that the methodology chosen can best produce credible and defensible results from this independent review which will be acceptable to the broadest range of stakeholders.

5. Independent Calculation

Actions:

- Using the methodology recommended in 4. above, select/combine the inputs identified in 3. above, as well as any new inputs required by the model recommended in 2. above in that model to calculate contamination levels for the dose limits set for each of the RFCA land use scenarios assumed in the original analysis. This includes a residential scenario.
- As part of the calculations, include a statement of the assumptions and level of uncertainty involved in the specific approach utilized. State the dose limits in terms of risk.

6. Protocols

Actions:

- As an integral part of the recommendations about the RSALs, recommend specific soil sampling procedures to be followed as an appropriate method of monitoring actinide concentrations in soil before and after remediation.

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Considerations:

- It is necessary to find a scientifically credible method for guaranteeing that the cleanup levels will actually be met in terms of what contamination levels are ultimately measured at the site. This study should clearly delineate such parameters as sample spacing, depth of samples, sampling methods, and all associated quality assurance which ensures that the methods used for measuring contamination before and after any remediation are directly applicable to the parameters used for setting the cleanup levels. The technical literature on valid statistical approaches should be reviewed to verify sampling methods and recommend approaches that are appropriate for the cleanup at RFETS.

7. Actinide Migration

Actions:

- Meet with the Actinide Migration Panel to share information in order to ascertain the applicability of any results from the actinide migration studies on the inputs to the modeling for this analysis.
- Study these results and any other relevant data and make a preliminary determination of what impact these will have on the results such as obtained in 5. above.

Considerations:

- Ultimately, cleanup levels must be protective of off-site residents. Calculations for the existing RSALs only considered on-site exposure scenarios. Since off-site air and water quality standards are more restrictive, it is possible these standards will control the cleanup. How can the issue of plutonium migration be incorporated into an evaluation of the RSALs? An Actinide Migration Study is currently underway. The final results of this study will not be ready in time to be used in this study. Some preliminary results will, however, be available. It is understood that any conclusions that can be based on this are tentative pending the completion of the Actinide Migration Study. The contractor should, however, identify the data needs of this study as early as possible in order to facilitate the collection and analysis of additional data needed.

C. Interfacing and Responsibilities: ~~The Oversight Panel will be an active participant in the study.~~

1. The general responsibilities of the contractor are to gather factual information, render expert interpretations of data, and propose options for different end points or goals based on these interpretations. The contractor is expected to engage in an open exchange of ideas and to be responsive to technical and non-technical concerns and suggestions of the panel.

   The contractor will also:

   - Maintain an ongoing written log of all meetings, correspondence and telephone conversations with panel members, regulatory agencies and others, noting the purpose of the call.
   - Meet with the Oversight Panel on a monthly basis at a regularly scheduled meeting.

2. It is expected that the Oversight Panel will oversee and critique the work of the contractor, and integrate the findings of the contractor with relevant policy issues at RFETS to produce policy recommendations accompanied by a clear account of supporting evidence and reasoning. The panel will review written reports submitted by the contractor and inform the contractor of its assessment and suggestions in a timely manner.

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D. Deliverables: The contractor will be expected to prepare a comprehensive technical report of this study, including the methods used and the results of the independent review of the RSALs. The main body of the report should be directed to the level of the educated public. The contractor should include appendices that include more technical details. A sufficient number of copies are to be provided for all interested parties (not to exceed 100).

The contractor will be expected to work with the Oversight Panel to prepare a separate summary to be directed to the general public that has no prior knowledge of the RSALs. This report should be suitable for inclusion in newsletters or general circulation newspapers.

Monthly progress reports will be prepared for distribution at monthly meetings. They should include a summary of progress to date, a plan for the rest of the project, and draft sections of the final report.

E. Schedule/Timeline: At the time of contract signing, the parties will agree on a timeline. The study is expected to last up to one year.

To ensure that the contractor is aware of the concerns of the affected public, the public will be invited to attend an informational meeting at the beginning of this contract. Two other public informational meetings will be held over the course of the contract.

Monthly meetings will be held with the Oversight Panel. These meetings will be held in the late afternoon or evening. The meetings will consist of a technical session summarizing the work to date, and a business session where administrative matters will be discussed. The contractor will have sufficient staff present to answer questions. During the afternoon of the meeting day, the contractor is to be available at the RFCAB office or other designated location for discussions or technical briefings with panel members or the public.

The following schedule is proposed as a maximum:

September 5, 1998	Start Work
October	Monthly Meeting
November	Monthly Meeting
December	Monthly Meeting
January 1999	Monthly Meeting
February	Monthly Meeting
March	Monthly Meeting
April	Monthly Meeting
May	Monthly Meeting
June	Monthly meeting and presentation of draft report
July	Monthly meeting and presentation of final report
August	Presentation of results for special Rocky Flats Cleanup Agreement (RFCA) review

Section V
Proposal Requirements

Proposals must as a minimum address the following:

A. Previous Experience: The proposal should include a short history of the company, as well as a discussion of relevant past experience that would qualify the company to perform this review. A client list for the last three years is required. At least three of these clients should be included as references.

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Proposed Text on Conflict of Interest

RFCAB

Because the results of the independent review of the RSALs must be credible, conflict of interest is a concern for the RSAL Oversight Panel. A conflict of interest exists when the outcome of a piece of work is adversely affected by ties or commitments of the party doing the work. In the case of the RSAL review, a conflict of interest exists if those performing the review are subject to undue influence from any of the parties involved in setting the original RSALs (DOE, Kaiser-Hill and its sub-contractors, EPA, CDPHE). We therefore ask prospective contractors to provide a brief but ~~thorough~~ complete self-assessment vis-à-vis any potential conflict of interest they may have in doing this project. Please list references able to address this concern.

B. Personnel: Proposer will submit resumes or curricula vitae including relevant publications for the key personnel that will work on the project. A plan indicating the responsibilities of the key personnel should be included. The contractor shall also provide an organizational chart in order to identify the various responsibilities of key project team members. The contract will specify that substitution of these persons requires written approval of RFCAB.

C. Proposal of Work: The proposal should address each of the scope items and indicate the Proposer's understanding of the work required. The proposal may expand the work to be performed on any scope item; however, it must at least review the work specified. A detailed plan including personnel to be used and a schedule for each scope item must be presented.

D. Work and Fiscal Management: The proposal should include a detailed estimate of the number of hours anticipated to complete the review. The estimate should include a breakdown showing who will be performing each task. The proposal should include a description of the procedures to be used to control costs and to maintain the schedule. These procedures should include methods to identify budget variances at the earliest possible time. Money available for this project is thought to be adequate to perform the work outlined in the scope; however, the successful conclusion of the project will require efficient cost control procedures.

E. Interface with the Oversight Panel: The Oversight Panel will be an active participant in the study. It is very important for the contractor to gain the trust of the Panel. The contractor is expected to inform and educate the Panel and to seek its advice in every phase of the study. The proposal should address the Proposer's understanding of this relationship and propose methods and plans to ensure its success.

F. Peer Review: The proposal should suggest one or more plans for peer review. Of particular importance will be how the experts are to be chosen and how the review will conducted. Timeliness of the suggested peer review will be important.

G. Work Schedule: The expectation of the Oversight Panel is that the review should begin in early September 1998 and be completed in less than one year. The proposal should specify a schedule for the review. The Panel expects to be an active participant in the review and plans to meet no more often than biweekly. ~~Therefore, it is doubtful if the project can be completed in less than nine months~~. The proposed schedule should make considerations for this meeting schedule. ~~We understand that this will impact the schedule~~

H. Fees Bid: Contract payments will be for time actually worked and for materials and services actually used. The Proposer shall provide the fully burdened hourly rates including a provision for profit, of all persons expected to work on the project. This breakdown should correspond to the plan set out above in parts B and C. Services and materials will be paid at actual cost plus a mark-up. The proposal should specify this mark-up. The proposal should indicate the total *not to exceed costs* for the project.

I. Length of Proposals: Proposals will be limited to 50 pages, inclusive of all materials and supporting documentation to fulfill the requirements as listed above.

J. Add Conflict of Interest TP

Section VI
Evaluation of Proposals

A. Evaluation Process: RFCAB shall establish the proposal evaluation committee(s) ("Evaluation Committee") in its sole discretion and judgment, to review and evaluate each Proposal submitted in response to this RFP. Unless all Proposals are rejected, the Evaluation Committee shall rank the Proposers. RFCAB reserves the right to: (1) accept or approve for negotiation the Proposal of the highest ranked Proposer; (2) accept or approve for negotiation a Proposer other than the Proposer ranked highest by the Evaluation Committee; or (3) reject all of the Proposers.

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at the discretion of the eval. com.)

RFCAB will advise its preferred Proposal whether RFCAB wishes to accept the Proposer's offer (Proposal) and enter into a contract or negotiate a contract with such Proposer. The Proposals of all Proposers shall remain binding and irrevocable offers, for sixty (60) days from the time of submission, notwithstanding RFCAB's notice to a negotiation with the preferred Proposer. If negotiations with the initial preferred Proposer are not successfully concluded, RFCAB may, at its option, advise the next highest ranked Proposer and commence negotiations with such Proposer.

The Evaluation Committee will judge the merit of the Proposals received in accordance with the criteria defined herein. The recommendations of this committee will be forwarded to the entire panel for review and approval. During the evaluation, the Evaluation Committee may request Proposers to verify certain aspects of their respective proposals. Substantive discussions will not be held with any Proposer when requesting verification. The sole objective of the Evaluation Committee will be to recommend the Proposer whose Proposal is most responsive to the RSAL review needs and can be carried out within the available resources. The specifications within this RFP represent the minimum performance necessary for response.

RFCAB reserves the right, at the discretion of the Evaluation Committee, to invite one or more Proposers to attend an interview for the purpose of better explaining their proposal and negotiating a contract. Concepts and ideas developed by any Proposer or during negotiation may be discussed with all Proposers. However, each Proposer's documents and pricing will be held in confidence by the Evaluation Committee, to the extent allowed under law applicable to recipients of federal grants. It is the intent of the Evaluation Committee to conduct negotiations or interviews with selected Proposers to:

- further define aspects of the proposal;
- allow the Proposer to better demonstrate his or her understanding of the scope of work and the capacity of the Proposer's staff to accomplish the work;
- allow the ~~Oversight Panel~~ Eval. Committee to better define final scope of work for the Project; and
- allow the selected Proposers to submit a Best and Final Offer for the final scope for the Project, if the ~~Oversight Panel~~ Eval. Committee desires.

If the ~~Oversight Panel~~ Eval. Com. desires, it may request Best and Final Offers (BAFOs) following negotiations with selected Proposers. The request will include:

- notice that negotiations are concluded;
- notice that this is the opportunity to submit a BAFO;
- a requirement that a signed contract accompany the BAFO; and
- notice that the BAFO must be received by a specified date and time.

Ken's rewrite

Following the evaluation and/or negotiation process, the Oversight Panel may select that Proposer whose proposal is most advantageous considering fees and other factors. It is the intent of the Oversight Panel to contract with one lead Proposer to conduct all elements of this project. However, the Oversight Panel through RFCAB reserves the right to contract with more than one firm for separate elements of the project if its is advantageous to the Oversight Panel. After such selection, the Oversight Panel through RFCAB will notify in writing all Proposers the name of the selected Proposer. Neither the Oversight Panel nor RFCAB will be obligated to provide information to any Proposer concerning the basis for non-selection.

Submitted proposals shall not be returned and shall become the property of the ~~Oversight Panel and will be turned over to~~ RFCAB for archiving.

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B. Evaluation Criteria: The evaluation criteria will consist of four major categories. Each category is assigned a percentage value of the total evaluation. Then within each category, 100 total points are distributed to the individual significant issues to be evaluated. After scoring, the total number of points for each category will be determined and multiplied by the overall category percentage (e.g., for Overall Qualities of the Firm 35% x 78/100 points = 27.3 score). The calculated totals for each category will then added to form a total score.

1. Approach to the Project (35%)

Technical approach for each of the following work tasks (50 points):

- Evaluation of cleanup levels at other sites (8 points)
- Identifying and assessing relevant computer models (8 points)
- Evaluation of modeling inputs and assumptions (8 points)
- Evaluation of possible methodologies (8 points)
- Performance of an independent calculation (8 points)
- Recommendation of protocols (5 points)
- Interaction with actinide migration panel (5 points)

Management approach which includes the following parameters (20 points):

- Assignment of key staff
- Quality control of calculations, computer codes, and written documents
- Summary of proposed peer review approach
- Meeting of deadlines in the proposed/final project timeline

Overall fiscal management plan and its plan to meet the agreed budget (20 points)

Planned interaction with Panel (10 points)

- Communication of results
- Incorporation of panel feedback

2. Overall Qualities of the Firm (35%)

Relevant experience (25 points)

- Computer modeling relevant to the type of analysis required (10 points)
- Radiological and environmental issues (5 points)
- Public involvement issues (10 points)

Recognized professional stature (10 points)

Capacity (both financial and organizational) to do job (15 points)

Client list/specific related projects (10 points)

References (8 points)

Experience and qualifications of personnel (15 points)

Demonstration of ability to perform an independent scientific study (7 points)

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Physical resources (10 points)

3. Overall Quality of the Proposal (5%)

Presentation (34 points)

Comprehensibility (33 points)

Completeness (33 points)

- Client list
- Resumes of key staff
- Staffing plan
- Fiscal management plan
- Cost breakdown
- Letters of recommendation
- Additional proposal recommendations

4. Cost (25%)

Price (70 points)

Hourly rates in conjunction with assignment of key staff (10 points)

Minimal/reasonable cost mark-up (10 points)

Minimal/reasonable indirect costs (overhead) (10 points)

5. RFCAB may also perform a calculation of the "Cost/Benefit Relative Value" which is defined as follows:

$$\textbf{CBRV} = \frac{\textbf{Average for all Reviewers [Total Evaluation Score for Categories 1 – 3 above]}}{\textbf{Total Bid Cost}}$$

The higher the CBRV means the higher evaluated worth per dollar. This may be used as an additional measure of proposal value which can be used to augment the scoring based on the above criteria or in place of the "Cost" category altogether.

Section VII
Contractual Information

A. Contract Requirements: The successful Proposer shall be expected to enter into a Contract for the Project Services, prepared by RFCAB, which shall include, without limitation, the following provisions which shall be binding upon the Contractor.

1. Insurance. Contractor shall acquire and maintain, during the term of this Contract, including any extensions of the term, statutory worker's compensation insurance coverage, commercial general liability insurance coverage, professional liability insurance coverage and auto liability insurance, in the minimum amounts set forth below:

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a) Worker's compensation insurance: In accordance with applicable law; and
b) Commercial general liability insurance: In the minimum amount of $1,000,000 general aggregate.
c) Professional liability insurance: Professional liability insurance in the amount of $1,000,000, each occurrence.
d) Auto liability insurance: In the minimum amount of $1,000,000, covering any automobile.

2. Work Product. All work product of Contractor prepared pursuant to this Contract, including but not limited to all maps, plans, drawings, specifications, reports, electronic files and other documents, in whatever form (Work Product), shall become the property of RFCAB under all circumstances, regardless of whether Contractor is terminated. All Work Product shall be provided to RFCAB at the time of completion of any of the Services described in Exhibit A, at the request of RFCAB, or in any event, at the time of termination of this Contract. At any time, RFCAB may obtain reproducible copies of Contractor's Work Product.

3. Federal Requirements: This Contract is awarded pursuant to a grant received by RFCAB under the direction of the U.S. Department of Energy and in compliance with the requirements imposed by the awarding federal agency, including without limitation:

a) All Work Product, as defined in paragraph _____, shall be subject to the copyright and publishing provisions of the Department of Energy regulations.

b) All Work Product, as defined in paragraph _____, shall be subject to the Department of Energy's policies and procedures concerning patent rights.

c) The Department of Energy requires that RFCAB submit annual reports to the Department of Energy for each year that RFCAB continues to receive federal assistance, and for one year thereafter, which reports shall include the status of RFCAB's activities funded by the grant, the costs incurred for each completed and/or partially completed activity, and any operational costs of activities, the degree to which the activities have achieved their goals, and the overall effectiveness of the economic assistance provided in meeting the adjustment needs of the area.

d) RFCAB, the Department of Energy, the Comptroller General of the United States, or any of their duly authorized representatives shall have access to any books, documents, papers, and records of Contractor which are directly pertinent to this Contract for the purpose of making audit, examination, excerpts and transcriptions.

e) This Contract is further subject to the following DOE-required federal rules and regulations:

i) Assurances - Non-Construction Programs
ii) CFR Part 1040 - Assurance of Compliance, Nondiscrimination in Federally Assisted Programs
iii) CFR Part 1036 - Certification Regarding Debarment, Suspension, and Other Responsibility Matters - Primary Covered Transactions
iv) CFR Part 601 - Restrictions on Lobbying
v) CFR Part 1036, Appendix C - Certification Regarding Drug-Free Workplace Requirements

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4. Indemnification. Contractor hereby agrees to indemnify and hold harmless RFCAB and each of its directors, employees, agents and consultants, from and against any and all claims, demands, losses, liabilities, actions, lawsuits and expenses (including reasonable attorneys' fees), arising directly or indirectly, in whole or in part, from the negligence or any criminal or tortious act or omission of Contractor or any of its agents or employees, in connection with this Contract and/or Contractor's Services or work hereunder, whether within or beyond the scope of its, his or her duties or authority hereunder. The provisions of this paragraph shall survive termination of this Contract.

5. Condition to Funding. The Contractor acknowledges and agrees that RFCAB's performance under this Contract, including compensation to be paid to the Contractor hereunder, is expressly conditioned upon the availability of funds under RFCAB's grant with DOE. In the event such grant funds are not made available to RFCAB, then this Contract may be terminated.

6. Method of Payment. Fees for services rendered under this Contract will be paid to the Contractor by the following methods:

   a) A start-up fee of ten percent (10%), or other amount as negotiated between RFCAB and Contractor, shall be paid to Contractor at the time Contract is signed.
   b) Following goals and timelines as developed in the Contract's Work Plan and Scope of Work, Contractor shall be paid fees upon satisfactory completion of significant milestones. The specific fee to be awarded for satisfactory completion of each milestone shall be negotiated in advance and be made part of the Contract.
   c) Contractor shall be reimbursed for actual Project operating costs (travel expenses, materials, postage, supplies, etc.) on a monthly basis upon receipt and approval of detailed invoices to RFCAB.
   d) RFCAB will withhold final payment of ten percent (10%) of the total Contract amount, to be paid to Contractor upon satisfactory and timely completion of all milestones as developed in the Project's Work Plan and Scope of Work.

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ATTACHMENT 2

DRAFT

The information for this draft was provided by Leroy Moore.
Item #5 is an addition.

MANAGEMENT AND OPERATIONS OF THE RFSALOP

PROCESS

1. Panel Co-Charis will convene a meeting of the Steering committee several days prior to each Oversight Panel meeting to set up an agenda for the Panel meeting and to discuss issues that may need to be addressed by the Panel. This meeting could be a teleconference.

2. The Administrative Services contractor will provide an administrative staff person at the Steering Committee Meetings. This person will take prepare a report for the Oversight ~~Committee~~ Panel stating who attended the Committee meeting, decisions made and develop the agenda at this meeting. The agenda will be mailed to the facilitator as soon as it is developed so that she can be prepared for meeting.
The facilitator will participate in phone call to review agenda

3. All members of the RASAL Oversight Panel are invited to contact any member of the Steering Committee with any concerns that may come up between Panel meetings, with the expectation that Steering Committee members will bring these concerns to the Committee meetings.

4. Oversight Panel members and alternates will direct questions, requests for items to be faxed, copied or typed to the Steering Committee members who will then contact the co-chairs to inform them of the requests. The co-chairs will interface directly with the Administrative contractor for all administrative matters of the panel. Ken Korkia, RFCAB will also contact the contractor directly. This will serve to reduce the confusion that could result from to many points of contact. ~~(This process will also be used for the technical contractor with the exception that the administrative contractor will also interface with them to set up meetings fax documents etc.)~~
Technical Contractor

5. Personnel from DOE., EPA, and CDPHE will be asked to channel any formal communications to the Steering Committee and/or Panel by contacting either of the Panel Co-Chairs. & responses will be in writing & all such documentation will be distributed to panel & staff

6. The Administrative contractor staffer will send minutes, agendas, announcements and other pertinent information to each Panel member in advance of Oversight Panel meetings. The information could be mailed, faxed, or e-mailed, depending on what the member specifies.

approved as amended

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SHEET NO. ..... OF .....

JOB NO. RSALOP

BY KS

DATE 5/28/98 TIME 4:00 PM

City of Broomfield

One DesCombes Drive • P.O. Box 1415 • Broomfield, Colorado 80020

Co-chairs Update:

- Selection for Admin. Services contract
  AIMS1 - best blend of skills & experience
  public involvement experience (NOT TO EXC
  Carla Sanda, Debbie Mixner, $31,553K ÷12 = monthly chg)
  - will do typing & minute taking
  - $62/hr cost includes all services
  - info. center to access info.
  - office in Wheatridge w/ conf. rm
  - e-mail & web site

- CAB will approve contract next Thurs. mtg.
  budget not to exceed $31,553
- mtg next Tues. 4:00 at CAB - final neg. session

Discussion on Process:

- Group Agreements reviewed
- LeRoy Moores - Management & Operations of the RFSALOP 1 2 3 4 & 6 approved, number 5 was not agreed to

- Carols Memo -
  1 - Bob Kanick wrote a note to the last steering committee mtg - need a strong leader to keep the issue focused
  - need to define roles of chair, facilitator, admin. serv.

  2 Victor - since last Sept. interaction between panel & technical contractor - ↑ contract & report back
  ↓ interactive role
  spectrum of interaction

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SHEET NO. 2 OF

JOB NO. RSMOP

BY KS

DATE 5/28/98 TIME 6:00PM

City of Broomfield

One DesCombes Drive • P.O. Box 1415 • Broomfield, Colorado 80020

③ Bob Kanich - item ABD on Carol's memo are done - item C needs to be done

- debate about MOU - can it be done or not
- what are we trying to fix, what is the problem you are expecting to

A original project description - dated Nov-Dec. did we ever finalize it.

Review of RFP

pg 1 - no comments, no chgs
2 - Joe Goldfield - add to background P
no chgs
3 - "
4 - Ken Korkia - chg for consistency - & add "considerations
5 - chg (a) & following letters
6 - no chg
7 - strike out sentence after C.
8 - no chgs
9 - ~~no chgs~~ chg G
The work schedule will include the time it will take to absorb & evaluate the work contractors

Sec 3 Item I insert Ex. conflict of interest

10 - Ken's rewrites and as noted
~~11 no chg~~
12 - drop individual pts - keep 90's
11 remove sentences related to pts

487

SHEET NO. ..... OF .....

JOB NO. .....

BY .....

DATE ..... TIME .....

City of Broomfield

One DesCombes Drive • P.O. Box 1415 • Broomfield, Colorado 80020

12. add #5 before Cost/Benefit Relative Value
13 no chg
14.

Announcements

62 requests for the RFP
(no RAC interest yet)

Future Agenda Items June 25th 4-7PM

30 min. ③ ~~④~~ distribute project description address unresolved
④ – process document
30 min. ② – ~~revisit the "Mall" discussion~~ – committed to final results
30 min ② – Conflict of Interest
1 hr. ① – response to comments from the RFP's
(define a mtg time for June 22nd Tues.
- vendor questions about the RFP
- send out written responses to questions

4:00 Steering Committee Mtg – following tech eval.
FAX Memo to Panel Members on Mtg June 22
at RFCAB office

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F-A-X M-E-M-O-R-A-N-D-U-M

TO: DISTRIBUTION

FROM: MARY HARLOW AND HANK STOVALL, CO-CHAIRS

SUBJECT: MEETING REMINDER FOR MAY 28, 1998

DATE: MAY 21, 1998

There will be a meeting **THURSDAY, MAY 28, 1998, 4:00-7:00 PM** at the Broomfield Municipal Center in the **Zang's Spur Conference Room.** With summer approaching and vacations being scheduled, it will be more difficult to find convenient meeting times for this large group. Please note the following dates for tentative RSAL meetings (all from 4:00-6:00PM): June 25, July 23, August 6 and August 27.

PROPOSED AGENDA

4:00 Introductions
4:05 Co-chairs Update
4:15 Oversight Panel Discussion-Ideas for Process
5:00 Review the Technical RFP
- Refined Evaluation Criteria
- Definition of Conflicts of Interest

6:30 Award Contract for Administrative Services
6:45 Public Comment
6:50 Other Topics/Future Agenda Items/Action Items
6:55 Next Meeting Dates: June 25, 1998- Broomfield Municipal Center
Zang's Spur Conference Room
7:00 Adjourn

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Group Agreements

⇒ Panel members and ex-officio members participate in general discussions.

⇒ Alternates, agency members, and public may be invited to speak by panel or ex-officio members.

⇒ The public will be given an opportunity to speak for a fixed period of time before the panel makes decisions.

* Put your name tag upright when wanting to be recognized to speak.
* Speak only when called on by the facilitator.
* Focus on topics on the agenda. (Don't bring up other issues, "old grudges.")
* Avoid side conversations.
* If you're wanting to speak on an issue and don't want to wait in line, raise hand.
* Be on time.
* Start and end meetings on time.
* Show respect by:
  - no put-downs
  - no personal attacks
* No interruptions.
* Minutes will be approved at the beginning of the meeting.

<u>Decision-Making</u>

1. This group is committed to consensus.
2. If there is a deadline and a decision must be reached and for whatever reason, the group is unable to reach consensus in time for that deadline, a vote will be taken. A 2/3 majority is needed to pass a vote.

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3. If a vote is taken and an issue is not passed by a 2/3 majority, yet another decision has not been reached, and the deadline is still an issue, at the end of the meeting, the issue will be revisited briefly for discussion, followed by a vote in which a simple majority can pass an issue.

4. In general, once a decision is made, it will not be revisited. If new information arises or a member feels a strong need to revisit a decision, the group will decide if it will revisit the decision at that time.

5. A record will be kept indicating whether decisions were made by consensus, a 2/3 majority vote, or a simple majority vote. The group will decide on a case by case basis whether or not to indicate in reports whether the decision was made by majority vote or consensus. Also, if a decision was not made by consensus, the group will decide on a case by case basis whether to discuss reasons for positions of majority and minority in the reports.

6. Ex-officio members are included in discussions but not in decision-making.

2/12/98
c:\msoffice\winword\kathy\rfsal.doc

491

DRAFT

The information for this draft was provided by Leroy Moore.
Item #5 is an addition.

MANAGEMENT AND OPERATIONS OF THE RFSALOP

PROCESS

1. Panel Co-Charis will convene a meeting of the Steering committee several days prior to each Oversight Panel meeting to set up an agenda for the Panel meeting and to discuss issues that may need to be addressed by the Panel. This meeting could be a teleconference.

2. The Administrative Services contractor will provide an administrative staff person at the Steering Committee Meetings. This person will take prepare a report for the Oversight Committee stating who attended the Committee meting, decisions made and develop the agenda at this meeting. The agenda will be mailed to the facilitator as soon as it is developed so that she can be prepared for meeting.

3. All members of the RASAL Oversight Panel are invited to contact any member of the Steering Committee with any concerns that may come up between Panel meetings, with the expectation that Steering Committee members will bring these concerns to the Committee meetings.

4. Oversight Panel members and alternates will direct questions, requests for items to be faxed, copied or typed to the Steering Committee members who will then contact the co-chairs to inform them of the requests. The co-chairs will interface directly with the Administrative contractor for all administrative matters of the panel. Ken Korkia, RFCAB will also contact the contractor directly. This will serve to reduce the confusion that could result from to many points of contact. (This process will also be used for the technical contractor with the exception that the administrative contractor will also interface with them to set up meetings fax documents etc.).

5. Personnel from DOE., EPA, and CDPHE will be asked to channel any communications to the Steering Committee and/or Panel by contacting either of the Panel Co-Chairs.

6. The Administrative contractor staffer will send minutes, agendas, announcements and other pertinent information to each Panel member in advance of Oversight Panel meetings. The information could be mailed, faxed, or e-mailed, depending on what the member specifies.

COST ESTIMATE FOR SOIL ACTION LEVEL STUDY

Victor Holm Feb 12,1998

RFP Scope Items			1760 hr
1. Cleanup Levels at Other Sites		400 hr	
A. Sites that set the level directly e.g. Eniwetok, Johnson island	80 hr		
B. Sites that used dose-response model other than RESRAD e.g. West Valley	80 hr		
C. Sites that used RESRAD e.g. Hanford, Nev test site	80 hr		
D. Other Sites	40 hr		
E. Comparison of previous studies to RFETS	80 hr		
G. Report	40 hr		
2. Computer Models		280 hr	
A. Search and documenting existing models	120 hr		
B. Side by side comparisons	120 hr		
C. Selection and report	40 hr		
3. Inputs and assumption		480 hr	
A. Identification of parameters	80 hr		
B. Determination of parameter sensitivity	200 hr		
C. Determination of range and distribution	200 hr		
4. Methodology		200 hr	
A. Report to panel on possible methodologies	80 hr		
B. Prepare plan on method of calculation	120 hr		
5. Independent Calculation		160 hr	
6. Protocols		120 hr	
7. Actinide Migration		120 hr	
Deliverables			640 hr
Meetings with panel two days each 5 meetings		240 hr	
Additional meetings		40 hr	
Progress reports 8 ea		20 hr	
Final reports		120 hr	
Contingency		220 hr	
Total project			2400 hr

493

MEMORANDUM

Date: May 27, 1998

TO: Rocky Flats Soil Action Level Oversight Panel

FROM: Carol Lyons, City of Arvada Carol

SUBJECT: Process

I understand from my colleague, Jim McCarthy, that I "volunteered" to jot down some of the panel process issues that have been brought up at recent meetings for discussion. Following is a draft outline for discussion. Jim and I have tried to include all the topics we have heard from panel participants. However, just because this is printed on a laser printer, please remember it is just a draft. Your additional input, comments, suggestions will be welcome!

The process by which we operate is important to protect the credibility of the entire effort and the results. A clear understanding of the agreed-on methods will prevent a breakdown of the work, loss of time, and wasted effort. It will preserve our commitment to protect health and the environment.

We divided the topics into level 1 and level 2, in order of importance.

Level 1

A. Definition of what we are doing, where are we going and why

- What will the results be used for?
- End results that we expect (in generic but specific terms) so that we know when we get there.

B. One overall goal with objectives to get to the goal

C. Memorandum of understanding signed by all participants to document the ground rules we will operate with

- Agreement to process / procedures / goals
- Participants who represent an organization sign on behalf of organization
- Agree to stand behind the results, regardless of their numerical value or individual opinions
- Process to address failure to comply with agreement

D. Definition of panel organization

- Roles and responsibilities of panel members, officers, steering committee, contractors (facilitator, consultants, administrator)

494

- Authority of panel; panel members; panel officers
- Selection of officers and committees
- Representation of stakeholders

E. Define consensus / What do we do when consensus eludes us?

- Agreement to BRING AND ADDRESS all concerns, complaints, disagreements, suggestions to the panel (i.e. Work within the panel process)
- Free and open discussion; all parties heard and listened to. Comments / discussion / debate retained within the meeting

Level 2

A. Who do we report to?

B. Establish master schedule for achieving major goals

C. Establish routine panel operations

Meetings

Time, place, duration, frequency
Establish agenda and timing (time allotted and person responsible for each agenda item) for next meeting at end of existing meeting
Allow sufficient time for this at end of each meeting
Who runs the meeting? Panel member / officer / Role of facilitator
Meeting summaries (minutes) — key conclusions; action items; calendar

Communications

Who is responsible?
Meeting announcements
Who gets what?
Full distribution / availability of all communications
Method of communication (mail, fax, e:mail)
Method for members / participants to communicate with all members / participants
Lead time for distribution

D. Deliverables and routine reports

What are the deliverables?
Panel deliverables: What, to who, when
Periodic reports
Internal
Meeting summaries
External

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Press Speed Dial

Then ② press 2 digit No.

DIAL DIRECTORY

DATE/TIME	2-12-98 11:06AM
LOCAL I. D.	3034386234
LOCAL NAME	CITY BROOMFIELD
LOGO	CITY BROOMFIELD

NO.	TELEPHONE NUMBER	MODE	NOTE
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02	WWTP 93034661763	AUTO	
03	Fleet 93034693348	AUTO	
04	Ops 93034691517	AUTO	
05	Rec Ctr 93034693956	AUTO	
06	Sr Ctr 93034640567	AUTO	
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99	FREE	AUTO	

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14	36 37 38 39 40 41 42 43 44
69	71 72 73 74 75 76 77
70	78 79 80 81 82 83 84 85 86 87 88 89 90 91 92

XEROX TELECOPIER 7021

To Broadcast:

① Press Speed Dial button

then ② Press 2 digit Dial Grp #

496

ROCKY FLATS SOIL ACTION LEVEL OVERSIGHT PANEL

JANUARY 8, 1998

Local Government Representatives:

City of Arvada	James McCarthy Bio	Alt. (New Coord.)
City of Boulder	Lisa Morzel Bio	Alt. John Tayer MA Bio
City of Broomfield	Hank Stovall MA Bio	Alt. Kathy Schnoor Bio
City of Louisville	Tom Davidson MA Bio	Alt. _____
City of Westminster	✓Mary Harlow Bio	Alt. Sam Dixion MA Bio
Jefferson County	Ken Starr MA Bio	Alt. Annette Neiland MA Bio

Public Interest Group Representatives:

R. M. Peace and Justice Center	✓LeRoy Moore	Alt. Tom Marshall MA bio
Colorado Coalition for Prevention of Nuclear War	✓Joe Goldfield	Physicians for Social Resp. Alt. John Shepherd, M.D. MA Bio

Technical/Scientific Experts:

✓Niels Schonbeck, Ph.D. Biochemistry

✓Joel Selbin, Ph.D. Inorganic Chemistry

Dean Heil, Ph.D Soil Chemistry MA, Bio

Citizen Panel Members:

✓Robert Kanick, B.S. Nuclear Engineering	Alt. Victor Holm, B.S. Geological Engineering MA Bio
✓Todd Margulies, M.S. Soil and Water Geochemistry	

Jackie Bio MA
Tom " "
Glaen " "

497

City of Broomfield

One DesCombes Drive, Broomfield Colorado 80020

DATE: _____, 1998
FROM: Kathy Schnoor, Environmental Services PHONE: 438-6363
RE: RF-SAL Oversight Panel # of pages _____

			PHONE	FAX		
	David Abelson	Cong. Skaggs' Ofc	303-650-7886	303-650-7893		15
P	Jim McCarthy	City of Arvada	303-431-3042	303-431-3969		16
P	Lisa Morzel	City of Boulder	3[redacted]	303-441-4478		17
A	John Tayer	City of Boulder	303-441-3005	303-441-4478		17
	Tim Holeman	City of Broomfield	303-355-5492	303-355-5530		18
A	Kathy Schnoor	City of Broomfield	303-438-6363	303-438-6234		
P	Hank Stovall	City of Broomfield	303-466-5986	303-469-8554		
P	Tom Davidson	City of Louisville	303-666-6565	303-673-9043		19
A	Sam Dixion	City of Westminster	303-426-1202	303-429-5113		20
P	Mary Harlow	City of Westminster	303-430-2400 x 2174	303-650-1643		21
E	Jackie Berardini	CDPHE	303-692-3472	303-691-7702		22
	Herb Betts	CDPHE	303-692-2665	303-782-0188		23
	Dr. Norma Morin	CDPHE	303-692-2645	303-782-0188		23
	Steve Gunderson	CDPHE	303-692-3022	303-782-4969		24
	Steve Tarlton	CDPHE	303-692-3423	303-782-4969		24
	Edd Kray	CDPHE	303-966-2115	303-966-5449		25
	Carl Spreng	CDPHE	303-692-3358	303-759-5355		26
P	Dean Heil	CSU	970-491-6516	970-491-0564		27
	Jeff Ciocco, Jim Fiore, Ray Greenberg	DOE HQ	301-903-7459	301-903-3877		28
	Jeremy Karpatkin	DOE	303-966-2080	303-966-6633		29
	Jessie Roberson	DOE/RFFO	303-966-2025	303-966-6054		30
E	Steve Slaten	DOE	303-966-4839	303-966-3710		31
E	Tim Rehder	EPA	303-312-6293	303-312-6067		32
P	Ken Starr	Jefferson County	303-271-5714	303-271-5702		33
	John Corsi	Kaiser Hill	303-966-6526	303-966-6153		34
	Dave Shelton	Kaiser Hill	303-966-9877	303-966-5001		36
P	Niels Schonbeck	Metro State	303-556-8327	303-556-5399		37
A	John Shepherd	Physician/Soc Resp	303-650-4460	303-650-4403	**Please call when faxing**	38
A	Victor Holm	RFCAB	303-989-9086	303-980-9076		39
P	Bob Kanick	RFCAB	303-444-0049	303-444-0072		40
	Ken Korkia	RFCAB	303-420-7855	303-420-7579		41
A	Tom Marshall	RFCAB	303-444-6981	303-444-6523		42
P	LeRoy Moore	RMPJC	303-444-6981	303-444-6523		42
	Deanne Butterfield	RFLII	303-940-6090	303-940-6088		43
	Will Neff	RFLII	303-940-6090	303-940-6088		43
P	Joel Selbin	UCD Chem Dept	[redacted]	303-556-4776 (W)		44
P	Todd Margulies	TM Consulting	303-279-6699	303-279-6699	**Call 1st/include 1-303**	
P	Joe Goldfield	RFCAB-SNM	303-321-7276			

(P=Panel Member, A=Alternate, E=Ex-Officio)

498

CITY OF ARVADA

CITY MANAGER'S OFFICE (303) 431-3000
FACSIMILE (303) 431-3911

FACSIMILE

DATE: 5/27/98 # OF PAGES SENT 3

PLEASE DELIVER TO:			FAX #:		
	David Abelson	Cong. Skaggs' Ofc	303-650-7886	303-650-7893	
A	Jim McCarthy	City of Arvada	303-431-3042	303-431-3969	
P	Carol Lyons	City of Arvada	303-421-2550 x3292	303-431-3911	
P	Lisa Morzel	City of Boulder	[redacted]	303-441-4478	
A	John Tayer	City of Boulder	303-441-3005	303-441-4478	
	Tim Holeman	City of Broomfield	303-355-5492	303-355-5530	
A	Kathy Schnoor	City of Broomfield	303-438-6363	303-438-6234	
P	Hank Stovall	City of Broomfield	303-466-5986	303-469-8554	
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	Dr. Norma Morin	CDPHE	303-692-2645	303-782-0188	
	Steve Gunderson	CDPHE	303-692-3367	303-759-5355	
	Steve Tariton	CDPHE	303-692-3423	303-782-4969	
	Edd Kray	CDPHE	303-966-2115	303-966-5449	
	Carl Spreng	CDPHE	303-692-3358	303-759-5355	
P	Dean Hell	CSU	970-491-6516	970-491-0564	
	Autar Rampertaap, Jim Fiore	DOE HQ	301-903-8191	301-903-3877	
	Jeremy Karpatkin	DOE	303-966-2080	303-966-6633	
	Jessie Roberson	DOE/RFFO	303-966-2025	303-966-6054	
E	Steve Slaten	DOE	303-966-4839	303-966-3710	
E	Tim Rehder	EPA	303-312-6293	303-312-6067	
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	Ken Korkia	RFCAB	303-420-7855	303-420-7579	
A	Tom Marshall	RFCAB	303-444-6981	303-444-6523	
P	LeRoy Moore	RMPJC	303-444-6981	303-444-6523	
	Deanne Butterfield	RFLII	303-940-6090	303-940-6088	
	Will Neff	RFLII	303-940-6090	303-940-6088	
P	Joel Selbin	UCD Chem Dept	[redacted]	303-556-4776 (W)	
	[illegible]	[illegible]	[illegible]	303-279-6600	Call 1st/include 1-303

499

MEMORANDUM

Date: May 27, 1998

TO: Rocky Flats Soil Action Level Oversight Panel

FROM: Carol Lyons, City of Arvada Carol

SUBJECT: Process

I understand from my colleague, Jim McCarthy, that I "volunteered" to jot down some of the panel process issues that have been brought up at recent meetings for discussion. Following is a draft outline for discussion. Jim and I have tried to include all the topics we have heard from panel participants. However, just because this is printed on a laser printer, please remember it is just a draft. Your additional input, comments, suggestions will be welcome!

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- End results that we expect (in generic but specific terms) so that we know when we get there.

B. One overall goal with objectives to get to the goal

C. Memorandum of understanding signed by all participants to document the ground rules we will operate with

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- Participants who represent an organization sign on behalf of organization
- Agree to stand behind the results, regardless of their numerical value or individual opinions
- Process to address failure to comply with agreement

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500

- Authority of panel; panel members; panel officers
- Selection of officers and committees
- Representation of stakeholders

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- Free and open discussion; all parties heard and listened to. Comments / discussion / debate retained within the meeting

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B. Establish master schedule for achieving major goals

C. Establish routine panel operations

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Time, place, duration, frequency
Establish agenda and timing (time allotted and person responsible for each agenda item) for next meeting at end of existing meeting
Allow sufficient time for this at end of each meeting
Who runs the meeting? Panel member / officer / Role of facilitator
Meeting summaries (minutes) — key conclusions; action items; calendar

Communications
Who is responsible?
Meeting announcements
Who gets what?
Full distribution / availability of all communications
Method of communication (mail, fax, e:mail)
Method for members / participants to communicate with all members / participants
Lead time for distribution

D. Deliverables and routine reports

What are the deliverables?
Panel deliverables: What, to who, when
Periodic reports
Internal
Meeting summaries
External

501/501

A2

(8)

Firms responding to this RFP should develop a proposal that provides detailed descriptions of how the consultant will work with the Oversight Panel during each stage of the review to culminate in a final recommendation on a soil action level.

Specifically ,the Consultant will:

Maintain an ongoing written log of all meetings, correspondence and telephone conversations with panel members, regulatory agencies and others noting the purpose of the call and response of all members of the panel and regulator agencies that have contacted the consultant note the purpose of the call.

Meet with Oversight Panel on a monthly basis at a regular scheduled meeting. The review is expected to take no more than one year.

Facilitate a one day work session in _____during which the oversight panel will **conduct will review the consultants work and recommendations and prepare for a public meeting to develop a recommendations for a soil action level for RFETS for incorporation into the RFCA.**

Participate in a public meeting to be held in the evening in order to inform the public of the consultants findings and recommendations, and to gather comments to be incorporated into the final recommendation

On a regular basis discuss the progress of the work and significant technical issues involved with concerned citizens in open public meetings.

Prepare reports, documents and other materials as described in your proposal and spelled out in the scope of work

Prepa[illegible] comprehensive technical report of the methods used [illegible] the results of the in[illegible]ndent review and independent assessment of soil act[illegible]evels.

A2

Deliverables

In addition to meeting the requirements listed under the Scope Of Work, the contractor will be expected to produce a final report which is a comprehensive summary of the entire study. The main body of the report should be directed to the level of the educated public.

A separate summary report is to be provided for use by the General public.

Prepare an article for publication in a peer reviewed technical journal that describes the review methods and results.

Quarterly progress reports will be prepared for distribution on quarterly meeting dates.. They should include a summary of progress to date, a plan for the rest of the project and draft sections of the final report.

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Deliverables

The contractor will be expected to produce a final report which is a comprehensive summary of the entire study. The main body of the report should be directed to the level of the educated public. The magazine *Scientific American* could serve as a model for the style and technical level being sought. The contractor may wish to include appendices that include more technical details.

A synopsis of the study and the results are also to be submitted to a reputable peer review journa for critical analysis.

A separate summary is to be provided which should be directed to the general public that has no prior knowledge of the RSALs. This report should be suitable for inclusion in newsletters or general circulation newspapers.

Quarterly progress reports will be prepared for distribution at quarterly meetings. They should include a summary of progress to date, a plan for the rest of the project and draft sections of the final report.

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Schedule/Timeline

Meetings will be held bi-weekly initially for a time period to be determined. At least two of these meetings will be held at night. Monthly meetings will be held as work progresses. The contractor will provide sufficient staff to make presentations and answer questions.

March 1998	Start of Contract
April 1998	Presentation of potential methodologies to panel
May 1998	Setting of review methodology by oversight panel
June 1998	First Quarterly report to oversight panel
July 1998	Completion of contract, final presentation
August	
September	
November	
December	
January	
Feburary 1999	Completion of contract, final presentations and report
March 1999	Presentation of results at RFCA Review

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Schedule/Timeline

At the very beginning of the contract, to ensure that the contractor is aware of the concerns of the affected public about this review, the general public will be invited to attend a scoping meeting. Thereafter, quarterly meetings will be held which will consist of two nightly sessions. The first night will be devoted to a technical session summarizing the work to date. The second night will be a business session where plans and methods of research will be discussed. The contractor will have sufficient staff present to answer any questions. During the day between the meetings, the contractor team is to be available for discussions or technical briefings with panel members or members of the public.

On months that do not include a quarterly meeting, the panel will meet. The contractor will ensure at least one representative is present.

It is desired that the contractor complete the work according to the following schedule and to propose a work schedule as appropriate:

March 1998	Start of contract
April 1998	Presentation of potential methodologies to RFRSALOP
June 1998	First quarterly report to RFRSALOP
December 1998	Completion of contract, final presentations and report
January 1999	Presentation of results for special RFCA review

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A1 plus additional comments

REQUEST FOR PROPOSALS
SCIENTIFIC REVIEW SERVICES

Firms to Provide Contract Services to Assist
the Soil Action Level Review Oversight Committee

1. PROJECT DESCRIPTION

1.1 Background

The Rocky Flats Environmental Technology Site was constructed in 1951. The site served as a production facility to manufacture trigger components for nuclear weapons. In 1989 operations at the plant were shut down due to safety and production problems The site's current operations involve decontamination and deactivation of radionuclide contaminated buildings, remediation of environmental damage and waste management.

On October 18, 1996, as a final step to the Rocky Flats Cleanup Agreement, the Department of Energy, Environmental Protection Agency and the Colorado Department of Health and Environment adopted an interim Radionuclide in Soil Action Level (RSALs) for the Rocky Flats Site. The RSALs were calculated based on the dose assumptions given in RFCA. The calculations to determine how much radioactive materials in the soil corresponds to the permitted dose were performed by entering more than 70 input parameters and default values into the Argonne National Lab's RESRAD computer program.

In response to public concerns regarding these RSALs, DOE agreed to an independent scientific review of the soil action levels set for Rocky Flats. A community review panel known as the Rocky Flats Radionuclide Soil Action Level Oversight Panel (RFRSALOP) was created to oversee the process of obtaining an independent review. The Colorado Department of Health and Environment, through the office of the Rocky Flats Health Advisory Panel (HAP) will serve as the administrative conduit for allocation of moneys, administration of the contract and provision of secretarial and organizational support for the oversight committee.

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Draft RFP for SAL Independent Review

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Background

As the concluding step of the Rocky Flats Cleanup Agreement (RFCA), on October 18, 1996, the U.S. DOE and its regulators (EPA and CDPHE) at the Rocky Flats Environmental Technology Site (RFETS), a former nuclear weapons production facility located in Jefferson County, CO, adopted interim Radionuclides in Soil Action Levels (RSALs), which is to say cleanup levels, for radionuclides in the soil at the RFETS site (Attachment A). Intended to be protective of people using the RFETS site after closure, the RSALs specify how much radioactive material (primarily plutonium and americium) may remain in the RFETS soil after cleanup without exceeding permitted exposure levels (dose) for targeted persons. The RSALs did not consider off-site migration. As part of RFCA, the RSALs are to undergo periodic review as new information is available.

The RSALs were calculated based on the dose assumptions given in RFCA. The calculations to determine how much radioactive materials in the soil corresponds to the permitted dose were performed by entering the more than 70 input parameters and default values into Argonne National Lab's RESRAD computer program.

In response to public concerns regarding these RSALs, DOE agreed to this independent review of the methods used to convert given dose levels to soil contamination levels as used in setting the RSALs. A citizen review group known as the Rocky Flats Radionuclide Soil Action Level Oversight Panel (RFRSALOP) was created to define the project, to issue this Request for Proposal (RFP) to interested parties, to contract for the independent review, and to oversee the review from initiation to completion. CDPHE, through the office of the Rocky Flats Health Advisory Panel (HAP), will serve as the administrative conduit for allocation of monies,

Purpose

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The purpose of this study is to obtain an independent scientific review of the soil action levels set for the cleanup of the Rocky Flats Environmental Technology Site. The review will evaluate the accuracy and applicability of the input parameters used to calculate the current RFETS SALs. The review will encompass models, methodologies and cleanup standards that may exist or are being developed for other sites and their applicability to Rocky Flats. Based on the results of this investigation a site specific SAL will be recommended for the Rocky Flats site. Based on the findings of this investigation a recommendation will be developed for a soil cleanup action levels for transuranic elements in the surface soils at Rocky Flats that will be protective of surface waters leaving the site, future users and surrounding communities. **The Actinide Migration panel final report on the speciation and migration of plutonium and americium in the environment will be integrated into the final soil action level review report prepared by the consultant.. It is desirable that the scope of work of the Actinide Panel be scheduled and funded to run parallel with the SAL**

1.2 Scope of Work.

The consultant will work with the Rocky Flats Radionuclide Soil Action Level Oversight Panel in conducting a review of the interim soil action levels set for Rocky Flats. **The consultant will provide the Oversight Panel with a set of recommendations. The Oversight panel will incorporate comments received from the public into a final recommendation for inclusion by DOE and the regulators in the RFCA..**

Scope of Work

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The contractor is being requested to investigate three things. First, to review models, methodologies, and cleanup levels that may exist or are being developed for other radionuclide-contaminated sites as to how they may apply to the RFETS site-specific situation. Second, to review the existing analysis used to set the current RFETS RSALs as to its accuracy and applicability. And third, based on the results of the above investigations, to calculate an independent set of RSALs.

The contractor will be expected to submit a comprehensive final report as well as to publish the study in a reputable peer review journal.

The study will use existing RFETS site data to the maximum extent possible. It is expected that this data will be both sufficient and of acceptable quality to complete the study. It will be the responsibility of the contractor to determine the sufficiency and quality of this data and informing the RFRSALOP at an early date if additional data is required.

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2. Identify and evaluate cleanup standards which exist or are projected for use at other **Plutonium and Americium** contaminated sites. **The contractor will identify any models that were or are being used to determine offsite impacts to communities from onsite cleanup standards.** For the above two tasks the contractor will identify the process/models used to determine them, as to their applicability in setting cleanup levels at RFETS. The contractor will provide a summary of this evaluation itemizing the reasons why such limits/models are or are not applicable for use in setting cleanup levels at RFETS.

1. Identify all **relevant** available or emergent computer models which can be used to calculate radionuclide contamination levels in soil based on a given dose rate. Provide a description of the models, a summary of the strengths and weaknesses of each and a recommendation for the most appropriate model(s) best suited to the site specific conditions at Rocky Flats.

Review historical studies and gather information that can be used to determine the relative importance of potential migration pathways. This aspect of the review will consider both airborne transport and standards for plutonium and americium in surface and drinking waters. Simple bounding calculations should be used to estimate the relative importance of the these transport pathways.

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1. **Cleanup Levels at Other Sit**

Action:

Identify and evaluate cleanup levels (i.e., RSALs) which exist or are projected for use at other radionuclide-contaminated sites and the processes/models used to determine them as to their applicability in setting cleanup levels at RFETS. Provide a summary of this evaluation itemizing the reasons why such limits/models are or are not applicable for use in setting cleanup levels for RFETS.

Discussion:

This study should concentrate on examples of soil contaminated with transuranic elements. Of particular interest is the reasoning that went into the setting of these cleanup levels and the subsequent history of the site, including any cleanup. The study should concentrate on published material supplemented by interviews and correspondence. The study should compare the levels within the context of site-specific conditions, projected land use, and the then existing risk assessments and dose standards. This portion of the study will not be used to recommend cleanup levels at RFETS, but will simply be used to place the calculated values in context.

2. **Computer Models**

Action:

Identify and evaluate all available or emergent computer models which can be used to calculate radionuclide contamination levels in soils based on a given dose rate. The models are to be evaluated to determine which are most applicable and best suited to model the site-specific conditions at RFETS. Provide a description of these models, a summary of the strengths and weaknesses of each, and a recommendation for the most appropriate model(s).

Discussion:

Models that are inappropriate to the RFETS site conditions, obsolete, or which cannot be readily validated should not be included. The RESRAD model must be included due its use

A2

3.Evaluate the input parameters, inputs, default inputs, and assumptions for the current analysis (using Argonne National Lab's RESRAD model) used to set the interim soil action levels at RFETS. At a minimum this evaluation must satisfy the following

a. Are the input parameters inputs, default inputs, and assumptions accurate and credible in simulating the conditions at RFETS and the subsequent conversion to dose rate/contamination levels?

b. For each of the input parameters, what is the sensitivity of the input values in terms of resulting contamination levels?

c. For each of the input parameters what is the distribution of possible input values. Identify each of these based on the sensitivities determined in 3b above from least conservative to most conservative (conservative meaning that which results in lower contamination levels given a certain dose limit

d For each of the input distributions in **3c** above identify an input value which can be considered "reasonable" or best estimate." Provide the reasoning for these choices.

Identify site specific parameters that would be employed in the calculations of soil action levels for the RFETS.

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The contractor will be expected to recommend the most appropriate model(s) for the RFETS site-specific conditions and to justify this recommendation. Whichever model or models are recommended should be thoroughly validated. It is not necessary that the contractor perform this validation; peer reviewed, published studies will suffice. In the event that RESRAD is not recommended, RESRAD should be run in parallel with the recommended model(s) as a comparison.

3. Inputs and Assumptions

Action:

Evaluate the input parameters, inputs, default inputs, and assumptions for the current analysis (RESRAD) used to set the RSALs at RFETS. At a minimum this evaluation must satisfy the following:

Are the input parameters, inputs, default inputs, and assumptions accurate and credible in simulating the conditions at RFETS, given the land use scenarios as set in RFCA, and the subsequent conversion to dose rate/contamination levels?

For each of the input parameters, what is the sensitivity of the input values in terms of resulting contamination levels?

For each of the input parameters, what is the distribution of possible input values. Identify each of these based on the sensitivities determined in 3.b) above from least conservative to most conservative with conservative meaning that which results in lower contamination levels given a certain dose limit.

For each of the input distributions in 3.c) above, identify an input value which can be considered "reasonable" or "best estimate". Provide the reasoning for these choices.

Discussion:

All of the input parameters to the model need to be examined. Parameters that are easily confirmed, non site-specific parameters , or those which are specified by the EPA or other regulatory agencies should be noted as such. If the investigation indicates that such values

A2

5..Identify and evaluate the methodologies(i.e. bounding, best estimate, conservative, probabilistic risk assessment, etc.) which can be used to combine/model the necessary inputs for a given computer model in determining contamination levels for a given dose limit. Provide a summary of these methodologies to the Oversight committee within one month of start of contract along with a recommendation as to the best suited for such an analysis. **(first sentence of the above paragraph .. By applying the best available soils model and appropriate input parameters as well as methodology or methodologies as defined in this RFP, how will model results impact the translation of dose to soil action levels and the translation of risk)**

Alternative Language-----Identify the various dose and or risk starting points used to establish the cleanup levels for other sites and identify appropriate relationships between dose and risk to allow comparisons

? Does this belong after first item ?

C 5

4. Methodology

Action:

Identify and evaluate the methodologies which can be used to select or combine the necessary inputs/outputs for a given computer model in determining contamination levels for a given dose limit. Within 1 month of the start of the contract, present to the RFRSALOP and affected stakeholders a summary of these methodologies along with a recommendation and justification as to the best suited for such an analysis. Compare or contrast this recommended methodology with that used in the existing RESRAD analysis.

Discussion:

It is understood that there are several methodologies (e.g., bounding, best estimate, conservative, probabilistic risk assessment, etc.) which can be used to shape the inputs for such an analysis. The question as to "how conservative is conservative?" makes this a subjective rather than simply a scientific issue because the affected communities must accept the risks involved. Therefore, the RFRSALOP wishes to fully understand the nature and implications of each of the potential methodologies to ensure that the methodology chosen can best produce credible and defensible results from this independent review which will be acceptable to the broadest range of stakeholders.

from the agencies

Action 4 — Methodology

Under Discussion section, delete last part of last sentence: "which will be acceptable to the broadest range of stakeholders". The sentence would end with "independent review".

4 The current analysis used to set the interim soil action levels at RFETS assumed certain land use scenarios. The **contractor will** evaluate these land use scenarios as to their appropriateness and conservative nature in setting cleanup levels at RFETS **The contractor will evaluate rancher, open space, residential , industrial, and free release land use scenarios for Rocky Flats and provide a recommendation as to**

5. Independent Calculation

Action:

Use the methodology recommended in 4. above to select/combine the inputs identified in 3. above as well as any new inputs required by the model recommended in 2. above in that

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[A21]

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8. Specify a sampling method, process protocol and quality controls for ensuring that soil contamination measurements are meeting the cleanup standards that may be set from the use of models recommended in this investigation. **Replace the above sentence with... The consultant will provide information on the appropriate statistical sampling model, process protocol and quality controls that will ensure that soil contamination measurements are meeting the cleanup standards that may be set from the use of the models recommended in this investigation.**

Review the technical literature on valid statistical approaches to verify sampling methods and recommend approaches that are appropriate for the cleanup at the RFETS.

6. Protocols

Action:

Specify the sampling method, process protocol, chain of custody (quality controls) for ensuring that subsequent soil contamination measurements are directly corresponding to the cleanup levels that may be set from the use of models and inputs as studied in this investigation.

Discussion:

There is a strong desire to find a scientifically credible method for guaranteeing that the cleanup levels will actually be met in terms of what contamination levels are ultimately measured at the site. This study should clearly delineate such parameters as sample spacing, depth of samples, sampling methods, and all associated quality assurance which ensure that the methods used for measuring contamination before and after any remediation are directly applicable to the parameters used for setting the cleanup levels.

from the agencies

Action 6 — Protocols

Delete section. We agree sampling methods and quality controls are crucial issues, but it is beyond the scope of this review. There are other possible vehicles to explore this important issue.

7.Consultant will meet with Actinide Migration panel and incorporate their results into the final soil action level model recommendation.

Regularly report to and meet with the Oversight Panel to describe progress made in the conduct of the review, to discuss issues related to the work and to provide draft material for review and comment.

7. Actinide Migration

Action:

The contractor is to meet at least once with the Actinide Migration Panel to share information and coordinate efforts as appropriate in order to ascertain the applicability of any results from the actinide migration studies on the inputs to this modeling for this analysis. The contractor should study these results and any other relevant data and determine what impact these will have on the results such as obtained in 5. above.

Discussion:

levels are protective of off-site residents. Calculations

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cleanup. How can the issue of plut ım migration be incorporated into an evaluation of the RSALs? An Actinide Migration Study is currently underway. The final results of this study will not be ready in time to be used in this study. Some preliminary results will however be available. It is understood that any conclusions that can be based on this are tentative pending the completion of the Actinide Migration Study. The collection of new data, laboratory studies, and new research are beyond the scope of this study. The contractor should, however, identify the data needs of this study as early as possible in order to facilitate the collection and analysis of additional data needed.

8. ~~9.~~ Water Quality

Action:

Subsequent to the evaluation of inputs in 3. and the calculation of contamination levels in 5. above, consider the following: Are the inputs such that the resulting contamination levels will ensure the 0.15 pCi/L surface water standard for Pu and Am adopted by the Water Quality Control Commission are met?

Discussion:

If possible, a time plot of surface water contamination for a range of soil contamination levels should be produced. Based on such an analysis, it is possible that a different level of cleanup may be required for different areas of the site.

from the agencies

Action 8 — Water Quality

Delete section. This action is duplicative. The current Actinide Migration Investigation is addressing this exact issue (see Joe Legare memorandum)

6 The RESRAD model limits its review to on-site impacts. Review off-site migration/impacts over time/distance for various cleanup levels determined in item 5. After first sentence add **Models that incorporate offsite impacts to onsite standards will be defined and information provided as to the sites where they were applied, the input parameters used to determine offsite impacts, and the land use scenarios incorporated into the results. If no models exist for this determination the Consultant will review off-site migration/impacts over time/distance for various cleanup levels determined in item 5. above.**

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A1 plus additional comments

REQUEST FOR PROPOSALS
SCIENTIFIC REVIEW SERVICES

Firms to Provide Contract Services to Assist
the Soil Action Level Review Oversight Committee

1. PROJECT DESCRIPTION

1.1 Background

The Rocky Flats Environmental Technology Site was constructed in 1951. The site served as a production facility to manufacture trigger components for nuclear weapons. In 1989 operations at the plant were shut down due to safety and production problems The site's current operations involve decontamination and deactivation of radionuclide contaminated buildings, remediation of environmental damage and waste management.

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In response to public concerns regarding these RSALs, DOE agreed to an independent scientific review of the soil action levels set for Rocky Flats. A community review panel known as the Rocky Flats Radionuclide Soil Action Level Oversight Panel (RFRSALOP) was created to oversee the process of obtaining an independent review. The Colorado Department of Health and Environment, through the office of the Rocky Flats Health Advisory Panel (HAP) will serve as the administrative conduit for allocation of moneys, administration of the contract and provision of secretarial and organizational support for the oversight committee.

Draft RFP for SAL Independent Review

C

Background

As the concluding step of the Rocky Flats Cleanup Agreement (RFCA), on October 18, 1996, the U.S. DOE and its regulators (EPA and CDPHE) at the Rocky Flats Environmental Technology Site (RFETS), a former nuclear weapons production facility located in Jefferson County, CO, adopted interim Radionuclides in Soil Action Levels (RSALs), which is to say cleanup levels, for radionuclides in the soil at the RFETS site (Attachment A). Intended to be protective of people using the RFETS site after closure, the RSALs specify how much radioactive material (primarily plutonium and americium) may remain in the RFETS soil after cleanup without exceeding permitted exposure levels (dose) for targeted persons. The RSALs did not consider off-site migration. As part of RFCA, the RSALs are to undergo periodic review as new information is available.

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In response to public concerns regarding these RSALs, DOE agreed to this independent review of the methods used to convert given dose levels to soil contamination levels as used in setting the RSALs. A citizen review group known as the Rocky Flats Radionuclide Soil Action Level Oversight Panel (RFRSALOP) was created to define the project, to issue this Request for Proposal (RFP) to interested parties, to contract for the independent review, and to oversee the review from initiation to completion. CDPHE, through the office of the Rocky Flats Health

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Purpose

A2

The purpose of this study is to obtain an independent scientific review of the soil action levels set for the cleanup of the Rocky Flats Environmental Technology Site. The review will evaluate the accuracy and applicability of the input parameters used to calculate the current RFETS SALs. The review will encompass models, methodologies and cleanup standards that may exist or are being developed for other sites and their applicability to Rocky Flats. Based on the results of this investigation a site specific SAL will be recommended for the Rocky Flats site. Based on the findings of this investigation a recommendation will be developed for a soil cleanup action levels for transuranic elements in the surface soils at Rocky Flats that will be protective of surface waters leaving the site, future users and surrounding communities. The Actinide Migration panel final report on the speciation and migration of plutonium and americium in the environment will be integrated into the final soil action level review report prepared by the consultant.. It is desirable that the scope of work of the Actinide Panel be scheduled and funded to run parallel with the SAL

I.2 Scope of Work.

The consultant will work with the Rocky Flats Radionuclide Soil Action Level Oversight Panel in conducting a review of the interim soil action levels set for Rocky Flats. The consultant will provide the Oversight Panel with a set of recommendations. The Oversight panel will incorporate comments received from the public into a final recommendation for inclusion by DOE and the regulators in the RFCA..

Scope of Work

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The contractor is being requested to investigate three things. First, to review models, methodologies, and cleanup levels that may exist or are being developed for other radionuclide-contaminated sites as to how they may apply to the RFETS site-specific situation. Second, to review the existing analysis used to set the current RFETS RSALs as to its accuracy and applicability. And third, based on the results of the above investigations, to calculate an independent set of RSALs.

The contractor will be expected to submit a comprehensive final report as well as to publish the study in a reputable peer review journal.

The study will use existing RFETS site data to the maximum extent possible. It is expected that this data will be both sufficient and of acceptable quality to complete the study. It will be the responsibility of the contractor to determine the sufficiency and quality of this data and informing the RFRSALOP at an early date if additional data is required.

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2. Identify and evaluate cleanup standards which exist or are projected for use at other **Plutonium and Americium** contaminated sites. **The contractor will identify any models that were or are being used to determine offsite impacts to communities from onsite cleanup standards.** For the above two tasks the contractor will identify the process/models used to determine them, as to their applicability in setting cleanup levels at RFETS. The contractor will provide a summary of this evaluation itemizing the reasons why such limits/models are or are not applicable for use in setting cleanup levels at RFETS.

1. Identify all relevant available or emergent computer models which can be used to calculate radionuclide contamination levels in soil based on a given dose rate. Provide a description of the models, a summary of the strengths and weaknesses of each and a recommendation for the most appropriate model(s) best suited to the site specific conditions at Rocky Flats.

Review historical studies and gather information that can be used to determine the relative importance of potential migration pathways. This aspect of the review will consider both airborne transport and standards for plutonium and americium in surface and drinking waters. Simple bounding calculations should be used to estimate the relative importance of the these transport pathways.

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1. **Cleanup Levels at Other Sites**

Action:

Identify and evaluate cleanup levels (i.e., RSALs) which exist or are projected for use at other radionuclide-contaminated sites and the processes/models used to determine them as to their applicability in setting cleanup levels at RFETS. Provide a summary of this evaluation itemizing the reasons why such limits/models are or are not applicable for use in setting cleanup levels for RFETS.

Discussion:

This study should concentrate on examples of soil contaminated with transuranic elements. Of particular interest is the reasoning that went into the setting of these cleanup levels and the subsequent history of the site, including any cleanup. The study should concentrate on published material supplemented by interviews and correspondence. The study should compare the levels within the context of site-specific conditions, projected land use, and the then existing risk assessments and dose standards. This portion of the study will not be used to recommend cleanup levels at RFETS, but will simply be used to place the calculated values in context.

2. **Computer Models**

Action:

Identify and evaluate all available or emergent computer models which can be used to calculate radionuclide contamination levels in soils based on a given dose rate. The models are to be evaluated to determine which are most applicable and best suited to model the site-specific conditions at RFETS. Provide a description of these models, a summary of the strengths and weaknesses of each, and a recommendation for the most appropriate model(s).

Discussion:

Models that are inappropriate to the RFETS site conditions, obsolete, or which cannot be

5..Identify and evaluate the methodologies(i.e. bounding, best estimate, conservative, probabilistic risk assessment, etc.) which can be used to combine/model the necessary inputs for a given computer model in determining contamination levels for a given dose limit. Provide a summary of these methodologies to the Oversight committee within one month of start of contract along with a recommendation as to the best suited for such an analysis. (first sentence of the above paragraph .. By applying the best available soils model and appropriate input parameters as well as methodology or methodologies as defined in this RFP, how will model results impact the translation of dose to soil action levels and the translation of risk)

Alternative Language-----Identify the various dose and or risk starting points used to establish the cleanup levels for other sites and identify appropriate relationships between dose and risk to allow comparisons

? Does this belong after first item ?

4 The current analysis used to set the interim soil action levels at RFETS assumed certain land use scenarios. The contractor will evaluate these land use scenarios as to their appropriateness and conservative nature in setting cleanup levels at RFETS **The contractor will evaluate rancher, open space, residential , industrial, and free release land use scenarios for Rocky Flats**

4. Methodology

Action:

Identify and evaluate the methodologies which can be used to select or combine the necessary inputs/outputs for a given computer model in determining contamination levels for a given dose limit. Within 1 month of the start of the contract, present to the RFRSALOP and affected stakeholders a summary of these methodologies along with a recommendation and justification as to the best suited for such an analysis. Compare or contrast this recommended methodology with that used in the existing RESRAD analysis.

Discussion:

It is understood that there are several methodologies (e.g., bounding, best estimate, conservative, probabilistic risk assessment, etc.) which can be used to shape the inputs for such an analysis. The question as to "how conservative is conservative?" makes this a subjective rather than simply a scientific issue because the affected communities must accept the risks involved. Therefore, the RFRSALOP wishes to fully understand the nature and implications of each of the potential methodologies to ensure that the methodology chosen can best produce credible and defensible results from this independent review which will be acceptable to the broadest range of stakeholders.

from the agencies

Action 4 — Methodology

Under Discussion section, delete last part of last sentence: "which will be acceptable to the broadest range of stakeholders". The sentence would end with "independent review".

5. Independent Calculation

Action:

Use the methodology recommended in 4. above to select/combine the inputs identified in 3. above as well as any [illegible]

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8. Specify a sampling method, process protocol and quality controls for ensuring that soil contamination measurements are meeting the cleanup standards that may be set from the use of models recommended in this investigation. **Replace the above sentence with... The consultant will provide information on the appropriate statistical sampling model, process protocol and quality controls that will ensure that soil contamination measurements are meeting the cleanup standards that may be set from the use of the models recommended in this investigation.**

Review the technical literature on valid statistical approaches to verify sampling methods and recommend approaches that are appropriate for the cleanup at the RFETS.

6. Protocols

Action:

Specify the sampling method, process protocol, chain of custody (quality controls) for ensuring that subsequent soil contamination measurements are directly corresponding to the cleanup levels that may be set from the use of models and inputs as studied in this investigation.

Discussion:

There is a strong desire to find a scientifically credible method for guaranteeing that the cleanup levels will actually be met in terms of what contamination levels are ultimately measured at the site. This study should clearly delineate such parameters as sample spacing, depth of samples, sampling methods, and all associated quality assurance which ensure that the methods used for measuring contamination before and after any remediation are directly applicable to the parameters used for setting the cleanup levels.

from the agenda

Action 6 — Protocols

Delete section. We agree sampling methods and quality controls are crucial issues, but it is beyond the scope of this review. There are other possible vehicles to explore this important issue.

7.Consultant will meet with Actinide Migration panel and incorporate their results into the final soil action level model recommendation.

Regularly report to and meet with the Oversight Panel to describe progress made in the conduct of the review, to discuss issues related to the work and to provide draft material for review and comment.

7. Actinide Migration

Action:

The contractor is to meet at least once with the Actinide Migration Panel to share information and coordinate efforts as appropriate in order to ascertain the applicability of any results from the actinide migration studies on the inputs to this modeling for this analysis. The contractor should study these results and any other relevant data and determine what impact these will have on the results such as obtained in 5. above.

Discussion:

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cleanup. How can the issue of pluto.. .m migration be incorporated into an evaluation of the RSALs? An Actinide Migration Study is currently underway. The final results of this study will not be ready in time to be used in this study. Some preliminary results will however be available. It is understood that any conclusions that can be based on this are tentative pending the completion of the Actinide Migration Study. The collection of new data, laboratory studies, and new research are beyond the scope of this study. The contractor should, however, identify the data needs of this study as early as possible in order to facilitate the collection and analysis of additional data needed.

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8. ~~9.~~ **Water Quality**

Action:

Subsequent to the evaluation of inputs in 3. and the calculation of contamination levels in 5. above, consider the following: Are the inputs such that the resulting contamination levels will ensure the 0.15 pCi/L surface water standard for Pu and Am adopted by the Water Quality Control Commission are met?

Discussion:

If possible, a time plot of surface water contamination for a range of soil contamination levels should be produced. Based on such an analysis, it is possible that a different level of cleanup may be required for different areas of the site.

from the agencies

Action 8 — Water Quality

Delete section. This action is duplicative. The current Actinide Migration Investigation is addressing this exact issue (see Joe Legare memorandum)

6 The RESRAD model limits its review to on-site impacts. Review off-site migration/impacts over time/distance for various cleanup levels determined in item 5. After first sentence add **Models that incorporate offsite impacts to onsite standards will be defined and information provided as to the sites where they were applied, the input parameters used to determine offsite impacts, and the land use scenarios incorporated into the results. If no models exist for this determination the Consultant will review off-site migration/impacts over time/distance for various cleanup levels determined in item 5. above.**

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Deliverables

In addition to meeting the requirements listed under the Scope Of Work, the contractor will be expected to produce a final report which is a comprehensive summary of the entire study. The main body of the report should be directed to the level of the educated public.

A separate summary report is to be provided for use by the General public.

Prepare an article for publication in a peer reviewed technical journal that describes the review methods and results.

Quarterly progress reports will be prepared for distribution on quarterly meeting dates.. They should include a summary of progress to date, a plan for the rest of the project and draft sections of the final report.

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9

Deliverables

The contractor will be expected to produce a final report which is a comprehensive summary of the entire study. The main body of the report should be directed to the level of the educated public. The magazine *Scientific American* could serve as a model for the style and technical level being sought. The contractor may wish to include appendices that include more technical details.

A synopsis of the study and the results are also to be submitted to a reputable peer review journal for critical analysis.

A separate summary is to be provided which should be directed to the general public that has no prior knowledge of the RSALs. This report should be suitable for inclusion in newsletters or general circulation newspapers.

Quarterly progress reports will be prepared for distribution at quarterly meetings. They should include a summary of progress to date, a plan for the rest of the project and draft sections of the final report.

A2

Schedule/Timeline

Meetings will be held bi-weekly initially for a time period to be determined. At least two of these meetings will be held at night. Monthly meetings will be held as work progresses. The contractor will provide sufficient staff to make presentations and answer questions.

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Schedule/Timeline

At the very beginning of the contract, to ensure that the contractor is aware of the concerns of the affected public about this review, the general public will be invited to attend a scoping meeting. Thereafter, quarterly meetings will be held which will consist of two nightly sessions. The first night will be devoted to a technical session summarizing the work to date. The second night will be a business session where plans and methods of research will be discussed. The contractor will have sufficient staff present to answer any questions. During the day between the meetings, the contractor team is to be available for discussions or technical briefings with panel members or members of the public.

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It is desired that the contractor complete the work according to the following schedule and to propose a work schedule as appropriate:

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DRAFT

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A1 plus additional comments

REQUEST FOR PROPOSALS
SCIENTIFIC REVIEW SERVICES

Firms to Provide Contract Services to Assist
the Soil Action Level Review Oversight Committee

1. PROJECT DESCRIPTION

1.1 Background

The Rocky Flats Environmental Technology Site was constructed in 1951. The site served as a production facility to manufacture trigger components for nuclear weapons. In 1989 operations at the plant were shut down due to safety and production problems. The site's current operations involve decontamination and deactivation of radionuclide contaminated buildings, remediation of environmental damage and waste management.

On October 18, 1996, as a final step to the Rocky Flats Cleanup Agreement, the Department of Energy, Environmental Protection Agency and the Colorado Department of Health and Environment adopted an interim Radionuclide in Soil Action Level (RSALs) for the Rocky Flats Site. The RSALs were calculated based on the dose assumptions given in RFCA. The calculations to determine how much radioactive materials in the soil corresponds to the permitted dose were performed by entering more than 70 input parameters and default values into the Argonne National Lab's RESRAD computer program.

In response to public concerns regarding these RSALs, DOE agreed to an independent scientific review of the soil action levels set for Rocky Flats. A community review panel known as the Rocky Flats Radionuclide Soil Action Level Oversight Panel (RFRSALOP) was created to oversee the process of obtaining an independent review. The Colorado Department of Health and Environment, through the office of the Rocky Flats Health Advisory Panel (HAP) will serve as the administrative conduit for allocation of moneys, administration of the contract and provision of secretarial and organizational support for the oversight committee.

Draft RFP for SAL Independent Review

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Background

As the concluding step of the Rocky Flats Cleanup Agreement (RFCA), on October 18, 1996, the U.S. DOE and its regulators (EPA and CDPHE) at the Rocky Flats Environmental Technology Site (RFETS), a former nuclear weapons production facility located in Jefferson County, CO, adopted interim Radionuclides in Soil Action Levels (RSALs), which is to say cleanup levels, for radionuclides in the soil at the RFETS site (Attachment A). Intended to be protective of people using the RFETS site after closure, the RSALs specify how much radioactive material (primarily plutonium and americium) may remain in the RFETS soil after cleanup without exceeding permitted exposure levels (dose) for targeted persons. The RSALs did not consider off-site migration. As part of RFCA, the RSALs are to undergo periodic review as new information is available.

The RSALs were calculated based on the dose assumptions given in RFCA. The calculations to determine how much radioactive materials in the soil corresponds to the permitted dose were performed by entering the more than 70 input parameters and default values into Argonne National Lab's RESRAD computer program.

In response to public concerns regarding these RSALs, DOE agreed to this independent review of the methods used to convert given dose levels to soil contamination levels as used in setting the RSALs. A citizen review group known as the Rocky Flats Radionuclide Soil Action Level Oversight Panel (RFRSALOP) was created to define the project, to issue this Request for Proposal (RFP) to interested parties, to contract for the independent review, and to oversee the review from initiation to completion. CDPHE, through the office of the Rocky Flats Health Advisory Panel (HAP) will serve as the administrative conduit for allocation of monies.

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Purpose

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The purpose of this study is to obtain an independent scientific review of the soil action levels set for the cleanup of the Rocky Flats Environmental Technology Site. The review will evaluate the accuracy and applicability of the input parameters used to calculate the current RFETS SALs. The review will encompass models, methodologies and cleanup standards that may exist or are being developed for other sites and their applicability to Rocky Flats. Based on the results of this investigation a site specific SAL will be recommended for the Rocky Flats site. Based on the findings of this investigation a recommendation will be developed for a soil cleanup action levels for transuranic elements in the surface soils at Rocky Flats that will be protective of surface waters leaving the site, future users and surrounding communities. **The Actinide Migration panel final report on the speciation and migration of plutonium and americium in the environment will be integrated into the final soil action level review report prepared by the consultant.. It is desirable that the scope of work of the Actinide Panel be scheduled and funded to run parallel with the SAL.**

(A) Shelton - explanation of Actinide Panel + timing

1.2 Scope of Work.

The consultant will work with the Rocky Flats Radionuclide Soil Action Level Oversight Panel in conducting a review of the interim soil action levels set for Rocky Flats. **The consultant will provide the Oversight Panel with a set of recommendations. The Oversight panel will incorporate comments received from the public into a final recommendation for inclusion by DOE and the regulators in the RFCA..**

Scope of Work

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The contractor is being requested to investigate three things. First, to review models, methodologies, and cleanup levels that may exist or are being developed for other radionuclide-contaminated sites as to how they may apply to the RFETS site-specific situation. Second, to review the existing analysis used to set the current RFETS RSALs as to its accuracy and applicability. And third, based on the results of the above investigations, to calculate an independent set of RSALs.

The contractor will be expected to submit a comprehensive final report as well as to publish the study in a reputable peer review journal.

The study will use existing RFETS site data to the maximum extent possible. It is expected that this data will be both sufficient and of acceptable quality to complete the study. It will be the responsibility of the contractor to determine the sufficiency and quality of this data and informing the RFRSALOP at an early date if additional data is required.

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2. Identify and evaluate cleanup standards which exist or are projected for use at other **Plutonium and Americium** contaminated sites. **The contractor will identify any models that were or are being used to determine offsite impacts to communities from onsite cleanup standards.** For the above two tasks the contractor will identify the process/models used to determine them, as to their applicability in setting cleanup levels at RFETS. The contractor will provide a summary of this evaluation itemizing the reasons why such limits/models are or are not applicable for use in setting cleanup levels at RFETS.

1. Identify all relevant available or emergent computer models which can be used to calculate radionuclide contamination levels in soil based on a given dose rate. Provide a description of the models, a summary of the strengths and weaknesses of each and a recommendation for the most appropriate model(s) best suited to the site specific conditions at Rocky Flats.

Review historical studies and gather information that can be used to determine the relative importance of potential migration pathways. This aspect of the review will consider both airborne transport and standards for plutonium and americium in surface and drinking waters. Simple bounding calculations should be used to estimate the relative importance of the these transport pathways.

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1. **Cleanup Levels at Other Sites**

Action:

Identify and evaluate cleanup levels (i.e., RSALs) which exist or are projected for use at other radionuclide-contaminated sites and the processes/models used to determine them as to their applicability in setting cleanup levels at RFETS. Provide a summary of this evaluation itemizing the reasons why such limits/models are or are not applicable for use in setting cleanup levels for RFETS.

Discussion:

This study should concentrate on examples of soil contaminated with transuranic elements. Of particular interest is the reasoning that went into the setting of these cleanup levels and the subsequent history of the site, including any cleanup. The study should concentrate on published material supplemented by interviews and correspondence. The study should compare the levels within the context of site-specific conditions, projected land use, and the then existing risk assessments and dose standards. This portion of the study will not be used to recommend cleanup levels at RFETS, but will simply be used to place the calculated values in context.

2. **Computer Models**

Action:

Identify and evaluate all available or emergent computer models which can be used to calculate radionuclide contamination levels in soils based on a given dose rate. The models are to be evaluated to determine which are most applicable and best suited to model the site-specific conditions at RFETS. Provide a description of these models, a summary of the strengths and weaknesses of each, and a recommendation for the most appropriate model(s).

Discussion:

Models that are inappropriate to the RFETS site conditions, obsolete, or which cannot be readily validated should not be included. The RESRAD model must be included due its use

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3.Evaluate the input parameters, inputs, default inputs, and assumptions for the current analysis (using Argonne National Lab's RESRAD model) used to set the interim soil action levels at RFETS. At a minimum this evaluation must satisfy the following

a. Are the input parameters inputs, default inputs, and assumptions accurate and credible in simulating the conditions at RFETS and the subsequent conversion to dose rate/contamination levels?

b. For each of the input parameters, what is the sensitivity of the input values in terms of resulting contamination levels?

c. For each of the input parameters what is the distribution of possible input values. Identify each of these based on the sensitivities determined in 3b above from least conservative to most conservative (conservative meaning that which results in lower contamination levels given a certain dose limit

d For each of the input distributions in **3c** above identify an input value which can be considered "reasonable" or best estimate." Provide the reasoning for these choices.

Identify site specific parameters that would be employed in the calculations of soil action levels for the RFETS.

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The contractor will be expected to recommend the most appropriate model(s) for the RFETS site-specific conditions and to justify this recommendation. Whichever model or models are recommended should be thoroughly validated. It is not necessary that the contractor perform this validation; peer reviewed, published studies will suffice. In the event that RESRAD is not recommended, RESRAD should be run in parallel with the recommended model(s) as a comparison.

3. Inputs and Assumptions

Action:

Evaluate the input parameters, inputs, default inputs, and assumptions for the current analysis (RESRAD) used to set the RSALs at RFETS. At a minimum this evaluation must satisfy the following:

Are the input parameters, inputs, default inputs, and assumptions accurate and credible in simulating the conditions at RFETS, given the land use scenarios as set in RFCA, and the subsequent conversion to dose rate/contamination levels?

For each of the input parameters, what is the sensitivity of the input values in terms of resulting contamination levels?

For each of the input parameters, what is the distribution of possible input values. Identify each of these based on the sensitivities determined in 3.b) above from least conservative to most conservative with conservative meaning that which results in lower contamination levels given a certain dose limit.

For each of the input distributions in 3.c) above, identify an input value which can be considered "reasonable" or "best estimate". Provide the reasoning for these choices.

Discussion:

All of the input parameters to the model need to be examined. Parameters that are easily confirmed, non site-specific parameters , or those which are specified by the EPA or other regulatory agencies should be noted as such. If the investigation indicates that such values

5..Identify and evaluate the methodologies(i.e. bounding, best estimate, conservative, probabilistic risk assessment, etc.) which can be used to combine/model the necessary inputs for a given computer model in determining contamination levels for a given dose limit. Provide a summary of these methodologies to the Oversight committee within one month of start of contract along with a recommendation as to the best suited for such an analysis. (first sentence of the above paragraph .. By applying the best available soils model and appropriate input parameters as well as methodology or methodologies as defined in this RFP, how will model results impact the translation of dose to soil action levels and the translation of risk)

Alternative Language-----Identify the various dose and or risk starting points used to establish the cleanup levels for other sites and identify appropriate relationships between dose and risk to allow comparisons

? Does this belong after first item ?

4 The current analysis used to set the interim soil action levels at RFETS assumed certain land use scenarios. The **contractor** will evaluate these land use scenarios as to their appropriateness and conservative nature in setting cleanup levels at RFETS **The contractor will evaluate rancher, open space, residential , industrial, and free**

4. Methodology

Action:

Identify and evaluate the methodologies which can be used to select or combine the necessary inputs/outputs for a given computer model in determining contamination levels for a given dose limit. Within 1 month of the start of the contract, present to the RFRSALOP and affected stakeholders a summary of these methodologies along with a recommendation and justification as to the best suited for such an analysis. Compare or contrast this recommended methodology with that used in the existing RESRAD analysis.

Discussion:

It is understood that there are several methodologies (e.g., bounding, best estimate, conservative, probabilistic risk assessment, etc.) which can be used to shape the inputs for such an analysis. The question as to "how conservative is conservative?" makes this a subjective rather than simply a scientific issue because the affected communities must accept the risks involved. Therefore, the RFRSALOP wishes to fully understand the nature and implications of each of the potential methodologies to ensure that the methodology chosen can best produce credible and defensible results from this independent review which will be acceptable to the broadest range of stakeholders.

from the agencies

Action 4 — Methodology

Under Discussion section, delete last part of last sentence: "which will be acceptable to the broadest range of stakeholders". The sentence would end with "independent review".

5. Independent Calculation

Action:

Use the methodology recommended in 4. above to select/combine the inputs identified in 3. above as well as any new inputs required by the model recommended in 2. above in that

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8. Specify a sampling method, process protocol and quality controls for ensuring that soil contamination measurements are meeting the cleanup standards that may be set from the use of models recommended in this investigation. **Replace the above sentence with... The consultant will provide information on the appropriate statistical sampling model, process protocol and quality controls that will ensure that soil contamination measurements are meeting the cleanup standards that may be set from the use of the models recommended in this investigation.**

Review the technical literature on valid statistical approaches to verify sampling methods and recommend approaches that are appropriate for the cleanup at the RFETS.

6. Protocols

Action:

Specify the sampling method, process protocol, chain of custody (quality controls) for ensuring that subsequent soil contamination measurements are directly corresponding to the cleanup levels that may be set from the use of models and inputs as studied in this investigation.

Discussion:

There is a strong desire to find a scientifically credible method for guaranteeing that the cleanup levels will actually be met in terms of what contamination levels are ultimately measured at the site. This study should clearly delineate such parameters as sample spacing, depth of samples, sampling methods, and all associated quality assurance which ensure that the methods used for measuring contamination before and after any remediation are directly applicable to the parameters used for setting the cleanup levels.

from the agencies

Action 6 — Protocols

Delete section. We agree sampling methods and quality controls are crucial issues, but it is beyond the scope of this review. There are other possible vehicles to explore this important issue.

7.Consultant will meet with Actinide Migration panel and incorporate their results into the final soil action level model recommendation.

Regularly report to and meet with the Oversight Panel to describe progress made in the conduct of the review, to discuss issues related to the work and to provide draft material for review and comment.

7. Actinide Migration

Action:

The contractor is to meet at least once with the Actinide Migration Panel to share information and coordinate efforts as appropriate in order to ascertain the applicability of any results from the actinide migration studies on the inputs to this modeling for this analysis. The contractor should study these results and any other relevant data and determine what impact these will have on the results such as obtained in 5. above.

Discussion:

... levels are protective of off-site residents. Calculations

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from the agencies

Action 8 — Water Quality

Delete section. This action is duplicative. The current Actinide Migration Investigation is addressing this exact issue (see Joe Legare memorandum)

6 The RESRAD model limits its review to on-site impacts. Review off-site migration/impacts over time/distance for various cleanup levels determined in item 5. After first sentence add **Models that incorporate offsite impacts to onsite standards will be defined and information provided as to the sites where they were applied, the input parameters used to determine offsite impacts, and the land use scenarios incorporated into the results. If no models exist for this determination the Consultant will review off-site migration/impacts over time/distance for various cleanup levels determined in item 5. above.**

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8. ~~9.~~ **Water Quality**

Action:

Subsequent to the evaluation of inputs in 3. and the calculation of contamination levels in 5. above, consider the following: Are the inputs such that the resulting contamination levels will ensure the 0.15 pCi/L surface water standard for Pu and Am adopted by the Water Quality Control Commission are met?

Discussion:

If possible, a time plot of surface water contamination for a range of soil contamination levels should be produced. Based on such an analysis, it is possible that a different level of cleanup may be required for different areas of the site.

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(8)

Firms responding to this RFP should develop a proposal that provides detailed descriptions of how the consultant will work with the Oversight Panel during each stage of the review to culminate in a final recommendation on a soil action level.

Specifically ,the Consultant will:

Maintain an ongoing written log of all meetings, correspondence and telephone conversations with panel members, regulatory agencies and others noting the purpose of the call and response of all members of the pane and regulator agencies that have contacted the consultant note the purpose of the call.

Meet with Oversight Panel on a monthly basis at a regular scheduled meeting. The review is expected to take no more than one year.

Facilitate a one day work session in _____during which the oversight panel will **conduct will review the consultants work and recommendations and prepare for a public meeting to develop a recommendations for a soil action level for RFETS for incorporation into the RFCA.**

Participate in a public meeting to be held in the evening in order to inform the public of the consultants findings and recommendations, and to gather comments to be incorporated into the final recommendation

On a regular basis discuss the progress of the work and significant technical issues involved with concerned citizens in open public meetings.

Prepare reports, documents and other materials as described in your proposal and spelled out in the scope of work

Prepare a comprehensive technical report of the methods used and the results of the independent review and independent assessment of soil action levels.

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Deliverables

In addition to meeting the requirements listed under the Scope Of Work, the contractor will be expected to produce a final report which is a comprehensive summary of the entire study. The main body of the report should be directed to the level of the educated public.

A separate summary report is to be provided for use by the General public.

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