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RFSALOP

Rocky Flats Soil Action Level Oversight Panel

Project History

Compiled by:

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1998

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WESTMINSTER

May 16, 1997

The Honorable Federico Peña
Secretary of Energy
United States Department of Energy
1000 Independence Avenue S.W.
Washington, D.C. 20585

City of Westminster
Office of the
Mayor

4800 West 92nd Avenue
Westminster, Colorado
80030

303 430 2400
FAX 303 430-1809
TDD 303 428 0648

The Honorable Carol Browner
United States Environmental Protection Agency
Waterside Mall
401 M Street S.W.
Washington, D.C. 20460

Alvin L. Alm
Assistant Secretary for Environmental Management
United States Department of Energy
Forrestal Building
1000 Independence Avenue SW
Washington, D.C. 20585

Dear Secretary Peña, Administrator Browner, and Mr. Alm

The City of Westminster is writing to support the request of the Rocky Flats Citizens Advisory Board (CAB) that both the United States Department of Energy (DOE) and the United States Environmental Protection Agency (EPA) initiate and fund a contract with the National Academy of Sciences to provide a review and set a national standard for radionuclides in soil. The EPA was in the process of promulgating such a national soil standard in 1996, but has since dropped its proposal. It is very important not only for our local community and adjacent communities, but the nation as a whole that a national standard that is protective of human health and the environment be studied and determined.

The DOE ruled on October 19, 1996, that a 15 millirem for industrial use and 85 millirem (651 Picocuries/gram) for residential was an appropriate cleanup standard for the Rocky Flats Environmental Technology Site (RFETS). This standard was subsequently adopted as an <u>interim</u> soil action level for the Rocky Flats Cleanup Agreement by the local Rocky Flats Field Office, the Colorado Department of Public Health and Environment, and the EPA. This <u>interim</u> standard is awaiting a final national determination of an appropriate protective dose level.

Local governments as well as stakeholders are not comfortable with the 85 millirem dose standard set in the buffer zone of the RFETS for residential use. The area where our City is located already has a higher background exposure from naturally occurring radiation and nuclear fallout. Additionally, the RESRAD model that was used to determine the soil action levels for Rocky Flats used breathing rates set for low altitude residents, rather than for a high altitude area such as ours in Colorado.

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Dollars spent for this review by both the DOE and EPA will result in renewed confidence in the ability of both agencies to protect the health and welfare of citizens who live in the shadow of the former nuclear production facilities We believe that it is important that this review be undertaken as soon as possible

Your support in this endeavor will be greatly appreciated

Sincerely,

Nancy Heil

Nancy M Heil
Mayor

cc United States Senator Wayne Allard
United States Senator Ben Nighthorse Campbell
United States Representative David Skaggs
United States Representative Diana DeGette
United States Representative Dan Schaefer

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DAVID E. SKAGGS
ND DISTRICT, COLORADO

[illegible]
WASHINGTON, DC [illegible]
(202) [illegible]

[illegible] HARLAN STREET, SUITE [illegible]
[illegible], COLORADO [illegible]
(303) 650 [illegible]

[illegible]

UNITED STATES
HOUSE OF REPRESENTATIVES

COMMITTEE ON APPROPRIATIONS
SUBCOMMITTEE ON INTERIOR
SUBCOMMITTEE ON COMMERCE, JUSTICE, STATE AND THE JUDICIARY

PERMANENT SELECT COMMITTEE ON INTELLIGENCE

CHAIRMAN, DEMOCRATIC STUDY GROUP

June 10, 1997

The Honorable Federico F. Pena
Secretary
Department of Energy
1000 Independence Avenue, SW
Washington, D.C. 20585

Administrator Carol M. Browner
Environmental Protection Agency
401 M Street, SW
Washington, D.C. 20460

Mr. Alvin L. Alm
Assistant Secretary for Environmental Management
Department of Energy
1000 Independence Avenue, SW
Washington, D.C. 20585

Dear Secretary Pena, Administrator Browner, and Mr. Alm:

I received a copy of the letter dated May 1, 1997, the Rocky Flats Citizens Advisory Board (CAB) sent to you regarding review of the Rocky Flats soil action levels. I support national review of the 15/85 standard as established for the Department of Energy's Rocky Flats site, including review of the RESRAD model.

As you know, Rocky Flats is very close to a major metropolitan area, and as cleanup proceeds, it's important to ensure that down-stream water supplies are protected. I've been advised that the 15/85 standard adopted by Rocky Flats protects these interests. I supported the interim standard based on that advice, with the understanding that these standards will be reviewed, as needed, including an annual review as provided in the Rocky Flats Cleanup Agreement.

Since the adoption of the soil action levels last October, the Environmental Protection Agency decided against publishing a proposed regulation, thereby undermining the opportunity to subject these standards to independent national review. As you know, the Rocky Flats soil action levels are based on that draft regulation.

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An Independent Review of Soil Action Levels for Rocky Flats

How We Got to Where We Are Today

Soil Action Levels - What are They?

- Numerical values that determine what type of "action" needs to be taken at Rocky Flats to address soils contaminated with radioactive materials
- Depending on the level of contamination that exists, compared to the action level, the action could be do nothing, contain the material, limit access to it, or remove it

How were the Soil Action Levels Determined?

- With other contaminants, specific numbers are established by the government and have broad application to any site that might be contaminated This would include air, water and soil contaminated with chemicals, metals and other things
- There are no national or state standards set for the radioactive materials found in the soils at Rocky Flats
- Thus, the DOE and the regulators entered into a negotiation process as part of the Rocky Flats Cleanup Agreement This agreement sets forth the legal framework for the cleanup of Rocky Flats The agreement is between the Department of Energy, the Environmental Protection Agency and the State of Colorado

What was the process for establishing the Soil Action Levels?

- Dose guidelines from the EPA were used These national guidelines were in draft form at the time the Soil Action Levels were being developed for Rocky Flats They were never finalized
- What are these guidelines? The guidelines are based on dose, or the amount of radiation a person is exposed to EPA set numbers of 15 / 85 mrem as being the doses it felt were acceptable
- What do these 15/85 numbers mean? The 15 number refers to the level of exposure for a specific future land use at the site For example, an industrial site in which workers would be exposed during their work The 85 number is based on EPA's assumption that at some future date any of the controls in place at the site that limit the land use, and hence the exposure could break down, and people might begin to inhabit the site for residential purposes If this happens, the dose they would receive from any contamination remaining at the site could not exceed 85 mrem The number chosen as the acceptable dose level depends on which number or exposure scenario which would produce the least amount of exposure

What determines exposure?

- Dose is a way of describing your exposure to radioactive materials Breathing in contaminated dust, eating contaminated dirt, drinking contaminated water, being in close proximity to areas of contamination are all ways one can be exposed
- Different land uses mean that there would be different exposures A person living at a contaminated site would be exposed for many hours during the day, breathing in contaminated dust, drinking the water, eating vegetables grown in contaminated soil, etc If the land use is an industrial site, the exposure would be different The amount of time spent on the job is less than if you lived at the site, so the amount of contaminated dust you breathe would likely be less, there would be less time for contact exposure, etc An open space recreation scenario would produce even less exposure because of less time available for exposure

- Different levels of contamination can produce the same level of exposure depending on the land use scenario The less time one is exposed (open space recreation user vs a person who lives at a site) the lower the exposure

How does the level of exposure get translated into a contamination level in the soil?

- The Soil Action Levels were determined based on the use of a computer model entitled RESRAD
- This model has many input parameters such as breathing rate the type of soil, whether water is consumed, and many others
- Plugging all the variables into the model produces a numerical value for contamination that produces a given dose Depends much on the land use scenario that is employed and the assumptions that must be made for the many inputs

So why the consternation over the Soil Action Levels set for Rocky Flats?

- Bottom line the numbers are higher than benchmarks in the community's mind
- The numbers are expressed in units called picocuries per gram of soil (abbreviated pCi/g)
- The numbers for Rocky Flats were four figures over 1 000 The benchmarks were on the order of numbers such as 0 9 pCi/g which was a number called the State Soil Construction Guideline
- Research into other sites produced numbers such as 40 pCi/g for the Enewetak Atoll in the South Pacific The Nevada Test Site uses numbers in the low 100's

Are the Rocky Flats numbers too high?

- The community has suspicions, but does not have the scientific proof to say that they are
- Thus, the community called for an independent assessment of the Soil Action Levels Letters were sent by CAB, the local cities Congressman Skaggs
- Some of the questions asked Is the RESRAD model the best one to use to make the conversion between levels of contamination and exposure dose? Are the input parameters correct? What about materials that might get off-site? (Note the RESRAD model does not factor in contaminant migration)

How did the Oversight Panel get started?

- DOE agreed in concept to the independent review First meeting was held on September 15, 1997 Agreement to look at other models, input parameters, what was done at other sites where plutonium cleanup has taken place
- Could not agree on looking at the acceptability of 15/85 as dose levels Thus, this question was bifurcated from this review, but still remains an active community concern Letter has gone out to EPA and National Academy of Sciences to look at this issue by incorporating an active public involvement process
- Agreement was reached on the makeup of the panel Work progressed on the development of a work scope for the contractor who will do the project
- Outstanding issues migration, sampling protocol, land uses

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

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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

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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SAL Oversight Panel Preliminary Discussion 4/24/91

Name	Org	Phone / Fax
Ken Korkin	RFCAB	420-7855/7579
Steve Slaten	DOE	966-4839/ 3710
John Corsi	K-H	966-6526/ 4255
Tim Holeman	Broomfield	355-5492/ 5530
KATHY SCHNOOR	BROOMFIELD	438/6363/ 6234
HANK STOVALL	BROOMFIELD	466-5986/ 469-8554
ED KRAY	CDPHE	966 2115 /5449
LeRoy Moore	RMPJC	444-6981/ 444-6523
Mary Hoglan	Westminster	430-2400 / 2174
Sam Nipion	Westminster	426-1202 / 429-5113
Dave Shelton	K-H	966-9877/ 966-5001
VORMA MORIN	CDPHE	692-2645

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SAL Review Group Mtg 9/24/97

Hank Thomas calls mtg to order @ 9:00

HAP - Hank proposes t/ use his model
- thought 12-15 meeting

who would appoint
criteria
funding
mechanism

Norma Mann,
- HAP began w/ AIP t/ funded AIP
- to achieve mtg from DOE; asked National Panel to design study
- 12 member Panel. epi, biometry, risk ass, biochem, meteorologist, radio by physicist; physician elected official, citizen
- hold 1/4 mtg, review tech reports/present/ update public/ mainly citizen input.
- proposed responsibility
  1) assist sel criteria oversight panel w/ RFP
  2) transition b/ panel & contractor
  3) over contract
  4) disseminate results
  5) provide panel input
  6) plan / promote mtgs

estimated cost: 10% admin cost; 7-10% cost to facilitate
1% indirect flow thru rate
- to do a contracting 800K - $1.5 million
?: put announcement in federal registry

migration / water quality issues ∅ addressed by RESRAD model;
↳ Actinide Panel developing this in 1 year
"conceptual model for migration of actinides in site & impacts on water quality"

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SAL Rivers ~~bang~~ 9/24/97

- need for independent peer review?
- ? of migration + G's impacts

- ∧ holding off on 903 Pond cleanup until have more answers.

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monitoring have an alternate
Superior / Louisville / Boulder / Boulder County
Thornton / Northglenn

?: ~~ex officio~~ reps and EPA;

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INDEPENDENT REVIEW OF SOIL ACTION LEVELS MEETING WITH JAMES FIORE AND JESSIE ROBERSON RSVP LIST

STAKEHOLDERS

David Abelson, Office of Congressman David Skaggs 650-7893
Tom Marshall, Rocky Flats Citizens Advisory Board
Ken Korkia, Rocky Flats Citizens Advisory Board } 420-7579
Victor Holm, Rocky Flats Citizens Advisory Board
LeRoy Moore, Rocky Mountain Peace and Justice Center 444-6523
Cathy Schnoor, City of Broomfield
Hank Stovall, City of Broomfield 469-8554
Mary Harlow, City of Westminster } 467-2751
Sam Dixion, City of Westminster
Steve Tarlton, Colorado Department of Public Health and Environment
Jackie Berardini, Colorado Department of Public Health and Environment } 782-4969
Tim Rehder, U S Environmental Protection Agency 312-6067
Joe Goldfield, Citizen

HEADQUARTERS PERSONNEL

Jim Fiore, Acting Assistant Secretary for Environmental Restoration
Alex Williams
Jeff Ciocco

SITE PERSONNEL

Jessie Roberson, Manager, RFFO
Jeremy Karpatkin, Director of Communications and Economic Development, RFFO
Steve Slaten, Liaison Division, RFFO
Mariane Anderson, Communications and Economic Development, RFFO
David Shelton, Regulatory Strategy Manager, Kaiser-Hill
John Corsi, Communications, Kaiser-Hill

Please find attached, (page 2) to this Fax, an agenda for today's meeting on Independent Review of Soil Action Levels. If you have any questions give me a call on 966-6088.

Mariane Anderson
Community Relations
DOE

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September 24, 1997

Soil Action Level Oversight Panel (Independent)

Proposal Subcommittee

1. Sam Dixion - Westminster Mayor Pro Tem
2. Mickey Harlow - Westminster Staff
3. Hank Stovall - Broomfield City Council
4. Tim Holeman - Broomfield Staff
5. Kathy Schnoor - Broomfield Staff
6. Leroy Moore - Peace and Justice Center
7. Ken Korkia - CAB
8. Victor Holm - CAB

Proposed Agenda

1. Independent Oversight - Similar to HAP
   - Discuss the concept - Hank Stovall
2. Dr. Norma Morin - CDPHE
   - Presentation on HAP structure
3. Proposed Scope of Work - Group Discussion
   A. Analyze various models to determine applicability to Rocky Flats.
   B. Analyze models/parameters and assumptions for applicability to Rocky Flats. input
   C. Incorporate actinide migration findings of Actinide Migration Group and other scientific findings regarding actinide migration.
   D. Analyze off site migration and impact over time and distance for various clean up levels. cleanup levels for considering potential land uses
   E. What are appropriate land uses - both on site and off site for various clean up levels and what are associated dose and risk levels - time and distance. both on and offsite
   F. What are clean up technologies proposed and under development which could be applied to Rocky Flats soils clean up and what are costs and time intervals.
   G. DOE agreement that consultant will have full access to all available data, written material, present clean up activities, etc.
   H. Other
4. Estimated cost_____ .
5. Time line for project - 12-15 months
   - Time for RFQ _____, and start date_____.
   - Very public review process.
   - Quarterly progress reports to panel, regulators, contractors and public.

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Thurs Sept 18 1997 Rocky Mou ta ews

Flats soil cleanup faces review

The Department of Energy will fund an independent review of soil cleanup methods and standards at Rocky Flats

In June U S Rep David Skaggs wrote a letter to DOE Secretary Federico Peña and other federal officials asking them to review criteria the government has used to decide the level of cleanup necessary for soil at the former nuclear weapons plant

The DOE has agreed to work with a group of concerned citizens and organizations to determine who will participate in the review

Daily Camera
THURSDAY
September 18 1997

DOE to fund review at Rocky Flats

DENVER — The Department of Energy is responding to environmental concerns at Rocky Flats and will fund an independent review of the soil cleanup methods and standards U S Rep David Skaggs said Wednesday

Nearly two million people live within 30 miles of Rocky Flats said Skaggs a Boulder Democrat I m encouraged that the DOE has committed itself to doing this thing right We cannot risk soil cleanup standards that don t ensure the protection of neighboring communities

In June Skaggs wrote a letter to DOE Secretary Federico Peña Environmental Protection Agency administrator Carol Browner and Alvin Alm assistant energy secretary for environmental management asking them to review criteria the government has used to decide the level of cleanup necessary for soil at the former nuclear weapons plant 8 miles south of Boulder

THE DENVER POST
Thursday September 18, 1997

DOE to review Flats work

The Department of Energy is responding to environmental concerns at Rocky Flats and will fund an independent review of the soil cleanup methods and standards, U S Rep David Skaggs said Wednesday

In June, Skaggs wrote a letter to DOE Secretary Federico Peña and other officials asking them to review criteria the government has used to decide the level of cleanup necessary for soil at the former nuclear weapons plant

The DOE has agreed to work with a group of concerned citizens and organizations to determine who will participate in the review, an official said

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AGENDA

SOIL ACTION LEVEL AD-HOC MEETING

Westminster City Hall, Council Chambers
October 14, 11 30 A M - 1 00 P M

James Fiore, DOE HQ will join the meeting via speaker phone

INTRODUCTION Sam Dixion Mayor Pro-Tem, City of Westminster

Moderator for this session - Tim Holeman, Consultant, City of Broomfield

TOPICS TO BE COVERED

Review of Membership and Establishment of the Panel

Project Management - CDPHE Dr Morin or ?

Project Description and Product Review

Review of the Project timeline

Availability of Funding for 1997 - DOE

Path Forward -

OTHER ISSUES

SCHEDULE NEXT MEETING

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Robert J Kanick
1333 Pine St #1
Boulder, CO 80302-4840

October 28, 1997

Tim Holeman
2282 Bellaire
Denver, CO 80207

Hank Stovall
1115 Ash St
Broomfield, CO 80020

Subject: Rocky Flats Soil Action Levels (SALs) Independent Review

Dear Gentlemen,

I wanted to express more fully the concern I expressed during the recent meeting concerning the independent review of the Rocky Flats soil action limits (SALs) because I feel that it is important that everyone involved be aware of this issue

It has been my impression that people have three main concerns regarding the current interim SALs and/or the analysis used to generate them

1 The applicability of the RESRAD model to the Rocky Flats situation
2 The adequacy or appropriateness of the model inputs and, in particular, their conservatism
3 The magnitude of the limits themselves (e g 561 pCi/gm just *seems* too high)

If defined thoroughly and thoughtfully in advance, this independent review should be able to address each of these concerns However, to ensure this we must be careful not to fall into the common trap of having to interpret the results of such a study With this I mean that we must define what we are seeking to know and, in fact, what we're willing to accept and get as broad an acceptance to this before the independent review is done I believe this will require the technical consideration which I discuss below

In my opinion, determining the applicability of the RESRAD model (item 1 above) or any other model should be a fairly straightforward and definitive task A technically competent organization should be able to tell us, if not which model is best, which model or models are adequate and applicable to the task

However, with regard to items 2 and 3 above, I believe that no additional study or independent review will be successful in satisfying these concerns unless we decide <u>up front</u> what kind of study we want done I say this because it is not something that can be determined by an outside organization An independent body can tell us the validity of models and inputs, but they cannot tell us how these inputs should be applied unless we give them adequate guidance This is why I feel that it is imperative that as many technical people as possible are involved in the definition of this independent review By way of the following descriptions, let me try to explain what I mean by this

I am aware of four principal methods which can be employed to perform or critique such an analysis Briefly, and in simple terms, these are

Best Estimate Method
This is just that, a best estimate of which SALs will yield the limiting doses The inputs for such an analysis are chosen based on their highest likelihood or, very often, the mean value, with some

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uncertainty applied For example, if there were an even chance that the wind will be either 5 or 10 mph, such a study would assume a value of 7 5 mph plus some measurement uncertainty Such an analysis is generally not used for this type of limit determination and probably wouldn't be acceptable to many people anyway

Conservative Method:
This type of analysis requires more judgment of the inputs than best estimate for the level of conservatism must be defined It involves choosing input values which will intentionally produce lower SALs For example, if there is an even chance that the wind will be 5 or 10 mph, one would choose the 10 mph wind if it is known that it would cause higher doses and therefore lower the resulting SALs As near as I can interpret from various reviews, the current SALs analysis was done with a *moderately* conservative methodology

Bounding Method:
This type of analysis involves choosing input values which are at their absolute maximums or minimums so as to achieve the lowest possible resulting SALs For example, if the wind is almost always 5 or 10 mph, but it is known to reach as high as 90 mph, this type of analysis would use the 90 mph value The problem with this method is that it will likely yield limits which are BELOW background levels The reason this happens is because the combination of all of the worst case inputs is almost completely unrealistic to assume The people and organizations which are striving for this type of analysis must be made aware of the unreasonableness of this approach in its pure form

Probabilistic Risk Assessment (PRA) Method
This method combines the principles of the first two methods into a very technically defensible analysis In this method, the model is run a large number of times (many thousands and sometimes millions of cases are not uncommon) and the inputs are allowed to vary randomly over a range of their known behavior just as they do in nature For example, if the wind is known to be 5 mph for 15 days/month, 10 mph for 10 days/month, and 25 mph for 5 days/month, then the selection of this input over the course of the many thousands of cases will reflect this distribution The result of this type of analysis is a distribution of SALs which can then be evaluated conservatively by selecting the limits given a standard statistical 95% or 99% confidence level In other words, we can select the SALs which , with a high degree of probability, will ensure that the dose limits are not exceeded

PRA is the methodology which is increasingly being adopted by the nuclear power industry to perform their safety analyses because it reflects the most realistic assessment of the risks posed by a given event It is highly suited for setting the Rocky Flats SALs and, in my opinion, the best choice because if the inputs are defined appropriately, it takes the guess work and interpretation out of the results

By these descriptions, I hope it becomes apparent to everyone involved that no independent organization can tell us which of these is what should be done when critiquing the SALs Also, it is probable that we would choose a method different from what was used for the current SALs In this case, it seems most efficient that we simply ask the chosen organization to perform a new calculation Therefore, I believe that as many people as possible need to understand these methodological concepts <u>before</u> the review or recalculation to ensure that the results will address the widest range of concerns If it is felt that this issue is still not clear, I would be happy to make a brief clarifying presentation to the working group

Sincerely,

Bob Kanick

Bob Kanick

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Sunday Camera
January 7, 1996

Rocky Flats 'Vision' ignores citizens' group

By LEROY MOORE

The Department of Energy, the Colorado Department of Public Health and Environment and the Environmental Protection Agency recently released a "Vision" proposing a dirty closure of Rocky Flats — things like creating a nuclear waste dump on the site eight miles south of Boulder, burying contaminated buildings and inadequate cleanup This Vision disregards recommendations offered last June by the Rocky Flats Future Site Use Working Group, a citizen body created by DOE to tell it what the public wants at Rocky Flats now that DOE no longer makes nuclear bombs there

Inclusive of a broad cross-section of public interests, the Working Group's mission was to make recommendations for the future use of the Rocky Flats site Representatives of DOE, EPA and CDPHE participated throughout. In June, after a year of strenuous work, the group conveyed its hard-won consensus recommendations in the form of a final report

Its task done, the group disbanded, expecting soon to receive a formal response to its recommendations from DOE Now, six months later, Working Group members have just been told they will not receive the expected response Instead, they have been given the Vision statement

Group members are now wondering whether the time, money and energy put into their effort may have been for naught For, while the Vision acknowledges the existence of the Working Group's report and refers to "community preferences for land use," the Vision document itself flies in the face of the group's recommendations Consider

1) Contrary to anything in the Future Site Use Working Group's report, the Vision proposes that the current high-security plutonium processing area at Rocky Flats become a landfill containing low-level nuclear waste covered with a 130-acre cap Implicit in the Working Group report is the principle that no radioactive waste be buried on site From this it follows that any such waste remaining on site should be stored above ground in monitored, retrievable form — that is, not buried

2) The Working Group report presents a long-term vision of the site being returned to average background radiation levels when the technology to accomplish this in a cost-effective, environmentally sensitive manner is developed The Vision, by contrast, dismisses this in favor of cleanup only to levels required for industrial use and open space The Vision also, as noted, proposed further contamination of the site by turning parts of it into a landfill containing radioactive waste

In recommending eventual cleanup to average background levels, the Working Group was mindful that the technology to move toward this pristine condition on site is not now available at any cost The group nevertheless wanted to ensure that nothing is done on site to preclude the possibility of cleanup to this level at some future time This rules out further contamination of the site, while it also requires developing relevant cleanup technology It implies as well that the party responsible for the initial contamination — DOE — should not shirk its long-term responsibility to the people of the Denver area by abandoning the site prematurely

> Against the grain of everything contained in the Working Group report, the Vision proposes burying contaminated buildings on site.

3) Against the grain of everything contained in the Working Group report the Vision proposes burying contaminated buildings on site

4) The Working Group recommended that DOE purchase or protect all mineral rights to the whole Rocky Flats buffer zone to prevent future mining on the site The Vision statement says nothing on this subject

5) The Working Group recommended that industrial activity in the core area be restricted to cleanup and environmental technology The Vision would permit other activities

6) The Working Group recommended that most of the buffer zone be preserved as managed open space for environmental research and natural and cultural resource management The Vision document may permit some of this land to be sold for industrial development

7) The Working Group recommended that to guarantee cleanup of the site the federal government establish "a reliable funding mechanism, such as an earmarked, secure trust fund" The Vision says nothing on this topic, and instead seems to assume that current budget constraints should guide cleanup

Differences of this magnitude lead readily to the conclusion that those who produced the Vision document respected neither the letter nor the spirit of the Future Site Use Working Group s report Of course they worked behind closed doors without public participation — a pattern all too familiar at Rocky Flats

The Vision has come in for a barrage of criticism since its release Perhaps soon we will see a revised document presenting several alternatives for the future of Rocky Flats But this isn t good enough Any Vision meant to guide decisions about the Rocky Flats site should honor the following principles, all of which are either explicit or implicit in the recommendations of the Future Site Use Working Group

- Everything done at Rocky Flats should leave open the possibility that some day the site can be cleaned to average background radiation levels
- A concerted effort should be made to develop technology for cleanup of Rocky Flats
- Any nuclear waste remaining on site must be stored above ground in monitored, retrievable form
- Cleanup decisions must be driven by concern for the public health and long-term environmental integrity not by current budgetary constraints

These four principles should be honored in any Vision intended to guide decisions about the future of the Rocky Flats site To express your views on the Vision attend a public meeting with DOE officials at 7 p m Thursday at the Rocky Mountain Peace Center, 1520 Euclid in Boulder

(LeRoy Moore, Ph D , author of the Citizen's Guide to Rocky Flats and a consultant with the Rocky Mountain Peace Center in Boulder, was a member of the Rocky Flats Future Site Use Working Group)

Local Govt. request for participation

City of Broomfield

One DesCombes Drive, Broomfield Colorado 80020

Fax Cover Sheet

DATE	November 6, 1997
FROM	Kathy Schnoor, Environmental Services Phone 438-6363
TO	Distribution List
RE	Invitation - Rocky Flats Soil Action Level Review

		Fax No
Adams County Commissioners		659-0577
Adams County Administrator		659-0577
Boulder County Commissioners		441-4525
Boulder County Health Dept	Jeff Zayach	441-1468
Jefferson County Commissioners	Michelle Lawrence	271-8941
Jefferson County Administrator	Ron Holliday	271-8941
Jefferson County Health Dept	Ken Starr	271-5702
Arvada City Manager	Craig Kocian	431-3085
Arvada	Maria VanderKolk	431-3911
Arvada	Jim McCarthy	431-3969
Boulder City Manager	Stan Zemler	441-4478
Boulder	John Tayer	441-4478
Louisville Mayor	Tom Davidson	673-9043
Louisville City Manager	William Simmons	673-9043
Northglenn City Manager	Jim Landeck	450-8708
Northglenn	Kipp Scott	451-0994
Superior Town Manager	Bruce Williams	499-3677
Thornton City Manager	Jack Ethridge	538-7562
? Thornton	Bud Hart	288-0026
Westminster City Manager	Bill Christopher	430-1809
Westminster City Council	Sam Dixion	429-5113
Westminster	Mary Harlow	650-1643

cc Jeremy Karpatkin, DOE 966-3710

Number of pages including cover sheet 7

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

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City of Broomfield

ONE DESCOMBES DRIVE BROOMFIELD CO 80020 (303) 469 3301

November 6, 1997

Interested Local Units of Government

Over the last year, stakeholders adjacent to Rocky Flats have expressed concerns about the soil clean up standards established by the State of Colorado, the US DOE, and the US EPA In response to our concern, the US DOE has agreed to fund an independent scientific review of the standards and the models used to establish them Local governments have been asked to designate no more than six members to an oversight panel which will monitor the activities of a scientific contractor We are writing to ask of your interest in participating in the process Please nominate either a staff member or elected official from your community to be considered for panel membership Selected members will be required to designate an alternate

Attached is the current draft description of this project Your community's participation will likely require an average of one meeting per month for the next year Please contact Kathy Schnoor at the City of Broomfield at 438-6363 if you would like to have a member of your community considered for the panel

Sincerely,

Hank Stovall

Hank Stovall
Broomfield City Council

Attachment

cc Mayor William M Berens
Jeremy Karpatkin, US DOE

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Review of Radionuclides in Soils CleanupAction Level Modeling
Draft Project Description
October 31, 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 has agreed to support and fund a community-based advisory group to oversee an independent evaluation of radionuclide soil action levels The purposes of the evaluation are to independently analyze the soil cleanup action level (for transuranic elements in the soils at Rocky Flats and recommend changes as appropriate The evaluation will be conducted by acknowledged experts chosen by the panel

An oversight panel will be formed and will consist of a combination of local government, federal and state regulators, and interested citizens Over a twelve to fifteen month period - from the time of contract award - the group will, through CDPHE, contract with appropriate professional specialists to assess the appropriateness of the current RESRAD model and any alternative models

The results of this investigation and evaluation will be shared with the RFCA principals to provide additional guidance in the ongoing refinement of soil action levels and the design of 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 the contractor

2.0 Process and Administration

2.1 Project Administration

The Colorado Department of Public Health and Environment, through the office of the Rocky Flats Health Advisory Panel, will 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* 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 adhoc group after a public notice and review of candidates

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- Two members of the general public Representatives shall be selected by the interim adhoc group after a public notice and review of candidates
- One member of the RFCAB Member shall be nominated by the CAB

Ex-officio members U S Department of Energy
U S Environmental Protection Agency
Colorado Department of Public Health and Environment

An Interim adhoc 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 Peace and Justice Center (LeRoy Moore), CAB (Victor Holm and Ken Korkia), Ex-officio (DOE - Steve Slaten, Kaiser-Hill - Dave Shelton and John Corsi), CDPHE - Norma Morin and Ed Kray)

2.3 Selection of a Contractor(s)

The oversight panel shall oversee the refinement of the Principal Investigation and Evaluations Questions (described below - 3 0) to be addressed by outside contractors The panel shall utilize the expertise of a contractor or contractors to conduct the research needed to address the Principal Investigation and Evaluation Questions 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 the contractor

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, but when necessary work by the process of majority vote CDPHE will assist the panel in drafting the necessary documents and the RFP In addition to administrative services, CDPHE will plan and promote meetings serve as a 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.

2.5 Relationship to the Actinide Panel

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 on 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 Because the Actinide Panel is addressing the potential for surface water migration off-site, the Oversight Panel should coordinate 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 coordinate efforts as appropriate and that the oversight panel will be kept fully appraised of the activities and results of the actinide migration investigators

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 plutonium in Rocky Flats soils, including the RESRAD model? Analyze these models to determine which ones are best suited for the site-specific conditions of 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 associated dose and risk Each of these parameters should be commented upon as to distribution of possible values, from most conservative to least conservative (including a "reasonable" 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 and risk to soil action levels?

d What processes/models have been used to determine cleanup levels at other plutonium contaminated sites and do these processes/models 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 Cleanup Agreement, the RFCA principals agreed upon the current RSAL to establish interim soil action levels for radionuclides (primary 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 standard 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:** Recognizing the lead role of the actinide panel, stakeholders appreciate the potential for long-term off-site migration either through air, water or soil, and believe that a new or improved soils model should 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 Among others, choices include Best estimate method, conservative method, bounding method, and probabilistic risk assessment method Specifically, stakeholders are concerned that the 561pCi/gram action levels 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 activities and cleanup levels will allow for a future land use scenario of ??? This assumption, as well as off-site land use developments, provide an important backdrop for the application of a preferred model In addition, other issues 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 contractor 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 to 15 months from date of contract

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October to December, 1997	- Convening of oversight committee, refinement of scope of work and development and issuance of RFQ
January, 1998	- Award of contract
March to Dec, 1998	- Contractor performs scope of work with quarterly technical review meeting with the panel and the public
Jan to March, 1999	- Final report (Panel review and peer review)

6.0 Estimated Cost:

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

City of Broomfield

One DesCombes Drive, Broomfield Colorado 80020

Fax Cover Sheet

DATE November 11, 1997
FROM Kathy Schnoor, Environmental Services Phone 438-6363
TO Distribution List
RE Rocky Flats Soil Action Ad-Hoc Meeting - November 19, 1997

		PHONE	FAX
Jackie Berardini	CDPHE	692-3472	782-0095
Jeff Ciocco Jim Fiore Ray Greenberg	DOE HQ	(301) 903-7459	(301) 903-3877
John Corsi	Kaiser Hill	966-6526	966-6153
Sam Dixion	City of Westminster	426-1202	429-5113
Joe Goldfield	RFCAB-SNM	321-7276	
Mary Harlow	City of Westminster	430-2400 x 2174	650-1643
Tim Holeman	City of Broomfield	355-5492	355-5530
Victor Holm	RFCAB	989-9086	980-9076
Bob Kanick	RFCAB	444-0049	444-0072
Jeremy Karpatkin	DOE	966-2080	966-6633
Ken Korkia	RFCAB	420-7855	420-7579
Edd Kray	CDPHE	966-2115	966-5449
Tom Marshall	RFCAB	444-6981	444-6523
LeRoy Moore	RMPJC	444-6981	444-6523
Dr Norma Morin	CDPHE	692-2645	782-0188
Tim Rehder	EPA	312-6293	312-6067
Jessie Roberson	DOE/RFFO	966-2025	966-6054
Kathy Schnoor	City of Broomfield	438-6363	438-6234
Dave Shelton	Kaiser Hill	966-9877	966-5001
Steve Slaten	DOE	966-4839	966-3710
Hank Stovall	City of Broomfield	466-5986	469-8554
Steve Tarlton	CDPHE	692-3423	782-4969

Number of pages including cover sheet 8

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

Due to transmission error I am re-FAXing - Sorry for the inconvenience. KS

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F-A-X M-E-M-O-R-A-N-D-U-M
November 11, 1997

TO Soil Action Level Ad-Hoc Group

FROM Hank Stovall, Broomfield Council Member (466-5986)
Kathy Schnoor, City of Broomfield (438-6363)

RE Soil Action Level Ad-Hoc Meeting - November 19, 1997

Please find the attached RSAL independent study draft project description This latest draft version includes the edits discussed at the November 4th meeting of the sub-committee Bob Kanick submitted some additional comments for consideration They are attached as well The current draft will be discussed at a meeting scheduled for November 19, 1997 from 11 00 AM to 1 30 PM at Broomfield City Hall Zang's Spur Conference Room (in the basement) Please bring a brown bag lunch

Proposed Agenda

Introductions

Topics to be Covered
- Draft Project Description
- Project Timeline
- Options for Project Funding
- Oversite Panel Membership
  - appointments by local governments, public interest groups, etc
  - selection process for technical/scientific members and general public members
- Peer Review Process
- Public Participation Process
- Role of CDPHE clarified
  - contracting
  - meeting facilitation

Other Issues

- Update on NAS review of 15/85 mrem dose levels

Next Meeting- date, time, location

Adjourn 1 30 PM

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Review of Radionuclides in Soils CleanupAction Level Modeling
Draft Project Description
(Corrected Version II) November 11, 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 has agreed to support and fund a community-based advisory group to oversee an independent evaluation of radionuclide soil action levels The purposes of the project are 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 as appropriate 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, but 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 the 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 adhoc 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 adhoc group after a public notice and review of candidates
- One member of the RFCAB Member shall be nominated by the CAB

Ex-officio members U S Department of Energy
U S Environmental Protection Agency
Colorado Department of Public Health and Environment

An Interim adhoc 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 Peace and Justice Center (LeRoy Moore), CAB, (Tom Marshall and Ken Korkia), Victor Holm and Robert Kanick), Ex-officio (DOE - Steve Slaten Kaiser-Hill - Dave Shelton and John Corsi) CDPHE (Norma Morin and Ed Kray)

2.3 Selection of a Contractor(s)

The oversight panel shall oversee the refinement of the Principal Investigation and Evaluations Questions (described below - 3 0) to be addressed by outside contractors 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 special issues 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 the contractor, including design of peer review processes

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 should design a public participation process, and a stakeholder participation process which ensures

early input from interested stakeholders CDPHE will assist the panel in drafting the necessary documents and the RFP In addition to administrative and coordinating 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 Cleanup Agreement, the RFCA principals agreed upon the current RSAL to establish interim soil action levels for radionuclides (primary plutonium and americium) to be protective of people using Rocky Flats after site closure The RSAL did not consider off-site

37

5

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 standard 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 on 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 coordinate 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 coordinate 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 651pCi/gram of plutonium in combination with 117 pCi/gram of Americium 241 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 activities and cleanup levels will be sufficient to allow for a pre-determined future land use For comparative purposes, review of the models should also consider the impact of a range of reasonably foreseeable land uses

This assumption, as well as off-site land use developments, provide an important backdrop for the application of a preferred model In addition, other issues

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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 contractor 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 to 15 months from date of contract
October to December, 1997	- Convening of oversight committee, refinement of scope of work and development and issuance of RFQ
January 1998	- Award of contract
March to Dec, 1998	- Contractor performs scope of work with quarterly technical review meeting with the panel and the public
Jan to March 1999	- Final report (Panel review and peer review)

6.0 Estimated Cost:

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

TELEFAX

Date: 11/07/97

To: Tim Holeman **Fax:** (303) 355-5530
From: Bob Kanick **Fax:** (303) 444-0072

Reference ID: n/a **Pages (incl.):** 1
Subject: SALs independent review draft scope

Dear Tim

Here are my comments regarding the draft project description for the SAL review In general I feel that to avoid endless wordsmithing of this charter less is more So if you were to ask me I d make things as minimally objectionable to everyone as possible (i e , generic) and remove whatever seems to detailed for what should be a broad statement of our goals Just a thought

I do however have the following recommendations

1 With respect to item (3 0 b), remove the mention of " and risk" Risk has to do with the setting of dose limits and is a completely different analysis (which the DOE has stated will not be re-reviewed - and I agree it has no place here)

2 Also with respect to item (3 0 b) since there was some confusion and disagreement regarding the phrase (including a "reasonable" value)' I would suggest the phrase "(including what can be considered a "most probable or "best estimate)" value which, contrary to the disagreement at the last meeting, are basically the same thing

3 With respect to item (3 0 c) I would again remove the reference to risk for the same reason above

4 In section 3 0 the items have a certain flow Therefore I would put item (3 0 d) before item (3 0 b)

5 Finally, with respect to item (4 4), I appreciate your trying to encapsulate the thought in my letter and in fact, I think you did so with the first sentence Therefore, I would recommend deleting from "Among others " to the end of the paragraph However if you think it aids clarity, I would add the following sentence "The method or methods to be used (e g best estimate conservative bounding, probabilistic risk assessment) are to be justified by the contractor and agreed upon in advance with the oversight panel"

I hope these are helpful But again, in my opinion I would simplify this document as much as possible so that we can proceed to the details of defining the independent review itself

Sincerely,

Bob Kanick

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City of Broomfield

One DesCombes Drive, Broomfield Colorado 80020

Fax Cover Sheet

DATE November 11, 1997
FROM: Kathy Schnoor, Environmental Services Phone 438-6363
TO Distribution List
RE Rocky Flats Soil Action Ad-Hoc Meeting - November 19, 1997

		PHONE	FAX
Jackie Berardini	CDPHE	692-3472	782-0095
Jeff Ciocco, Jim Flore, Ray Greenberg	DOE HQ	(301) 903-7459	(301) 903-3877
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Mary Harlow	City of Westminster	430-2400 x 2174	650-1643
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Jeremy Karpatkin	DOE	966-2080	966-6633
Ken Korkia	RFCAB	420-7855	420-7579
Edd Kray	CDPHE	966-2115	966-5449
Tom Marshall	RFCAB	444-6981	444-6523
LeRoy Moore	RMPJC	444-6981	444-6523
Dr Norma Morin	CDPHE	692-2645	782-0188
Tim Rehder	EPA	312-6293	312-6067
Jessie Roberson	DOE/RFFO	966-2025	966-6054
Kathy Schnoor	City of Broomfield	438-6363	438-6234
Dave Shelton	Kaiser Hill	966-9877	966-5001
Steve Slaten	DOE	966-4839	966-3710

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Steve Slaten	DOE	966-4839	966-3710
Hank Stovall	City of Broomfield	466-5986	469-8554
Steve Tarlton	CDPHE	692-3423	782-4969

Number of pages including cover sheet 8

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

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F-A-X M-E-M-O-R-A-N-D-U-M
November 11, 1997

TO. Soil Action Level Ad-Hoc Group

FROM. Hank Stovall, Broomfield Council Member (466-5986)
Kathy Schnoor, City of Broomfield (438-6363)

RE Soil Action Level Ad-Hoc Meeting - November 19, 1997

Please find the attached RSAL independent study draft project description This latest draft version includes the edits discussed at the November 4th meeting of the sub-committee Bob Kanick submitted some additional comments for consideration They are attached as well. The current draft will be discussed at a meeting scheduled for November 19, 1997 from 11:00 AM to 1:30 PM at Broomfield City Hall Zang's Spur Conference Room (in the basement) Please bring a brown bag lunch.

Proposed Agenda

Introductions

Topics to be Covered:

- Draft Project Description
- Project Timeline
- Options for Project Funding
- Oversite Panel Membership
    - appointments by local governments, public interest groups, etc
    - selection process for technical/scientific members and general public members

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members

- Peer Review Process
- Public Participation Process
- Role of CDPHE clarified
  - contracting
  - meeting facilitation

Other Issues

- Update on NAS review of 15/85 mrem dose levels

Next Meeting- date, time, location

Adjourn 1 30 PM

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11/11/97 TUE

Review of Radionuclides in Soils CleanupAction Level Modeling
Draft Project Description
November ~~11~~ 4, 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 has agreed to support and fund a community-based advisory group to oversee an independent evaluation of radionuclide soil action levels The purposes 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 as appropriate The evaluation will be conducted and peer reviewed by acknowledged experts chosen by an independent oversight panel

A thirteen 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, but will attempt to integrate the Actinide Panel's analysis of the movement, mobility and fate of radionuclides from on-site soils

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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 the 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, [illegible] 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

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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 adhoc 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 adhoc group after a public notice and review of candidates
- One member of the RFCAB Member shall be nominated by the CAB

Ex-officio members U.S. Department of Energy
U S Environmental Protection Agency
Colorado Department of Public Health and Environment

An Interim adhoc 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 Peace and Justice Center (LeRoy Moore), CAB, (Tom Marshal and Ken Korkia); Victor Holm and Robert Kanick); Ex-officio (DOE - Steve Slaten; Kaiser-Hill - Dave Shelton and John Corsi); CDPHE (Norma Morin and Ed Kray)

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2.3 Selection of a Contractor(s)

2.3 Selection of a Contractor(s)

The oversight panel shall oversee the refinement of the Principal Investigation and Evaluations Questions (described below - 3.0) to be addressed by outside contractors 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 special issues An RFP will be issued and the panel, with the assistance of CPWMG, will select a winning proposal and negotiate a final scope of work with the winning the contractor, including design of peer review processes

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 should

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design a public participation process, and a stakeholder participation process when ensures early input from interested stakeholders. CDPHE will assist the panel in drafting the necessary documents and the RFP In addition to administrative and coordinating 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 at other radionuclide contaminated sites and do these processes/models 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 Cleanup Agreement, the RFCA principals agreed upon the current RSAL to establish interim soil action levels for radionuclides (primary plutonium and americium) to be protective of people using Rocky Flats after site closure The RSAL did not consider off-site

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a backdrop for the final design of the scope of work

4.1 **Establishment of the RSAL:** Under the Rocky Flats Cleanup Agreement, the RFCA principals agreed upon the current RSAL to establish interim soil action levels for radionuclides (primary 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 standard 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:** Recognizing the lead role of the actinide panel, stakeholders appreciate the potential for long-term off-site migration either through air, water or soil, and believe that a new or improved soils model should 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 Among others, choices include: Best estimate method conservative method, bounding method, and probabilistic risk

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method, conservative method, bounding method, and probabilistic risk assessment method Specifically, stakeholders are concerned that the 561pCi/gram action levels is high Likewise, DOE is concerned that maximizing the conservatism of all input parameters could result in a model that lacks "reasonableness"

4.5 **Uniquie Site Specific Conditions:** The RFCA operates under the assumption that cleanup activities and cleanup levels will allow for a future land use scenario of ???? This assumption, as well as off-site land use developments, provide an important backdrop for the application of a preferred model In addition, other issues 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

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appropriateness of the model inputs

4.6 **Quality Assurance:** Quality assurance is critical to ensure that the contractor 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 protocals.

5.0 Timeline:

General Timeline	- 12 to 15 months from date of contract.
October to December, 1997	- Convening of oversight committee; refinement of scope of work and development and issuance of RFQ
January, 1998	- Award of contract.
March to Dec, 1998	- Contractor performs scope of work with quarterly technical review meeting with the panel and the public
Jan to March, 1999	- Final report (Panel review and peer review)

6.0 Estimated Cost:

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

11/10/97 MON

TELEFAX

Date: 11/07/97

To: Tim Holeman **Fax:** (303) 355-5530
From: Bob Kanick **Fax:** (303) 444-0072

Reference ID: n/a **Pages (incl.):** 1
Subject: SALs independent review draft scope

Dear Tim,

Here are my comments regarding the draft project description for the SAL review In general I feel that, to avoid endless wordsmithing of this charter, less is more. So, if you were to ask me I'd make things as minimally objectionable to everyone as possible (i.e., generic) and remove whatever seems to detailed for what should be a broad statement of our goals Just a thought

I do however have the following recommendations.

1 With respect to item (3.0 b), remove the mention of "and risk" Risk has to do with the setting of dose limits and is a completely different analysis (which the DOE has stated will not be re-reviewed - and I agree it has no place here)

2 Also with respect to item (3 0 b), since there was some confusion and disagreement regarding the phrase "(including a "reasonable" value)" I would suggest the phrase "(including what can be considered a "most probable" or "best estimate")" value, which, contrary to the disagreement at the last meeting, are basically the same thing

3 With respect to item (3 0 c), I would again remove the reference to risk for the same reason above.

4 In section 3 0, the items have a certain flow Therefore I would put item (3 0 d.) before item (3 0 b).

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5 Finally, with respect to item (4.4), I appreciate your trying to encapsulate the thought in my letter and, in fact, I think you did so with the first sentence Therefore, I would recommend deleting from "Among others, " to the end of the paragraph However, if you think it aids clarity, I would add the following sentence "The method or methods to be used (e.g., best estimate conservative, bounding, probabilistic risk assessment) are to be justified by the contractor and agreed upon in advance with the oversight panel"

I hope these are helpful But again, in my opinion, I would simplify this document as much as possible so that we can proceed to the details of defining the independent review itself

Sincerely,

Bob Kanick

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Nov. 11, 1997 – SAL Review Group

NAME	ORGANIZATION	ADDRESS	PHONE/FAX
[illegible] Stovall	CITY OF BROOMFIELD	1115 ASH ST	466-5986/469-8554
Tom Marshall	RFCAB	P.O. Box 1115 Bldr 80306	444-6981/444-0523
Ken Korkia	CAB	9035 Wadsworth Pkwy Suite 2250 Westminster 80021	420-7855/7579
BOB KANICK	RFCAB	1333 PINE ST #1 BOULDER, CO 80302	444-0049/444-0076
Mary Harbor	City of Westminster	" on record "	" on record "
Sam Dixion	"	9217 Ingalls St West. CO 80030	426-1202 FAX-429-5813
KATHY SCHNOOK	CITY OF BROOMFIELD	ONE DESCOMBES DR BROOMFIELD, CO 80020	438-6363/438-6234
John Corsi	Kaiser-Hill	P.O. Box 464, T117A Golden, CO	966-6526/6153
Steve Slaten	DOE	"	966-4839/3410
Dave Shelton	K-H	RFETS	966-9877/5001
Jeremy Harpatten	DOE/AFO	AFETS	966 2080/6633
[illegible] KRAY	CDPHE	"	966-2115/5449
Jackie Berardini	CDPHE	CDPHE OPPI	692 3472
LeRoy Moore	RMPJC	Box 1156 Bldr 80306	444-6981/444-6523
Tim Holeman	Broomfield	2282 Bellaire St Denver, CO 80207	355-5492/5530
[illegible]	EL	[illegible]	[illegible]
Joe Goldfield	CAB-SNM	129 Elm St Denver, CO 80220	303-321-7276

City of Broomfield

One DesCombes Drive, Broomfield Colorado 80020

Fax Cover Sheet

DATE	November 14, 1997		
FROM	Diane Eismann, Public Works	Phone	438-6360
TO	Distribution List		
RE	Rocky Flats Soil Action Level Review Ad-Hoc Committee		

David Boon, Front Range Community College	466-1623
Robert Duprey, Duprey Environmental	293-8260
James "Skip" Spensley, JSC/Spensley	623-3130
Robert Gardner Consultants	970-248-9096
William Riebsame, Dept of Geo	492-7501
Tibor Rozgonyi, Colorado School of Mines	273-3719
Neils D Schonbeck, PhD, Metro State College	494-0879
University of Colorado at Boulder	492-1414 Dr Robert Sievers
Colorado State University	970-491-0564 Jean/Main Ofc
Metro State College of Denver	556-5399 Dr Gerhard Lind
University of Denver	871-3223 Helen Cahill
University of Colorado at Denver	556-2368 Dr N Y Chang
Colorado School of Mines	273-3629 Dr Stephen R Daniel

Number of pages including cover sheet 3

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City of Broomfield

ONE DESCOMBES DRIVE BROOMFIELD CO 80020 (303) 469-3301

November 14, 1997

TO Distribution

FROM Rocky Flats Soil Action Level Review Ad-Hoc Committee

The U S Department of Energy will fund an independent scientific review of the clean up standards for radionuclides in soils at the Rocky Flats Environmental Technology Site An ad hoc oversite panel is forming to guide and evaluate the scientific contractor in its evaluation The ad hoc panel has three seats reserved for individuals with scientific and technical expertise in this area Individuals interested in volunteering to participate on the oversite panel are asked to submit a letter of interest and a resume by November 21, 1997, to the following address

Diane Eismann
Department of Public Works
City of Broomfield
One Des Combes Drive
Broomfield, CO 80020

For your information, please call (303) 469-3301 x7901

Attachment

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Soil Action Level Review Information

The U S Department of Energy is funding a study to review the Soil Action Levels established for clean-up of contaminated soil at the Rocky Flats Environmental Technology Site The Interim Soil Action Levels were agreed to by DOE, EPA and the state in the Rocky Flats Clean-up Agreement Due to public concern, DOE has agreed to fund an independent scientific review of the soil action levels and the methodology used to develop them An Ad-Hoc committee was convened in September to discuss the process for the independent review It was decided that an oversite panel should be formed to guide the process

The Oversite Panel s duties will include

- define a public participation process for the review,
- define the Scope of Work and release a Request for Proposals for a contractor.
- review proposals, interview and select the independent contractor.
- oversee the progress of the review,
- evaluate the contractors submittals
- make recommendations back to the principals of the Rocky Flats Cleanup Agreement regarding Soil Action Levels

The Oversite Panel will have representatives from local governments, public interest groups, technical experts, Rocky Flats Citizens Advisory Board, and members of the general public The panel will not be paid It is anticipated that the panel will require a substantial time commitment early in the process and at least monthly meetings for approximately one year after the contractor is hired.

If you are interested in serving on the Soil Action Level Oversite Panel, please send a resume by November 21, 1997 Please include dates you would be available for an interview, if interviews become necessary Send resumes to the City of Broomfield, One DesCombes Drive, Broomfield, CO 80020 Attention Diane Eismann Applicants will be contacted with the selection results by December 5 The first meeting of the oversite panel is expected in early December

COLORADO CENTER FOR ENVIRONMENTAL MANAGEMENT
BOARD OF DIRECTORS
October/97

Laura Belsten
Belsten & Associates
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Lakewood, Colorado 80126-4433
[redacted]

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Cynthia Schmidt
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Western Governors' Association
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Mervyn Tano
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Grand Junction, Colorado 81503
[redacted]

Howard Kenison
Doherty Rumble & Butler
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Denver, Colorado 80202
[redacted]

Edward Lee
[redacted]

Frazer Lockhart
US DOE/ Rocky Flats
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Golden, Colorado 80402
[redacted]

William Riebsame
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Boulder, Colorado 80309-0260
[redacted]

Tibor Rozgonyi
Colorado School of Mines
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Golden, Colorado 80401
[redacted]

Patrick Teegarden
CDPHE, Executive Offices A5
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Denver Colorado 80222-1530
[redacted]

Carol Tombari
NREL
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Golden, Colorado 80401
[redacted]

Madeline Williams
NABE
420 Zang # 3-201
Lakewood, Colorado 80228
[redacted]

Doug Young
Office of the Governor
136 State Capital Building
Denver, Colorado 80203
[redacted]

Ed Lee's Home Address:
1207 Kennedy Avenue
Louisville, Colorado 80027
[redacted]

Niels D Schonbeck, Ph.D
Metro State College
FAX → K, 405
Attn Niels [illegible]
[redacted]
[redacted]
(Kit O'Brien - CDPHE know
682-2649)

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ROCKY FLATS CITIZENS ADVISORY BOARD

An Advisory Board to the U S Department of Energy

November 14, 1997

Soil Action Level Review Interim Planning Group
c/o Hank Stovall
Councilor, City of Broomfield
1115 Ash Street
Broomfield, CO 80020

Dear Members

At its November monthly meeting, the Rocky Flats Citizens Advisory Board discussed the issue of having a sole representative from CAB serve as a member of the Oversight Panel for the Independent Soil Action Level Review Because of the broad diversity of its membership, CAB does not believe it best to send a sole representative who would be expected to speak for the Board As you know, CAB operates by consensus of its membership, and without benefit of real-time consultation on issues which may arise during the progress of the Soil Action Level review, it would be difficult for a single individual to represent CAB

CAB does believe that the participation of its members on an individual basis would be valuable for the Oversight Panel and the integrity of the Soil Action Level review Through their participation on CAB, the members have a firm understanding of the many issues which will confront the Oversight Panel during the conduct of the Soil Action Level review With the currently proposed membership breakdown, CAB does not believe the Oversight Panel will have adequate representation from members of the community Therefore, CAB recommends that the number of seats available for members of the community be increased In addition, we ask that special consideration for Oversight Panel membership be given to CAB members who have demonstrated interest and understanding of the Soil Action Level issues

As work progresses in establishing the Oversight Panel, CAB urges that a well-conceived public involvement plan be implemented as an integral part of the Soil Action Level review This plan must be in place at the start of the review to allow for maximum input by members of the public Further, CAB recommends that all meetings of the Oversight Panel be held at times convenient for members of the public who wish to attend and participate

CAB believes that the work of the Oversight Panel and the conduct of the Soil Action Level review will be some of the most important activities which will occur at Rocky Flats in establishing a cleanup that is protective not only for ourselves, but for future generations as well We urge the Interim Planning Group to consider and incorporate our recommendations, as we believe they will help ensure a review process that is acceptable to all entities and individuals concerned with the cleanup of Rocky Flats If you have questions concerning these recommendations or wish to discuss any of these matters, please contact me at 444-6981

Sincerely,

Tom Marshall

Tom Marshall
Chair

9035 Wadsworth Parkway Suite 2250 • Westminster, Colorado 80021 • 303-420-7855 • Fax 303-420-7579

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TO Adhoc Committee Members

FROM: Sam Dixion, Mayor Pro Tem, City of Westminster
Mary Harlow, Rocky Flats Coordinator, City of Westminster

SUBJECT: City of Westminster Comments on Draft Project Description for review of Soil Action Levels

---

1.0 PROJECT DESCRIPTION AND PRODUCT

The purposes 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 plutonium and americium at the Rocky Flats Environmental Technology Site 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 as well as the 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

A thirteen member oversight panel consisting of six local government representatives, two each from the scientific community, environmental groups, local residents and one potential Citizens Advisory Board will be convened. Ex-officio members will consist of one representative each from the Colorado Department of Health and Environment, the Environmental Protection Agency, Department of Energy and Kaiser Hill, the Integrating Contractor

The results and recommendations of the scientific review panel will be incorporated into the RFCA .

2.2 Establishment of the Oversight Panel.

The community based- oversight panel will serve as volunteers The panel shall be called the

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two members of the general public Applicants who reside within the ten mile downwind radius of the site will be given preference

An interim ad hoc group consisting of the following CAB Ken Korkia staff, Victor Holm interested citizen

2.5....paragraph needs to be reworked it is narrative.

4.0 Special Issues

4 1 Establishment of the RSAL should be spelled office add the scenarios future office worker industrial area, resident in the buffer zone should institutional controls fail A determination as to whether the entire site should be cleaned up to a future resident scenario in order to protect the downwind communities should be made

4 4 Input Parameters

Should read 651 pCi/gram instead of 561

4.5 Unique Site Specific Conditions

This again is a narrative We are looking for a scientific review not a sociological study These issues should not come under the scope of this review At this point Prebles mouse habitat questions, flow through of site surface water, groundwater remediation modeling for impacts on surface water, future site use reuse, building disposition, offsite waste disposal have not been resolved I suggested we delete this section

Cost should not exceed $800,000.

Timeline should not exceed one year.

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11/19/97

Status on Recruitment of Oversight Panel Members

Based on the discussion at the October meeting, Broomfield volunteered to co-ordinate the outreach for Oversite Panel members for 3 categories including 6 local government seats, 3 scientific/technical (including one HAP member) and 2 general public The attached information was FAXed to recruit members for the Oversight Panel

Attachment 1- Local Government solicitation (FAX distribution)
Attachment 2 - Scientific/Technical solicitation (FAX distribution)
Attachment 3 - General Public solicitation (Closure announcement-newsletter distribution includes over 1000 names)
Attachment 4 - Information Line Message (303-469-3301 x7901)- calls logged to date (30 calls)

This recruitment effort resulted in the following responses

- Local Government responses — Broomfield, Westminster, Arvada, Louisville
- Technical/Scientific responses — none to date
- General Public responses — 3 resumes received

It was not expressly stated how the public interest groups would be filling the seats reserved for public interests It was discussed that they would have their own process to agree upon Oversight Panel members

Attachment 5 is a letter from the RFCAB declining a position on the Oversite Panel

Joel Sibbin -
Jack Krasnewer (for CAB)

* Newspaper Ad - Cities Brmfld
Dec 12 Arvada
neighborhood news Westy
Chuck Kiewgl

66 * Headline to Grab attention
1st 5 pgs on left hand side

City of Broomfield

One DesCombes Drive, Broomfield Colorado 80020

Fax Cover Sheet

DATE	November 6, 1997		
FROM	Kathy Schnoor, Environmental Services	Phone	438-6363
TO	Distribution List		
RE	Invitation - Rocky Flats Soil Action Level Review		

		Fax No
Broomfield City Council	Frank Stovall	
Adams County Commissioners		659-0577
Adams County Administrator		659-0577
Boulder County Commissioners		441-4525
Boulder County Health Dept	Jeff Zayach	441-1468
Jefferson County Commissioners	Michelle Lawrence	271-8941
Jefferson County Administrator	Ron Holliday	271-8941
Jefferson County Health Dept	Ken Starr	271-5702
Arvada City Manager	Craig Kocian	431-3085
Arvada	Maria VanderKolk	431-3911
Arvada	Jim McCarthy	431-3969
Boulder City Manager	Stan Zemler	441-4478
Boulder	John Tayer	441-4478
Louisville Mayor	Tom Davidson	673-9043
Louisville City Manager	William Simmons	673-9043
Northglenn City Manager	Jim Landeck	450-8708
Northglenn	Kipp Scott	451-0994
Superior Town Manager	Bruce Williams	499-3677
Thornton City Manager	Jack Ethridge	538-7562
Thornton	Bud Hart	288-0026
Westminster City Manager	Bill Christopher	430-1809
Westminster City Council	Sam Dixion	429-5113
Westminster	Mary Harlow	650-1643

cc Jeremy Karpatkin, DOE 966-3710

Number of pages including cover sheet. 7

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

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City of Broomfield

One DesCombes Drive, Broomfield Colorado 80020

Fax Cover Sheet

DATE	November 14, 1997		
FROM	Diane Eismann, Public Works	Phone	438-6360
TO	Distribution List		
RE	Rocky Flats Soil Action Level Review Ad-Hoc Committee		

David Boon, Front Range Community College	466-1623
Robert Duprey, Duprey Environmental	293-8260
James "Skip" Spensley, JSC/Spensley	623-3130
Robert Gardner Consultants	970-248-9096
William Riebsame, Dept of Geo	492-7501
Tibor Rozgonyi, Colorado School of Mines	273-3719
Neils D Schonbeck, PhD, Metro State College	494-0879
University of Colorado at Boulder	492-1414 Dr Robert Sievers
Colorado State University	970-491-0564 Jean/Main Ofc
Metro State College of Denver	556-5399 Dr Gerhard Lind
University of Denver	871-3223 Helen Cahill
University of Colorado at Denver	556-2368 Dr N Y Chang
Colorado School of Mines	273-3629 Dr Stephen R Daniel

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

69

Soil Action Level Review Information

The U S Department of Energy is funding a study to review the Soil Action Levels established for clean-up of contaminated soil at the Rocky Flats Environmental Technology Site The Interim Soil Action Levels were agreed to by DOE, EPA and the state in the Rocky Flats Clean-up Agreement Due to public concern, DOE has agreed to fund an independent scientific review of the soil action levels and the methodology used to develop them An Ad-Hoc committee was convened in September to discuss the process for the independent review It was decided that an oversite panel should be formed to guide the process

The Oversite Panel's duties will include

- define a public participation process for the review,
- define the Scope of Work and release a Request for Proposals for a contractor,
- review proposals, interview and select the independent contractor,
- oversee the progress of the review,
- evaluate the contractors submittals
- make recommendations back to the principals of the Rocky Flats Cleanup Agreement regarding Soil Action Levels

The Oversite Panel will have representatives from local governments, public interest groups, technical experts, Rocky Flats Citizens Advisory Board, and members of the general public The panel will not be paid It is anticipated that the panel will require a substantial time commitment early in the process and at least monthly meetings for approximately one year after the contractor is hired.

If you are interested in serving on the Soil Action Level Oversite Panel, please send a resume by November 21, 1997 Please include dates you would be available for an interview, if interviews become necessary Send resumes to the City of Broomfield, One DesCombes Drive, Broomfield, CO 80020 Attention Diane Eismann Applicants will be contacted with the selection results by December 5 The first meeting of the oversite panel is expected in early December

attachment to
FAX to universities

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Coming Soon...
forthcoming documents for public review and/or comment

- Environmental Management Program Plan
- Integrated Monitoring Plan

Notable Reading...
information available at the Rocky Flats Public Reading Room

- Draft - Accelerated Closure: Focus on 2006
- Health Studies on Rocky Flats, Briefing Book 29
- Safeguards and Security Periodic Survey Report for Kaiser-Hill Company, L.L.C.
- Surplus Plutonium Disposition Environmental Impact Statement
- Waste Isolation Pilot Plant Disposal Phase Final Supplemental Environmental Impact Statement

Let us hear from you...

We are always interested in your feedback. Only through your input can we be sure *Closure* is meeting our goal of keeping you informed about the activities with significant bearing on the Rocky Flats Closure Project.

If you would like additional information or have any questions about any of the topics covered in *Closure* please contact Michael Konczal DOE Communication, at (303) 966-5993, or Jack Hoopes, Kaiser-Hill Communication, at (303) 966-7412

Closure is a monthly publication produced by Kaiser-Hill Communication *Closure* is a summary of important information and activities associated with cleaning up and closing the Rocky Flats Environmental Technology Site *Closure* is available via fax, U S Mail and on the internet at

www rfets gov

To receive *Closure* directly, please contact Kaiser-Hill Communication at:

telephone	**(303) 966-8164**
fax	**(303) 966-6153**
e-mail	**dennis.connors@rfets.gov**

We invite you to visit Rocky Flats in person...

DOE Tours & Visits (303) 966-4546

...or on the web

General Public Notice

The U.S. Department of Energy will fund the formation of an ad hoc panel to oversee the work of a scientific contractor responsible for conducting an independent assessment of issues regarding radionuclides in soils at Rocky Flats. Individuals with some technical and/or scientific background who are interested in volunteering to participate on the panel are asked to submit a letter of interest and resume by November 14, 1997 to the attention of:

Dianne Eismann
Department of Public Works
City of Broomfield, One DeSombres Drive
Broomfield, CO 80020

For more information, please call (303) 469-3301 X7901

72

469-3301 x 7901

Thank you for calling the Soil Action Level Review Information Line (80 calls to date 11/19/97)

The U S Department of Energy is funding a study to review the Soil Action Levels established for clean-up of contaminated soil at the Rocky Flats Environmental Technology Site The Interim Soil Action Levels were agreed to by DOE, EPA and the state in the Rocky Flats Clean-up Agreement Due to public concern DOE has agreed to fund an independent scientific review of the soil action levels and the methodology used to develop them An Ad-Hoc committee was convened in September to discuss the process for the independent review It was decided that an oversite panel should be formed to guide the process

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This information will be updated weekly to reflect any changes in the timeline

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ROCKY FLATS CITIZENS ADVISORY BOARD

An Advisory Board to the U S Department of Energy

November 14, 1997

Soil Action Level Review Interim Planning Group
c/o Hank Stovall
Councilor, City of Broomfield
1115 Ash Street
Broomfield, CO 80020

Dear Members

At its November monthly meeting, the Rocky Flats Citizens Advisory Board discussed the issue of having a sole representative from CAB serve as a member of the Oversight Panel for the Independent Soil Action Level Review Because of the broad diversity of its membership, CAB does not believe it best to send a sole representative who would be expected to speak for the Board. As you know, CAB operates by consensus of its membership, and without benefit of real-time consultation on issues which may arise during the progress of the Soil Action Level review, it would be difficult for a single individual to represent CAB

CAB does believe that the participation of its members on an individual basis would be valuable for the Oversight Panel and the integrity of the Soil Action Level review Through their participation on CAB, the members have a firm understanding of the many issues which will confront the Oversight Panel during the conduct of the Soil Action Level review With the currently proposed membership breakdown, CAB does not believe the Oversight Panel will have adequate representation from members of the community Therefore, CAB recommends that the number of seats available for members of the community be increased In addition, we ask that special consideration for Oversight Panel membership be given to CAB members who have demonstrated interest and understanding of the Soil Action Level issues

As work progresses in establishing the Oversight Panel, CAB urges that a well-conceived public involvement plan be implemented as an integral part of the Soil Action Level review This plan must be in place at the start of the review to allow for maximum input by members of the public Further, CAB recommends that all meetings of the Oversight Panel be held at times convenient for members of the public who wish to attend and participate

CAB believes that the work of the Oversight Panel and the conduct of the Soil Action Level review will be some of the most important activities which will occur at Rocky Flats in establishing a cleanup that is protective not only for ourselves, but for future generations as well We urge the Interim Planning Group to consider and incorporate our recommendations, as we believe they will help ensure a review process that is acceptable to all entities and individuals concerned with the cleanup of Rocky Flats If you have questions concerning these recommendations or wish to discuss any of these matters, please contact me at 444-6981

Sincerely,

Tom Marshall

Tom Marshall
Chair

35 Wadsworth Parkway Suite 2250 • Westminster, Colorado 80021 • 303-420-7855 • Fax 303-420-7579

74

SAL Resumes Received

1 Joseph Goldfield

[redacted]

2 Dean Heil

[redacted]

3 Victor Holm

[redacted]

4 Robert J Kanick

[redacted]

5 Jack J Kraushaar

[redacted]

6 David E Ridenour PE

[redacted]

7 Niels D Schonbeck PhD

[redacted]

8 Joel Selbin

[redacted]

12-11-97

75

Thank you for calling the Soil Action Level Review Information Line

The U S Department of Energy is funding a study to review the Soil Action Levels established for clean-up of contaminated soil at the Rocky Flats Environmental Technology Site The Interim Soil Action Levels were agreed to by DOE, EPA and the state in the Rocky Flats Clean-up Agreement Due to public concern, DOE has agreed to fund an independent scientific review of the soil action levels and the methodology used to develop them An Ad-Hoc committee was convened in September to discuss the process for the independent review It was decided that an oversite panel should be formed to guide the process

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- make recommendations back to the RFCA (rifca) principals regarding Soil Action Levels

The Oversite Panel will have representatives from local governments, public interest groups, technical experts, Rocky Flats Citizens Advisory Board, and members of the general public The panel will not be paid It is anticipated that the panel will require a substantial time commitment early in the process and at least monthly meetings for approximately one year after the contractor is hired

If you are interested in serving on the Soil Action Level Oversite Panel, please send a resume by November 14, 1997 Please include dates you would be available for an interview, if interviews become necessary Send resumes to the City of Broomfield, One DesCombes Drive, Broomfield, CO 80020 Attention Diane Eismann Applicants will be contacted with the selection results by December 5 The first meeting of the oversite panel is expected in early December

This information will be updated weekly to reflect any changes in the timeline

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An adhoc citizen group is forming an oversight panel funded by the U.S Department of Energy to help oversee and direct a scientific contractor to conduct an independent assessment of issues regarding radionuclides in soils at Rocky Flats. If you are interested in participating on the panel please send a letter of interest and resume to the attention of Dianne Eismann, Department of Public Works, City of Broomfield, CO 80020 For more information about the panel call the following phone number: (303) 469-3301 extension 7901

77

① Niels Schonlee[illegible] - HAP

② Dran Heil - Ph[illegible] Food Chem
Cal Berkeley
CSU [illegible] Engineering

③ David Ridenour - ex
(Arvada) Safeguards [illegible] Studies
at [illegible] Labs

④ Jack Kraus[illegible] ex-CNL
CU Nuclear [illegible] Physics Lab
(Boulder) Prof [illegible] Physics

⑤ Joel Selbin - [illegible] Chemistry
(Boulder) HAD [illegible]
retired [illegible] in Boulder

⑥ Bob Kanick - Nuclear Engineer Texas State
Tyr[illegible] [illegible] modeling
for [illegible] reactors

[redacted]

City of Broomfield

ONE DESCOMBES DRIVE BROOMFIELD CO 80020 (303) 469

November 14, 1997

TO Distribution

FROM Rocky Flats Soil Action Level Review Ad-Hoc Committee

The U S Department of Energy will fund an independent scientific review of the clean up standards for radionuclides in soils at the Rocky Flats Environmental Technology Site An ad hoc oversite panel is forming to guide and evaluate the scientific contractor in its evaluation The ad hoc panel has three seats reserved for individuals with scientific and technical expertise in this area Individuals interested in volunteering to participate on the oversite panel are asked to submit a letter of interest and a resume by November 21, 1997, to the following address

Diane Eismann
Department of Public Works
City of Broomfield
One Des Combes Drive
Broomfield, CO 80020

For your information, please call (303) 469-3301 x7901

Attachment

70

Victor Holm – mining engineer
(Lakewood) Colo. Sch of Mines
Geological Engineering
Chem [illegible]

Joe [illegible]
Env. Engin for Manville Corp

79

Carol
~~Symmis~~
Bieniulis

[redacted]

Ziad Mughrabi

[redacted]

Jennifer Muir
Westminster
Neighborhood News

William H. Bill Closure on
Diment Rocky Flats
[redacted]
- retired geophysicist
- Special Nuclear Materials ~~subcommittee~~ CAB

Interested Citizens

Roy Bass
[redacted]
Onsite Panel
Neighborly news article

Kent Crannwida
onsite panel
[redacted]

Diane Beese 1160-7351
[redacted]

for SAL Panel

Contact Jack Kraushaar -
- ~~out~~ send him the info on scope of this panel's work
- tell him what he needs to do to apply.

Does this also need to be done for
- Niels Schonbeck [redacted]
- Joel Selbin

City of Broomfield

ONE DESCOMBES DRIVE BROOMFIELD CO 80020 (303) 469-3301

November 6, 1997

Interested Local Units of Government

Over the last year, stakeholders adjacent to Rocky Flats have expressed concerns about the soil clean up standards established by the State of Colorado, the US DOE, and the US EPA In response to our concern, the US DOE has agreed to fund an independent scientific review of the standards and the models used to establish them Local governments have been asked to designate no more than six members to an oversight panel which will monitor the activities of a scientific contractor We are writing to ask of your interest in participating in the process Please nominate either a staff member or elected official from your community to be considered for panel membership Selected members will be required to designate an alternate

Attached is the current draft description of this project Your community's participation will likely require an average of one meeting per month for the next year Please contact Kathy Schnoor at the City of Broomfield at 438-6363 if you would like to have a member of your community considered for the panel

Sincerely,

Hank Stovall

Hank Stovall
Broomfield City Council

Attachment

cc Mayor William M Berens
Jeremy Karpatkin, US DOE

Oct 31st Draft Project Description was attached

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WANTED!

Volunteers to make a difference.

If you have an interest in the clean-up
at the Rocky Flats Plant, and can offer
your time to serve on an
Oversight Panel during the next year,

We Want You!

The U.S. Department of Energy is funding a study to review the Soil Action Levels established for clean-up of contaminated soil at the Rocky Flats Environmental Technology Site. Public concern has prompted DOE to agree to fund an independent scientific review of the soil action levels and the methodology used to develop them.

If you have the time and interest to make sure Rocky Flats gets cleaned up to safe levels, join us and make a difference.

Contact Kathy Schnoor at 438-6363
by December 10th for more information.

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EPA PROPOSES CERTIFICATION OF WIPP

ROCKY FLATS WASTE COULD TRANSFER IN '98

The Environmental Protection Agency has proposed to certify the Waste Isolation Pilot Plant (WIPP) in Carlsbad, New Mexico for acceptance of DOE's Transuranic Waste In a federal register notice October 30, the EPA announced its intention to certify that the WIPP complies with radioactive waste disposal regulations This proposed certification includes several conditions such as site-specific approval of waste characterization measures, quality assurance plans, special controls to warn future generations about the hazards of the buried waste, and measures to seal the waste inside

Continued on page 4

DOE to Decide Plutonium Residues Disposition

When production ended at Rocky Flats, a backlog of intermediate byproducts remained. Approximately 43,000 kilograms of plutonium residues and alloys, containing 23,000 kg of plutonium, are still being stored at Rocky Flats. This represents about 25% of Rocky Flats' plutonium inventory Although these materials are not di-

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plutonium is removed or if these materials are diluted or changed in form, they could be made safe for disposal at the Waste Isolation Pilot Plant as transuranic waste The Department of Energy has released an environmental impact statement outlining three options for disposition of these materials

The first, no action, alternative would be to merely stabilize the material and leave it in a form that is currently unsuitable for disposal and that requires expensive guarding and inventory controls This option does

Continued on Page 3

RFLII Impacts

VOLUNTEERS WANTED!

If you have an interest in the clean-up of soil at the Rocky Flats site, and can offer your time to serve on an Oversight Panel during the next year, WE WANT YOU!

The U.S. Department of Energy is [illegible] the Soil Action Levels established for clean-up of contaminated soil at Rocky Flats. Public concern has prompted DOE to fund an independent scientific review of the soil action levels and methodology used to develop them to assure these levels will result in the target. An oversight panel is being formed to help guide the review. In addition to representatives from local governments and the Citizens' Advisory Board, the panel will include members of the general public. If you have the time and interest to participate, contact Kathy Schroder at (303) 468-0303.

WANT TO SUPPORT ROCKY FLATS WORKERS?

HERE'S WHAT SOME OF THEM ARE UP TO:

Wayne Speigel
Excalibur Associates, Inc.
(Environmental Regulatory Compliance and Emergency Management)
10900 Dover Street
Westminster, CO 80021
(303) 464-1574

Arthur Saunders
First Impressions by Art
(Business cards, logos, Resumes, News Letters)
11541 Steele Street
Thornton, CO 80233
(303) 252-1452

David Thompson & Bill Gomer
Project Management Alliance, LLC
(Project Management Consulting and Training)
1821 Lefthand Circle, #B-2
Longmont, CO 80501
(303) 774-1906

Mark J. Lembeck
PaineWebber
(Investment counseling services and professional money management)
370 17th St, Ste 4100
Denver, CO 80202-5641
(303) 820-5004
1-800-722-2408

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by Claude A. Pareja, D.D.S.

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AT WESTMINSTER DENTAL ASSOC we will do everything possible to insure that your visits to us will be as comfortable and pleasant as possible. You are our only reason for being here and our sole aim is to provide gentle, compassionate dental care of the highest quality We re located at 4070 W 72nd Avenue, where our entire staff is very proud to offer many professional services to all our patients You look for the personal touch in all your services Call 303 429-7072 to schedule an appointment Remember that preventative dentistry is the lowest cost most convenient way to retain your smile

Accepting New Patients

community calendar

Calendar from Page 17A

classes Wednesdays at Mediplex Rehab Center 84th Avenue and Pearl Street For information call Gloria Kubel 722 1043

The Tri-County Chapter of Leads Club will meet at 7 30 a m at the Doubletree Hotel U S 36 and Sheridan Boulevard in Westminster The club meets every Wednesday For information call Susan Parks 425-7693

Take Off Pounds Sensibly will meet at 9 a m at the Holiday Hills Village Scalf Hall 2000 W 92nd Ave For information call Ruth at 426 7945 The group meets every Wednesday

The **Metro Northwest Optimist Club** will meet at noon at Coco s Restaurant 80th Avenue and Wadsworth Boulevard For information call Kathy Benedict at 426-7737

The Tri Co[illegible]

[illegible]

[illegible] **estminster VFW Post** [illegible] **dies Auxiliary** will [illegible] 7 p m at the Post [illegible] 62nd Ave in Denver [illegible] up meets the first [illegible] y of every month

[illegible] **ay, Dec 4**

[illegible] **stminster Rotary** [illegible] meet for lunch at [illegible] the restaurant at [illegible] ge Golf Course.

[illegible] **tro North Leads**

9550 Civic Center Drive For information call 288 8398 or 288 5645

The Stroke Club meeting will be 7 to 9 p m at St Anthony Hospital North The group meets the first Wednesday of each month For information call 426-2151

The Westminster area Community Action Awareness Team will meet at noon in the board room of the Adams County School District 50 Administration Building The team meets the first Wednesday of each month

Mothers of Preschoolers will meet 9 to 11 a m at Crossroads Baptist Church 104th and Huron Child care and snacks are provided as well as speakers friendship and crafts For information call 438-6552 The group meets the first and third Wednesdays of every month

Club will meet at 7 30 a m at the Ramada Hotel 8773 Yates Drive For information call Fran Coet at 426 6444 or Thelma Kreeger at 421 9547

Parents Without Partners Front Range Chapter 598 will meet 7 to 9 p m Additional information is available at 430 4991

The Premier Business Women Chapter of Leads will meet 11 45 a m to 1 p m at the Nov Hills golf course restaurant For information call Debbie at 451-1579

The **Northwest Metro Chapter of BNI** a business referral group meets 7 to 8 30 a m at Marie Callender s restaurant at 92nd Avenue and Harlan Street northwest of Westminster Mall For information call Deborah Pearson at 423 5824

Le Tip International of Westminster meets 7 15 to 8 30 a m every Thursday at the Old Neighborhood Restaurant 79th Avenue and Allison Way in Arvada Le Tip is a leads group of business and professional people For information call 215-0475

The Arvada Speakeasy Toastmasters Club 6835 will meet 7 to 9 p m at Arvada First United Church 7195 Simms For information call Jana Tompkins 456-6487

The Trologue Toastmasters will meet noon to 1 p m at Autotrol Technologies 125th and Washington The group meets every Thursday For information call Alex. 252-2053

Take Off Pounds Sensibly will meet 9 30 to 10 30 a m at 2141 E 95th Ave. For information call Joyce at 452-6640

Recovery Inc. a group for sufferers of such problems as panic attacks nervous symptoms fears depression and sleeplessness will meet 7 to 9 p m at Valley Lutheran Church 7375 Samuel Drive For information call 426 038[illegible]

The Caregivers Support Group will meet at 3 30 p m [illegible] the offices of the Hospice [illegible] Northern Colorado 2090 E Egbert St in Brighton For information call Linda Fitzsimon at 659 1684 between 8 a m and 4 30 p m weekdays The group meets every Thursday

Take Off Pounds Sensibly will meet at 6 45 p m at the Thornton Public Library 899 Washington St Weigh in is p m to 6 45 p m followed by the meeting For information call 428 0573

The **Northwest Chapter of Business Network International** will meet 7 to 8 30 a m for breakfast and leads exchange at Marie Callender 92nd Avenue and Harlan Street in Westminster The group meets every Thursday For information call Bill Vlardell 610 8565

Mothers of Preschoolers (MOPS) will meet 9 to 11 3 a m at Christ Community Covenant Church 815 Simms St in Arvada Speakers crafts and child care are provided Call 467 2020 for information.

The Thornton Lions Club will meet at 7 p m at Bonanza I-25 and 84th The group meets the first and third Thursdays

The North Suburban Stamp Club will meet 6 30 to 8 3[illegible] p m at the Broomfield Senior Center 280 Lamar St [illegible] Broomfield The meetings are on the first and third Thursdays of the month and open those already collecting stamps as well as those interested in starting a collection For additional information call L. Donald Koontz at 465-022[illegible]

Westy Window

WANTED!

PEOPLE TO MAKE A DIFFERENCE.

If you have an interest in the **CLEAN-UP** at the **ROCKY FLATS** Plant and can volunteer your time to serve on an **OVERSIGHT PANEL** during the next year,

WE WANT YOU!

The U S Department of Energy is funding a study to review th Soil Action Levels established for clean-up of contaminated soil at the Rocky Flats Environmental Technology Site. Public concern has prompted DOE to agree to fund an independent scientific review of the soil action levels and methodology used to develop them

If you have the time and interest to make sure Rocky Flats gets cleaned up to safe levels, join us and make a difference

Contact Kathy Schnoor at 438-6363 for more information

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* Must mention this coupon when making your appt

85

Volunteers Sought for Citizen Panel Overseeing Independent Review of Soil Action Cleanup Levels for Rocky Flats

The U.S. Department of Energy will fund a scientific review of the soil action levels for Rocky Flats. An ad hoc panel of citizens is being formed to oversee the work of a scientific contractor responsible for conducting the independent assessment of issues regarding radionuclides in soils at Rocky Flats. For information contact Kathy Schnoor at (303) 438-6363.

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WANTED!

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POSTAGE

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200338-1413

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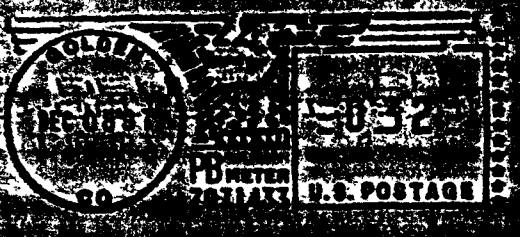
UNITED STATES DEPARTMENT OF ENERGY
ROCKY FLATS FIELD OFFICE
P O BOX 928
GOLDEN, COLORADO 80402-0928



KATHY SCHNOOR
City of Broomfield
1 DES COMBES DR PO Box 1415
Broomfield CO 80038-1415

87

80038-1415

(B)

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

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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

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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

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Fax # 466-8168	Fax #	

City of Broomfield

One DesCombes Drive • Broomfield, Colorado 80020 • Phone (303) 438-6308

NEWS RELEASE

Release Date **Immediate** **November 21, 1997**

Contact **Kathy Schnoor**

Phone **(303) 438-6363**

Volunteers sought for oversight panel

Rocky Flats issues continue to provide a platform of action for area residents interested in clean-up activities at the site of the former nuclear weapons plant The newest effort will be convened by the U S Department of Energy at the urging of the Rocky Flats Soil Action Level Review committee to scrutinize the Soil Action Levels (SALs) established for clean-up of soils at Rocky Flats

This effort will be undertaken by an Ad Hoc committee which will independently review the SALs takeholders in the area, including surrounding cities, several public interest groups and the general public have rejected the soil action levels proposed by DOE, EPA and the State of Colorado, believing that the standard was too high Consequently, the committee in September decided that an oversite panel should be formed to guide the process

Volunteers to serve on the oversight panel are currently being sought These individuals will define a public participation process for the review of the SALs, establish a scope of work, and release a request for proposals for a contractor to conduct the review The end result will be a series of recommendations regarding acceptable soil action levels to be adhered to for clean-up at the Rocky Flats site

Expected to be appointed to the oversite group are representatives from local governments, public interest groups technical experts a member from the Rocky Flats Citizens Advisory Board, and members of the general public The effort will be funded by the Department of Energy

Area residents interested in volunteering for the oversite effort should expect to provide significant time commitments early on followed by at least monthly meetings for a year after the contractor is hired Interested individuals should contact Kathy Schnoor at 438-6363 by December 11

-30-

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*****************************************************************
*
                                  Merry Christmas and
                                  Happy New Year!

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TO: Kathy Schnoor
FAX: 438-6234
pages: 1

CITIZEN CANDIDATE FOR
SAL PANEL

TODD MARGUILLES
SCIENTIST
GOLDEN, CO

WILL SUBMIT A RESUME

[illegible] Candidate
[illegible]
Panel

Ziad Nahrati
[illegible]

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R Kent Krumvieda

[redacted]

Education

M S , Civil and Environmental Engineering, University of Colorado, Boulder, Colorado, [redacted]
B S , Chemical Engineering with Biomedical Option and Computer Emphasis, University of Colorado, Boulder, Colorado, [redacted]

Professional Registration

Engineer-In-Training #13567, Colorado, 1985

Experience

May 1995 to Present **Senior Engineer** Data Fusion Corp

Involved in Phase I and Phase II Small Business Innovative Research (SBIR) contracts for the Air Force (WPAFB), Army and DARPA Projects included "Formal Mathematical Models For Sensor Management", "Far-Sighted Approaches to Sensor Management", "Sensor Management Across Multiple Platforms", "Multi-Resolution, Multi-Rate Detection, Classification and Tracking", "Geometric Sensor Fusion for Precision Air to Ground Targeting" IFSAR and Radiometric Inverse Modeling for Rapid Mapping", and "Multi-Spectral Fusion Techniques" Responsibilities include software design, development and management, project planning and sceduling, business development, research and development.

Aug 1992 to May 1995 **Staff Engineer II** Rust E & I

Participated in the Phase I RCRA Facility Investigation and Remedial Investigation (RFI/RI) for the Solar Evaporation Ponds, Operable Unit 4 (OU) at EG&G Rocky Flats Inc (EG&G) Responsibilities include database management, manage the design and implementation of an environmental database, Geographic Information System (GIS) and the OU specific planning and scheduling effort

Jan 1991 to Aug 1992 **Senior Environmental Engineer** Wizard Works

Designed, developed and wrote a groundwater modeling application on the Macintosh titled MOC-Elite MOC-Elite is a two-dimensional finite difference water table aquifer model that will be used for the estimation and modeling of groundwater flow and contaminant transport The program has been developed entirely in object oriented languages MPW C++ and Object Pascal using MacApp, an object-oriented application framework In addition a complete users manual

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has been written and the program is currently being marketed by Rockware Scientific Software and the Scientific Software Group

Mar 1989 to Dec 1990 **Staff Environmental Engineer** S M Stoller Corp

Assisted in the planning and scheduling effort for the RCRA/CERCLA Program Office at Rocky Flats Plant (RFP) near Golden, Colorado. This activity encompassed the Environmental Restoration/Waste Management Five-Year Plan with the Colorado Department of Health Agreements, the Fiscal Year 1990 Current Year Work Plan and the detailed 20-Year Plan Designed and developed software to analyze data and to aid in the presentation of the plans Also involved the budgetary defense of the plans to the Program Office Involved in the evaluation of surface water runoff from the three major drainage basins at RFP using CUHP, a surface water modeling program Contributed in the data analysis of water quality sampling In addition has contributed to the Technical Evaluation of the Rocky Flats Waste and Environmental Management System (WEMS) Managed Computer Service Department and maintained hardware and software resources for the company

Dec 1986 to Mar 1989 **Research Engineer** Vexcel Corp

Designed, developed and wrote the CAL_LTMS PC based software package CAL_LTMS can perform the automated calibration and exercising of Light Table Mensuration Systems (LTMS) It features pattern recognition, multiple device drivers and is completely menu driven CAL_LTMS was developed in 'C' on an IBM 80286 machine Successfully wrote and implemented the human interfaces for the Micro-Vax based ARGUS Environmental Monitoring System This included voice recognition, a raster graphics editor and numerous device drivers. Additional responsibilities included the installation of system and software packages, training and providing user support and maintenance

Aug 1981 to May 1986 **Assistant Programmer** NCAR

Designed, modified and wrote computer programs that processed meteorological data for the Atmospheric Technology Division-Research Aviation Facility, (ATD-RAF) Facilitated the efficient use of existing programs by creating easy to use initialization software routines Additional responsibilities included the development of a data base management system for the aircraft flight data tapes Participated in a six week intensive program to study weather conditions over the Alaskan Gulf

Computer Experience

Equipment CRAY 1A. CDC 7600, CYBER 720, VAX 11/780, Micro-Vax, IBM 370, IBM 4341, IBM PC, HP 1000, Sun Sparc and Macintosh

Languages BASIC, C, C++, FORTRAN IV, 66, 77, Pascal, Turbo Pascal, Object Pascal, MATLAB

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Technical Associations

Apple Computer Certified Developer
Member of Apple Programmers and Developers Association (APDA)
Member of the National MacApp Developers Association (MADA)

Presentations, Publications, Awards

A Methodology for the Design of Numerical Ground Water Models, M S Thesis, 171 pp , University of Colorado, Boulder, 1992

MOC-Elite A two-dimensional solute transport model for water table aquifers Rockware Scientific Software, 93pp , 1993

Security Clearance

DOE 'Q' Clearance (inactive)

References

Available upon request

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David E Ridenour P E
[redacted]

Dianna Eismann
Department of Public Works
City of Broomfield
Broomfield, CO 80020

Gentlemen

I am pleased to submit my resume for a position on the Soils/Radionuclides pannel for Rocky Flats You will see from reviewing it that I have done considerable civil and technology work both for the Federal government and for a major engineering firm I have done major military construction program facilities as well as obtained grants for innovative research programs in environmental restoration My experience in Public works encompasses time as the engineering operations director for Minot AFB North Dakota (Population 6,500), plans and programs chief for two English facilities RAF Bentwaters and RAF Woodbridge (Population 4 500) and as the Deputy Support Commander (City Manager) for the 9 sq mile Falcon AFB (Population 4,500) here in Colorado In those capacities, I've done facility master planning, project engineering, utilities operation, repair and maintenance as well as new construction, construction inspection and economic development work

I have successfully worked with local, state and national elected representatives within the United States and overseas and produced successful outcomes in all those circumstances I have extensive experience working with local citizen's groups from my involvement supporting the U S Government in conducting environmental remediation of former Department of Energy nuclear plants both in Ohio and at Rocky Flats I managed the technical/innovation portion of interactions with a local Citizen's Advisory Board and activist group representatives as a contractor in Ohio and as an Air Force representative in Colorado Springs, CO

My project engineering/project management experience runs from expedient utilities repairs to management of the construction of a $100 million command center for the USAF In between those extremes, I have done planning, design review and construction oversight for housing projects containing 750 units, three hospitals/clinics and numerous modifications and expansions to heavy aircraft manufacturing plant infrastructure, pavements and utility systems

I have an established reputation for efficient, innovative and people oriented work During my time as a contractor with Fluor Daniel, I won an incentive award based on initial nomina-

RECEIVED
OCT 21 1997
Ans'd .....

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David E. Ridenour, P.E.

[redacted]

Engineering / Technology Management

An innovative Technologist with expertise in new environmental technology integration and environmental treatability testing Managed the engineering and construction aspects of major air water and land pollution control projects for the United States Air Force (USAF) and the Department of Energy (DOE) A Registered Professional Engineer in Ohio and Colorado I possess a Masters Degree in Facility Management With over 10 years of success in all aspects of technology introduction and management I understand the dynamics of multidisciplinary teams in highly complex and fast moving environments Established reputation for delivering the highest quality results with the greatest efficiency With assignments that brought me a broad and diverse blend of experiences my history demonstrates consistent application of five essential skills for success

Resourceful Problem Solving
Superb Organizational Development Skills
Strong Interpersonal Communications
Innovative Project Management
Effective Team Building

The inevitable result of these activities was increased effectiveness for the operations I ve managed My cornerstone in developing or implementing any project has always involved the same processes seeking an overview of the whole and a close-up of the parts evaluating all available data devising strategy, leading and training the participants and performing the tasks critical to success My track record represents the effectiveness of this approach

Selected Accomplishments

Cost Savings Saved $42 million over 3 years while leading a high quality technology program I put together a comprehensive program to use new technology for "faster, better, cheaper, and safer" completion of the project I managed a diverse group of 20 extremely talented engineers and scientists I flattened the organizational structure and opened up the office environment by removing partitions and creating a series of conversation areas As a result teams were formed and decisions made with much greater depth of experience, yielding a comprehensive program

Quality Assurance Caught and fixed a major error in procedures and calculations that had been overlooked in nearly 450 previous executions Two entire wings of 450 Minuteman ICBM missiles had been loaded with wrong tapes provided in error by the Joint Strategic Planning Staff This error would have degraded the entire missile force effectiveness if not detected My crew then identified a way to maintain proper targeting in our squadron missiles and communicated this to the four other squadron crews and headquarters

Team Building Improved the tested proficiency of the wing crews by more than 30% I inherited a demoralized group of 90 crews I reorganized the instructor shop into specific training teams with a lot of self sufficiency and autonomy for each instructor Additionally, I instituted a simple recognition-for-accomplishment plan with pins, for instructors and crews which made it obvious who the daily performers were As a result I was offered a position usually reserved for officers several grades above mine at the time

Innovative Techniques Reduced the planned length of a major environmental cleanup by 15 years (50%) The project had major plume of uranium contaminated water in an aquifer that fed a large city Studies indicated that standard pump and treat remedies would take approximately 30 years to reduce the uranium concentrations to acceptable levels I located an innovative aquifer flushing' technique, based on usage in the uranium mining industry and implemented it for use at the project A major hurdle was convincing the regulators to allow re-injection of materials into the aquifer

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RESUME

Victor Holm

[redacted]

QUALIFICATIONS

I have twenty five years of engineering experience in geological studies much of this as a senior member a team I have participated in the development of seven major mines and have examined numerous other mines In most of these instances, I worked closely with consulting companies, often as the designated company contact I have a good understanding of the physical sciences, especially those like geology that require extrapolating laboratory studies to physical systems like soils As is apparent from my experience I am very familiar with statistics especially geostatistics which deals with spatially correlated samples such as soil analysis Since the mid-seventies an appreciation of environmental factors has been necessary if a mine is to be developed While environmental considerations often must be balanced with economics if a successful mine is the be developed I have never found a case where worker and public safety competes with profits A profitable mine is also a safe mine A mine is never developed by one person a team approach is essential
I see this study as similar in many respects to my previous experience We are being asked to review complex scientific studies Some of these will contradict other studies None of us are prepared to sacrifice worker or public safety, but, we will have to reach compromises over environmental cleanup The answers unfortunately will not be black and white, but, will be expressed in statistical risk. It will the duty of the panel to assure itself that this risk is acceptable to the community it represents

SENIOR MINE PLANNING ENGINEER
FREEPORT INDONESIA
GRASBERG MINE
3/91 - 3/95

The Grasberg Mine is one of the premier mines developed during the nineties The grade being mined exceeds 2 5% equivalent copper, current ore production is 115,000 mtpd Total material movement per day is 560 000 metric tonnes which makes it one the largest open pit mines in the world Located at 14,000 ft on the western half of the island of New Guinea, it is also one of the remotest large open pit mines in the world During the four years I was at Grasberg production increased tenfold and I participated in every phase of mine planning The first year, I was in charge of short range planning and grade control This entailed

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return to Ron Day

preparing monthly and quarterly plans and then on a daily basis meeting with the operations group to insure the plan was followed The rest of the time I was at Grasberg I was working on a series of expansions starting at 56 000 mtpd then 90,000 mtpd and finally 115,000 mtpd. We examined plans as high as 180-200,000 mtpd Each of these expansions was preceded by a formal feasibility study The ore reserve and mine planning portion of the studies was done completely in-house by Grasberg Engineering A measure of the quality of these reports is that for the 90 000 mtpd study I received the Presidents Award in 1993 A team approach was used which utilized both Freeport personnel and outside consulting firms

SENIOR PROJECT ENGINEER
GOLD FIELDS MINING CORP
11/89 - 3/91

As a member of the Evaluation group at the Lakewood HQ of the company I was responsible for developing the ore reserves and the mine planning for two new operations The reserves have been estimated using Multiple Indicator Kriging which has been the principle ore reserve method used thought out the company since its introduction at Mesquite in 1988 The work was performed with our own in-house software which I was instrumental in developing A close working relationship between the engineers and the geologists has always been one of the traits of development projects that have been under my direction

CHIEF ENGINEER
MESQUITE MINE
GOLD FIELDS OPER CO
3/86-11/89

As Chief Engineer of Gold Fields flagship mine, I directed a staff of ten people including three mining engineers and three geologists While I was there the mine was expanded from 2 1 million tons per year to over 6 8 million tons Gold Fields has a reputation for utilizing state of the art ore reserves estimation methods and mine planing I was first to apply these same methods to day to day ore control These methods have now been adopted company wide and have resulted in better reporting of mine run grade and also has resulted in better selectivity One of my principle duties was monitoring environmental compliance Mesquite had a reputation for environmental excellence in California

STAFF ENGINEER
TENNECO MINERALS
11/80-3/86

Was responsible for all ore reserve estimation and mine planing for new mines The Manhattan and McCoy mines in Nevada were developed during this time Tenneco used both the MEDS system and Micromodel software I also worked on capital and operating cost estimates and authored several feasibility studies

As a member of a team evaluating acquisition opportunities I gained a broad background on the operation of many of the precious metal mines in the western US Mine Superintendent of the Borians mine 1980-1982

UNION CARBIDE
3/75-9/80

During three years in Manuas, Brazil and seven months in Peru and Bolivia, I participated in an exploration program for manganese and tungsten in remote tropical forests Participated in the tungsten exploration in Nevada

Early Experience
1971-1975

Miner and junior geologist at the Henderson Mine of Climax Molybdenum Engineer and survevor at the Wellington underground lead- zinc mine in Breckenridge CO Exploration Geologist for Geological Survey of The Republic of Venezuela for two years

CAPTAIN
U S ARMY
CORPS OF ENGINEERS
1966-1969

While in the army, as a commissioned officer, I served two years as geologist in a Terrain Intelligence Detachment in Vietnam This necessitated preparing detailed engineering studies with little or no supervision The work was oriented towards engineering construction materials Studies consisted of broad map and photo studies as well as detailed studies locating rock sources for airfields and roads

EDUCATION

Colorado School of Mines 1971 Professional Degree in Geological Engineering Specialized in mining geology and exploration methods Total of 175 semester hours Minor in Chemistry Student Congress representative

PUBLICATIONS

1 Gold Ore Reserve Estimation for Reverse Circulation Rotary Drilling Gold 1988 A symposium sponsored by the Society of Mining Engineers and the Nevada Geological Association. Reno Nov 1988
2 Short Term Mine Planing and Grade Control Practice at the Mesquite Mine Mining Engineering Feb 1990

Member of the Society of Mining Engineers of the American Institute of Mineral Engineers since 1975

Robert J Kanick

[redacted]

November 10, 1997

Diane Eismann
Department of Public Works
City of Broomfield
1 DesCombes Drive
Broomfield CO 80020

Subject Application for Membership on the Rocky Flats Soil Action Level Oversight Panel

Dear Diane

Per Tim Holeman, please accept this letter and the attached resumé as my application for membership on the Rocky Flats Soil Action Level Oversight Panel I would like to be considered as either a member of the technical community or, if these positions are filled with more technically appropriate individuals as a member of the general public

My resumé may give some indication as to my technical background however, I would like to emphasize the following I have spent my professional career and, in particular, the last seven years working intimately with large computer models Specifically, I have been involved in the generation and evaluation of nuclear plant safety analyses which are not unlike the study done to determine the current SALs Consequently I feel I have the necessary background to provide input and guidance in areas which are specifically related to the tasks which face this oversight panel I understand the necessities and pitfalls of these analyses on a practical basis and I feel that this type of expertise is critical to defining the independent review and obtaining a result which will satisfy the widest range of concerns of the widest range of stakeholders

As a member of the Rocky Flats Citizens Advisory Board, and this independent review's current ad hoc group I hope my interest and desire to affect a safe and reasonable resolution to the Rocky Flats problem is self-evident Because of my concerns as a citizen in the metro area, I joined these groups in the hope of lending my expertise where it can be best used and therefore hope that I can be of service to this oversight panel

Sincerely

Robert J Kanick

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Ans d

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Resumé

Robert J. Kanick

Professional Experience

Core Design Engineer Nordostschweizerische Kraftwerke Baden Switzerland
[10/92 - present]

- Provided training for the implementation of a reactor core design modeling system developed and used at Westinghouse Electric Corporation
- Developed fuel management strategies to help optimize nuclear fuel usage and costs
- Above fuel management strategies involved the development of acceptable modeling approaches for and optimal usage of reprocessed mixed-oxide (plutonium-based) fuel

Core Design Engineer Westinghouse Electric Corporation Pittsburgh PA
[1/90 - 10/92]

- Qualified Core Designer responsible for or involved in the fuel reload core design of several domestic and international reactors Work involved the performance of fuel management analyses complete reload safety analyses, and the development of nuclear design reports
- Criticality Designer involved in the criticality assessments and analyses of various domestic nuclear fuel storage pools
- Training Specialist for various core engineering training programs Provided training to in-house and utility core design and reactor engineering personnel in core design fuel management, and reactor engineering topics

Reactor Engineer Diablo Canyon Power Plant PG&E Co , Avila Beach CA
[6/84 - 1/90]

- Reactor Engineer involved in day-to-day reactor performance monitoring and assessment Responsible for the development, implementation and performance of test procedures
- Special Nuclear Material Custodian responsible for the control and NRC accountability of all site special nuclear materials
- System Engineer responsible for the operation, maintenance, procedures, and design changes for the movable incore detector and fuel handling systems
- Lead Shift Engineer for 4 refueling outages responsible for the coordination/performance of all nuclear fuel and fuel equipment movements nuclear fuel receipt and inspections and plant startup testing
- Startup Engineer during the initial startup of both Diablo Canyon units involved in the testing and troubleshooting of plant systems

Licenses/Certifications:

- Licensed Professional Engineer (Nuclear Engineering) License #PE-040289-R 1989

Education

- B S N E The Pennsylvania State University, 1984 Graduated with Honors and High Distinction, GPA 3 75/4 00

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[redacted]

Diane Eismann
Department of Public Works
City of Broomfield
One Des Combes Drive
Broomfield CO 80020

Dear Ms Eismann

I would like to participate as a member of the Oversight Panel that is being formed to review the Soil Action Levels established for clean-up at the Rocky Flats Plant I would be interested in one of the seats reserved for individuals with scientific and technical expertise

I am currently professor of chemistry at Metropolitan State College of Denver and also a member of the Health Advisory Panel on Rocky Flats

I am faxing this letter of interest and I am sending the original along with a copy of my current resume by regular mail

Thank you for your consideration

Sincerely yours

Niels D Schonbeck Ph D
[redacted]

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CURRICULUM VITAE

Dr Niels D Schonbeck

December 1997

[redacted]

[redacted]

EDUCATION

Ph D	Biochemistry	*The University of Michigan*	[redacted]
B S	Chemistry	*Swarthmore College*	

PROFESSIONAL EXPERIENCE

Professor	Dept. of Chemistry Metropolitan State College of Denver Denver CO 80217-3362 (Assistant Prof 1978-81 Associate Prof 1981-85)	1978 - present
Scientific Consultant	Disease Control and Environmental Epidemiology Division Colorado Dept of Public Health and Environment Denver CO 80222-1530	1990 - present
Visiting Scientist	Atmospheric Chemistry Division National Center for Atmospheric Research Boulder CO 80307	1996 - present 1985 - 1992 (Sabbatical 1986 87)
Lecturer	Dept of Biochemistry and the Health & Medical Sciences Program University of California Berkeley	1975 - 1978
Postdoctoral Scholar	Dept of Biochemistry University of California Berkeley	1974 - 1975

COMMITTEE APPOINTMENTS (by the Governor of the State of Colorado)

Health Advisory Panel (Historical Public Exposures Studies on Rocky Flats)	1990 - present
Rocky Flats Environmental Monitoring Council	1988 - 1993

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PROFESSIONAL ACTIVITIES

My primary work of employment is college teaching which at my institution means teaching 4 courses per term My laboratory research (applied enzymology) has been limited to sabbatical leave periods and projects for undergraduates supervised as teaching overloads Since 1982 I have been active both as volunteer and consultant in public policy issues concerning evaluation of the public health consequences of nuclear weapons production

PROFESSIONAL SOCIETIES

American Association for the Advancement of Science
American Chemical Society
Sigma Xi
Union of Concerned Scientists
Federation of American Scientists

HONORS and AWARDS

Seminar Participant	Institute on Global Conflict and Cooperation University of California		1988
Postdoctoral Research Fellowship	National Cancer Institute of the NIH		1974-75
Graduate Fellowships	National Science Foundation	1968-69	1971 73
Graduation with Distinction	Swarthmore College		1967

PUBLICATIONS

PAPERS

"A Citizens' study of Plutonium Americium Uranium Cesium and Strontium in Soils of Off Site Areas Surrounding The Rocky Flats Nuclear Weapons Plant in Colorado " **Journal of Environmental Radiation** in preparation

"Involving Skeptical Citizens in a Soil Sampling Study How citizens measured radioactivity levels in soils offsite of the former Rocky Flats nuclear weapons plant near Denver Colorado " **Chemical Health and Safety**, in preparation

"Visualization of Buffer Action and the Acidifying Effect of CO_2 " **Journal of Chemical Education 62** 436 1985

"Gel Filtration Chromatography A Laboratory Experiment " **Journal of Chemical Education 61** 1021 1984 With J A Hurlbut

"Reactions of Pyridoxal 5'-Phosphate 6-Aminocaproic Acid Cysteine Penicillamine Models for Reactions of Schiff Base Linkages in Pyridoxal 5' Phosphate Requiring Enzymes " **Journal of Biological Chemistry 250** 5343-5351 1975 With M Skalski and J Shafer

"Resolution of D Serine Dehydratase by Cysteine An Analytical Treatment " **Journal of Biological Chemistry 250** 5352-5358 1975 With M Skalski and J Shafer

"Separation and Evaluation of the Covalent and Non-covalent Interactions which contribute to the Binding of Pyridoxal 5' Phosphate to D-Serine Apodehydratase " **Journal of Biological Chemistry 250** 5359-5363 1975 With M Skalski and J Shafer

PUBLICATIONS (Continued)

TECHNICAL REPORTS

"Soil and Sediment Study of Off Site Areas Surrounding The Rocky Flats Nuclear Weapons Plant Golden Colorado" With the Citizens Environmental Sampling Committee supported by federal funds administered by the Colorado Department of Public Health and Environment 1996

"Bioluminescent Detection of Atmospheric Species" National Center for Atmospheric Research Boulder CO May 1988

"Rocky Flats Fluid Bed Incinerator Exposure of Citizens Due to Normal Operations and Explosions" with J Goldfield and Gale Biggs Boulder CO September 1 1987

"Plutonium Hazards and the Proposed Rocky Flats Incineration" in The Proposed Rocky Flats Incineration of Mixed, Low Level Radioactive Wastes a series of papers by a group of Boulder scientists Boulder CO April 1987

"Enzymes as Analytic Tools" National Center for Atmospheric Research August 1985

REVIEWS

"Radionuclide-induced Evolution of DNA and Primordial Cells A New Hypothesis" by Edward Martell May, 1991 (Internal review NCAR)

"Evidence that Most Natural Mutations and Spontaneous Tumors are Attributable to Primordial and Cosmogenic Radionuclides" by Edward Martell May 1988 (Internal review NCAR)

"Electrochemistry" (Video) **Science Books & Films 24,** 182 (1989)

"Enzymes Regulation of Body Chemistry" (filmstrip) **Science Books & Films 19,** 117 (1983)

"Enzymes" (filmstrip) **Science Books & Films 17,** 51 (1981)

ABSTRACTS

Presented at The Colorado Section of the American Chemical Society, Undergraduate Research Meetings, May 1 1982

"Bioenergetics in Spinach Chloroplasts" with John K Stanton

"Prevention of Aflatoxin, A Carcinogen and the Mycotoxins of Yellow Rain By Antioxidants" with Mona J McArdle

"Stress-Induced Hyperglycemia in Dogs" with Patricia L Soeder

"Enzyme Inhibitor Kinetics A Time-Efficient Method of Analysis" with David M Oberbillig (who received first prize for this presentation)

Presented at The Colorado Section of the American Chemical Society, Undergraduate Research Meetings, April 11 1981

"Spectral Studies of Hemoglobin and Glycosylated Hemoglobin" with T Taj Kuttner

"Preparation and Use of Erythrocyte Ghosts" with Kristine A Latal

"Resolution of B 6 Enzymes with Cysteine" Ninth International Congress of Biochemistry 2C9 July 1973 With Jules A Shafer

"l-Cysteine Competition with Amines for Pyridoxal 5' Phosphate" American Chemical Society Division of Biological Chemistry Abst #229 August 1972 With Jules A Shafer

DISSERTATION

"Covalent and Non-covalent Interactions between Apoenzyme and Pyridoxal 5' Phosphate in D-Serine Dehydratase from Escherichia coli *"* Ph D Thesis The University of Michigan 1973

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[redacted]

Metropolitan State College of Denver

Department of Chemistry

FAX

Date Dec 10, 1997

Number of pages including cover sheet 2

To Diane Eismann
City of Broomfield

Phone 469-3301 x 7901
Fax phone 469-8554
CC

From Niels Schonbeck
Chemistry Department

Phone (303)556-2610
Fax phone (303)556-5399

REMARKS ☐ Urgent ☐ For your review ☐ Reply ASAP ☐ Please comment

Attached is a list of dates I would be available for an interview if the occasion arises

Niels Schonbeck

Campus Box 52
P O Box 173362
Denver Colorado 80217-3362

[redacted]

Diane Eismann
Department of Public Works
City of Broomfield
One Des Combes Drive
Broomfield, CO 80020

Dear Ms Eismann,

In my December 8th letter expressing my interest in being a member of the Oversight Panel I neglected to include dates I would be available for an interview I am available on the mornings of December 12, 16, 18 and the afternoons of December 18, 22 and 23

Sincerely yours,

Niels D Schonbeck, Ph D
[redacted]

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Colorado State University

Department of Soil and Crop Sciences
Fort Collins Colorado 80523-1170
(970) 491 6517
FAX (970) 491-0564

Diane Eismann
Department of Public Works
City of Broomfield
One Des Combes Drive
Broomfield CO 80020

11-21-97

Dear Diane,

Ken Barbarick forwarded to me your request for volunteers to serve on the ad hoc panel for clean up standards for the Rocky Flats site I am interested in serving on this panel My background is in soil chemistry with applications in soil remediation I have also sent a copy of my resume Please let me know if I can be of assistance to you in meeting your goals

Sincerely,

Dean Heil

Dean Heil

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DEAN HEIL

EDUCATION

Ph D Soil Chemistry, University of California, Berkeley, [redacted]
M S Soil Science, Colorado State University [redacted]
B S Soil Science, Minor Chemistry, Colorado State University, [redacted]

PROFESSIONAL EXPERIENCE

- Assistant Professor of Soil Chemistry Colorado State University, 1997-present
- Assistant Professor of Soil Chemistry, New Mexico State University, 1992-1996
- Post-doctorate Research Associate, U C Berkeley, 1991-1992 Atomic Force Microscopy study of polysaccharide adsorption by clay minerals and soil particle structure
- Graduate Research Assistant U C Berkeley 1988-1991 Study of the control of surface-crust formation by chemical factors, funded by the Kearney Foundation of Soil Science Experiments on clay flocculation, cation exchange, and electrophoretic mobility
- Graduate Teaching and Research Assistant Colorado State University 1986-1988 Application of water treatment sludge on agricultural lands Measured plant uptake of nutrients and toxic elements, and determined phosphorus adsorption by soils and sludges

PUBLICATIONS

Heil D , and K A Barbarick 1989 Water treatment sludge influence on the growth of sorghum-sudangrass Journal of Environmental Quality 18 292-298

Heil D and G Sposito 1993 Organic matter role in illitic soil colloids flocculation I Counter ions and pH Soil Sci Soc Am J 57 1241-1246

Heil, D and G Sposito 1993 Organic matter role in illitic soil colloids flocculation II Surface charge Soil Sci Soc Am J 57 1246-1253

Heil, D and G Sposito 1995 Organic matter role in illitic soil colloids flocculation III Scanning force microscopy Soil Sci Soc Am J 59 266-269

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Heil D Z Samani, and A Hanson 1995 Soil and Chemical Factors which Control the Efficiency of Remediation of Lead-Polluted Soils Chapter 1 *In* R Bhada A Ghassemi (ed) ECM Press Series on Environmental Management and Intelligent Manufacturing Volume 1 Waste Management From Risk to Remediation ECM Press, Albuquerque NM

Heil, D , A Hanson, and Z Samani 1996 The competitive binding of lead by EDTA in soils and implications for heap leaching remediation Radioactive Waste Management and Environmental Restoration Journal 20 111-127

Heil, D , and G Sposito Chemical Attributes and Processes Affecting Soil Quality Ch 3 In M R Carter and E G Gregoriche (ed) Soil Quality for Crop Production and Ecosystem Health Elsevier Science (pub), Amsterdam In Press

Samani, Z , S Hu, A T Hanson, and D Heil Remediation of Lead Contaminated Soil by Column Extraction with EDTA II Modeling Journal of Water, Air and Soil Pollution In Press

PAPERS IN REVIEW

Heil, D , Z Samani, A T Hanson, S Hu and B Rudd Remediation of Lead Contaminated Soil by Column Extraction with EDTA I Batch and Column Studies Journal of Water, Air, and Soil Pollution

Cifuentes, F R , W C Lindemann D Heil, and L L Barton Extraction of Lead from Polluted Soils with EDTA Effect of Lead Removal and Solubility on Soil Biological Activity Journal of Environmental Quality

REPORTS

Sposito G and D Heil Colloidal Properties of Soil Illite Influencing Surface Crust Formation Fourth-Year Annual Report of the 1986-91 Mission on Water Penetration Problems in Irrigated Soils Kearney Foundation of Soil Science, Division of Agriculture and Natural Resources, University of California, Davis December 1990

Heil, D , A Hanson, and Z Samani The Competitive Binding of Lead in Soils and Implications for Heap Leaching Remediation Technical Completion Report of the Waste-Management Education and Research Consortium United States Department of Energy August, 1994

Heil D A Hanson Z Samani The Competitive Binding of Lead in Soils and Implications for Heap Leaching Remediation Final report of the Waste-Management Education and Research

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Consortium, United States Department of Energy January, 1996

PAPERS DELIVERED

Sposito G , C Thellier, and D Heil Influence of Electrolyte Concentration Exchangeable Cations, and pH on the Flocculation of Silver Hill Illite Given at the 1989 Clay Minerals Society 26th Annual Meeting Sacramento California

Heil, D , and G Sposito Colloidal Properties of Illitic Soil Clays Given at the 1991 American Society of Agronomy 83rd Annual Meeting, Denver Colorado Also presented at the 1992 American Chemical Society 203rd National Meeting, San Francisco, California

Heil, D , Z Samani, and A Hanson The Competitive Binding of Lead by EDTA in Soils and Implications for Heap Leaching Remediation Presented at the fourth annual Waste Management Education and Research Consortium Technology Development Conference Las Cruces NM, April, 1994

Ruda, B , A Hanson, D Heil, Z Samani, E Murphy, N Sauer, D Ehler Recycling of EDTA used in Soil Washing Waste Management Symposia on High Level Wastes, Low Level Wastes, Mixed Wastes, and Environmental Restoration Tucson AZ, February 26-March 2 1995

Heil, D , Z Samani, and A Hanson The Competitive Binding of Lead by EDTA in Soils and Implications for Heap Leaching Remediation Fifth annual WERC Technology Development Conference Las Cruces, NM, April 18-20, 1995

Waldrop, M., and D Heil The affect of calcium chloride on permeability and extraction of Pb from a soil by EDTA Undergraduate Poster Presentation Fifth annual WERC Technology Development Conference Las Cruces, NM, April 18-20 1995

SEMINARS

Modeling and prediction of the effectiveness of chelate extraction in remediating soils contaminated with heavy metals Presented to the Environmental Sciences Group at Los Alamos National Laboratory, Los Alamos, NM, July 30, 1993

Characterization of lead in soils Presented at Los Alamos National Laboratory, July 14 1994

RESEARCH GRANTS AWARDED

Title The competitive binding of lead by EDTA in soils and implications for heap leaching remediation

Source of funding Waste-Management Energy and Research Consortium (U S D O E)

Dates awarded 2-20-93, and 5-1-94 (funding was renewed as a continuation project)

Amount and duration 2-20-93 $46,289 00 18 months
5-1-94 $59,950 00 18 months

Investigators Dean Heil (PI), Dr Zohrab Samani* (Co-PI), Dr Adrian Hanson* (Co-PI)
*Department of Civil, Agricultural, and Geologic Engineering NMSU

Title Identification of Pb solid phases by Analytical Electron Microscopy

Supporting Agency United States Department of Energy Lawrence Berkeley Laboratory

Date awarded 8-95

Amount and duration This is an equipment use grant for the Analytical Electron Microscope at Lawrence Berkeley Laboratory

Robert J Kanick
[redacted]

November 10, 1997

Diane Eismann
Department of Public Works
City of Broomfield
1 DesCombes Drive
Broomfield, CO 80020

Subject Application for Membership on the Rocky Flats Soil Action Level Oversight Panel

Dear Diane,

Per Tim Holeman, please accept this letter and the attached resumé as my application for membership on the Rocky Flats Soil Action Level Oversight Panel I would like to be considered as either a member of the technical community or, if these positions are filled with more technically appropriate individuals as a member of the general public

My resumé may give some indication as to my technical background, however, I would like to emphasize the following I have spent my professional career and, in particular, the last seven years working intimately with large computer models Specifically, I have been involved in the generation and evaluation of nuclear plant safety analyses which are not unlike the study done to determine the current SALs Consequently, I feel I have the necessary background to provide input and guidance in areas which are specifically related to the tasks which face this oversight panel I understand the necessities and pitfalls of these analyses on a practical basis and I feel that this type of expertise is critical to defining the independent review and obtaining a result which will satisfy the widest range of concerns of the widest range of stakeholders

As a member of the Rocky Flats Citizens Advisory Board, and this independent review's current ad hoc group, I hope my interest and desire to affect a safe and reasonable resolution to the Rocky Flats problem is self-evident Because of my concerns as a citizen in the metro area, I joined these groups in the hope of lending my expertise where it can be best used and therefore hope that I can be of service to this oversight panel

Sincerely,

Bob Kanick

Robert J Kanick

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12 1997
Ans'd... .....

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Resumé

Robert J. Kanick

Professional Experience

Core Design Engineer Nordostschweizerische Kraftwerke, Baden, Switzerland
[10/92 - present]

- Provided training for the implementation of a reactor core design modeling system developed and used at Westinghouse Electric Corporation
- Developed fuel management strategies to help optimize nuclear fuel usage and costs
- Above fuel management strategies involved the development of acceptable modeling approaches for and optimal usage of reprocessed mixed-oxide (plutonium-based) fuel

Core Design Engineer Westinghouse Electric Corporation, Pittsburgh, PA
[1/90 - 10/92]

- Qualified Core Designer responsible for or involved in the fuel reload core design of several domestic and international reactors Work involved the performance of fuel management analyses, complete reload safety analyses, and the development of nuclear design reports
- Criticality Designer involved in the criticality assessments and analyses of various domestic nuclear fuel storage pools
- Training Specialist for various core engineering training programs Provided training to in-house and utility core design and reactor engineering personnel in core design fuel management, and reactor engineering topics

Reactor Engineer Diablo Canyon Power Plant, PG&E Co , Avila Beach, CA
[6/84 - 1/90]

- Reactor Engineer involved in day-to-day reactor performance monitoring and assessment Responsible for the development, implementation, and performance of test procedures
- Special Nuclear Material Custodian responsible for the control and NRC accountability of all site special nuclear materials
- System Engineer responsible for the operation, maintenance, procedures, and design changes for the movable incore detector and fuel handling systems
- Lead Shift Engineer for 4 refueling outages responsible for the coordination/performance of all nuclear fuel and fuel equipment movements, nuclear fuel receipt and inspections, and plant startup testing
- Startup Engineer during the initial startup of both Diablo Canyon units involved in the testing and troubleshooting of plant systems

Licenses/Certifications:

- Licensed Professional Engineer (Nuclear Engineering) License #PE-040289-R, 1989

Education:

- B S N E , The Pennsylvania State University, [redacted] Graduated with Honors and High Distinction, GPA 3 75/4 00

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David E Ridenour, P E
[redacted]

Dianna Eismann
Department of Public Works
City of Broomfield
Broomfield CO 80020

Gentlemen

I am pleased to submit my resume for a position on the Soils/Radionuclides pannel for Rocky Flats You will see from reviewing it that I have done considerable civil and technology work, both for the Federal government and for a major engineering firm I have done major military construction program facilities as well as obtained grants for innovative research programs in environmental restoration My experience in Public works encompasses time as the engineering operations director for Minot AFB, North Dakota (Population 6,500), plans and programs chief for two English facilities RAF Bentwaters and RAF Woodbridge (Population 1 500) and as the Deputy Support Commander (City Manager) for the 9 sq mile Falcon AFB (Population 4,500) here in Colorado In those capacities, I've done facility master planning, project engineering, utilities operation, repair and maintenance as well as new construction, construction inspection and economic development work

I have successfully worked with local, state and national elected representatives within the United States and overseas and produced successful outcomes in all those circumstances I have extensive experience working with local citizen's groups from my involvement supporting the U S Government in conducting environmental remediation of former Department of Energy nuclear plants both in Ohio and at Rocky Flats I managed the technical/innovation portion of interactions with a local Citizen's Advisory Board and activist group representatives as a contractor in Ohio and as an Air Force representative in Colorado Springs, CO

My project engineering/project management experience runs from expedient utilities repairs to management of the construction of a $100 million command center for the USAF In between those extremes, I have done planning, design review and construction oversight for housing projects containing 750 units, three hospitals/clinics and numerous modifications and expansions to heavy aircraft manufacturing plant infrastructure, pavements and utility systems

I have an established reputation for efficient, innovative and people oriented work During my time as a contractor with Fluor Daniel, I won an incentive award based on initial nomina-

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DEC 21 1997
Ans'd... ....

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tion by my associates The achievement I am most proud of, however is the Command Safety Excellence award we won during the construction of Falcon AFB

I would very much like to discuss the issues of soil cleanup and how my experience could benefit the Public interest further

Please direct any questions on this letter to me at [redacted] or at the above address This telephone number has both VoiceMail and FAX capabilities

Yours truly,

David E Ridenour, P E

encs
Resume

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David E. Ridenour, P.E.

[redacted]

Engineering / Technology Management

An innovative Technologist with expertise in new environmental technology integration and environmental treatability testing Managed the engineering and construction aspects of major air water and land pollution control projects for the United States Air Force (USAF) and the Department of Energy (DOE) A Registered Professional Engineer in Ohio and Colorado I possess a Masters Degree in Facility Management With over 10 years of success in all aspects of technology introduction and management I understand the dynamics of multidisciplinary teams in highly complex and fast moving environments Established reputation for delivering the highest quality results with the greatest efficiency With assignments that brought me a broad and diverse blend of experiences my history demonstrates consistent application of five essential skills for success

Resourceful Problem Solving
Superb Organizational Development Skills
Strong Interpersonal Communications
Innovative Project Management
Effective Team Building

The inevitable result of these activities was increased effectiveness for the operations I ve managed My cornerstone in developing or implementing any project has always involved the same processes seeking an overview of the whole and a close-up of the parts evaluating all available data devising strategy leading and training the participants and performing the tasks critical to success My track record represents the effectiveness of this approach

Selected Accomplishments

Cost Savings Saved $42 million over 3 years while leading a high quality technology program I put together a comprehensive program to use new technology for "faster, better, cheaper and safer' completion of the project I managed a diverse group of 20 extremely talented engineers and scientists I flattened the organizational structure, and opened up the office environment by removing partitions and creating a series of conversation areas As a result, teams were formed and decisions made with much greater depth of experience yielding a comprehensive program

Quality Assurance Caught and fixed a major error in procedures and calculations that had been overlooked in nearly 450 previous executions Two entire wings of 450 Minuteman ICBM missiles had been loaded with wrong tapes, provided in error by the Joint Strategic Planning Staff This error would have degraded the entire missile force effectiveness if not detected My crew then identified a way to maintain proper targeting in our squadron missiles and communicated this to the four other squadron crews and headquarters

Team Building Improved the tested proficiency of the wing crews by more than 30% I inherited a demoralized group of 90 crews I reorganized the instructor shop into specific training teams with a lot of self sufficiency and autonomy for each instructor Additionally, I instituted a simple recognition-for-accomplishment plan, with pins, for instructors and crews which made it obvious who the daily performers were As a result, I was offered a position usually reserved for officers several grades above mine at the time

Innovative Techniques Reduced the planned length of a major environmental cleanup by 15 years (50%) The project had a major plume of uranium contaminated water in an aquifer that fed a large city Studies indicated that standard "pump and treat' remedies would take approximately 30 years to reduce the uranium concentrations to acceptable levels I located an innovative "aquifer flushing' technique, based on usage in the uranium mining industry and implemented it for use at the project A major hurdle was convincing the regulators to allow re-injection of materials into the aquifer

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Career Overview

(1997) As **Director of Safeguards & Security** with the *US Department of Energy Rocky Flats Environmental Technology Site (RFETS)* I managed the nuclear safeguards and security for both public and environmental protection I directed a 20 person staff and the activities of a contract security force of 250 Responsible and accountable for the security of over 14 tons of plutonium and enriched uranium

(1993-1996) As **Manager of Technology** with *Fluor Daniel Fernald Company* I managed technology source and integration for a major DOE site restoration project A continuation of the WEMCO project listed below the work included direction of innovative ground water flow control devices and management of diverse efforts including waste vitrification treat ability engineering and research into the removal of uranium from soil and ground water I established an open and free thinking team of environmental and organizational experts to gather examine and rank site technology needs and then develop systematic search and acquisition strategies to meet those needs Simultaneously created a scoping function that looked at emerging technologies for potential site applicability beyond identified needs Documented savings of $42 million over 3 years

(1992-1993) As a **Senior Project Engineer** with *Westinghouse Environmental Management Company of Ohio (WEMCO)* I managed the conduct of environmental construction projects at a DOE Weapons Complex Plant from inception through funding design construction startup and turnover to the owner/operator Involved with projects valued at over $5 million Continued my involvement in this project with Fluor Daniel Fernald Company shown above

(1989-1992) Promoted to **Deputy Commander 50th Support Group (AFSPACECOM)** with the *United States Air Force (USAF)* I managed the daily operation of a new USAF installation employing 4700 people and controlling the operation of four major satellite constellations including weather communications surveillance and navigation systems Negotiated inter agency agreements which saved $23 million in construction of the Strategic Defense Initiative (Star Wars) National Test Bed facility Managed engineering/integration of the Test Bed into the daily operation of the base I represented the USAF in environmental negotiations with civil authorities and won the 1991 Individual Safety Award for Program Effectiveness for Air Force Space Command Essentially I provided base services including civil engineering, police personnel and food to the entire base Managed a $27 million operations budget with full responsibility for community operations base operations maintenance & construction etc the capstone to my 21 year Air Force Career

(1986-1989) Promoted to **Operating Location Chief, Electronic Systems Division (AFSC)** with the *USAF*, I advised the Strategic Air Command (SAC) on all aspects of facility construction equipment installation, test, and mission transfer I managed design construction, equipping, testing, certification, and cut over of SAC's nuclear command and control center, from a hole in the ground to a fully operational facility I brought the $100 million facility on-line, within budget, and on time, despite incorporating the deployment of state of the art communications systems that were in concurrent development

Earlier, I rose through the ranks in the *USAF* holding a variety of engineering positions involved in numerous responsibilities ranging from directing the daily operations and maintenance efforts for a major base to being a Missile Launch Control Officer responsible for the daily operation of 50 Minuteman missiles on alert status

Education & Training

I was awarded a **Master of Science Degree in Facility Management** from the *Air Force Institute of Technology* I received a **Bachelor of Science Degree in Civil Engineering** from *Ohio State University* Other professional training has consisted of seminars workshops and classes in a variety of subjects including Project Management, Communications, Team Building and other management and business topics I am a member of the National Society of Professional Engineers the Society of American Military Engineers and the Armed Forces Communications Electronics Association

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BIOGRAPHICAL

Thirty-one years at Manville Corporation as Manager of Environmental Engineering, Principal Engineer, Senior Staff Engineer Responsible for remaining in compliance with ever-changing regulatory codes throughout the world at over 100 mines, mills, and manufacturing plants Supervised 20 engineers and draftsmen

Five years Director of Training--Air Conditioning and Refrigeration Institute responsible for 20-30 instructors and 500-800 students.

Five years Research and Development, Research Associate, Massachusetts Institute of Technology and Chemical Engineer, Chemical Warfare Service - high energy filter development

Townsend Harris High School in New York-School for honor students

B Ch E --College of the City of New York

Member Somerset County Air Pollution Control Commission
President, North Plainfield H S, P T A
Cubmaster, North Plainfield Cub Pack

PROFESSIONAL AFFILIATIONS

Diplomate, American Academy of Environmental Engineers

Member, American Chemical Society, National Society of Professional Engineers, Professional Engineers of Colorado, Air and Waste Mgment Association, American Society of Heating, Refrigeration, Air Conditioning Engineers, American Industrial Hygiene Association

Professional Engineer's licenses--New Jersey, Colorado, Massachusetts, Mississippi

Holder of patents and engineering awards--including Professional Engineers in Industry Award, 1980-81, Professional Engineers of Colorado

Numerous publications

CLIENTS

Storage Technology
Advanced Foam Plastics
Sand Creek Potters
Bondar-Clegg
Fiberglass Component Prod Company
100 plants and mines of Manville Corporation
Atlas Roofing
Kisilidjan H F, Lake Myvatn, Iceland
AlphaCoustic, Paris, and Pontarlier, France
Acoustical Ceilings Int Hoogezand, Holland
EuropAcoustic SA, Ghlin, Belgium
British Gypsum Limited
Celotex
Owens-Corning
GAF
Haveg Industries
Gates Rubber Co
Nat. Inst of Safe and Health, Den, Cinncinati
RNL Design, Den
Hazen Res, Inc, Denver
Rocky Mtn Analytical, Denver
US Public Health Serv FEOH, Denver
Colowyo Coal Co
Company West, Col Sp

[redacted]

JOSEPH GOLDFIELD
B. Ch. E., P. E.

Engineering Consultant

- ENERGY CONSERVATION
- ENVIRONMENTAL ENGINEERING
  - AIR POLLUTION CONTROL
  - INDUSTRIAL HYGIENE ENGINEERING

[redacted]

CONSULTING SERVICES

- Corporate Energy Conservation
- Project Management
- Design
- Supervise Engineers-Draftsmen
- Turnkey Jobs
- Classes, Talks Seminars
- Troubleshooting, Problem Solution
- International Work-- U S, Can England, France, Italy, Belgium, Holland, Spain, Iceland

EXPERTISE

- Industrial Energy Conservation Ovens, Driers, Pap Multi-deck Board, Ore, Flash, Tray, Steam Tube, etc
- Cogeneration
- Process Air Systems such as Diatomaceous Earth, Asbestos Milling, Glass Fiber Felting, Material Conveying
- Environmental Engineering
  - Industrial Hygiene Engineering Problem Evaluation, Dust and Fume Control
  - Air Pollution Control Particulates-Gases
- Heating, Ventilating, Air Cond
- Steam Systems, Alternate Fuels
- Waste Heat Recovery

ACCOMPLISHMENTS

- INDUSTRIAL ENERGY CONSERVATION

Reduced energy requirements for 5,000,000 CFM air system from 20,000 to 10,000 HP by the use of unique methods of design air fans, development of a low pressure cyclone

Reduced the energy requirements and increased productivity of eight-deck board driers in six plants by increasing air flow, reducing exhaust, changing burners

Installed 1200 ton per hour fluid bed ore drying installation, 490,000,000 BTU/hr, 5500 HP fans, 700,000 CFM fabric filter

Installed steam-tube driers using geothermal steam in Iceland for diatomaceous earth

Prepared studies showing millions of dollars per year cost reduction for energy in Manville, N J, Lompoc, CA, Insulating Board plant-Shenandoah, VA., Jeffrey Mine, Asbestos, Quebec

Assessment of process at Lompoc to conserve fuel, improve productivity, and reduce costs and downtime

Cogeneration system for 5300 KW using heat in process--savings millions of dollars per year--costing $5,500,000

Preparation of strategies for energy conservation for Manville Corporation

ACCOMPLISHMENTS

- ENVIRONMENTAL ENGINEERING

Air Pollution Control

Designed, purchased, installed, largest fabric filter in the world 80,000 bags, 40 acres of cloth.

First successful fabric filter on asbestos mill drier, 700,000 CFM.

Invented HEAF - ordinary fiber glass glass media filtering sub-micron smokes Hundreds installed

High voltage electrostatic precipitators for glass furnaces

High energy scrubbers--Iceland, Lompoc Mine, others

Activated charcoal beds for solvent recovery--Manville, Asbestos

Hundreds of low energy scrubbers, and small fabric filters

Industrial Hygiene Engineering

Cleaned up dust in mining mills and plants throughout the world

Supervised the design, purchase and installation of hundreds of dust and solvent vapor control in paper mills, board plants, ceiling tile, PVC pipe plants, roofing plants, shingles and corrugated sheet, flat sheets, friction materials, textiles

Explosion and fire hazards. New methods of duct design

Joel Selbin [redacted]

[redacted]

JOEL SELBIN, Professor of Chemistry at LSU, was born in 1932 in Washington, D.C. He is married and the father of four children. He came to LSU as Assistant Professor in 1957, after receiving his B.S. degree (with distinction) at George Washington University in 1953, and his Ph.D. in 1957 from the University of Illinois. In 1961 he was promoted to Associate Professor and in 1967 to Professor. He served four years (1977-81) as the Director of Graduate Studies in the Chemistry Department. Since 1984 he has directed an annual three-week Summer Institute for High School Teachers of Advanced Courses.

He is a member of the following honor societies: Phi Beta Kappa, Sigma Xi (Science), Phi Lambda Upsilon (Chemistry), Pi Mu Epsilon (Math), Phi Kappa Phi, and Omicron Delta Kappa, and of the following professional societies: American Chemical Society, AAAS and Alpha Chi Sigma. Honors include being elected an Associate of the Danforth Foundation, an Outstanding Educator of America for 1972, 1975, and an LSU Alumni Distinguished Faculty Fellow for 1972-73. He received the 1973 Charles E. Coates Memorial Award for "outstanding contributions to the profession of chemistry, the Baton Rouge section of the American Chemical Society and the community." He was elected nationally to be Member-at-Large of the Chemistry Section of the AAAS for the term, 1976-1981. From 1981-1984 he served as an Editorial Advisor for National Forum, the quarterly publication of the Honor Society of Phi Kappa Phi. He has often been among the final nominees chosen by students in the campuswide Gumbo-sponsored "favorite professor" contest, having placed second in the final voting one year. In May, 1984, he was elected a Fellow of the American Association for the Advancement of Science (AAAS) "for contributions to inorganic and bioinorganic chemistry". He is a member of the Union of Concerned Scientitsts and is on their Speakers Bureau list.

He has received several large research grants from sources outside LSU. He spent a sabbatical year (1963-64) as Visiting Professor at the University of Rome, doing research, studying and delivering invited lectures in Italy and elsewhere in Europe. He was on sabbatical leave again from January through August 1972, as a Visiting Professor at the University of California at Berkeley (six months), where he studied bioinorganic chemistry, presented some lectures, and during which time he gave invited lectures at 13 other chemistry departments around the state. He spent one month at the University of Colorado lecturing and writing. He spent a sabbatical leave from January, 1982 through August, 1982 as "Visiting Scholar in Chemistry" at Harvard University. Since 1960, he has delivered over 150 invited talks at various meetings including several international meetings. In addition, since 1960, he has presented over 50 research papers at national and regional ACS meetings.

His publications include 110 research articles, six book reviews, two widely adopted textbooks which also appear in Russian, Malayalam, and Malay translations as well as an English East-West Press edition in India, Burma and Ceylon, seven contributions to books, and two U.S. patents. He has served as technical consultant to private industry, another university, and to both the federal and Louisiana state government.

He has directed the graduate research of 3 M.S. and 20 Ph.D. students and the research programs of 11 postdoctoral fellows (from six countries). His research interests center around preparation and physical chemical studies of complexes of transition elements, particularly uranium, vanadium, molybdenum, palladium, ruthenium, gold, and the rare earths and the correlation of theory and experiment for those compounds, and the study of selected organometallic compounds, particularly cyclometallated species.

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He teaches freshman chemistry courses and advanced inorganic chemistry and the following graduate level courses: Chemistry of the Transition Elements; Chemistry of the Non-Transition Elements; Special Topics in Inorganic Chemistry (this usually being a course in Coordination Chemistry). In addition to directing a Summer Institute for high school teachers, he teaches a course in that institute for high school teachers of advanced or honors high school chemistry. He also occasionally teaches a course in the University's Honors Division dealing with Science/Technology and public policy. He also teaches a university-wide course concerned with the rise and impact of nuclear technology and nuclear arms race issues.

For about two years he served without pay as a technical consultant to the Assistant Attorney General in charge of the Environmental Protection Section of the Office of the Louisiana Attorney General. He assisted and advised that office in its role before the Atomic Safety and Licensing Board in the matter of Gulf States Utilities application to construct nuclear power plants at River Bend. Since 1975, he has given over 100 invited lectures (several in other states) on nuclear power and energy alternatives, he has taken part in numerous debates on that subject, and has appeared numerous times on television and radio programs to debate or discuss nuclear power issues. He has had letters dealing with nuclear power and nuclear arms race issues published in Science, Scientific American, The Sciences, and Chemical and Engineering News, and articles in the Bulletin of the Atomic Scientists and the Proceedings of the Third Coastal Marsh and Estuary Management Symposium. He has had letters published on nuclear arms race issues in Science, Chemical and Engineering News and The New York Times. He has had published an article on arms race issues in the magazine Nuclear Concerns and Humankind.

He was one of 15 non-government scientists (and the only chemist) to be invited in July, 1978, by the President's Office of Science and Technology Policy to critique and expand two draft reports on nuclear waste disposal prepared by an interagency task force set up by President Carter in March, 1978. During 1984-85 he served as a technical consultant to the Louisiana State Planning office, assisting in their evaluation of the U. S. Department of Energy's Draft Environmental Assessment of the Vacherie Salt Dome as a nuclear waste disposal site. He is currently a member of the Citizens Environmental Advisory Committee (and the Air and Nuclear subcommittee) of the Louisiana Department of Environmental Quality.

Since 1981 he has delivered a large number of talks to campus and off-campus groups on the nuclear arms race, its background, current status and future directions. He has also debated these issues several times. From time to time he also lectures on other science/society interface topics and on "The Origin of the Universe and the Chemical Elements".

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CANBERRA INDUSTRIES
The Arbor Building
7850 Vance Drive, Suite 220
Arvada, CO 80003

303-424-3578
FAX 303-424-2037

FAX COVER SHEET

Date: 1/5/98

To: KATHY SCHNOOR

Company:

FAX#: 438-6234

From: J. G. Fleissner, CANBERRA IND.

FAX#: (303) 424-2037

Voice#: (303) 424-3578

Comments: REQUESTED RESUME' FOR COMMITTEE
JGF REF: SOIL ACTION

Number of Pages: 3 (incl. cover sheet)

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From: J. G. Fleissner Canberra Ind. Fax 303-424-2037 Voice 303-424-3578

Dr JOHN FLEISSNER

[redacted]

EXPERIENCE

Canberra Industries, Arvada CO
Senior Scientist (9/97 Present)

Responsible for development and management of NDA services and operations at western US DOE facilities

ANTECH Corporation Westminster CO
Director (7/96 9/97)

Director of ANTECH Corporation Responsible for managing and directing operations of ANTECH Corporation USA Lead scientist for development of nondestructive assay instrumentation and measurement techniques

EG&G ROCKY FLATS PLANT, Golden, CO
Associate Scientist (5/89 - 7/96)
Senior Research Specialist (12/84 5/89)

Major job responsibility involved serving as principle scientist for projects involving design, testing, installation, and calibration of nuclear material nondestructive assay (NDA) systems for the Rocky Flats Plant and outside agencies Served as project management on numerous projects for NDA system development and implementation Duties involved serving as a group representative on plant committees concerned with NDA measurement control inventory differences, shipper-receiver differences Duties also included data analysis, statistical analysis technical report writing and preparation of technical proposals publications and progress reports Conducted a multitude of special investigations and studies for the analysis of plutonium production processes product, and exposure sources Developed the TRIFID plutonium isotopic system with a proven 400 percent increase in sample throughput TRIFID is in use at several US facilities including the plutonium facility at Los Alamos and at AWE-Aldermaston in the UK

Recognized as one of the world's experts in area of plutonium NDA measurements and have developed many national and international contacts in the sphere of NDA safeguards measurements

MONSANTO RESEARCH CORPORATION - MOUND FACILITY, Miamisburg, OH
Research Specialist (1/82 - 11/84)
Senior Physicist (4/78 - 1/82)

Responsibilities included designing, conducting and evaluating nuclear detection experiments and nondestructive assay instrumentation and techniques in support of the safeguards development program Duties also included data analysis technical report writing and preparation of technical proposals publications and progress reports

Developed the GRPAUT isotopic analysis code which was put into use at many DOE weapons complex facilities and also at several international locations including the International Atomic Energy Agency

UNIVERSITY OF NOTRE DAME Notre Dame, IN
Post Doctorate Research Associate (12/77 4/78)

Basic research studies in experimental nuclear physics

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EDUCATION

Ph D University of Notre Dame Notre Dame IN [redacted] Nuclear Physics
B S St. John Fisher College Rochester NY [redacted] Physics

SPECIAL EDUCATION COURSES

Risk Communications Skills Lab Dallas Texas 3/91

INMM Workshop in Bias in Nondestructive Assay for Nuclear Materials Accountability 3/87

Kepner Tregoe Managerial Analytic Problem Solving 5/83

PROFESSIONAL MEMBERSHIPS

American Society for Testing and Materials (ASTM) 1983-present

Citizens Against Nuclear Disinformation in Denver (CANDID), President and Founder 1992-present

Colorado Alliance for Science Visting Scientist Program

Institute for Nuclear Materials Management

Notre Dame Alumni Association

St. John Fisher Alumni Association

AWARDS

- Rockwell International Rocky Flats Plant, Engineer of the Year, 1988
- Governor's School Volunteer of the Year Award, 1988
- Rockwell International Rocky Flats Plant, Presidents Award candidate first quarter 1987
- Rockwell International Rocky Flats Plant, Engineer of the Year Runner-Up 1986
- Recipient of numerous letters of appreciation from Colorado Alliance for Science Visiting Scientist Program, Metro Denver Science Fair Program Institute of Nuclear Materials Management, and many departments at Rocky Flats Plant
- Letter of Commendation from Rocky Flats Speakers Bureau

PUBLICATIONS

Over 20 publications List supplied upon request

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FACSIMILE COVER PAGE

Date	12/31/97
Time	13 59 26
Pages	3
To	Hank Stovall
Company	City of Broomfield
Fax #	(303) 438-6234
From	Todd Margulies
Title	President
Company	TM Consulting
Address	[redacted]
Fax #	279-6699
Voice #	279-6699

Message

TO Hank Stovall

FROM Todd Margulies

RE Updated resume

Hank

Here is an updated resume that you may photocopy and give to the other members of the interviewing committee should you need to My list of publications and references are available if needed Give me a call at [redacted] if you have any questions or need any additional information Thanks

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TODD MARGULIES

[redacted]

WORK EXPERIENCE

06/93 – Present **Environmental Consultant**

Colorado Department of Public Health & Environment Denver CO
Conducted an independent sampling program for the Citizen's Environmental Sampling Committee (CESC) focusing on potential soil and sediment radionuclide contamination off-site from the Rocky Flats Environmental Technology Site. Responsibilities included identification of soil and sediment sampling locations, production and distribution of sampling permission packet to landowners, conducting soil and sediment sampling for radionuclides, and coordination with contract laboratory for sample containers, chain-of-custody procedures, sample delivery, and laboratory deliverables. Authored initial draft and edited subsequent drafts of the CESC 1996 report. Currently co-authoring two scientific journal articles.

Foothill Engineering Consultants, Inc. Golden, CO
Conducted Focused Feasibility Study and Underground Storage Tank Investigation at U.S. military facilities. Responsible for drilling of soil borings, installation of groundwater monitoring wells, groundwater sampling, and aquifer pumping test. Participated in dye tracer study to assess groundwater contaminant transport and fate characteristics. Authoring portions of the Ground Water Recovery Investigation Assessment reports.

Diane Short & Associates, Golden, CO
Prepared a Statistical Sampling Design for radioactively-contaminated soil designated for removal and storage. On-site Field Data Coordinator for a TERC groundwater investigation at the Pueblo Colorado Army Depot. Coordinated with three contract laboratories to generate sample labels for sample containers, packaged and shipped samples, and ensured adherence to chain-of-custody procedures. Responsible for sample tracking system in FoxPro, completion of field documentation and field logbooks, assisted in collection of field information (water levels, sample collection) and performed daily back ups of electronic files.

Pinyon Environmental Engineering Resources, Inc. Lakewood, CO
Conducted groundwater and soil sampling programs for City of Denver sites. Supervised drilling of soil borings and groundwater monitoring well installation for aquifer evaluation study at grain elevator in Nebraska.

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WORK EXPERIENCE (continued)

04 93 – 12 93	**Technical Assistant** Colorado Council on Rocky Flats Golden CO
10 90 – 06 91	**Staff Scientist** Radian Corporation Denver CO
10 88 – 05 90	**Project Manager** Science Applications International Corporation Golden CO
10 86 – 10 88	**Senior Associate Scientist** Environmental Science and Engineering Inc Englewood, CO
05 84 – 08 84	**Digitizer/Department Head** Q & C Data Collectors Denver CO
10 83 – 04 84	**Geochemist** Omenex Resources Golden CO
07 82 – 03 83	**Geologist** Dynatech Corporation Geochemical Division Lakewood CO

EDUCATION

[redacted] **PhD** program Environmental Science and Engineering Department
Colorado School of Mines Golden CO

[redacted] **M S** Mineral Resource Ecology Minor Geochemistry
Colorado School of Mines Golden CO

[redacted] **B A** Geology Minors Environmental Sciences Chemistry
University of Northern Colorado Greeley CO

ADDITIONAL EDUCATION AND TRAINING

- Hazardous Materials and Site Investigations Refresher Course (1997)
- Hazardous Materials and Site Investigations Course (40 hrs)
- Hazardous Materials and Site Investigations Supervisors Course (8 hrs)
- EG&G Rocky Flats Work Package Manager Certification Training (1993)
- National Water Well Association Introduction to Groundwater Geochemistry Course (1990)
- Red Cross CPR Certification
- Red Cross Standard First Aid Certification

CITY OF BOULDER

CITY COUNCIL OFFICE

Dan Corson, Councilmember
Thomas Eldridge, Councilmember
Bob Greenlee Mayor
Spenser Havlick Councilmember
Richard Lopez, Councilmember
Donald Mock, Councilmember
Lisa Morzel Councilmember
Gordon Riggle, Councilmember
William Toor Deputy Mayor

December 12, 1997

Ms Kathy Schnoor
City of Broomfield
P O Box 1415
One Des Combes Drive
Broomfield, Colorado 80020

Re: Rocky Flats Soil Action Level Oversight Committee: Request for Committee Appointment

Dear Ms Schnoor

Please consider this letter formal notice of my interest in an appointment to serve as the City of Boulder representative to the Rocky Flats Soil Action Level Oversight Committee

I believe the combination of my education, work experience, and membership in the Rocky Flats Local Impacts Initiative would be a great asset to the Soil Action Level Oversight Committee My education background includes a doctorate in geology and geophysics I currently am employed as a Research Geologist for the United States Geological Survey In this capacity, I have had the opportunity to work extensively with sufficial processes, which will prove useful in evaluating physical, chemical, and biological mechanisms active in soils at Rocky Flats and should help to elevate the level of discussion in topics for consideration by the Soil Action Level Oversight Committee

At this time, I wanted to alert you to my interest in an appointment to serve on the Rocky Flats Soil Action Level Oversight Committee On Tuesday evening, December 16, 1997, I will be discussing this matter with the Boulder City Council and seeking Council's formal endorsement as its representative to the Oversight Committee I will contact you regarding Council's decision following the December 16 meeting

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P O Box 791 • Boulder Colorado 80306-0791 • (303) 441-3002 • Fax (303) 441-4478 • http //bcn boulder co us/boulder

Thank you very much for considering my request to serve as the City of Boulder representative to the Rocky Flats Soil Action Level Oversight Committee Please do not hesitate to contact me if you have any additional questions regarding my qualifications for this position You can reach me by telephone at (303) 938-8520

Sincerely,

Lisa Morzel

Lisa Morzel
City Councilmember

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prepa
has more detail

Soil Action Level Review Information

The U S Department of Energy (DOE) is funding a study to review the Soil Action Levels (SALs) established for clean-up of soils contaminated with radionuclides (plutonium and americium) at the Rocky Flats Environmental Technology Site (RFETS) The Interim Soil Action Levels were agreed to by DOE, EPA and the state in the Rocky Flats Clean-up Agreement (RFCA) The levels are based on a 15/85 mrem dose levels for plutonium (exposure scenarios 15 mrem expected dose to a future office worker, 85 mrem dose to the public if all institutional controls fail) The Nuclear Regulatory Commission (NRC) feels this dose level translates to an acceptable 1 in a million risk (10^{-6}) The DOE calculation to translate radiation dose to actual picoCuries of plutonium in the soil came up with 651 pCi g compared to the current 0 9 pCi g state construction standard for plutonium in soil

The cities, several public interest groups and the general public spoke out strongly against the setting of this standard (600 times less restrictive than the current standard) All believed this number was too high and probably budget driven (What level can DOE afford to clean up to? Set the standard there) Due to public concern, DOE has agreed to fund an independent scientific review of the soil action levels and the methodology used to develop them (many feel the 'RESRAD" model used to generate the SALs is not an appropriate model because it doesn t factor in off-site impacts)

An Ad-Hoc committee was convened in September to discuss the process for the independent review (Hank Stovall is chair of the Ad-Hoc committee) It was decided that an oversite panel should be formed to guide the process

The Oversite Panel's duties will include

- define a public participation process for the review,
- define the Scope of Work and release a Request for Proposals for a contractor,
- review proposals, interview and select the independent contractor,
- oversee the progress of the review,
- evaluate the contractors submittals
- make recommendations back to the RFCA principals regarding Soil Action Levels

The Oversite Panel will have representatives from local governments, public interest groups, technical experts including one member from the Rocky Flats Health Advisory Panel, a Rocky Flats Citizens Advisory Board representative, and members of the general public The panel will not be paid It is anticipated that the panel will require a substantial time commitment early in the process and at least monthly meetings for approximately one year after the contractor is hired (Hank is Broomfield's representative on the Oversite Panel and Kathy is his alternate)

Broomfield volunteered to staff the Ad Hoc committee until the oversite panel is formed Advertisements to solicit technical experts and general public members were sent to CAB, RFLII and K-H for publication in their respective news letters Resumes are being

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sent to the City All meeting notices are being prepared and FAXed by City staff Applicants will be contacted with the selection results by mid-December The first meeting of the oversite panel is expected in December It is hoped that the Oversite Panel will be able to get staff support from CDPHE once they are up and running

The independent contractor's work is targeted to be completed by October 1998 The contractor s work will be evaluated by the Oversite Panel The Oversite Panel will make recommendations back to DOE, CDPHE and EPA regarding the appropriateness of the current SALs in the RFCA, or the need to change the levels based on the independent review The levels decided upon at that point will be incorporated into the planning process for the clean-up of the 903 pad The 903 pad is the largest area of soil contamination on site, and the suspected source of most of the off-site contamination

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City of Broomfield

One DesCombes Drive, Broomfield Colorado 80020

FAX COVER SHEET

DATE	November 20, 1997	TIME	4 02 PM
TO	Chuck Hensel Neighborly News	PHONE FAX	303-466-6425 303-466-6425
FROM	Kathy Schnoor Public Works/Environmental Services	PHONE FAX	303-438-6363 303-438-6234

RE: Ad for Volunteers for Rocky Flats Soil Action Level Review

CC

Number of pages including cover sheet _2_

Message:

Thanks for your help Chuck!

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City of Broomfield

One DesCombes Drive, Broomfield Colorado 80020

FAX COVER SHEET

DATE	November 20, 1997	TIME	4 08 PM
TO	Sara Taylor Rocky Flats Local Impacts Initiative	PHONE FAX	303-940-6090 303-940-6088
FROM	Kathy Schnoor Public Works/Environmental Services	PHONE FAX	303-438-6363 303-438-6234

RE: Ad for Volunteers for Rocky Flats Soil Action Level Review

CC

Number of pages including cover sheet _3_

Message:

Thanks for your help Sara I have attached two versions of an ad for volunteers for the Oversite Panel for the Rocky Flats Soil Action Level Review If you have any space in your Impacts Newsletter for either of these ads, it would be greatly appreciated If you have any questions, please call me at 438-6363

Thanks,

Kathy

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11-21-97

WANTED!

Volunteers to make a difference

If you have an interest in the clean-up
at the Rocky Flats Plant, and can offer
your time to serve on an
Oversight Panel during the next year

We Want You!

The U S Department of Energy is funding
a study to review the Soil Action Levels
established for clean-up of contaminated soil
at the Rocky Flats Environmental Technology Site
Public concern has prompted DOE to agree
to fund an independent scientific review
of the soil action levels and methodology
used to develop them

If you have the time and interest to make sure
Rocky Flats gets cleaned up to safe levels,
join us and make a difference

Contact Kathy Schnoor at 438-6363
for more information

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Volunteers Sought for Citizen Panel Overseeing Independent Review of Soil Action Cleanup Levels for Rocky Flats

The U.S. Department of Energy will fund a scientific review of the soil action levels for Rocky Flats. An ad hoc panel of citizens is being formed to oversee the work of a scientific contractor responsible for conducting the independent assessment of issues regarding radionuclides in soils at Rocky Flats. For information contact Kathy Schnoor at (303) 438-6363.

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Los Alamos

NATIONAL LABORATORY

Chemical Science and Technology
Responsible Chemistry for America

Environmental Chemistry
and Waste Technology
CST-7, MS J514
Los Alamos, New Mexico 87545
(505) 665-0253, FAX 665-4955
Email janecky@lanl gov

December 1, 1997

Mr Henry A Stovall
Council member
City of Broomfield
PO Box 1415
Broomfield, CO 80038-1415

Dear Mr Stovall,

Enclosed is my data base for literature on Rocky Flats Site, particularly related to actinide migration and site characterization The recent reports and documents that I have received have not been added to the database as yet

Sincerely,

Dr David R Janecky

cy file

enc

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[1-55]

1 *Rocky Flats Plant Site Environmental Report for 1988*, 1988, Rockwell International

2 *Final background geochemical characterization report-Rocky Flats Plant Golden CO*, 1993, EG&G Rocky Flats, In

3 *Backgound Geochemical Characterization Report-Rocky Flats Plant Golden Colorado*, 1993, EG&G Rocky Flats, Inc

4 *Comprehensive waste management plan for the Rocky Flats Environmental Technology Site*, 1994, Waste Programs Division, EG&G Rocky Flats, Inc

5 *Geologic Characterization Report for the Rocky Flats Environmental Technology Site-Volume 1 of the Sitewide Geoscience Characterization Study*, 1995, EG&G Rocky Flats, Inc

6 *Geochemical Characterization of Background Surface Soils Background Soils Characterization Program*, 1995, Rocky Flats Environmental Technology Site

7 *Summary of Historical Water-Quality Data for Selected Seeps in the 903 Pad and Lip Area at the Rocky Flats Environmental Technology Site*, 1995, RMRS, LLC Surface Water

8 *Evaluation of Seclected Rocky Flats Environmental Technology Site Operable Unit 2 Storm-Water Radiochemistry for May 1995*, 1995 Rocky Mountain Remediation Services, L L C

9 *Final Report for Solvent Extraction Bench-scale Treatability Study*, 1995 EG&G Rocky Flats Environmental Technology Site

10 *Action levels for radionuclides in soils for the Rocky Flats cleanup agreement*, 1996, U S Department of Energy, U S Environmental Protection Agency, Colorado Department of Public Health and the environment

11 *Evaluation of Existing Data on Actinide Migration at the Rocky Flats Environmental Technology Site*, 1996, Rocky Mountain Remediation Services Environmental Restoration

12 Cobb, J C , *et al* , *Plutonium Burdens in People Living around the Rocky Flats Plant*, 1983 Environmental ProtectionAgency

13 Couch, R F and D W Efurd, *Analysis of a Rocky Flats Colorado Soil Sample Containing Plutonium*, 1978, McClellan Central Laboratory

14 Efurd, D W , *Evaluation of the Procedures Used to Obtain Analytical Data in Support of the Effluent and Ambient Air Sampling Network* 1991, Los Alamos National Laboratory

15 Efurd, D W , D J Rokop, and R E Perrin, *Characterization of the Radioactivity in Surface-Waters and Sediments Collected at the Rocky Flats Facility*, 1993, Los Alamos National Laboratory

16 Efurd, D W , D J Rokop, and R E Perrin, *Actinide Determination and Analytical Support for Water Characterization and Treatment Studies at Rocky Flats*, 1993, Los Alamos National Laboratory

17 Efurd, D W , *et al* , *Isotopic Fingerprinting of Plutonium in Surface Soil Samples Collected in Colorado*, 1994, LANL

18 Efurd, D W , *et al* , *Characterization of Uranium and Plutonium in Surface-Waters and Sediments Collected at the Rocky Flats Facility*, 1994, Los Alamos National Laboratory

19 Efurd, D W , *et al* , *Identification and Qualification of the Source-Terms for Uranium in the Surface-Waters Collected at the Rocky Flats Plant*, 1994, Los Alamos National Laboratory

20 Efurd, D W , *et al* , *Determination of Plutonium Activity Levels and 240Pu/239Pu Isotope Ratios in Bone Collected from Non-Occupationally Exposed Individuals Living In Colorado*, 1995, Los Alamos National Laboratory

21 Efurd, D W , *et al* , *Isotopic Fingerprinting of Plutonium in Surface Soil Samples Collected in Colorado*, 1995, Los Alamos National Laboratory

22 Efurd, D W , *et al* , *Identification and Qualification of the Source-Terms for Uranium in the Surface Waters Collected at teh Rocky Flats Plant* International Journal of Mass Spectrometry and Ion Processes, 1996 **146/147**(August 1996) p 109-117

23 Efurd, D W , *et al Identification of Source-Terms of Actinide Concentrations by Thermal Ionozation Mass Spectrometry* in *Proceedings of the Second Alfred O Nier Symposium on Inorganic Mass Spectrometry* 1996

24 Foster G R and T E Hakonson, *Predicted Erosion and Sediment Delivery of Fallout Plutonium* Journal of Environmental Quality, 1984 **13**(No 4)

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25 Harnish, R A , D M McKnight, and J F Ranville, *Particulate colloidal and dissolved-phase associations of plutonium and americium in a water sample from well 1587 at the Rocky Flats Plant, Colorado*, 1994, U S Geological Survey

26 Harnish, R A , *et al* , *Particulate colloidal and dissolved-phase associations of plutonium americium and uranium in water samples from well 1587 and surface water sites sw-51 and sw-53 at the Rocky Flats Plant Colorado*, 1996, U S Geological Survey

27 Johnson, J E , S Svalberg, and D Paine, *Study of Plutonium in Aquatic Systems of the Rocky Flats Environs*, 1974, Department of Animal Sciences and The Department of Radiology and Radiation Biology-Colorado State University

28 Krey, P W and E P Hardy, *Plutonium in Soil around the Rocky Flats Plant*, 1970, U S Atomic Energy Commission

29 Lemonick, M D , *Rocky Horror Show-Why can't Rocky Flats' plutonium be cleaned up?*, in *Time* 1995 p 69-70

30 Letaor, M I , *Plutonium loading on open space and residential area near Rocky Flats CO*, , University of Coloradao

31 Litaor, M I , *et al The Hydrochemistry of Pu in Soils of Rocky Flats Colorado* in *Presentation for CDPHE HAP, CAB and the Public* 1996 Denver Colorado

32 Litaor, M I , *et al* , *Plutonium-239 and Americium-241 in Soils East of Rocky Flats Colorado* Journal of Enviromnental Quality, 1994 **23**(No 6) p 1231-1239

33 Litaor, M I , *Uranium Isotopes Distribution in Soils at the Rocky Flats Plant Colorado* Journal of Environmental Quality, 1995 **24**(No 2) p 314-323

34 Litaor, M I , *et al* , *Comprehensive Appraisal of 239+240Pu in Soils around Rocky Flats Colorado* Health Physics, 1995 **69**(No 6) p 923-935

35 Litaor, M I , *Spatial Analysis of Plutonium-239 and Americium-241 in Soils around Rocky Flats Colorado* Journal of Environmental Quality, 1995 **24**(No 3) p 506-516

36 Litaor, M I and L Allen, *A Comprehensive Appraisal of 241Am in Soils around Rocky Flats Colorado* Health Physics, 1996 **71**(No 2) p 1-11

37 Litaor, M I , G R Barth, and E M Zika, *Fate and Transport of Plutonium-239+240 and Americium-241 in the Sois of Rocky Flats Colorado* Journal of Environmental Quality, 1996 **25**(July-August 1996) p 1-15

38 Litaor, M I and S A Ibrahim, *Plutonium Asscoiation with Selected Solid Phases in Soils of Rocky Flats Colorado Using Sequential Extration Technique* Journal of Environmental Quality, 1996 **25**(September-October 1996)

39 Merrill, G L , *et al* , *A Comment on 'Remote Plutonuium Contamination and Total Inventories from Rocky Flats'* Health Physics, 1977 **33** p 209

40 Michael, D , *et al* , *Environmental Restoration Data- Evaluation Pilot Project-Volume I Project Summary*, 1995, Los Alamos National Laboratory

41 Mongan, T R , *et al* , *Plutonium Releases from the 1957 Fire at Rocky Flats*, 1996, Health Physics Society

42 Mongan, T R , S R Ripple, and K D Winges, *Plutonium Release form the 903 Pad at Rocky Flats*, 1996, Health Physics Society

43 Ostic, J K , P T Reardon, and A M Thode, *Simulation software comparisons for the joint DOD/DOE program for clean agile manufacturing technology for propellants explosives, and pyrotechncs (CAMPEP)*, 1995, Los Alamos National Laboratory

44 Penrose, W R , *et al* , *Mobility of Plutonium and Americium Through a Shallow Aquifer in a Semi-Arid Region*, 1989

45 Poet, S E and E A Martell, *Plutonium-239 and Americium-241 Contamination in the Denver Area* Health Physics, 1972 **23**(October) p 537-248

46 Polzer, W E and E H Essington, *The Physical and Chemical Characterization of Radionuclides in the Surface waters at teh Rocky Flats Plant*, 1992, Los Alamos National Laboratory

47 Purtymun, W D , R J Peters, and M N Maes, *Plutonium Deposition and Distribution from Worldwide Fallout in Northern New Mexico and Southern Colorado*,

48 Ripple, S R , T E Widner, and T R Mongan, *Past Radionuclide Releases from Routine Operations at Rocky Flats* Health Physics, 1996 **71**(No 4) p 502-527

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49 Roberts, C , *Plutonium could move in rain, scientist say*, in *Boulder Daily Camera* 1996 Boulder, CO

50 Shoroba, R R and P E Carrara, *Surficial geologic map of the Rocky Flats environmental technology site and vicinity, Jefferson and Boulder Counties Colorado*, 1996, U S Geological Survey Jefferson and Boulder Counties, Colorado

51 Smith, M E , J W Unruh, and C H Thompson, *Surface-Water Quantity and Quality Data, Rocky Flats Environmental Technology Site near Denver Colorado, Water Years 1994-95*, 1996, U S Geological Survey

52 Terry, R W *Contamination of Surface Soil in Colorado by Plutonium, 1970-1989 Summary and Comparison of Plutonium Concentrations in Soil in the Rocky Flats Plant Vicinity and Eastern Colorado* in *Central Rocky Mountain Chapter/Health Physics Society Annual Technical Meeting* 1991

53 Thomas, C W and D E Robertson, *Radionuclide Concentrations in Reservoir Streams and Domestic Waters Near the Rocky Flats Installation*, 1981, Pacific Northwest Laboratory

54 Thompson, J L , *Summary of Radionuclide Migration Studies Related to Dynamic Transport Work A Review of the Effort at the Nevada Test Site*, , Los Alamos National Laboratory

55 Triay, I R and D W Efurd, *Utilization of a Flocculation Technique to Remediate Surface Waters*, 1991, Los Alamos National Laboratory

City of Broomfield

One DesCombes Drive, Broomfield Colorado 80020

Fax Cover Sheet

DATE December 10, 1997
FROM Kathy Schnoor, Environmental Services Phone 438-6363
TO Distribution List
RE Rocky Flats Soil Action Ad-Hoc Group

			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 Clocco, Jim Flore, 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

Number of pages including cover sheet 8

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

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

TO DISTRIBUTION

FROM HANK STOVALL

SUBJECT MEETING REMINDER FOR FRIDAY DECEMBER 12

DATE DECEMBER 10, 1997

There will be meeting **Friday 1:00-3:00 PM at Broomfield Municipal Center** in the Zang Spur Conference Room (in the basement) There are two very important topics to be covered at this meeting The selection process for the Oversight Panel and a discussion of the attached DRAFT Scope of Work for the independent scientific review

Proposed Agenda

- Introductions
- Oversight Panel Selection Process and Timeline
  - -Oversight Panel recruitment status
  - -appointments by local government and public interest groups
  - -selection committee
  - -selection criteria for technical experts
  - -selection criteria for citizen members
- 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

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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 CDPHL) 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

is this the proper title

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

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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

a) 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?

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 3 b) above from least conservative to most conservative with conservative meaning that which results in lower contamination levels given a certain dose limit

d) 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

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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

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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

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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

United States Government | Department of Energy

memorandum

Rocky Flats Field Office

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

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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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comments on 6

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	

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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"

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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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SAL 12-12-97

Name	organization	Phone / Fax
Tim Rehder	EPA	312 6293/6067
Ken Korkia	RF CAB staff	420-7855/7579
Bob Kanick	RFCAB member	444-0049 / 0072
Victor Holm	RFCAB	989/9086
Kathy Schnoor	City of Broomfield	438-6363/438-6234
Will Neff	RFETI	940-6090/-6088
Edd Kray	CDPHE	966-2115 / 5449
Steve Slaten	DOE	966-4839 / 3710
Jeremy Hopkins	DFFO / DOE	966-2080/6633
John Corsi	Kaiser-Hill	966-6526 / 6153
Carl Spreng	CDPHE	692-3358 / 759-5355
Hank Stovall	City of Broomfield	466-5986 / 469-8554
Mary Harlow	City of Westminster	
Jim Caldwell	RFCAB	321-7276
Linda Moore	RMPJC	444-6981/444-6523
Dave Shelton	K-H	966-9877/5001
Tom Marshall	RMPJC, RFCAB	444-6981 / 6523
Sam Dixion	Westminster City Council	email dix sam@aol.com 426-1202

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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, MD PHYSICIANS FOR SOCIAL RESPONSIBILITY

Technical/Scientific Experts

NIELS D. SCHONBECK, PhD	Alt	_____
Dean Neil	Alt	_____
Joel Selbin	Alt	_____

Citizen Panel Members

Bob Kanick / Victor Holm	Alt	_____
Todd Margulies	Alt	_____

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City of Broomfield

ONE DESCOMBES DRIVE BROOMFIELD CO 80020 (303) 469-3301

December 31, 1997

		Fax No
TO	LeRoy Moore, RMPJC	444-8523
	Ken Korkia, RFCAB	420-7579
	Sam Dixion City of Westminster	429-5113
FROM	Hank Stovall	

Following is the interview schedule for potential designees for the Rocky Flats Soil Action Level Oversight Panel

Name	Date	Time	Location/Broomfield Municipal Ctr
Joel Selbin	January 6	1 30 p m	City Council Conference Rm
Todd Margulies	January 6	1 50 p m	City Council Conference Rm
Dean Hall	January 7	5 00 p m	Blue 1 Conference Rm/2nd fl

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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

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SIGN UP SHEET

NAME	PHONE NUMBER	FAX	AFFILIATION
Tim Rehder	372-6[illegible]	316 6[illegible]	EPA
KATHY SCHNOOR	438/6[illegible]	438/6234	BROOMFIELD
JANIK STOVALL	466-5986	469-8554	BROOMFIELD
Ken Korkia	420 7855	420-7579	RFCAB
Steve Tarlton	692-3423	782-4969	CDPHE
NORMIE MORIN	692 2645	782 0188	CDPHE
Tim Holemard	[illegible]	3[illegible]	[illegible]
Tom Marshall	444-6981	444-6523	RFCAB
Dave Shelton	966-9877	966-5001	K-H
VICTOR HOLM	989-9086	980-9076	RFCAB
BOB KANICK	444-0049	444-0072	RFCAB
EDD KRAY	966-2115	/5449	CDPHE
Jeremy Karpatkin	966-2080	6633	DOE/RFFO
Jessie Roberson	966 2025	6054	DOE/RFFO
Jeff Ciocco	301-903-7459	3877	DOE HQ
Jim Fiore	" " "	"	DOE HQ (tele)
Ray Greenberg	" " "	"	DOE HQ (tele.)
LeRoy Moore	303-444-6981	444-6523	RMPJC
Sam Dixon	426-1202	429-5113	City of Westminster
M. Harlow	430-2400/2174	650-1643	City of Westminster
John Corsi	966-6526/~~4255~~	966-4255	Kaiser-Hill

December 26, 1997

Mr Henry Stovall,

In reply to our phone conversation

I am interested in the Rocky Flats clean up because I have had experience in the nuclear power field I feel that the standards established by the Nuclear Regulatory Commission are biased toward the industry rather than the health requirements of the public But, I also feel that there is a need to maintain a strong nuclear power industry to cover the electrical needs of the public

My experience is as follows

Seventeen years at Fort St Vrain Nuclear power plant

Ten years of that time as a licensed Fuel Handler The duties were supervising the loading of new fuel and unloading spent fuel The duties also included repairing radio active equipment both on the fuel deck and in the hot cell Record keeping was an important part of this job

Sincerely,

Roy J Bass
[redacted]

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City of Broomfield

ONE DESCOMBES DRIVE BROOMFIELD CO 80020 (303) 469-3301

December 31, 1997

		Fax No
TO	LeRoy Moore, RMPJC	444-8523
	Ken Korkia, RFCAB	420-7579
	Sam Dixion, City of Westminster	429-5113
FROM	Hank Stovall	

Following is the interview schedule for potential designees for the Rocky Flats Soil Action Level Oversight Panel

Name	Date	Time	Location/Broomfield Municipal Ctr
Joel Selbin	January 6	1 30 p m	City Council Conference Rm
Todd Margulies	January 6	1 50 p m	City Council Conference Rm
Dean Heil	January 7	5 00 p m	Blue 1 Conference Rm/2nd flr

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City of Broomfield

ONE DESCOMBES DRIVE BROOMFIELD CO 80020 [illegible]

January 2, 1998

Joel Selbin
[redacted]

Your interview for possible selection to the Rocky Flats Soil Action Level Oversight Panel has been scheduled for Tuesday, January 6th at 1 30 p m at the Broomfield Municipal Center, One DesCombes Drive

The interview will be held in the City Council Conference Room on the first floor Please check in at the Community Assistance Counter in the lobby for directions to the conference room

Directions to the Municipal Center are attached for your use If you have any questions, please give me a call at 438-6360

Sincerely,

Diane Eismann

Diane Eismann
Public Works Secretary

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City of Broomfield

ONE DESCOMBES DRIVE BROOMFIELD CO 80020 303-469-3301

January 2 1998

Todd Margulies
[redacted]

Your interview for possible selection to the Rocky Flats Soil Action Level Oversight Panel has been scheduled for Tuesday, January 6th at 1 50 p m at the Broomfield Municipal Center, One DesCombes Drive

The interview will be held in the City Council Conference Room on the first floor Please check in at the Community Assistance Counter in the lobby for directions to the conference room

Directions to the Municipal Center are attached for your use If you have any questions, please give me a call at 438-6360

Sincerely,

Diane Eismann

Diane Eismann
Public Works Secretary

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City of Broomfield

ONE DESCOMBES DRIVE BROOMFIELD CO 80020

January 2, 1998

Dean Heil
Colorado State University
Dept of Soil & Crop Sciences
Fort Collins, CO 80523-1170

Your interview for possible selection to the Rocky Flats Soil Action Level Oversight Panel has been scheduled for Wednesday, January 7th at 5 00 p m at the Broomfield Municipal Center, One DesCombes Drive

The interview will be held in the Blue 1 Conference Room on the second floor The conference room is located to the left at the top of the circular stairs from the main lobby

Directions to the Municipal Center are attached for your use If you have any questions, please give me a call at 438-6360

Sincerely,

Diane Eismann

Diane Eismann
Public Works Secretary

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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
- Draft Scope of Work for Independent Review turned over to Panel
- 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
  - -Funding
- Next Steps

Agenda Items for Next Meeting

Selection of Panel Co-Chair people

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

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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	Alt	Physicians for Social Resp 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

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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	420-7855/420-7579
V [illegible]	[illegible]	[illegible]
Herb Betts	CDPHE	692-2665/782-0188
NORMIE MORIN	CDPHE	692 2645/ 782 0188
Tom Davidson	City of Louisville	966 2239/566-4044
Niels Schonbeck	NSCD, HAP	556-8327, 556-5399
TODD MARGULIES	TM CONSULTING	279-6699 /(303) 279-6699 call 1st NEED TO CALL
LISA MORZEL	CITY OF BOULDER	938-8520/938-8520
Dean Heil	Colo State Univ	491-6516
Jackie Berardini	CDPHE	692 3472/782-0295
HANK STOVALL	CITY OF BROOMFIELD	469-5186 / 469-8554
Mary Harlan	City of Westminster	430-2400/2174 /650-165[illegible]
Le Roy Moore	RMPJC	444-6981/444-6523
Joel Coldwell	Col. Coal. Ag Nuc. Liaison	321-7276
James McCarthy	City of Arvada	431 3042 4[illegible] 3[illegible]
JOEL SELBIN	UCD Chem Dept.	444-7341 / 556 4776
BOB KANICK	RFCAB	444-0049 / 444-0072
Tim [illegible]	U.S. EPA	[illegible]
Steve Slaten	DOE	966-4539 x3710
J Harpattrin	DOE	966-2080/x6633
J [illegible]	Kaiser-Hill	966 6526/ x6155
Will Neff	RFCII	940-6090/6088
Tom Murphy	Sierra	426-1202/429-5713
Carl Sorena	CDPHE	692-3358 / 759-5355

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON D C 20460

JAN 2 2 1998

OFFICE OF
AIR AND RADIATION

RECEIVED
JAN 2[illegible]
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

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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 Marquhes	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_

h \rfpu\faxcover

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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

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SAL MTG 1-29-98

NAME	ORGANIZATION	PHONE	FAX
John Corsi	Kaiser-Hill	966-6526	966-6153
Dave Shelton	Kaiser-Hill	966-9877	966-5001
VICTOR HOLM	RFCAB	989-9086	989-9076
Ken Korkia	RFCAB staff	420-7855	420-7579
Carl Spreng	CDPHE	692-3358	759-5355
NORMIE MORIN	CDPHE	692 2645	782 0188
HERB BETTS	CDPHE	692-2665	782 0188
Steve Slaten	steve.slaten@rfets.gov DOE	966-4839	966-3710
Jeremy Karpatkin	DOE/RFFO	966-2080	966-6633
Joe Legare	DOE/RFFO	966-5918	966-2995
Steve Gunderson	CDPHE	692-3022	782-4969
KATHY SCHNOOR	CITY OF BROOMFIELD	438-6363	438-6234
Julie Bralkin	CDPHE - CSPI	692 3472	691-7722
Tim Rehder	U S EPA	312-6293	312-6067
BOB KANICK	RFCAB	444-0049	444-0072
Tom DAVIDSON	City of Louisville	966-2239	966-4048
Joe Goldfield	Col Coal Aq. NM CAB-Pu Com.	321-7276	
Jerry Moore	RMPJC	444-6981	444-6523
HANK STOVALL	CITY OF BROOMFIELD	466-5786	469-8554
Dean Hal	CSU	491-6516	(970) 491-0564
LISA MERZEL	CITY OF BOULDER	938-8520	441-4478
TODD MARGULIES	TMR CONSULTING	279-6699	(303) 279-6699 CALL FIRST
JOEL SELBIN	UCD Chemistry	444-7341	556-4776
Niels Schonbeck	Metro State College	556-8327	556-5399
Paul Carlson	City of Westminster	42 2440/2174	
EDD KRAY	CDPHE	966-2115	966-5449
Thomas Pentecost	CDPHE/LARS	692-3078	782-5053

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SAL OVERSITE PANEL
01/29/98

Laura My name is Laura Till and I m your facilitator tonight So I m facilitating the meeting tonight We re scheduled to go until eight o clock There s a lot on the agenda so I m going to keep this moving pretty quickly Why don t we start off with introductions starting with myself and then we ll go around say your name what affiliations you have and what your relationship is to the oversight panel Particularly if you are a member or an ex officio member that s something that s really important for people to hear So again I m Laura Till I m the facilitator I have been the facilitator for the last 10 years Recently some of the work that I have done has to do with the riots in Boulder Facilitating task forces there I ve facilitated in many conflicted situations I m often brought in to community situations or business when situations get tense That's a lot of the work I enjoy Also I just enjoy facilitating meetings and doing training and so if you just want to go around and say your name your affiliation and what your affiliation is to the panel

Joe Joe Goldfield I represent the Colorado Coalition against Nuclear War Although I ve been active in a number of organizations surrounding Rocky Flats issues Since about 1988 So I have a great deal of insight

Laura Okay Joe would you say that you are a member of this panel

Joe I m a member of the panel

Tom Tom Davidson I m a member of the board and the Mayor of the City of Louisville

Bob I m a member of the panel of the citizens that live in Boulder also a member of the Rocky Flats Citizens Advisory Board

Tim Rehder I m an ex officio member of the panel representing the Environmental Protection Agency

I m Jackie Berardini Colorado Department of Public Health and Environment also an ex officio member I ve been working on Rocky Flats issues for years and years and years and other federal facilities around the state I am in our Office of Policy

Kathy Schnoor City of Broomfield I m an alternate panel member from the City

Steve Gunderson I m with the State Health Department I am the RFCA project coordinator for the State and I am not a member of the panel

Joe Legere For the last year and a half I have been the Assistant Manager for Environmental Compliance at Rocky Flats Field Office and I am an ex officio for RFFO to this panel

Jeremy Karpatkin I represent Communications for DOE/Rocky Flats and I guess kibitzer on this panel

I m Steve Slaten I m Steve Gunnison and I m Randers counterpart Since I work for Joe I will probably be the one here all the time even when Joe is not doing the technical work thank you

Normie Morin I m with the Health Department and I m the proposed administrator of this project

Carl Strain Department of Health

Ken Korkia I know a number of the staff of the Rocky Flats Citizens Advisory Board [illegible] Till has to do with this panel is strictly platonic and any accusations contrary to that is

Victor Holm I m with the Rocky Flats citizens Advisory Board and I m an alternate on the panel

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Dave Shelton with Kaiser Hill

John Corsi also with Kaiser-Hill

Mary Harlow Rocky Flats coordinator with the City of Westminster City of Westminster Representative on this oversight committee I served last year on the Citizens Advisory Board

Neil Shombeck I m a member of this panel I m the Department Chemistry at Metropolitan State College in Denver I have an interest a long term interest in the alpha meters internal alpha meters

Joel Saltik I m chemistry department at UCD in Denver although I live in Boulder I m a member of the panel technical end of the panel I suppose I haven t felt that yet but in any case I go back about 30 years now getting involved in nuclear power and nuclear arms race issues I have an interest here although I know very little about Rocky Flats except some stuff but I m hoping to learn more

Tom Margules I'm a member of the panel for the past four or five years I've been involved with the Citizens Advisory Committee study

Lisa Martell I am a member of the panel I am with City of Boulder

Dave Hiel Colorado State University Department of Soil

Hank Stovall Panel Member Broomfield City Council

LeRoy Moore A member of the panel I represent Public Interest organization Rocky Mountain Peace and Justice Center Boulder

Lisa Thank you

Laura The agenda
Activists are going to talk about ground rules
Presentation from Ken Korkia Review and History
Update on Funding
Opportunity for public comment
Break
LeRoy will walk us through the RFP
Take an hour to go section by section
Steering Committee
Public Comment
Schedule our next meeting
Close

Any questions on Agenda

Laura Let s do House Keeping then Some of what we need to do at this meeting is agree on some ground rules for how people are going to interact during the discussions and also what the relationship is between non panel members participating and conversations and panel members participating in conversations Help people to recognize all sorts of issues I d like to set it up as a brain storm I m going to write down some ideas that people have and then we ll come to some agreements on them What are some agreements you would like to have about how discussions are conducted for starters

Ken The CAB generally would put their markers up and then the facilitator would recognize as best as he/she could

Laura writing Name tags upright when wanting to be recognized when [illegible] to speak

Laura Okay what else?

LeRoy Speak only when called on

I think an important caveat is leave all your old grudges behind We got a lot of work to do and we need to keep on the topic

There s a lot of baggage going back from many years back A lot of grudges with DOE and some of them are very important issues but they with what we re trying to do here and we need to focus on what we are doing here

Laura writing So focus on these topics

Laura Others

Avoid way side conversations

Laura Others

Recognizing people only by order facilitator recognizes does not allow what ought to be developed in the give and take between two members Where an issue s discussed to ____ It s very difficult to do that in an organized way I understand that the organized way is the best kind but somehow I think those exchanges may be valuable and some mechanism for allowing in a limited fashion

So there should be some other way then there name tags

Wait until everyone else s speaks on every other subject that one can be discussed

I don t have any obvious ways to deal with this and I know this will be difficult If you can figure somethin out

Would it work if we raise hands if we wanted to address what we just said instead of bringing name tags? Do people understand what we are talking about with this issue is the issue of instead of always going in order of how people are recognized someone wants to address what has just been said someone can raise their hands? Does that explain the issue?

I ll see what I can do

So I m just writing raise hands to address issue that someone s raised without waiting in line

But from this issue we can ask the facilitator to control that and the other is that following up on Ms s comment follow the agenda stick with the agenda

Laura Any other ground rules

Start on Time

Show respect

okay and can you be specific about showing respect

LeRoy No put downs [illegible] comment because we disagree with what some on [illegible] is [illegible]

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Laura Others Lets see what we have and see if it covers anything and see if there is anything that we want to add All right we have put your name tag upright when you want to be recognized to speak

any concerns about that one?

Do you guys want to have that one as an agreement

yes

speak only when called on

leave old grudges behind meaning focus on topics only on the agenda

Laura Avoid side conversations

that s always a tricky one for

It becomes my job as facilitator to remind you of that one

you want to say something about that one

are we going to address consensus on how things are going to be voted on if they are going to be voted on

Laura It seems that it would be a good idea to make that decision because right now we re operating by consensus as you have probably noticed Let s come back to that question in just a minute

Raise your hands to address an issue that someone else has raised If you want to directly address what they re talking about And that would be up to the facilitator to check into and determine whether or not that is appropriate Any concerns?

The meeting may begin without everyone here

Show respect by not putting other people down and no personal attacks

okay it sounds like a list

there are a few other issues we need to address

What kind of decision making process are we using

consensus

I propose that the majority

Any questions for Hank concerns on the majority consensus having 2/3 of the panel members present in agreement that for that issue pass?

I d say that for the purpose of keeping things going when we don t reach a consensus that that s a good idea But perhaps this is just a suggestion if we don t reach a consensus that we revisit the issue in a following meeting to see if there is anything people have thought of I don t know if that s a good suggestion I don t know if there is an easy way to solve this problem but what I don t want to see is us getting bogged down we don t have time for that

In the next meeting

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Revisit issues in which consensus is not reached in the next meeting

Others

This is for the presentation on the suggestions. I think there are some decisions that need to be made at the precise time and no later. If there is such a deadline we need to understand it and make the decision at that time. That would be sub A. Sub B might be once we have reached agreement, put it aside capture the things that we haven't agree on and continue to return.

okay revisit issues where consensus has not been reached in which there is disagreement in future meetings

Well I want to make sure there is timing mentioned someplace. I mean, that's my suggestion.

So decisions need to be made in a timely manner or actually need to be made before the deadline. One of these methods is used. And that is what I am hearing is actually we would try for consensus and if that is not successful then we would hold it over. So when decisions need to be made for deadline by consensus will instruct.

Anything else?

What happens when we have to meet a deadline and we don't get 2/3 votes? Do we go back simple majority in order to make a decision and we can't reach 2/3 because otherwise we are stuck.

Simple majority for deadlines and we will come back and talk about that.

Todd: Once all the discussion has taken place on an issue and the committee has either reached a consensus or has gotten 2/3 or simple majority vote. I think it is important that once the decision has been made that we move on and we don't revisit issues we have made decisions on. It's kind of on the same wave link. I've had experiences before when decisions have been made and things are going on and then at the next meeting someone brings up a topic that has already been decided.

Okay. I think what I heard before and so I'm maybe change the wording on the flip chart was not that the issue needed to be revisited but I think what I was hearing from you at least it is more like issues were there was disagreement. So maybe its something like revisit issues in which an agreement has not been reached. I am not sure. I need help on wording.

I did want to suggest something that maybe would for a time constraint. We might consider revisiting an issue where there is not consensus by the end of the meeting. In other words we have sometime at the end where we discuss items that we have reached agreement on but where time is of the essence and at that time maybe the vote that was being accepted will be a simple majority. Does that make sense?

Okay you are saying if we haven't reached consensus on it during that meeting put back till later on the agenda?

That's right.

Can you say how that how that would help with that issue? I am not clear.

Well if we haven't reached 2/3 majority on that particular item and it is important to reach an agreement on it that we just let it sit for a while and at the end of the meeting we have another vote on the item maybe a very limited discussion on it and at that time we would accept simple majority in the interim at that time. Does that make sense?

Okay I follow you now. So basically what you are saying is that if we failed to reached consensus we set a deadline we reach 2/3 of the panel do not agree at that point there is some more limited discussion that

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happens toward the end of the meeting and there is another vote taken and at that time it might be simple majority

Lisa Two points one has to do with reconsideration of votes that have already been taken in that ____ I don t know if we want to follow where somebody on the prevailing side of the vote would like to reconsider the previous motion in the vote that was taken in the course of that specific meeting do we want to allow that? Also to go back to the ground rules has to do with that somebody has the floor there is no interruptions

Revisit the decisions someone on the prevailing side

I am not necessarily suggesting that I am just throwing that out and it doesn t matter We can discuss but usually _____

Ground Rules

Before we continue with the decision making can I see if people are willing to accept that a ground rule that when someone is speaking no one will interrupts I may need to be an exception to that as the facilitator there may be times in the interest of moving this along I may need to interrupt

LeRoy I simply want to make a comment on this conversation about decision making that this group is dealing with controversial issues which have directly to do with decisions made and possible to be made by the Department of Energy and its regulators Our influence on those bodies will not be very strong if we are divided It is very important for us to reach consensus and people should assume that we are on work related __

Let s emphasize the need to strive for consensus I see that as a part of my role also to really support that Anything else? We got a number of suggestions out on decision making Mary I am sorry you were waiting

Mary I just have one thing to say about consensus having been experiencing the last 3 years in the work through the Citizens Advisory Board is that sometimes recommendations get watered down by the minority vs the majority vote so I think it is important that even we don t have a total consensus on an item at least we tell the Department of Energy that the majority wants this there is always an opportunity for a minority report on an issue I don t think that we can send a recommendation if we don t have a total consensus

Okay Mary what I am hearing you say is that we actually indicate in reports whether or not we have consensus or whether it is majority vote or minority decision

So I just wrote Indicate in reports that decision reflects majority via minority consensus

Joe I see a little problem we have here This panel is set up because of criticism of the soil action levels that has been set up by the authorities The three organizations that participated in setting up that soil action level are represented on the panel They are voting members of the panel I am sorry I thought they were voting members of the panel

Jackie Actually I wanted to request a specific statement from the group about the role of ex officio members just so that we don t get ourselves in hot water I certainly don t want to overstep my bounds and know you don t want me to

Laura Give it we will go there in just a minute I think in organization of the table we will talk about the role of ex officio members

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Jackie Even in terms of decision making I think we ought to be very explicit and say no loading and when it that we are expected to sit down and be quiet and maybe that is just in control of the facilitator I just don t want to push beyond the point

Laura So I am hearing the role of the ex officio member, in terms of decision making isn t there _____ Is that correct?

Yes

Laura Bob

Bob Just noticed the tape recorder over there was wondering what the role is this totally official and recorded and minutes and all that

A subcommittee of this group public involvement group had decided that we should either record the meeting and then do a summary report by way of minutes or have someone here record minutes but we need a historical recording of what goes on and we are in kind of in stages of how to set that up For today the CAB has been gracious enough to set up a recorder after which some less detailed verbatim reprint or a rewrite

So the protocol is approving minutes at each meeting?

We haven t decided that That s a possibility

Laura Okay we will come back to that in just a minute Let s wrap up decision making there are a number of other issues still to be resolved What I am hearing thus far is a strong desire to reach consensus and I think we have agreement on that Am I correct?

Failing consensus a vote will be taken and is it agreed that 2/3 majority is looked for and what one suggestion was that if 2/3 majority is not reached that simple discussion will be allowed later in the meeting that a simple majority vote will be looked for after that If time is a constraint? If time is not a constraint and consensus is not reached at that meeting the issue is brought up at the next meeting Is that correct? Do you want have the thing about revisiting the decisions that if somehow there is a vote taken at a meeting and someone on the prevailing side of the vote wants to revisit that issue because of something that has come up in the discussions they could bring up or is it the case once the decision has been made it is not due to be revisited

Hank If it fails to pass _____

Laura I need to hear from other people do you want to keep that or is there anything else that needs to be clarified by that I can t tell by your lack of expressions or lack of words if that is a yes or no

The reason I brought that coffee cup is from past experiences and a consensus vote obviously there shouldn t be anyone bring it back up and even on a 2/3 majority I think most of the time where it usually comes back up is because it is going down in the arena where we are not sure we do not have a consensus or we don t have a 2/3 vote I think once we made a decision we should try and move on I don t want to sit here and say this is the way we should or we shouldn t I just think that there are times when we don t want to be at a dead horse and when something is done and we made a decision let s move on

Laura So basically once a decision has been made it is not to be revisited I guess I need to hear from people I guess I get the feeling people are iffy about it Do you want something about removing decisions do you want to go with Robert s rules do want to pass that up

It doesn t seem like it would hurt to have it and I think it would help the facilitator

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I am sorry Laura I need to interrupt But I want to make sure everyone was on the sign up sheet Did we get everyone Thank one

Laura Joe

Joe One thing I think we got to be careful of once we move so complex that it is going to hurt our deliberations I mean Robert s rules are being recorded by an outsider and we don t these rules so complex that they can be used against us So that is a concern of setting up too many restrictions If we see something is going that isn t going work we can set up a rule right then and there Trying to foresee every possible figment that could come up at this stage I think would be counterproductive if we make it too complex

Laura Thanks Joel

Joel I was just going to make a point that maybe doesn't need to be made anymore because of what Joe just said and that is there might be a consensus decision that has to do with a technical matter as some new technical information comes in I think you covered that I mean there are going to be occasions where it will be obvious we need to revisit something and then it seems to me by majority vote we revisit it

Laura Okay so basically what I am hearing from a number of people at this point I am going to restate it is that we generally are not going to revisit decisions, if there is new information or there is a special circumstance where someone feels strongly and needs to revisit it they can bring it up and the group can always say hey we have made a decision on this we don t want to talk about it anymore but sometimes there is new information or just as a result of deliberations positions will change on that So is that fair I am going to scratch this Is it okay with people if these are all rewritten for the next meeting and I don t write it up right now or do you need it visually? The next one on here then is to indicate in reports of decision making where the decision reflects the majority view consensus or it is just a minority report that is being put out is that something people want to make a rule around decision making So I will put decisions made by consensus in the reports then by consensus this was decided if it is by majority vote it will be reported by 2/3 majority we have agreed that blablabla If it is a minority that doesn t have the support of the whole group that is putting out a report that will also be mentioned

Neil Just to go back to the suggestion of reasonableness I would like to keep a record of the decisions in terms of consensus or whatever but reserve the decisions as to what we put in the report when we get there

Laura Okay

Neil But I would like the record so that we have that

Laura Okay so keep a record of the decisions whether they are consensus or majority but this is what goes into the report Lisa

Lisa Just following up on that we might want to make sure that both sides are represented in terms of the report That might be more appropriate I am not suggesting that has to be the case or that there should be consent and there is a particular reason that would be helpful in the report you might want to make that as all right

Laura Okay so basically I am just adding from both sides share reasons for the vote so what the positions are on both sides if that seems to be helpful to have in the report

I am not really sure if I understood what Neil was saying or I is a follow up but what I am thinking of is I think we need to clarify now whether a minority report will be part of a majority decision because if it came time to decide it then the majority simply also yet decide that no minority representation gets written in the

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report It is actually something we need to say in advance that if it goes through majority decision that the minority viewpoint is going to be part of that decision

Laura Okay I would like to hear some comments on that or thinking on that Joe

Joe I can see some difficulties with that I think the minutes can state that there was a minority opinion on a such and such but the majority opinion should be what goes into a substantive issue and if that is what we are talking about For example if you wanted deliberate instructions to whoever we pick to make the study and the majority decision comes up to what they wanted to play I see that as a loop decision that if you notify the people who we work that here is what the majority wants but we have a minority opinion that is different That is not conducive operating effectively so if that is what you mean by keeping a record of the minority opinion I see no reason why it can t be in the minutes but I would be very strongly opposed to transmitting that to any authority that we are dealing with in such a way that it would destroy effectiveness of our majority decision Does that make sense?

Laura Jackie

Jackie Yes on this point I would be willing to bet dimes to dollars that we do not have the decision makers for any of the agencies at this table so what I expect would happen is that after this group prepares its recommendations the decision makers is going to look staff and say what were the dynamics of the situations what were the pros what were the cons what were the considerations because they are making decisions based upon in part the recommendations coming from this group So the information is going to be asked in one way shape or form and that may influence your decision about how it is prepared or not prepared

Laura Anything else

I would just speak to that I am not interested in perfecting the majority vote if there s a real feel for a minority report nothing we say today in my of thinking would prevent Time in I go back to the boy scout I would strongly urge that we reach a good consensus on a topic like this What we say today should not prevent or force something in the future I think we are just figuring out how we are going interact with the officials on the decision

Laura Because of time I think I would like reach some closure on this topic I am hearing a number of different perspectives and I don t know if any of them have shifted but basically that minority if we do come to a point where we vote and there is a minority and there is a majority what I hear basically saying is that the information is going to be communicated in one way or another Some people are suggesting that it be in the report and others are saying that it is going to debate the report so and it sounds like it is important to some people at the table that a decision is reached about it I guess I am wanting to hear a little bit more does anyone got a way to pull that together

I think we need to back over earlier to what you said about the report

Laura LeRoy

LeRoy You can t keep a good minority down

I would say that we ought to the rule about the jury rules when a consensus is [illegible] When you are in the heat of battle that is a bad time to make a new rule

Laura Hank

Hank I hope we will not get to the point where we are at [illegible] feel strongly about a minority report is opposed to a formal minority report [illegible] talking about th

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data or minutes of a discussion I guess I have a question for Jackie will the minutes serve as a proper record of the proceedings of the give and take or what?

Jackie Hank I very seldom am asked to go out and xerox another document and give that to somebody to answer all of their questions I am usually asked to prepare a brief background statement summary of the issues the analysis that was walked through and the conclusion and the minutes are not a good way to track through that necessarily

Laura Okay let me just see if I have got the issue down The minorities want to have their voices heard even when they are a minority and may feel compelled because of that to produce some documents there is a desire to not have other documents produced by this group weekend by disagreement on issues be expressed overtly Is that pretty much what this issue is about? And there is a desire to communicate to the agencies again what the process is so that they can use that to make their decisions So I guess I am wondering where we need to go with this We need to make a decision

The agency needs all of that information they should explain to us why Do they want a mechanism by which they can overrule out decisions are What is the purpose of all that the majority/minority report Our efforts are public If anybody wants to visit an issue and see what is going on let them come to a meeting

Laura I guess I am wondering how important to make a decision on this issue right now It seems like it comes down to is it okay for a minority to put out a report if they are not in agreement with the majority and they want for others to have information expressed Bob

Bob It seems I was the only one to express wariness on that but since I think Neil's recommendation of just approaching this with reason and dealing as the subjects come up I don't think anybody would disagree with that

It would seem to me that there is a battle going on at the time it comes up and that is no time to make the decisions when everybody is really

I don't like this The core of what I am getting at is if we approach this with reason and not as a battle kind of like a good faith approach of working to consensus and recognizing that at direct times it may not come down to that if we are still approaching with reason we should be able to say you know reasonableness okay yet I see your point maybe the minority viewpoint should be put into this document and may not be put in this document

Okay mine goes along with that as long as the majority is the rule that we will follow

I think we have already decided that majority will work

Laura It sounds like maybe we do have some consensus right now let me run it by you again that basically if there is not agreement there is a vote 2/3 majority passes at that time there will be a discussion to conclude the minority use and to conclude of both sides of the issue Is that correct? Is there agreement on that? Yes okay I am sure that is what it says right here So instead of indicate decisions will reflects majority consensus or minority it will just be keep record but decide as a group what goes into the report and basically both sides share reason for their votes I am glad recording this this is getting really messy Okay as far as decision making the last thing on here is just the ex officio members are non voting members to make that really clear Anything on that Is that agreeable? That's good The next piece that you just brought up is that one of the agreements would be that minutes will be approved at the beginning of the meeting is that agreeable? Is there an opposing thought to that There one last one that I need to bring out before we go on to the next part and that is just the organization of the table how it is set up right now is that people who are voting or ex officio members of the panel are sitting at this end of the table and the people who are not are sitted over in that area there is an area on the agenda for public comment and this is how it is set up at the moment The members of the panel I guess this comes down to discuss whether or not people who are not on the panel are welcome to speak other than public comment time

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Hank: I think probably this is fashioned after the way the CAB operates and certainly the ex officio members can enter into the discussion it is up to the group I guess to decide whether or not the public can enter into the discuss or whether they are to wait for the space set aside a lot of the times technical reports are really made it is somewhat disrupting for the panel I guess we could but certainly the ex officio should be able to enter into the discussion

Laura: Okay Hank let me see if I have got this you're suggesting that panel members and ex-officio members be part of the discussion and you weren't saying either way on whether or not there should be public comment time

Hank: There should differently be public comment time but I don't know if the public can get involved in the technical discussion when it is going on Maybe the time should be set aside

Laura: Sam

Sam: I think that there could be two places for public comment time maybe a shorter one at the beginning in case there is something on the agenda that someone wants to address and they know ahead of time that they want to address it and they can address it at the beginning and perhaps a one minute or two thing real quick and then at the end you can have a public comment time where they can have three minutes or a little longer if they hear something during the meeting that they want to say but they have the two different times they can address something before the subject comes up and not interrupt the discussion that is going on by the voting members of the panel

Laura: Okay so the proposed if I combine them are two times for the public to speak at the beginning or sometime during the meeting and otherwise the discussion remains between panel members and ex officio panel members unless other people are asked directly

This may be the last time I get to speak I need some clarification though I am an alternate I feel time just sitting here we kind of vaguely some people are sitting up here and others are sitting over there I notice that we have a few DOH people at the table and a couple CDPHE people at the table is that okay number one and number two what is the decision alternates participation

Laura: Sam: Is there anyone that can speak to that

I think there is some very knowledgeable people who aren't members or ex officio members and it would be a detriment to the group if they couldn't speak up

Laura: LeRoy

LeRoy: One I think alternates and non members of the panel should reserve their speaking for public comment periods however when a specific point is being addressed and say Tim knows that there is a person who would be a reliable resource person to hear from that he asks to hear from so and so in other words it would make allowance for knowledgeable people

Laura: I think so LeRoy as far as alternates sounds like you're including them with other members of the public who are Is that correct?

LeRoy: I am not including them at the regular discussion that goes on at the table I am suggesting that they be specifically recognized and given time to speak

Laura: Okay Jeff Yes Joe

Joe: We have seemingly been successful in developing public participation in many of our groups and I feel we need to be very careful that we don't create barriers that exclude them or make them feel unwanted if

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anybody shows up So far we haven t faced it is a practical problem I see no members of the public out here but I think we should encourage it and I think our rules should be set so as to encourage them as much as possible and not make them feel shut out and I don t think we should ought to even if someone has something to say that isn t part of the discussion in the interest of encouraging public participation I would want somehow to open that kind of stuff

Laura Bob were you waiting to speak

Bob I am not sure it got covered but I was just going to say oh it was LeRoy mentioning it that presentable my alternate does a lot of work in this area that I may not have future discussions that we defer to our alternates because they are going to be basically up to speed on this whole process so that was I was hoping for

Laura I think that was LeRoy was suggesting also

LeRoy No I didn t suggest that

Laura Okay

LeRoy The reason I was suggesting having specific time slots for public comment wasn t to restrict anybody there needs to be more than a few minutes for public comment because that is where the resource is and so I would hope by time slotting the public comments it meant that we would want to anyway substantially destruct the public input from the discussion that is the only problem I see the slots of a few minutes if you don t use it you don t have to then if you want to close at five or seven maximum that is fine I don t think we ought to eject you to that cycle generally technical program comment

I guess I want to summarize why I said that first of all the professional facilitator doesn t always hear so we needed rules so the public comments is a time on the agenda when anybody can get up and speak and is fair experts who have knowledge that is pertinent to the discussion and alternates have the mechanism to see those at the around the table and tell the facilitator that somebody wants to speak they have that mechanism and it is very easy for either alternates or experts to make their wishes known just be going to the table and say I want to speak but I think that to say that some rule would be good to keep for the facilitators sake

Laura Sam were you waiting to speak?

Sam Yes I was just going to say that is what we do at our council meetings is the same thing is the fact that we really take all these comments during something but occasionally is warns it and the chair decides that they will call on somebody if they put their hand up if they want to talk or just for the convenience for the people in the audience keeps it running better if you don t have a lot of comment but occasionally there is going to be the time when we will need an expert opinion from somebody sitting out there or a different opinion

Laura All right so it just would be an easier guideline Okay First

Fred I was just going to suggest that for one of the top two would make our decisions and we make a motion and the would be accepting that and the motion would be on the table and people would discuss that and I was going to suggest that we go about doing that then before we make our vote that there would be allowed a public comment period so that the public could make their comments towards the motion We might look at that time

Laura Okay so in terms in reaching consensus then is I understand it that is going to be the primary way that will look for decision making before the group reaches a final decision there would be a public comment period on an issue

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Lisa That might be a little more restrictive I mean it s not for you or me we are going to have agenda items and that from each agenda item there will be a public comment period and then close other comment then we have a discussion then we have a motion and the motion is on the floor and we open it back up for public comment I think there is a lot of times there is discussion that goes on that the public wasn t able address

Laura Let me summarize what I hear you say

Laura During the discussion people on the panel or ex officio members participate in the discussion alternates and members of the general public generally does not participate unless called by someone at the table Is that agreeable any further comments on it before we agree on that There is lots of expression happening here Okay I think we got it All right so I think that is all that we need to do in terms of organization of the table so as far as I am concerned anything else on that or on ground rules before we get on with the rest of the agenda I have to apologize we started late so we are behind so we have to keep moving and I will do my best with that Okay Ken Korkia is going to do a presentation for us to review and the history of the issue So Ken

Ken s presentation

Is there a better place I should stand or sit

At the first meeting of this panel I had volunteered to be the unofficial historian for the group because I have in mind that this is a very significant process that we are undertaking and it might be a good lesson for somebody else if they ever want to undertake this project or project similar to it can learn from our experience and so I am going to be undertaking the role of periodically providing some narrative updates of where you are in the process I see natural breakdown now that we have completed the preparation work for getting this panel under way and somehow encapsulate all the work since the first meeting of the interim group on September 15 of last year and so I have most of the documentation that I have kept from that and I would like to have a couple of volunteers we don t have to do that now but if you can contact me sometime in the near future to really sit down with me and to pull out the issues that were key in developing this process to see what we got today with the goal of writing up some narrative paragraphs that will be the first chapter in our story so that is something I would like you to keep in mind and that is really what I have in mind in terms of providing a history of where we are in this project and hopefully at the end of it we will have a nice chapter by chapter of how we reached the decisions and how we helped improved a process that people were feeling uncomfortable with starting out with the soil action levels and hopefully we will have some success at the end But that is it may I guess I am here to tell a story today The independent review of the soil action levels of Rocky Flats and how we got to were we are today and this is really for the benefit of those that are joining us that fresh in this process and I will apologize in advance for some people are going to say we know that stuff already I am going to try to present at a level that is very basic in this and still may not be as basic cause I am one of those people that I have been doing this for a while and I tend to accept things as being so common that I might speak a little above of what some of you might be able to comprehend so I will apologize for that also So we are talking today about the soil action levels and that is a very important title of this oversight panel this soil action level oversight group but what are the soil action levels and basically in simple terms they are numerical values that determine what type of action that needs to be taken at Rocky Flats to address the soils that have been contaminated with radioactive materials there are other action levels for other materials but we are dealing with primarily with the radioactive soil contamination By action depending upon the level of contamination that exists at Rocky Flats will be a certain numerical value the action level and depending upon the soil that they find out there is above that level or below that level some type of action needs to be taken This action could be you don t need to do anything the action could be that you need to contain the material the action could be that you limit the persons access to the contaminated material you might treat it in some manner or you might remove it that is really undefined at this point but we are trying to look at what the action level is going to be you need to do something to address the contamination How were these soil action levels determined the major driver is the need for there to be some numerical value which you can point to with other contaminants you can go look in guides that the EPA has provided or the State of Colorado is going to develop some sort of standard

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of numbers that are going to be easily to define. When the community, the regulators, and the DOE went out to find the numbers to use at Rocky Flats to help them guide in cleanup of the soil for radioactive materials, there are no numbers available, this something that needs to be addressed from a national level and there have been several attempts at it but so far we don't have a book that you can go to and say this is the number that you can use. A lot of that has to do with the fact that there are a lot of site specific conditions that need to be taken into account. So given the fact that there are no state or national standards that we can point to, the DOE and the regulators had to enter into a negotiation process basically as part of the Rocky Flats Cleanup Agreement which is the legal framework which establishes how the Rocky Flats Site is going to be cleaned up. We know that this agreement is between the Department of Energy, the State of Colorado, and the Environmental Protection Agency. So what process did they go to use to establish the soil action level knowing that there really isn't the book that they can go to find the numbers. The closest thing that they could find were the dose guidelines that the EPA was developing at the time and there was some interim standards and they were using numbers 15/85 millirems and so everybody was wondering what they were talking about. 15/85 were the doses that we were looking at. These were the numbers that EPA was proposing at the time when the soil action levels were being developed for Rocky Flats, these were proposed standards, since then there was a withdrawal of these standards for consideration on a national basis and so we are really at the point again were there are no national standards that you can look at. The 15 and 85 numbers are based on dose, and so you hear 15 and 85 millirems, what do these numbers mean. The 15 number refers to the cleanup or dose that a person will receive from a contamination in the soil based on a particular specified land use for the site, so if there is a determination made that a particular contaminated area is some day going to be an industrial area then the contamination that remains in the soil could not give an exposure greater than 15 millirems for the person that would be an exposure, so the most likely person that would be exposed in that scenario is an industrial plant worker or an office worker that works at the factory, so that is where the number gets set. Then the 85 part comes in as being sort of the back up plan if you're counting on having an industrial area and you can't figure out what is going 100 years or 200 years in the future, you know that factory might shut down and it is going to be boarded up and then 100 years from now, and somebody is going to be in their wagon and say hey that it is looks like a good place to set up a city or do a camp or something, and the people who may inhabit the Rocky Flats site is a residential use. They would go out and grow their vegetables in the soil, they would use the water that is available on the site, they would breathe in the air, they would just live everything, their whole life would be at Rocky Flats in a residential scenario, that could happen. EPA wants to guarantee that they know what the land use is going to be now, but what happens if that situation arises in the future where all the barriers that would prevent that land use break down and that they want to make sure that the person that would be up at site on top of the contamination would not receive a dose greater than 85 millirems, so that is where the dipotomy gets set up. What they try to do is to determine which is going to be the most conservative or the most protective of those two scenarios, the given land use choice at the 15 millirems or considering there might be some future use in the residential use at the 85 millirems. What determines the exposure, and I have talked dose, and the 15/85 millirems, but these actually expressions of the dose and this is a way of describing your exposure to radioactive materials and how does this exposure happen. If there is contaminated soil it is going to be picked up by the wind there is going to be small particles in the air you can breathe those in, that is one way of getting exposure to your lungs by breathing in the particles. If you are going to drink water that is contaminated that is an ingestion route that you can get the contamination into your body that way. If you are in close proximity to radioactive materials because of the different types of radiation that it gives off, you can be exposed just from the contact of being in close proximity to the materials, so there is a lot of different ways that you can be exposed. The different land uses from these exposures is going to determine exactly how much exposure you are going to have. A person living in the contaminated site obviously is going to have a lot more opportunity for exposure because that person is going to be living there, they are going to be there for the majority of their day, they are going to be breathing more each time you take a breath and there is a certain amount of contaminated material in the air, you multiply that times the number of breaths that you take per day, and that is going to increase your exposure or the dose that you receive based on the number of breaths that you take. If you are a factory worker and you are at the site for 8 hours a day you are going to be breathing in the air for 8 hours, so really the land use scenario is a very key, and you are going to know that discussion about how to consider the land use at Rocky Flats is still something on the table for this group, so you need to know that is a very important part of the process of determining a person's exposure. There are other types industrial uses a

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residential but then there is also like an open space recreational user exposure where a person might be recreating at that particular site maybe two days out of the year and maybe only two hours out of those two days for a year So really you can see how the time your proximity to the site are going to be some factors which are very important in determining your exposure So how does the level of exposure get translated then into a contamination level in the soil that is deemed acceptable for Rocky Flats Then the regulators sat down in the negotiation process they said that they were going to determine the soil action levels by use of a computer model called RESRAD and this is just a lot of mathematical equations that got thrown into this computer software which then you put the inputs in and you are going to get an answer at the other end so there is a lot of input perimeters into this model there is factors with affecting your breathing rate how many times you breath how much dust is going to be in the air what type of soil is there is it the type of soil that can be readily picked up and blown around is the particles small enough that you are going to be breathing it in the amount of water that you drink whether you eat food that is available at the site all of these different ways that you can be exposed to the contaminated materials get factored into the model and so by plugging in all of those variable the bottom line is that you produce a numerical value then that is going to tell you the contamination that produces the given dose and it really determines upon the land use scenario of this employee and the assumptions that goes into the model So why is there consternation over at Rocky Flats soil action levels that have been set up through this negotiation process with the DOE and the regulators and they came out with a draft set of guidelines and there was public comment on that but the bottom line is that the numbers were higher then the benchmarks that had been established in the communities mind I think this is significant because there aren t the standards or the numbers that are published to that you can go to and point at So there are certain numbers that have been used historically and one of the most important was the state soil construction guidelines that were established back in the 1970s which was really the first attempt to try to put a number that is acceptable for the amount of contamination that can be at Rocky Flats or in the area around Rocky Flats This number has been known for quite sometime and it was 0 9 picocures per gram and so it is just under one picocure per gram The soil action levels for Rocky Flats were over 1000 so you can look there is several orders of magnitude difference between those two numbers so whether that is good whether that is bad but that sets up what they knew previously Then people begin to do a little more work on this and do a little more research and they discovered that there were other bench marks out there that they could compare to one of them was the NOB Facotol in the South Pacific were they used numbers such as 40 picocures per gram as being a number that was deemed appropriate for the cleanup the Nevada Test Site and the Hanford Site which are all part of the DOE weapons complex are using numbers in the low 100s So I am not trying to say that there is a value that I am going to associate with those but there is according to the public s bench marks of what other numbers that you can compare to the Rocky Flats numbers seem high So are the Rocky Flats numbers too high? That is what you are here is part of to help determine The community has suspensions about this but there was general agreement that there wasn t the scientific foundation and knowledge within the community to make that decision so there was a request then made that there would be an independent assessment made of the soil action levels at Rocky Flats were the community could come together pull together a panel like this higher there own independent science experts that could come in and do the work for them and tell them one way or another to help ease their suspensions I would like to caution that we talk about we feel that the numbers are too high but the goal of this panel is to remain open until the scientists can do their work your role as been discussed is to help guide that process to ask the proper questions to give your concerns your ideas in the process and let the scientists to do their work and then the results will come back and then we need to make a value decision based on that work that the scientists have done There was a call for the independent review the Citizens Advisory Board sent a letter requesting this the local cities have sent letters also and Congressman David Skaggs so there was a lot of interest in doing this Some of the questions that were asked about is the RESRAD model the best model to be using to make that conversation between the level of contamination in the soil and then the dose that is acceptable whether it be the 15 or the 85 Are the parameters correct? What about materials that might get off site we know that the RESRAD model doesn t specifically address the issue of migration of materials off site it deals primarily with the contamination as it exists on the site There was some questions whether the 15 85 numbers that were used is the guidelines from the Environmental Protection Agency are the appropriate one are these acceptable dose levels So giving these questions then DOE agreed in concept an independent review in response to the letters that came from the community and the first meeting of the interim group then was interested in such a panel get set up was held on September 15 1997 There is

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some basic agreements made at that first meeting there were three primary ones there was an agreement there would be a look at RESRAD model is it the best model to be used to make that conversation between the contamination level and the dose levels there was general agreement that there should be someone to look at the input parameters that would be fair game for the contractor to look at the specific inputs into the model and then there was agreement that there should be an examination of the other soil clean ups that have happened across the world dealing with plutonium as a contaminant in the soil not specifically to look at the numbers that they got but to look at the processes that they used what type of models did they use and the contractor will use this information in coming back to us and saying this was done at this site because and it may not or it may be applicable to Rocky Flats we don't know that is the work that we are going to let the contractor do There was not agreement at that first meeting on whether looking at the acceptability of the 15/85 millirem numbers would be something that would be happening for this project so that questions was bifurcated but it still remains a very active community issue There has been a letter that has gone EPA and the National Academy of Sciences which is currently in the process of determining of whether they should go further with their look at what acceptable dose levels would be from radioactive materials So that will be an ongoing issue that works with antandum with the process going on here We know the issues of migration of plutonium and other contaminants from the site this is a very important question in people s mind There is Actinide Migration Studies which the site has set up this group will work parallel with that effort going on and there maybe some oversight role for this body in the future with those actinide migration studies that is an issue that remains to be determined So what happened between September 15 and where we are today well as you can see it takes a lot of time to have discussions with a group this large and so there were a lot of discussions about the scope of work for the project what should be the make up of the panel how many members how many representatives how many people from the local governments how many citizens, what should be the selection process A lot of issues were dealt with and discussions over the period of time between then and now There are some outstanding issues as you see from the work plan that you have or the scope of work again these include the issue of migration the sampling protocol the land uses technologies that might be employed the issue 15/85 millirems so there are a lot of questions still out there that you have to work and hopefully you will be able to do that the of this evening in determining your scope of work I have as part of our responsibilities as members the CAB staff we prepare a weekly summary of any meetings that we go to and so I have been in all of meetings since September 15 and so what I did was put together a summary or composite of all the meet that I have attended that have been part of this process so they are really written for the number of board and each one was taken as a separate snapshot of where we were for that week so the flow all the time so hopefully I can offer these to you so that you will have some sort of a sketch of how we got to where we are today So that is how we got to where we are today

Future Questions for Ken

Tim Ken I really have two parts of this puzzle first did the agencies do the right job in doing the conversations from activity in the soil to a dose number and then second is that the right dose number that we should be going for?

Ken The National Academy of Sciences has been doing a scoping study of what they call the BEIR Report or the BEIR 5 Report BEER is the acronym stands for Biological Effects of Ionizing Radiation The BEIR 5 report was done in the 1990s based on a lot of new studies the question come up is to when the BEIR 5 should be updated I have now the results or at least the summary report from that scoping study The NAS has decided to proceed with the BEIR 7 to review based on the new studies those dose or rather those dose calculation risk numbers that go with the BEIR 5 study So I underestimated the tonight I have 20 copies of this I will make sure that everyone in the panel gets one at least and there be a few others to hand out The table in back is quite good because it they specifically called out the so I think 36 studies that they feel that are specifically relevant to this question

Ken I just have one question What does RESRAD stand for

Ken Residual Radiation

That is it? It's not RE something?

No it is Residual Radiation

Laura Anything else? I sorry Joe you were next

Joe I haven't kept up recently with the bureau reports that was a time when I was familiar with them correct me if I am wrong but it seems to me that every time your report would come out the levels would change and they were changed toward more conservative levels I am highly distressful of all kinds of acceptable doses acceptable to whom to me to you to children to asthmatics to post menopausal women what are we talking about with acceptable dose levels It seems to me that we have to be very very cautious and very very skeptical of folks who tell us about acceptable dose levels I want to know there is no average person there is no normal person in this world levels of radiation have vastly different effects on no only different animals but different human beings and I worry and then I hear this range that I think if I am correct of 9 picocuries up to over 1000 picocuries that is an incredible range and then of course lots of numbers in between I guess I want to implore this panel to exercise a very high degree of skepticism and a very low tolerance of acceptable dose levels without getting a great deal of information and I don't know what is coming along with DEER 7 what they are going to do with acceptable levels of ionizing radiation I am hoping that we keep a very open mind and a very skeptical mind in this community with the folks that come in with numbers and that we really pin them down as to what these numbers mean to real people and real people with various kinds of differences from each other

Laura Okay and is that an end point

I think that a couple points need to be made we the agencies did the calculations of the RESRAD model using that number that was generated by earlier BEIR reports because there is no regulations there is no standard at the time there was a pending federal regulation that was based upon that dose level so that was the beginning point The second point that I would like to make is it is my personal belief that if we get bogged down or to deliberate on the issue of what is an acceptable site level we aren't going to get very far that is a question to be answered on a national basis and it is bigger than we are here at Rocky Flats I know it has a whole lot of input but when we were struggling as an interim group trying to come up with recommendations to the finally selected panel about what should be the scope We thought it was most appropriate to try to plug ourselves in that national evaluation separately and to not make that the focus of this group To that end Deanne Butterfield and I with exchanging drafts with many other people in this room sent the letter that Ken mentioned to EPA and National Academy of Science and DOE and the chairman of the BEIR committee asking for a particular public role for participation to ask precisely that type of policy question acceptable to whom and I don't what other policy questions There copies of that letter we have had to reply on it and maybe it is time push back on them but the point that I really want to bring home is that there are going to be a lot of questions beyond this scope of this particular work group that can still be dealt with in other form and this may be one of those

Laura One thing I want to say as the facilitator is that our time for this topic is up I see a lot of people waiting to speak I guess I need to know from this group I guess if you don't feel you absolutely need to speak put your name tags down that will be really helpful and I need to know do you want more time on this agenda item meaning it will shorten our time on other agenda items I am thinking about when we get to the item on the RFP it is really going to be an opportunity to think about what the role of this group is So if there are things that can be addressed it would be helpful also So I will go around if people can keep their comments really really brief and if it has been said please don't repeat it

Joe I would like to encourage every member of this panel that hasn't gotten their copy of the Health Effects of Plutonium Contaminated Soil is one and the other one is Plutonium by Residue on Contaminated Soil I am not posing as a world famous expert but this report shows the greatest disturbance in people that has tried to set levels of acceptable contamination It shows that they run all the way 2 millirems per year as acceptable contamination up to 100 millirems per year and so forth Now as different levels set up all over the world by people who have not done research on health effects

quite a bit and there is not necessarily a relationship between the millirem per year that they are trying to achieve and the soil action level that they have said was the level that they are going to be down to. So there is a lot of conflict going on, disorientation in this entire effort. The thing that caused consternation to us is that nobody set a level that approached 14.029 picocuries per gram that was being proposed as the soil action level for Rocky Flats. Now I think that it basis a lot of work and I would like that included in the scope of work as a primary item. I think our goal is to determine whether 14.029 picocuries per gram is acceptable to residence living on that soil, because other people have come up with completely different numbers. The second item that I wanted to point out is that we got to go through the maze of the different soil action levels that have been presented for Rocky Flats. There is one key item that came out in the soil action level discussion that is no matter what different land uses are proposed and whatever restrictions are set up administrative they are going to break down over a period of 10, 20, 50, or 100 years and that we have got to have the place cleaned up so that there is a negligible health effect for people living on that soil as residence which is the most restrictive use to which the soil could be put. In other words, the way the report was written 14.029 picocuries per grams is supposed to be acceptable for health effects caused residence living on that soil because we said well they show that we could not ensure that residence would not live on that soil if that is what we cleaned up that soil for.

Laura: Okay, Rita.

Rita: Tim, I just have a question. Tim, do you have any more copies of that. I think there are a lot of us that didn't get one.

Tim: I made 30 copies, so we are going to be a little bit short.

Laura: Okay, anything else.

I wanted to just address Jackie's comment about acceptable. Agencies, their role, requires them to have the acceptable, I mean you can't operate without it, the purpose of our panel is to distance ourselves from that value per term, and I propose just the way to that is focus on the things that we can identify, activity, pathway of exposure, dose, and leave the issue of acceptable to a further point. That will be the ultimate decision is what are going to consider acceptable. If we get confused about what the people think is acceptable before we even get started, we are going to get derailed likely. So I just propose to leave that out. And the other comment that I have is what Joel said is that the DEIR report is already started, and I think that we should just focus on numbers for now.

Laura: Joe.

Joe: Ken, that was fantastic, but just for completeness, and you can evaluate this, soil action levels are one part of the action level frame work that folks have just come up to speed on Rocky Flats. It includes water, soil, air, and it includes radionuclides as well as heavy metals and organics. All of these are interim. They are reviewed annually, the body of scientific data is reviewed annually, any standards, any reports that the RFCA parties are made aware of by folks in this room or other bodies, and put in the context of closing interim action levels to determine if they need to be revised. Additionally, any input that came from the Actinide Migration Panel would be considered in these interim action levels. So when we get there at the site decision which right now is probably safe to say around 10 years we will have a decision on final cleanup standards. I just wanted to throw that out.

Laura: Thanks, let's move on to the next topic. The next piece is an update on funding, and I don't know who I am assuming some one from the Department of Energy might speak to this.

Sure, what do you want to know.

Laura: A brief update on what the funding is on this.

The put in quotes "contract" the second vehicle we are going to pursue is a grant mostly for ease of implementation We will attempt to use an existing grant and we have several we haven't decided a specific one yet I don't think that will be a particularly difficult issue but by using an existing grant and adding the scope of work i e the scope of work that this panel is going to describe we will more in an expeditious manner be able to set up that vehicle were by you have the funding and the authority to spend on that money on the scope of work that you described Once the DOE has a scope of work from the panel it should be a matter of week or two to turn that around to a grant or a grant which would manifest itself as an addedunum to an existing grant again the reason being how expeditiously we would be able to implement this versus setting up a new grant Nothing difficult there So the timing wise really depends on you folks when we get the scope of work back again I think a week or two to turn that around into something that you have a budget authority that you can then spend Now if you go to pick a project manager for us you will understand the triple constraint scope cost schedule it has been difficult to bench mark how much this study should cost because the information we have right now is mostly the cost and schedule and we need the scope to complete that picture Things we have done to date trying to find studies similar to what you may be pursuing here ranged from $12 000 to $30 000 Again not having a specific scope of work that had to be based on what we thought the scope of work would be

Laura Okay Norma

Norma Maybe legal lawyer Hank can address what I was going to say

I really want to know if DOE is not planning to be the driver of setting the cost that is the first time I guess I have heard that constraint It is still up to the panel to come up with the scope of work and have it put outside for analysis seems strange

The short answer is no let me tell you why The controls are a little different on a grant versus a contract With a contract quite frankly we would have much more control over how you spent the money with the grant we really don't We will have a frame work which you will operate but within that frame work you have tremendous flexibilit the checks and balances from a grant come from the Inspector General s Office and just as we provide a letter and I am not sure of the contractual meety but a letter or something that says here is the grant and it is in general terms to perform this type of work a similar letter goes to the Inspector General which is our check and balance and they choose or choose not to follow up on that to see how the grant was exercised and didn't meet the intent of the broad scope that was laid out So prior to piece meeting it you will and I don't mean that to be negative the scope of work starting with some seed money for thus and so and a little more for perhaps an advancement in the process it is preferable for RFEO and our audibility if you will to have the scope laid out at once as the entire grant is transmitted to the trustee

Given that answer I think we need to look at our timing concerns as you know time is of the essence so we will try to address it in a timely manner obviously funding in a timely manner

Laura Okay LeRoy

LeRoy Joe is the when you use the word grant you are talking about a grant that is related to this project

Joe Yes or excuse me it will be made through an existing vehicle the reason that I sound a little gray there we have a half dozen grants out there with the CAB the state the EPA the way we want to go we haven't discussed with the grantee I will as an example Jackie we have a grant with CDPHE we would like to make an amendment to that for x dollars for this scope of work you would execute the grant through this vehicle to this panel The reason we are choosing to do that we think is a reason you will like which is it is much quicker to amend an existing grant versus a month or more to set up a new one So it would be a matter of by with one of the parties and that was just an example but with one of the parties that we have an existing grant we reach an agreement with them that they are okay with administering this grant I mean operately administrating the referred aspects of the grant and so that this panel can exercise the grant

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LeRoy: So if this approach is followed is the decision then made on the site level and does the funding come from the site or from headquarters?

Joe: The funding currently exists in the RFFO budget. DOE/RFFO.

LeRoy: My next question is related to that is what happens with the fiscal year process: do you fund the whole project even though we are going to or likely cross the boundary of October 1st and the fiscal year or do you have to go through a separate process?

Joe: You would be able to expend fiscal year 98 grant money in fiscal year 99. The intent would be to issue a grant that covers the scope of the project. If the scope of the project crosses fiscal years that should not be an issue.

LeRoy: My final question is I didn't understand those dollar numbers right at the end of your speech.

Joe: That was just to make sure everyone was awake. Those dollar numbers I asked some staff to look at ASTDR, EH headquarters our office of Safety and Health, and some other studies look at there for folks that do similar types of studies and what was the scope of these efforts. I gotta tell you that I am not sure that we have not come up with an exact match yet this was the primarily down that we had and what I was expressing to you was that we have come across some studies in some respect was similar to these for example peer review studies that were in the ballpark of $30,000 but again you can't say they are apples and apples.

LeRoy: Are you suggesting to us that perhaps the study that we are about to commission can be done for that level of funding?

Joe: No what I am telling you is what I have found for the best that we can find similar that has already been done out there the peer review nature and how much that cost.

Joe: If we can get to your RFP finished by let's say the 1st of March can you guarantee us that you can get money transferred to us within a reasonable time frame by April 1st?

Joe: Yes. You want to make it harder how about 2 weeks. I really do if we are using an existing grant vehicle and we are amending that grant I really think we can turn that around in a week.

In a week.

Joe: Yes.

Jeremy: Just a very small clarification when Joe said the money is in the RFFO budget was that means is that we have made money available there was not money added to our baseline for the study. We started the year with a baseline because of the commitment made by the department nationally we basically sucked in from existing scope and budget whatever it will take to fund the study. I just want to clear it is not as though headquarters came and said here is extra money to add to your baseline for the study. Just that clarification.

Future: Yes Joe.

Joe: Just as a matter of [illegible] define [illegible] tell us how much it cost to set the soil action level.

Well the technical work [illegible] the technical people a few hundred hours of work then the going out to public comment with a dozens [illegible] more hours of talking to you and taking public comment and writing response to comment. A hundreds of hours it probably cost the taxpayers a good totally burdened everything it probably costed $50 an [illegible] to the taxpayer maybe is much as tens of thousand of dollars to set them actually. Um.

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Tim Including all of us a few tens of thousands of dollars I suspect

It was only six months

Tim But weren't all experts in the field

I can't imagine anybody at Rocky Flats doing anything for ten thousands of dollars The contact issues and studies that we saw the agency paid millions for each item

These were largely not done by contractors they were done by fed staff and state staff

I think you people should before you try to set a limit us you should try to find out how much you spent on setting the soil action levels including the presentations that you made with us which cost many thousands of dollars the presentations the printing of material the elections they mounted to tens of thousands of dollars and you should do the cost accrues estimates in order for us to have some guidance on how much a process should cost

Laura Okay so we are going to go to Joe and then to Dean Dean's been waiting a long time I am jumping over to Joe cause I think you want to address this directly

Joe Yea a couple of things first was and I will also get in trouble for this but I would rather give you the incomplete data the data that we have today which was kind of a study that we looked at cause I know that you want feedback These numbers were not meant to limit or intimated you in anyway I am just telling you what we have out there I don't want you guessing what is on my mind I fully expect that when you have an RFP or scope of work that comes back to us that you are going to justify why you think it costs what it does You are going to send back the RFP and you are going to say we think this is an x hundred thousand dollar scope of work and we are going to be able to read through it and see your rationale and we are going to evaluate that way There is no artificial threshold here of $30 000 or $12 000 we don't intend that this is going to be a funding limited evaluation nor do we think it needs to be

Laura Hank

Hank My question was that just that once the award is made to this panel then does the panel make the ultimate decision as to which firm or whatever the scientific review can be awarded to

Joe You are going to love the grant process we have very little influence in that relative to a contract So the answer is yes that will be your decision

Laura Jackie

Jackie Yea a couple points of clarification if the grant passes through the state and for instance what is going to have to happen is that there is going to have to be a contracting process and we have talked about ways to shorten that there is nevertheless a contracting process that has to meet the state law and fiscal procedures and that sort of thing we are going to work with you to make sure that happens as smooth as possible and that the substantive selections of this group provided they match up with state procurement requirements are honored The other point I wanted to make was as to Mary's point maybe we can expedite this process a little bit by working on a scope of work for a grant application and a little bit more detailed RFP to go out for contracting the reason I am proposing that two step process is we need to get the money from DOE or whoever the grantee needs to get the money from DOE before the formal contract process can begin So things can't go out on the street just because they turn lose of the money to somebody so you know in order to expedite thing we just may have to be a little bit creative

Laura Norm

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Norm: My immediate concern is in order to continue this process and to keep it going as smoothly there are certain costs like Hank brought up that we are incurring. We need a facilitator, we need a note taker, we need some mechanism to pay for that. The subgroup that LeRoy or Hank referred to the subcommittee to earlier has decided that two components that are very, very important and that we have got to start with now are the facilitator and a note taker, and they don't feel that DOE is generous offer to provide those is acceptable, they feel that it has got to be their choosing, both people have to be of their choosing. In order to keep this going smoothly we have got to figure some sort of mechanism for that so if you could think about that and get back with us we would appreciate that.

Laura: Joe.

Joe: Yea, just one more chance to be generous. Particularly considering that I think everyone is interested in getting on with this sooner than later you may only be talking about one or two sessions that we could be facilitated or notes taken, let me just all forget that. I think it is just a reasonable compromise to facilitate getting a cleaner grant through the system but we do have trained facilitators that would be willing to just transcribe the tape recorded minutes for you. I just wanted to offer that again that we would provide those services obviously if you are not satisfied we will pull the people back and wait till the grant goes through so that someone more acceptable can come on line. I think you might find that our folks are pretty good. The grant pass through you might have heard, and Jackie was just expressing if it came through the state and it will probably would be pretty similar if it came through the EPA or the CAB or others, there are still some protocols that need to be followed to get to this panel and I contend that it is more expeditious then if the federal government has to write another grant and so again that is still why we choose to use existing grant trust us on this one, it will be quicker. Just one last thing I wanted to make sure, since I am working with Dave Shelton pretty closely on a lot of things we have talked about I just wanted to make sure that I wasn't misleading or incomplete on anything that I have said about funding or anything.

Laura: Lisa.

Lisa: I just have a quick question on overhead expenses and that we need to do a proposal and we have not identified the vehicle or the agency in which this going to _____ expenses are going to be different. So how are we know then _____. Well the percentage of overhead that or is there going to be there are overhead costs or administrative costs and how do we know what the percentage is for different agencies if we haven't identified the vehicle or are you just going to add that.

I see so would do have an answer Jackie.

Jackie: I have a proposal. What I would anticipate if we would receive the grant amendment would be a scope of work from this group and then the grant people we have back at the office would add on the bills and process that would go in with the grant amendment request. I think separate and apart from the administrative costs of a pass through grant we need to look to add on the administrative expenses of this group for things like the facilitator and note taker so we will look to you for that too.

Laura: Okay it looks like there are not more people waiting to speak on funding and I want to check in on the agenda at this point, we started late, at this point we were to be at 5:50 it is 6:15 it is time for public comment and then a break. I guess I am wondering as far as this group is concerned what the needs are for a break and also in terms of the public what the needs are for comment. Are there people in the public waiting to speak or can you just raise your hand if there is anybody waiting to speak. Well it looks like we can skip that 10 minutes so then the next question is for the rest us what do we need in a way of a break right now do we need 10 minutes.

I just wanted to say Hank you had mentioned in our last meeting that I think we are striving for is to really hammer out this RFP tonight so I am not too sure that we are hard tasked for the 8:00 pm finishing time although I would love to meet that.

Laura: Cathy.

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Cathy I just wanted to let everybody know that the outside doors may be locked so if you need to go outside you will need to prop the door open

Laura Now my watch says it is 6 12 right now I am going to ask people please be back at your seat at 6 22 and ready to start

Laura The next task on our agenda is to take a look at our RFP and then we going to go through section by section and make changes and how we are going to start is LeRoy is going to take us through a walk through LeRoy is going to walk us through and during that walk through we are not going to make comments or decisions about changes it is just a chance for everybody to go through the whole thing and then after we have gone through the whole thing we really will go through it in greater detail Ken you wanted to say something

Ken I just wanted to say that I have a camera here tonight I am going to be taken a few pictures because CAB is going to be doing an article in their next newsletter about this process and I wanted to get some action pictures I hope no one minds and if you do mind raise your hand and I will make sure that you are not in the pictures

Laura One more issue before we start and that is about acronyms not everybody who is here knows what the acronyms mean at this point and so it is not really effective in terms of communications to use them and so if I could ask people to not use acronyms when ever it is possible people are going to forget if someone uses an acronym and you don t know what it means just interrupt that is a case when you can say wait explain that acronym

I made a note as I went through these 10 different alphabet soup a lot of them begin with r I don t mind them appearing in a document if there is p ir ithensis wh it they st nd for but a lot of these are used and there is no reference in the entire document

Laura Wh it are they?

Here is my list now I know what most of those are by now but my point is you don t alw ys know when you are trying to read rapidly through something suddenly you are hit with some letter

Laura So LeRoy I see you are writing them on the board are you going to write wh it they are bec ause I think since that we are going through the Request for Proposal

LeRoy I think it might be wise to get them up there so why don t we do th it very quickly Joel they are you list

ALARA As Low As Reasonably Achievable
CDPHE - Colorado Department of Public Health and Environment
HAP Health Advisory Panel
RESRAD Residual Contamination
RFCA Rocky Flats Cleanup Agreement
RFETS Rocky Flats Environmental Technology Site
RFSAL OP Rocky Flats Radioactive Soil Action Levels Oversight Panel
RSAL Radioactive Soil Action Levels

Laura So if people who don t know what the acronyms mean does it work if you look at the board or do you need people to st rte

I have a proposal I think we should have a perm inent piece of p iper like th it th it we keep addin g to and we h ive it issued to the board periodic ally so that they h ive a list of all possible acronyms th it peopl in use

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LeRoy We have a very poor organization that we belong to we should charge fines for people who use acronyms we can raise money that way All right I am going to begin with a document that you should have received it looks like this there are ten sheets of paper and what I have let me say to introduce it that there are two RFP proposals that are kind of the final reductions of two different traditions I am not going to go into the detail of how we ended up with two separate sets of documents and one of them is A2 you remember at the last meeting we received the document called A between now and then A1 came into existence and more recently A2 came into existence and A2 has everything from A everything from A1 and a few things added that make it A2 so that is one of the documents That appears on the left hand side of the page in the ten pagers that you have in front of you on the right hand side is the other primary proposed text for the RFP there is another acronym which stands for Request for Proposal for the Soil Action Level Independent Review so column C that document appears throughout the ten pagers on the right hand side of the page There is one other key document that is incorporated into this and that is a memo that was written by several people from the government agencies the lead name on that memo was Jeremy Karpatkin but it was also signed by several other people from the different agencies and they made four specific proposals and you will see as we go through this I have incorporated it into the document their proposals so we can look at it when we get to the appropriate place I did not say that it was done myself between yesterday afternoon and today It is in your hands and what you should have received previously is document C and if you were at the last meeting you received A Forget about those right now and forget about A1 which I think you may have had faxed to you yesterday because A2 is a more recent version and we want to work with that one

Mary I just would like to update the panel that I took all the information on myself to put this together so that we could have something to work for and that is where the A1 and the A2 came from and it is so difficult to get a typist that can understand what you are talking about when you are trying to put together three RFPs and to make them flow So I took all of it put it together and faxed it down to [illegible] yesterday and LeRoy took this and put it together so that is how this all came about

LeRoy Okay Mary identifies herself as the source of A2 and the source of C [illegible] did the primary writing with a lot of help from Victor who sits back there [illegible] a group of people that met and looked at that document including a couple people from the [illegible] So those are the two text now what I am going to do right now is first of all do a very quick walk through I think that I can do it in a whole lot less time than the time that is up for and then I am going to make three general proposals for kind of big decisions for us to make about the RFP document and then [illegible] will I will circulate some other information to you that gives details on the differences between the documents that we now have before us and identifies at least the ones that I have been able to spot and we will [illegible] through those point by point with I am a facilitating us So to begin with the Request for Proposal document that we intend to put out to possible contractors that may do the course of work of the independent review of the soil action levels The background specifies what the beginning part of this document specifies what this is about that we are reviewing the soil action levels it doesn't go into the detail and certainly not elegantly as we just heard from Ken Korkia a few minutes ago If you turn into page two you will see that document A2 also has a section on purpose and we will pay more attention to that later there is no statement of purpose in document C The heart of the document I think is in the scope of work the scope of work I am going to read because it is a very nice summary I am going to read a little bit from the opening part of document C on the inside of the page the contractor is being requested to investigate three things first to review model of methodology of cleanup levels that may exist or are being developed for other radionuclide contaminated sites as to how they may apply to Rocky Flats site specific situation second to review the existing analysis used to set the current soil action levels as to its accuracy and applicability and third based on the results of the above investigation calculate and then to set the soil action level [illegible] something that this group might in fact propose to the government agencies With this introduction the [illegible] next part of the document goes point by point through I think a total of eight different pieces of the [illegible] work and I am going to follow the order in which these are laying in document C and [illegible] you will turn to page three is that item #2 in document A2 corresponds in item [illegible] I have arranged the material on the page that way Item #1 in A2 corresponds [illegible] The first item is the cleanup levels from other sites and I don't think I need to say more [illegible] that kind

of information that is one piece of the homework we are expecting this contractor to do some local folks have already paid for that information second is the computer models what other models we know that the RESRAD model was used by the agencies for the calculations of numbers that they came up for the current Rocky Flats soil action levels what other models computer models exist and how they compare with each other the third item is a very very important one is the inputs and assumptions in the computers that RESRAD model had feed into it 70 some odd different pieces different kinds of information you can imagine all of that detail going into that computer model and what comes out at the final end is based very much on that mix of 70 different items and the way they come out in the end So this part of the paper on page 4 Inputs and Assumptions is about all that information that goes into the computer model Point number four is here called here on the Bob help me with this

Bob The point of methodology is the fact that we are choosing the

LeRoy Okay I see where we are there are several ways of looking at the information and calculating it and if you look down under discussion four the discussion is that it is understood that there is several methologies e g bounding rough estimates probability risk assessment etc So this is the part where the contractor is being asked to look at those several methologies and perhaps recommend a method that the contractor thinks would make the most sense to us The notice in the middle of the page action four is from the agencies and it is a proposal that is something that we deleted from our discussion I am just alerting you of that at this moment so you can see how I have inserted it into the page which comes from the agencies memo Item number five is an independent calculation by this point using all of the information that the contractor has gathered then the contractor will begin to come up with an independent calculation and if you will look at the very bottom of page five on the right hand side this will be they will calculate contamination levels for the dose limits set for each of the Rocky Flats Cleanup Action Land Use Scenarios assuming the original analysis this includes the residential scenario as part of the calculations include the statement of the assumptions and the level of uncertainty involved in the specific approached utilized state the dose limits in terms of risk in other words make the translation from dose to risk Now moving down protocol refers to the sampling method It is proposed in the two RFPs as we have them at present in the A version and C version that the agency or the contractor presents us with that particular details in the appropriate sampling method for taking soil samples that would actually become in the RFP at Rocky Flats when they are trying to decide on how to apply the accepted soil action levels to the cleanup of the site how deep the sampling hole is how many samples are taken in a given area and so on these kinds of questions You will notice under action six Protocols in the middle of the page that the agencies are asking us to delete that section I am sure that we will spend a little time on that today The next item on the list is Actinide Migration Ken gave a little bit of background about that the Actinide Migration Panel is created to look at the question of how much how rapidly under what conditions nuclear radionuclides migrate in the environment particularly in the soil around Rocky Flats It is a very important question to the people living off site wondering is that material going to stay on the site or is it likely to migrate off the site and so we wanted to pay attention to the studies that are coming out of the Actinide Migration Panel and incorporate as far as possible what they are learning into our work looking at the soil action levels and getting the contractor to make comments on the soil action levels so these two sections under Actinide Migration has to do with getting the contractor to be in contact with in some direct communication with the Actinide Migration Panel learning from the and incorporating their findings Finally going onto not finally but finally in particular for this part of the paper is to go onto page seven we come to an item called Water Quality and this again is related to possible offsite migration and you will also notice that the agencies are asking that this section be deleted number six in the A2 column I must admit that I don t absolutely understand but I think that we can talk about that later when we get to that as we work through the text but I think that it is a much more general approach to water quality in the C side of the page is about and that is it has to do with off site in fact possible migration of plutonium and other radionuclides whether is precisely parallels with water quality I am not sure and I may be able to learn a little bit about that from other folks Then let us turn to page eight page eight is a collection of information that appears in the A2 document not under any particular heading but I think some of these are relevant under future parts of the document which we will get to in a moment some of them may stand alone and be where we need a different section with a different heading in this A2 section It seems to be questions about things that we would want to be sure that the contractor does to provide information to the [illegible] might be [illegible] kinds

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somewhere later I propose some language and I am not sure what I have said but it was something about procedures or something like that but we will come back to that one obviously We go onto to page nine Deliverables this means what are we expecting in the way of actual products from the contractor or the people doing this independent review we would expect regular reports to us we would expect a final written report both of these A2 and C sides say in different kinds of ways that they want work submitted for some kind of peer review journal and that is perhaps one way to cover the peer review issue anyway this is the part of the document which would specify what kind of formal or final reports or documents that we are getting from the contractor that summarizes the work Finally on the 10th page there is a section called Schedule and Timeline and you can look at the schedule on the left and the schedule on the right they are quite different from one another the schedule on the left assumes that we would take a year on this work when the group came up with side C we thought perhaps it could be done in less time and we will need to look at that Now let me find out if there are any questions before I toss something out and we go to the general decisions that I hope we can do first Bill

Bill As a total new comer here it occurs to me off the top of my head that we may think that we are looking in all the ways that radionuclides can migrate when we look at air soil and water but I can think of a fourth way and it is a way that we know it can migrate Chemicals concentrate in the food chain up through animals and animals concentrate chemicals of all kinds and that would include radionuclides I don t know what the movement of animals is like on and off that site but animals can certainly be carrying radionuclides all over the darn place

LeRoy So why don t you hang on to that concern and we will come back to that that might be a point that might be appropriate for the group

Laura I think what LeRoy is asking is anyone confused about the layout how he has put the documents together We are going to go through it page by page now and iron out any disagreements or confusion on each page but is anyone confused about the layout of the documents is he is it

Is C the most recent version then?

LeRoy You have the latest version A2 and C are the latest version but they are different from one another they are not identical

Laura Bob

Bob I just wanted to comment one other background thing is to use a word that I like to use early byphrocation C was a draft we were working with and then a draft A was produced which worked out to be a prior version of development of C and so they ended up going to different routes

Laura Okay anything else?

Are we going to I want to know how to regard this are we going to a synthesis of A2 to C or are we going to try to decide which sides are quite different

Laura We are going to deal with that

My final question is in regard to what Jackie said earlier are we going to give thought to doing a scope of work to get the funding going with the idea that we will have a more detailed RFP after we hear from the perspective contractors I think until they come talk to us I think we will have a better idea of what is realistic and we will probably alter some these details Do you have thoughts about that?

LeRoy Yes I think it is a good idea to try to move things as rapidly forward as we can and therefore as necessary as it can possibly be for us to come up with the text that we can agree on so far We can get together on the content of the text as would be to all a trade I hope we can do that and that would provide a preliminary document that can be refined when we [illegible] need to modify it

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I have one criticism of all of the drafts that I have seen they are too general they do not include quantitatively the concern that was expressed by all of us that set this whole thing up and I have set up two sentences that I think included that concern and I would like to see that incorporated somewhere in the document

LeRoy I propose that you find a place to incorporate it and make the specific proposal when we get there

Laura Actually what I was going to suggest is that we will do is take it page by page and so when we get to a topic that sounds like the right place for that text and we will go through it and _____ you will have to sort of defense is we go through and let us know what the text is For other people s information on each page before we go onto the next page we will not only discuss the differences that are here but we will give people a chance to bring up any other concerns differences or issues

LeRoy Jackie

Jackie I don t know when the appropriate time is but I get the sense that there are some people in the room who are intimately familiar with the soil action level process system and document and with the Rocky Flats Cleanup Agreement and that there are others who are not And I think that type of context would be useful before finalizing the scope of work or the RFP I don t know how to operate or when to operate it

LeRoy Are you talking about an educational session or some or sort?

Jackie Yes I think so I mean some of the comments indicate to me that there is more than disagreement operating sometimes sometimes there is a lack of understanding of others views

I think it would be helpful

Jackie That is why I am not suggesting a time for that but certainly there needs to be that discussion with the panel and perhaps with the contractor

Laura Steve you have been waiting to speak

Steve It is a good way with something I wanted to say is one of those intimate people not only with the old

Laura Steve is it the same issue I think we might want to get a little resolution on this issue

Steve It is the exact issue and a little more specific in that some of us do have a long history and a lot of knowledge about what we are talking about and the entireties of it and also many of us in this room have been through in the last few months the process of coming up with these things so some of us are really intimate in what this means and we think about these others it is new to them What I need to say that it is from a DOE standpoint what has gone that has led up to here we have worked a lot with the first group the ad hoc group or whatever on these things and you have a few comments for example on the C document we worked with the group and then off line with some others and the C document we thought was getting very close to what DOE has said that they would fund and that they could fund The A document we went through several iterations and it was getting close to what DOE thought we would fund but then in one of the iterations everything was put back in according to Mickey to make sure that she didn t lose anybody s thoughts so the A document right now if we go through and start talking about it it will have lots of comments I think because I think it has everything back in there that we thought needed to be out to the scope that DOE has said several times and in writing that they would support and fund Along those lines if people want it know I have another legal memo which is similar to his last one and it refer ates what DOE the three things DOE has said that they would fund and they are the three things that are in the C document So if people want that I will go ahead and pass it around I have about 20 copies but if we do

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start going through the A document tonight and you want to know what DOE thinks about it will be slow and I will tell you everything that is in it that I think about

LeRoy I don t know how we can avoid that

Steve Okay we have been through it before you won t be hearing anything new just a few people will be hearing it for new

LeRoy I don t know what else to do but I am not going to invite you to start in on it We have a process that we follow

Steve I will follow your process I am not ready to start in I haven t prepared anything I didn t know what it would look like tonight

Laura Why don t you start passing them around starting on this side so that the people on the panel will get a copy LeRoy could you show the people what your proposal is I think it might clear up about what we are doing right now

Just as a side comment in the future anybody who brings anything to the meetings could you make at least 35 copies that is how many people we have on our fax distribution and I am missing a lot of the meeting because I have to keep running upstairs to make copies As a note for future if you bring anything bring 35 copies that would be a great help

Steve I thought 21 would be too many

LeRoy If you take this second I have a sheet that has the decisions that need to be made about our RFP so take that sheet of paper and all that I am going to do right now is make three general proposals and if you look at the first one can we make decisions tonight only on content and not on the specific language if we can agree to do that then we can name a committee to do the word smithing outside of this meeting and then to circulate their product in time for us to be able to review prior to our next meeting so hopefully we can approve it with revisions that can be made at that time if we decide on a committee to complete the text can we also leave to them the task of determining the appropriate orders of items as I pointed out earlier A2 and C don t follow the exactly the same order So my proposal is that we decide first to concentrate only on content and not on the word smithing

I think that is a great idea

Laura Is this something that we can work with great any concerns

LeRoy Then second we need to agree to appoint a committee to do this word smithing and we can do that very quickly now or we can wait and see if the steering committee might want to have something to steer What shall we do?

I suggest that we postpone it

LeRoy Shall we hold it until after we are done with this process and then we will select the group if we can agree we will do that before we leave here tonight Have we decided then have we made a decision on this first part and is it okay if we turn over to that group also the task of saying which order will follow in the document Any problems in that Okay that was easy In number two in draft C in the scope of work section the consistent pattern in document C is to have two sections an action item followed by some discussion of that particular action item A2 by contrast does not include a discussion it seems to me that we have three possible choices here one is to go with the A2 approach of not having any discussion one is to go with the C approach of having a discussion at every point along the way and the other is neither of those but to keep the discussion after the appendix at the end C can we make a decision about which of those we prefer and then we can refer the decision to the group we are going to manage?

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Laura I was just going to ask if people understood about the difference between what LeRoy is suggesting about the discussion

LeRoy Let me invite you to take a look at what page was that to look at page two no page three see on item Cleanup Levels at Other sites you have an action paragraph and you have a discussion paragraph the action is what we are asking the contractor to do and the discussion is some discussion about the action for the contractor If you look over on the left hand side of the page there is only one paragraph it is essentually the action paragraph It is the difference between those two approaches of writing I am assuming you have all read these of course and so you are very familiar with the language

Mary LeRoy can I interject here

LeRoy You certainly can

Mary One of the issues that I have discussion was on the scope of work was that it pretty much told the consultant how he is going to do his job and I don t think that is what we wanted to do in my estimation we wanted to tell them what had to be done but don t tell him exactly how he had to go about doing his job and that is what I noted in all of the discussions on this, you look at this you don't use this and use that I don t think that is appropriate

LeRoy So you are in favor of not having the discussion

Mary Yes

Laura Okay someone else was waiting

I am going to be the opposite of you I like the discussions and I found A hard to read hard to follow I found C very easy and very clear and I think it maybe in part due to the fact that the actions and discussions were separated out We could change the word from discussion or to address Mickey s concern maybe reword it you guys or whoever reword it so that it doesn t look like we are directing the contractor I think that there needs to be some more organization then is in A2 or in the A document and then perhaps the action and discussion is the way to go

Laura Okay Joel you had your hand up were you waiting to speak

Joel I just have a quick question that has to do with page two under A2 the Actinide Migration

Laura We will go through page by page so would you mind to wait till we get to page two just saving that question

Joel Sounds like an awfully important panel

Laura Yes let s talk about this but let s resolve this issue Lisa and then Bob

Lisa I would just reiterate what Neil said I found C much easier and cleaner to read and I find that when you are dealing with nine different action items or ten different action items it is a lot that we are asking for so the actions proposed and then there was a justification for it

Laura Okay Bob

Bob Just to address Mickey s concern in hopes that cause Victor and I actually put that draft together and we liked the way it turned out our intent with the discussion section was explicitly to avoid telling them what to do but to frame the issue because we felt these were questions that they would eventually ask us anyway when we got into that meeting with them You can read a very clear precise set of actions but in

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evitability we felt that they were going to come and ask us these questions and we were also trying to capture concerns from the charter that this organization had so that is why it grew to what it is now we can strip these things out if we think they are too restrictive but that was the intent of that section and I thoroughly understand and I will fight anything in here that tries to tell the contractor what to do

Laura Okay Hank

Hank Thanks for that clarification Bob that was the concern that I have been back when I was looking at this if the discussion can be qualified in some fashion saying what you just said that these are quotes to be potential by lines or whatever and that it is not meant to direct the contractor in their approach to the work I think that approach would be okay, for instance where we make statements such as the contractor is to concentrate on published material on supplemented by each of those parts you may know but I am not sure that this all inclusive and I don t want the discussion to in any way restrict the action

Laura It sounds like there is some agreement do you have a different take out let me frame what I am hearing and then if you have more to add then jump in basically it sounds like the people are in agreement that there is not a desire to direct the actions of the contractor through the discussion section but that there may be some wording in there that sounds like that right now and so there is just a concern that the wording be done in such a way that it creative of contractor but that is an explanation or justification or a framing and not a comprehensive list of what they are to do Is that an agreement? Does that address the issue the word smithing people then make sure that intent is dealt with? Am I hearing that people want to keep the discussion section if that is address?

LeRoy I want hear particularly from Mary because she brought this up so strongly

Mary Well you know considering I am from the city I see RFPs that are two point bullets action work and so you don t use consultants for the scope of work is and so that is why I had a concern about the discussion because it pretty much tells them do this and do the other where the open ended bullets work and then you let the contractor come back and tell you what he thinks can be encompassing in that so I was thinking that you may want to have that leeway but you know if Bob feels that there is some way to clean this up to say this would be nice but this is what we have what we specifically what we would like you to look at but not the we want you to do this this and this exclusively

Bob To reach the third idea that we strip all the discussion and put it in a section at the end and therefore there is clear bullets and if they feel the want more background then they can go into this discussion area

Laura Okay Jim

Jim I found the discussion or C was easier to read and I think what the discussion points in there it will be easier to get a tighter cost estimate to the finds a little bit you don t want this so open ended

Laura Okay Joe

Joe I find the discussion just look at the first part it uses buzz words and definitions that I don t understand and have never heard defined For example and I think they try to trying to hide the final result that was achieved and I am not sure that anybody is proud of the findings but let me give you an example of what I mean when they talk about site specific conditions that have to be studied no body has ever defined to me what there is about Rocky Flats that would justify a soil action level that is 15 or 100 times as high as other people have come up with site specific has never been defined to me that is fine as I am concerned is the underlying buzz word and I would not like the contractor to be delving into that to try and figure out how that caused the changes unless somebody writes down for me what that means

Laura Okay Joe what I am hearing you say then is that you don not like the discussion part

Joe Well I don t like specific values in the discussion and secondly

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Laura Okay Joe before you go into what they are I think your point is taken and I want to keep this moving

Joe Now I wanted to state something in that same paragraph

Laura I mean that I think your point that some of the discussions sections actually make it less clear with you when we go through page by page it would be helpful that that point can come out and I think right now I want to just keep us focused on do we want a discussion section or not and we will come back to that Neil

Neil The idea of putting the discussion in an appendix if fine with me I think that would clarify the reading of going through the action items The other thing is that it could just be matter of phrasing instead of discussion we might want to say historical framework or something like that so that it identifies it is where this is where all of this is coming from

Laura So I have to summarize where I think we are are you raising your hand so it seems like there is agreement that again the discussion section is not intended to tell the contractor what to do the word smiths are going to go through and comb that out of there, or give a try and people can give feedback there may be some other points that need to be cleaned up also However I am hearing two different things it would be fine to put the discussion section in the back and it would be fine to leave the discussion section where it is because it makes it tighter So I guess I need us to make a decision on this so that we can move and actually get into the RFP Do you want a decision section? Yes

We may not have to decide that now I think it could just be a matter of formatting and how the eye reads the paper and maybe next time you can give us two options for a couple of pages I don't think it is that important except for how the eye travels the document

Laura Okay so it might be something that we come back to Jim

Jim I was going to say I like it there because it deals with it and you don't have to flip back and forth as you are following through

That is exactly the point I was going to make I have been reading scientific literature now for over 40 years and I can't stand it when I have to look at the back of the book or look at the back of the article in order to find out something when it could be at the bottom of the page or along side I think it ought to be right there I mean why should somebody have to do that I like it reads now I really like the way it reads much better than A2

Laura Okay do you want to make a decision on it right way or do you want to go with Neil's suggestion and come back to it and try it a couple of different way and see how the eye travels? Bob

Bob What I envisioned with this is if we are going to attack content tonight let it go through so that we can get all of these versions out of here come back with one thing to look at and then start honing it like this

Laura The strongest that I have heard is to leave it in there for right now how would it work to leave it in there for right now and then next time when you come back to it if that doesn't work you can move it to the back is that all right?

Mary How would we get in there with the caveat that it has to be word smithed

Laura It has to be word smithed and that will be reviewed at the next meeting for people's approval and make sure that it has been word smithed appropriately Okay let's move on

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LeRoy Okay if you look at item 3 General Issues can we confine our discussion and decision making in regard these to address to known and potential disagreements and I have defined what I mean by those words known disagreements of those between the two drafts and the following couple of pages identified a whole lot of those at the last meeting our disagreements between these drafts and what the agency memo recommends so those are known disagreements Potential disagreements would be any changes additions deletions that might be proposed such as what Joe was referring to so could we agree that that will be the focus of the rest of our discussion that we will really concentrate on the matters of disagreements

LeRoy I don t get it what is that you are excluding

LeRoy Well we are not going about every word in the document we are going to talk about the points where there are disagreements within the text those are the things that we need to make decisions about maybe this doesn't make sense

Laura It maybe what people already agreed to that the word smithing will happen later and that we will focus on the contract is that pretty much the same Neil do you have something to include

Neil I was hoping that and I don t think you meant this LeRoy that you didn t need to exclude notions of organization to present off I was suggesting a new section that the bodies that pieces that have been floating around

LeRoy That would be a new proposal

Laura Okay can we start? All right let s start with page 1 and if you look under the General Issues down to Specific Issues what I would like to do is to start with the Specific Issues that are start [illegible] the ones that aren t start and then ask for any additions after we have ironed out how [illegible] the start items or any other concerns that belong on that page but to work through [illegible] item A the first paragraph of background and A2 does not appear in C so if you look at that [illegible] The Rocky Flats Environmental Technology Site was constructed in 1951 the site serve [illegible] facility to manufacture trigger components for nuclear weapons In 1989 operations at the [illegible] shut down due to safety and production problems the site s current operations involve decontamination and deactivation of radionuclide contaminated buildings remediation of environmental [illegible] management The question is do we want to keep that paragraph? Yes Bob

Bob Prior to that I think we need to know who is keeping track of all of these changes that [illegible] issue that we haven t defined the committee we need to designate someone to capture all [illegible]

LeRoy Are you taking notes?

You want me to be the responsible party for all of this

LeRoy I think it would be valuable if you could Thank you

Laura Yes

Two things Bob I imagine you are one of the authors of C is that right?

Bob Yes

Does that mean you are willing to be part of this committee [illegible] smithing

Bob Absolutely

Okay then the second thing is that I want to keep the [illegible] paragraph

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Which one

The one that was first questioned

Laura The question that is hand written out is that do we want to keep that paragraph that I just read that is an excetion it is not part of document C so the very first paragraph on A2 that I just read out loud on the background do we want to keep it? Okay Joe

Joe I find that there is something missing out of the paragraph it is very important it doesn't explain why the heck we set up this committee

That is not in section it is in purpose

Joe Well but background this says there is nothing in background that the soil is contaminated

LeRoy You would like to add something to that page

Joe Yes

LeRoy Why don't we make a decision about paragraph one

Laura Yea let's come back to that then that can be in addition but before we do that even the question at hand is do we want to keep that paragraph Todd

Todd I vote on that

Laura Okay so anybody have a concern with keeping that paragraph by [illegible] we move on okay it is a keeper Cathy has a [illegible]

Let me discuss the paragraph

Laura We will come to that in just a second are you adding something also is it specific to paragraph

I just need a clarification I see two different RFPs in front of me is the goal here to end up with one?

LeRoy Yes

Laura And so what we are going through is looking at substantive differences between the two and pulling it into one document Yea Bob

Bob On a comment on that just seeing a future role in the committee is I would not be too concerned about try to nail them down leave that to committee but for major content differences like LeRoy tried to capture in this page if we could address those we would go along ways in getting one good draft and work from there

I have to ask this question why are there two to begin with?

Laura That has already been mentioned

I must have missed it I apologize I don't understand [illegible] why there are two RFPs

Laura Do you mind getting that answer after [illegible] okay [illegible] you had an addition to this page

Joe Yes I think when we are discussing background [illegible] we are rewriting it that it should be mention that the soil at Rocky Flats is heavily contaminated [illegible] must be cleaned up and we could even put numbers

on it. We know what the contamination levels are, at least some of it, for example there are measurements made that there are 12,000 picocures per gram, picocures of plutonium in the soil that have been found in the soil at Rocky Flats and cleanup is necessary.

Laura: Okay and so what do people think of the addition of that sentence? Steve.

Steve: I won't break in right now but I need to, at some point.

Laura: Is it about this suggestion?

Steve: Nope not at all, no I have had my thing up for about 10 minutes.

Laura: I am sorry I didn't see it.

Steve: A couple of my things were answered, but go ahead and finish.

Laura: Okay thank you. Todd, does yours up to address the issue with Joe? Does anyone have a comment or reaction to adding that information to that paragraph?

I just thought it was implicit, if we are talking about cleanup levels that there is contamination at the site but if you want it to explicitly say that.

Joe: I don't think that is implicit. I think it may be misstated. In fact the thing that is missing is the overall view of why the heck this whole operation is started.

Laura: Okay and so are people willing to, you want to say something about it first Neil?

Neil: Just in general, yes, that we don't have to repeat the history of Rocky Flats, this is a scope of work, and there is certain things that are presumed. And so we can put in the sentence that the soil is contaminated. I'm paragraph 1, but not to go into detail. I think it is unnecessary.

Laura: So are people willing to have that sentence added to paragraph 1? Yes, Jackie.

Jackie: As Joe described the sentence, the sentence he would add that is, was heavily contaminated, and including references to particular numbers. I think it needs to be a neutral statement that does not have a lot of detail to something like the soil is contaminated, and be done.

Laura: Okay and we can ask our word smiths to figure out exactly what the phrasing of that sentence would look like, and bring it back for comment.

Joe: That is all right. I think it is necessary to have something like that.

Laura: It sounds like there is some agreement with that so that is fine. Great. Okay, Steve you are next.

Steve: Okay, when Joe Legare is not here since I work for him I would like to be considered the DOE representative. I didn't know if you weren't calling on purpose or just didn't look this way.

Laura: It is the white against the lighting.

Steve: Okay, I will wear a blue shirt next time. I did get the question answered about the what purpose of what we were doing here was, good, to get one and one, it wasn't clear to me until Todd got it answered. The other thing is the Legare memo that I handed around has some specific comments on the bottom of the page and the second page. I want to make it clear that those were based on the last fax we got of the X document. I don't know how it correlates to this X document. LeRoy are there many changes you said that this was a new and improved X document from the fax.

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LeRoy: I didn't say improved. I said it was new and I said

Steve: Well you said that some things in that

LeRoy: I don't think it is improved because things have just added on top of things but levels of words in this A2 document and I would much prefer we didn't have but that is what we got and we have got to live with what we got. And if Joe's memo is addressing the A document the numbers will still be the same that part has not changed at all

Steve: Okay good and when possible can you point out the additions since yesterday?

LeRoy: I will identify them for you as we go along. they are in fact either in bold type that is A1 as I understand and underline means that they were added as A2

That is additional information that could be added in taken from public contracts that I moved down that this was language that I thought maybe as something we might want to consider adding but we never thought of it that is why it is underlined

Steve: Okay good

Laura: So does that address your needs on the new stuff pointed out the underline type is for A2 is that correct?

Steve: Just have to watch closely as we go through

Laura: I have a point of process I am going to ask people if somebody brings up an issue and you have a different issue don't bring it up until we have resolution on the first one. Not to say that you can't put your hand up but let's close each one before we go on that will just make it go faster. Okay so the next one anything else for page 1 at this point. Then let's turn to page 2-2A on the 8½ x 11 sheet it says purpose section A2 does not appear in C for the most part this does not constitute substantive difference. however the final two sentences on the A2 Purpose on integrating the final report from the Actinide Migration Panel into the final SAL soil action level review report needs discussion. And I know you had a question was it Joel on the Actinide Migration Panel

Joel: I have a question yes that is the first time and the only time I have read about an Activation or Actinide Migration Panel and it is probably because I am brand new here but what is that who are they Does anybody know?

Steve: Oh we all know

It really isn't a panel we have an Actinide Investigation there was an Actinide Migration Panel a couple of years ago it is now an Actinide Investigation which it was run last year it is funded this year and it is funded for as long as it needs to be funded to answer the question of the fate and transport of actinides on site and how that will impact surface water quality and whether or not we in fact can meet the 15 picocurie per gram or per liter surface water quality leaving the site and ultimately upon closing the site meeting that standard on the entire site so that is what it is for

Joel: Okay but that all right that group it sounds like a pretty darn important one to me doesn't appear in

LeRoy: Joel there is a whole section in the document later that refers to it this sentence also refers to it

Joel: Okay I missed that I am sorry

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Laura So basically what I understand is that the Purpose section doesn't appear in C and there are not substantive differences other than the last two sentences which are bolded and need discussion Bob or Tickie are either of you waiting to have discussion on those

Yes

Laura Okay Bob yours has been up longer so go for it

Bob There is the issue of dovetailing information from the Actinide Migration studies into this report however under the section of Purpose or actually under any part of this I do not think it is the purview of this independent review

Under this group this review so that we can tie the work in together

No the Actinide Migration work as I indicated is actually a multiple year program and in fact it won't be in concert in timing with this effort to do an independent review of the soil action level that has already been set That doesn't mean that some of the information that is derived from the actinide migration investigation wouldn't feed into assuming it is timely into the independent work done here or visa a versa The consultant who is ultimately is hired here might well have some information that would be helpful and useful for the actinide investigators to utilize We have had a process that to involve many of you who have already been involved in some of the discussions with our experts we are doing the work and we are going to continue to have that and what we have talked about is if this group wants some specific interaction on the actinide issue we can certainly build that into that process and what we wanted to do exclusively with this group and we want to continue to have a public process that involves any interested people in the process but if this group wants to have some specific interactions designed to make sure that the communication is good and full we can certainly do that and would be happy to but the timing doesn't they aren't equal for sure

The migration panel I was surprised to hear that they were only talking about ground water is there no attempt to determine the migration of plutonium in the soil?

Joe that is not true they are not dealing just with ground water I don't know where you heard that If you look at their scope of work Joe which I actually have some copies of some stuff that I can hand out it is how all actinides on the site which is primarily the plutonium americium but also includes uranium issues how they can move on the surface through the soil through the ground water and ultimately it all ends up in the surface water that is one of the things about the site is whenever a contamaint moves in one of those ways it ultimately keeps moving it is going to get to the surface water and so the real critical issue for us is to make sure that we can meet the standard of 15 picocures with both americium and plutonium so what that group is doing is looking at all the different ways plutonium and americium can move the actinides can move

That is all that I wanted to be assured of but you mentioned before only ground water

I don't believe I did

Yes you did

Laura I need to check in with the group at this point I know we are in the middle of this section and we can't make a decision about this section however I am also that it is 7 30 and that is our agenda time to be completed with going through the entire RFP and so I need to find out what you want to do with our agenda tonight I me in realistically what is to happen but I have been told some people here that they need to leave the meeting at 8 00 some people on the panel has some commitment Okay LeRoy

LeRoy Well I think I want to propose that we name a committee for the documents I hate to do that because we have got disagreements and I am not sure what the disagreements would be well dealt with the

committee working outside of this process but we could add to that that individuals that have strong concerns about the language that appears in either the A2 column or the C column should communicate those to the committee so that they can be taken into consideration It is very clear to me that we are not going to get through this document tonight I am entirely more familiar with it than I like and I know we are not going to get through, so I make that proposal to name that group and turn this class over to them and ask them to give us a next draft so that we are working with one text and not two for our next meeting and that we have it enough ahead of time that we can review it

Laura And is your proposal then that at the next meeting that people would have an opportunity to make changes and additions

LeRoy Well obviously

I want to second that motion I think that is was presented was an impossible job

Laura Okay and are the people who have their cards up is it on this specific issue Okay you were next and then Lisa

On that proposal I think the group has to decide is how many people on that committee can serve and it shouldn t be over we have gotten as far as we have gotten primarily through an ad hoc group of four or five or so people and I think the question that should be decided is should this committee be two three or four individuals and I would prefer for anyone who is interested I agree with the idea that we need to select a committee and kind of revert back to the corner mode of operation to combine these two propositions without losing the important aspect of it

Laura Okay Lisa

Lisa I would agree and I would suggest that we take the same people who have already done this and have them finish this one document I would also ask how many of us are hooked up to e mail and if we could get e mail addresses so that we would be able to include those of us who don t participate or who participate are able to communicate and to get our comments back

Laura Do you want to take a quick show of hands of how many people have e mail Okay there are a couple of people and do you two have fax?

LeRoy Yes

Laura I want to we have got a couple of proposals on the table I am just going to let people talk and then we will see Steve is next then you and then Neil

Steve Observation and a comment although painful and time consuming people who haven t been through this before are learning some things from going through this in detail it doesn t matter to me if you learn it or not that is not my business and the other thing is if you do set up a smaller committee consider whether you want me to be there or not because if I am not there I will have to read what you do afterwards and comment on it if I am there it may move faster because you will hear it real time what DOE s concerns might be on your language

Laura Okay Bob

Bob Having been there I wanted to share my pain and warn everybody what is going on here when we originally got together this little group Steve was a part of it and some other people who have commented from the air literally worked with this we tried to merge everybody s concerns tried to hone it down ended up with a document A new document arose more comments have been added and now it has ballooned again so this committee is going to get together and then are going to try to bring it together and keep everybody s comments down but what is not happening in this process is moving forward in agreement of

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what is going to be there and eventually we are going to have to tackle it And if we want this thing to start in March we better be willing to put in a long night and get agreement on some of these things it has got to come because when I look at these two you combine these the original document will almost double in size

I don t think it will double in size

I am perceiving that this committee is not going to be making decisions along those lines they are just going to try to put everything to together all of these comments that people are going to be sending in by e mail so that we have one document to work off otherwise if they eliminate things then they have made some decisions which they have not been empowered to do so

Laura And Neil, I think that these two are both wanting to comment on what you said Hank you were first

Hank Well I didn't mean just to do a merge but capture the thought of each in the work document and I know that that is a difficult job but we don t want lose ideas and you know I think that document C attempted to do that but there maybe some new concepts in A that didn t get in there They need to start with C as your based document and integrate anything a crossed the column that isn t in C that is real valuable We need to decide if we are going to two or four people on this committee

Laura Okay LeRoy

LeRoy When I made the proposal I didn t say that the group would do the task of trying to produce a single document and that is why I added to it that if people who have concerns whoever for instance wrote the sentence about the Actinide Migration Panel that appears on column X2 on page 2 if that is a hard felt concern of somebody I sure would like to know it I don t have to agree with that sentence I think you can keep it in the text if somebody can presents me of it I would like to know that otherwise I think so I am saying that everybody assumes her or his responsibilities for what they really want in this text and communicate it with this group weather we use e mail or weather we use Fax or something slower

Laura Okay Neil

Neil I just want before we go tonight I want a mechanism in which I can communicate with this group I can t be part of the group but I have some ideas that I would like to get to you so I would like who is going to be on and how to do it

Laura Okay Jackie

Jackie Yea I know this is painful and I know this will be an unpopular view to express but I am almost looking at this effort as pay me now or pay me later we are going to have the same discussion weather you all draft another document or not we are going to have to walk through this list of questions and decide then I say let s just get together as a group and walk through and let the draft then follow from the substantive discussions

I second that

Laura Okay Neil are you wanting to say more okay then go

Neil Yes I forgot one thing if we are going to be here a long period of time I need to know a ballpark of time so that I can make the appropriate arrangements I can t extend tonight

Laura Bob

Bob I would hardly recommend that we get to one document it is far more maddening to try to combine two documents that kind of say the same thing but kind of don t rather than working off of one combined document that has everybody s concern and then rifle through it page by page

Laura Okay so what I am hearing I am going to summarize again cause I think there are three proposals on the table at this point one proposal is to take the two document and go through where ever possible iron out the differences through e mailing with people finding out people s concerns working it out in small group and bringing it back the large group seeing how they did one proposal is to take the two documents anywhere where it is the same combine it into one document and leave differences in there for the group to hash out, and the third proposal is to have the two separate documents and just pick up the process right where we are and iron it out So we need to reach an agreement if there is going to be a subcommittee we need to decide right now who those people are going to be so that they can do their work and we need close out meeting really soon Yea

Well having gone through this the horror of trying to put all of these together and I know about them I think that Jackie has the best idea we all need to sit together and go through this and make one document this is sort of _____

Laura Okay so here is a proposal on the table

Joe I wanted to first have more discussion on what you suggested I want to know why it is not possible to take all of the items that appear in both documents and put them into one acceptable formulation and then have itemized in one document items that there is disagreement on so that we have an idea of the scope is of the discussion on when we get together again Trying to go from one document to the other and remember we never got these a head of time is almost an impossible job if we get the document is Four hour in advance we can come prepared to discuss it and not disagreements with anything either in the document that is prepared or in the paragraphs that are marked that there is disagreements on

Laura I think the three proposals are clear Joe has restated that one Jackie has restated that one I think we need to make as a group there needs to be some movement here on decision on where [illegible] Neil

Neil The idea of having two pieces and going back and forth is just very difficult Have this committee put it into one document and my suggestion is to perhaps bracket those paragraphs that will all [illegible] all included would go here but that way we can look at all of them and in our discussion [illegible] what Jackie and Mickey are talking about we can go through and trim it down I think if [illegible] one place in the format of document C where you have action and discussion it might be [illegible] faster

Laura I guess the thing that I need to ask is are people willing to live with that idea of forming a committee that sits down puts the two documents where they are the same into one document and where there are differences highlighting those getting them to people a head of time before the meeting so that people can read through them and have an opinion and not be figuring it out at the meeting and then at the next meeting iron those out

I second that motion

Laura Are people willing to go along with that It looks like people are willing to do that Later the next step is who is willing to be on that committee we need a number and bodies

Steve and Bob

Laura Steve you are being volunteered does that work for you

Steve Yes

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Laura And Bob

LeRoy Mary are you will to be on that

Mary Well I did the first one and it takes an awful lot of work there is nobody doing typing this is another issue here

I am assuming your draft is on a word processor

Yes

Okay so mine is so as I long as I have the text on the computer it will fly

Laura So Mary are you willing to be on that committee

Mary Yes

Laura Okay so right now we have Bob Steve and Mary on the committee

Steve Slaten?

Laura Yes Steve said he would be on it

LeRoy Steve is from the DOI

Laura Okay and so do you want a third person from the panel on the committee LeRoy has volunteered to be a third person on it Mary I just heard you suggest a scientific person

Laura LeRoy is sending can I have everyone focus please just for another couple minutes LeRoy is sending around a piece of people just to get email addresses Mary has offered a meeting place at the City of Westminster Is there anything else that needs to happen in regard to that committee

I have a question do we have a plan for what our February agenda is going to look like

Laura Do you want to have a meeting next week? Let me speak to that I think there is a post meeting February 12 from 4 - 5 p.m. and is that here? And so we haven't gotten down to that point of the agenda to discuss that

Hank We are narrowing John Fill who is who might be available to do some of this work had planned to make a presentation to discuss the scope of work as it exists at that time and that should take 30 hour to 45 minutes or so and then with this committee that is a set agenda and obviously that is open for discussion

Laura Yes Jackie

Jackie When I heard about that I was smart enough to inquire if number one if there was a cost to that visit because we don't have the money and the answer was no but what I wasn't smart enough to ask about was weather that person was likely to have been on this proposal if so he can't do it he is going to disqualify himself

I have a bit of informal information I hope I should I share it I think it is being considered that he might be a sole source I heard somebody say that that John Fill might be sole source And I am not a contractor person and I am not a lawyer

It is a serious procurement issue sole source has a real narrow rule

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Laura So is there somebody who is going to check that out to find out if that is an issue

We need to have or DOE needs to have some discussions to confirm what I am assuming that the Department of Health is the grantee and if that is the case then we have got some procurement issues to work through before that trip is finalized

Laura Bob

Bob Just going under the assumption that we want to get this thing rolling in March regardless of whether this gentleman gives us a presentation on the 12th are we committing to go through this single draft on the 12th Neil is planning for extra time I think

Laura So is that something that the group can agree that the 4 hour meeting is to devoted to getting through the RFP and we are going to do it? Lisa

Lisa I think we all recognize that we have 4 hours and 4 hours time and we should make our time very efficient and not otherwise

Being on this committee and seeing what I see I hope to do it Monday and get the draft at least a week ahead of time for everybody assuming that everybody else can meet

Laura I think we may have are people agreeable then for the February 12th meeting from 4 12 or from 4 8 So February 12th from 4 8 and so the agenda item then will be focusing on the RFP and there is a committee forum then for Bob speak Mary LeRoy and they will do the word smithing and a week before that meeting people will receive either by email or by fax a copy of the new proposal to look through and look at changes Hank

Hank That is totally agreeable with the exception that if it can be worked through the Health Department could possibly do a short presentation in 15 hour about this contract

Laura And the people are agreeable with that if the Department of Health can work it out whatever the issues are the contractor would be in position

I think the danger is extremely high that that person would be disqualified

I wouldn't take a chance

Laura So it sounds like that the operative consensus that no there would not be a presentation Is that correct

Hank It may be unfortunate that there isn't a closer coordination but there is some work going on in the department that may cut through and the only thing that I want to see open is the option is that if it is possible for that individual to show up and and and not conflict nobody want anybody to have a conflict of interest but leave that option open before you kill it because that could be helpful to the group in finalizing the RFP as well as possibly getting some cost parameters identified

Laura So I am just going to restate Hank's proposal and that is if it would not be a problem if it was not a conflict for this person to come and give us a proposal then is the group willing to have a 60 minute proposal from this contractor? I am seeing shaking heads no and some people shaking heads yes Bob

Bob Just pulling back and looking at what we are doing the contractor is not required to come back and say he will do everything in our request for proposal and explain why they would not do that and so if such an organization has these concerns it could be downstream from the RFP I mean that our RFP could state what we want and they could give us logical conclusions or reasons why they don't think it should be done and we are open to accepting that sort of that risk I think that it is better to just let us modify things

downstream of what we conclude although I agree it would be very helpful to get someone s input on drafting that

Laura So that is what you re saying is the timing is that quite right we need to focus on the RFP and then go there latter

Bob Yes to avoid the risk that their site

Laura Okay and does that work for you Hank

Hank That would work except that I would prefer to keep the option open if there wasn t a conflict and the invitation

Laura Okay Neil and then Lisa

Neil I would like to see the openness and then just hand it over to the people of who understand the issues of all of the stuff and to facilitate our process I mean Hank Jackie Norm and the whole department of DOE figure it out and our intent is not to jeopardize for one possible contractor which I believe is Radiological Assessments Corporation and if it does jeopardize then let s avoid it but if there was some way around this it would be very helpful to have it

Laura I have to say that there is one more agenda item that we need to address tonight before this and it is setting up a steering committee and I am not sure that this issue is as important as the amount of time we re giving it and I am just going to ask can people agree that if it does not jeopardize this person s availability to work on this contract if they come and spoke and if that is all worked by the people who can work that out is it agreeable to the panel for him to come out and do a 50 minute presentation at the beginning

I so move Show of hands

Laura And I am sorry some is still so I say

Lisa I don t feel comfortable with that until we meet with counsel and so what I would like is to suggest is to get individual who aren t involved to just write down a statement and let me take it to our city attorney and ask our city attorney to take look at it and give us an opinion and I would also suggest that in the future in our future meetings that we might want to look at when we meet with counsel and that we need some legal advise we may need legal advise at some point during the meetings and then we might want to talk about the need between the meeting to see if we can get one of our city councils at the meetings

Laura You were next

I kind of like that idea and that is what I was about to propose except that I was going to go back to the State s attorneys and the State s Elected Officers I am not closing the door on it I am just saying danger danger danger and I think that is an appropriate statement to make and if it is doable it is doable and I am not saying no and I think the question for this group if it is doable is do you want to set aside 30 minutes in a 4 hour session when you know that we are going to have to walk through you know about a 15 page scope of work

Laura Bob

Bob Briefly I am sure that everybody or at least most people are aware of this but I am just dumping it from my head what we are risking here though if this is and I don t know really know it is good to check with the lawyers is by going with RAC we are short circuiting this process of having to send the proposals and getting that back from what I understand so if we disqualify them we are in a hurting situation of pushing this for several months

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Laura Okay Joe

Joe I don't know what is involved in public work I have had a tremendous amount of experience in industrial work with contracts and setting up specifications and going out for a bid and in part of that process we always called in contractors to have primarily discussions to see that we could use their experience in preparing our bid documents and I don't see anything wrong with that as long as in the final analysis we go out with our final documents to bid it

You were not the State you were private industry

Joe That is right that is private industry

Laura Basically there are two things we are trying to figure out one is do we want to take the time from our meeting when we have a really long document to go through if it deems legal and there are people who are really worried about the legality of it so I am just going to throw one end out and have people react to see if we are ready for a decision do you want to speak before I do that

Yes

Laura Go

In this case it would help our process if they were to come it would not interfere the ½ hour that we would spend we would make up more than that by making decisions quickly but I am concerned I want to make sure that it is not going to eliminate them

Laura So if it is deemed legal and counsel has been sought and there is every reason to believe that that person is not compromised as a potential contractor can the group agree to have him come for the first 30 minutes Yes Is there anything that needs to be said about who is going to do what to work out the logistics or can that be done after the meeting? Okay if it can be done after the meeting that would be great I am concerned about time the first agenda item is to agree on a steering committee is that something that we can do really quickly first are people willing to have a steering committee and second off can it be agreed on who might be on it if that is agreeable

Laura Are people willing to have a steering committee So in that case who would we like to have on the steering committee we need two co chairs and three general members

I would suggest the people who are thinking about being on it speak up now

LeRoy Hank Mickey and Bob and they you need a fifth one

Laura People who are willing to be on the steering committee so we have got three people raising their hands four anybody else willing to be on the steering committee So there is a question about what the time commitment might look like does anyone have a guestimate of what the time commitment would look like

It has been quite substantial keeping this organized but I think it may be somewhat less but I guess for those of us who have been most active up to now at least 10 hours a week and sometimes more

Laura Okay so we have four people who are willing seriously is there a fifth person who would be willing to volunteer Jim

Jim M replacement the City of Arvada is hiring a Rocky Flats coordinator for these kinds of activities

Laura Do you all feel do you feel the need to have a fifth person even if we have four people

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Laura So right now we have Bob LeRoy Hank and Mary and we need co chairs or do you all want to nominate co chairs

Laura It sounds like we have two co-chairs we have Hank and Mary and then we have LeRoy and Bob as other steering members We will check in a month or so and see if they might want us to join us That is all we have

Joe I have a point to make a DOE person said something disturbing do we have a facilitator or not he indicated that they were going to bring in a facilitator

Yes

Joe Well it sounded as if he couldn t tolerate anything else

No we can t afford anything else

It seems like there was two different things that what he was also offering was the transcribe and that was off of the tapes and that was one he thing I didn t hear he offered a facilitator but it is not like we have to take that facilitator nor do we have to take their transcription of our minutes, but I think you know I for one would go for them at least transcribing our minutes in the sense that we are here at this meeting you review your minutes before you come to the meeting and they either accurate or they are not accurate

Joe I don t have a problem with the transcription I am just worried about their picking a facilitator and I was hoping that we could continue with the facilitator that we have

Laura Are either of you having to speak up to that issue

Steve No

I have a related issue but it can wait

Laura Okay and Hank do you have a credit to speak to the facilitator issue Okay go ahead

Hank DOE has made the offer to buy the facilitator to the extent that we are funds limited we may not have the funds to hire a qualified facilitator so if the group would agree leave the solution to that problem to the committee that is picked and we will solve it and see what the best option is

Laura Is that okay with you all?

Joe As long as they are not giving us an ultimatum of some kind

No we are not

Laura Okay Cathy you said that you had a related issue

Cathy Well it has to do with the distribution to the group because we have been passing around a list and several people have left so I am not sure that this is a complete list of e mail addresses I am only set up at this point to do fax distribution of materials to the large list it was my understanding that that this is to just to pass drafts back and forth between the group the word smithing group

Whatever mode cause not everybody is on e mail I think that was just to get out a different mode of contacting people

Cathy So if I fax this list to the group tomorrow then you will all be able to get in touch with each other but the big group doesn t need to have this list is that correct

No

Cathy Okay

Laura Yes

I agree with you Cathy that you don t need to but it would be nice if folks did have that so that if they wanted to communicate, so if I had some comments on something that I could send them too, so I think it would be nice

Laura That is what she is talking about she will fax it to everyone on the panel

Cathy Right

Oh I am sorry

Cathy And then if we have additions at the next meeting

Joe I don t have a fax facility

Cathy I will mail it to you Joe And then the other thing the product of the word smithing group if we want the whole list of 35 people to have that for the meeting on the 12th I would need to have it on the 9th and do we want to have a meeting notice faxed to the large group with that draft do you see what I am saying?

I am hoping that this gets faxed out to people by the 5th or 6th quite frankly I am hoping to get it to you by then

Cathy Are you wanting me to do that will you get me a draft and I will send it to the fax distribution or are you going to take care of that?

I am hoping you would do that

Cathy You will get it to me and I will fax it out

Laura Okay one more and then maybe we can close

Steve I suggest the word melding group not leave tonight until they set up a meeting

Cathy Just a reminder the panel members were supposed to provide biographical sketches we were just going to compile those for future use and I have only got three of them so just a reminder if you don t have them bring them next time

Laura Okay and I want to just formally close the meeting by saying thank you so much for staying late I am sorry we ran over

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

TO DISTRIBUTION

FROM KATHY SCHNOOR

SUBJECT "THE DRAFT" Request for Proposal

DATE FEBRUARY 4, 1998

The attached draft RFP is the product of the drafting committee's (Bob, LeRoy and Mary) efforts to "merge" the drafts discussed at the last meeting on January 29th Please note that this is intended to be the one and only working draft for the next meeting Everyone should bring comments (additions, deletions or modifications) with them for deliberation at the meeting on **THURSDAY, February 12, 1998, 4:00-8:00 PM at Broomfield Municipal Center** in the Zang's Spur Conference Room

The meeting announcement and agenda will follow later in the week We wanted to get this in your hands as soon as possible so that you can begin your review

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DRAFT

Request for Proposal

Background

The Rocky Flats Environmental Technology Site was constructed in 1951 The site served as a production facility to manufacture 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 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 U S Department of Energy (DOE) and its regulators, Environmental Protection Agency (EPA) and the Colorado Department of Public Health and Environment (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 RFETS (Attachment A) Intended to be protective of people using RFETS 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 an independent review of the methods used to convert given dose levels to soil contamination levels as used in setting the RSALs A community review group known as the Rocky Flats Radionuclide Soil Action Level Oversight Panel (hereafter referred to as the Oversight Panel) 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 and administration of the contract for the Oversight Panel Accordingly, the present RFP is issued by the HAP office of CDPHE

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Purpose

The purpose of this study is to obtain an independent scientific review of the RSALs set for the cleanup of REFTS The review will evaluate the accuracy and applicability of the input parameters used to calculate the current RFETS RSALs The review will encompass models, methodologies and cleanup levels that may exist or are being developed for other sites and their applicability to Rocky Flats Based on the results of this investigation, site-specific RSALs will be recommended for the Rocky Flats site Based on the findings of this investigation, a recommendation will be developed for 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 [references to the actinide migration study were removed here because of uncertainty as to the purview of the Oversight Panel]

Scope of Work

The contractor will work 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 as well as to publish the study in a reputable peer review journal 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 three things

- 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 applicability,
- 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 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 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, proposals are requested to address the issues as discussed above Specifically the contractor will be required 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 (particularly with plutonium and americium) and the processes/models used to determine them as to their applicability in setting cleanup levels at RFETS. The contractor will identify any 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 limits/models are or are not applicable for use in setting cleanup levels for RFETS

Considerations

This study should concentrate on examples of soil 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 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 relevant 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)

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

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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.

a) Are the input parameters, inputs, default inputs, and assumptions 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?

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 3 b) above from least conservative to most conservative with conservative meaning that which results in lower contamination levels given a certain dose limit

d) 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.

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 For purposes of simplification regarding land use, RFCA assumes that institutional controls will eventually fail after which, exposure to residents on the site should not exceed 85 mrem/year Therefore, the residential scenario is believed to be the most important scenario to consider

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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 Oversight Panel 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

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

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

The contractor 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 levels that may be set from the use of the models recommended in this investigation

Considerations

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 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

Action

The contractor is to meet 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

Considerations

Ultimately, cleanup levels must be 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

Interfacing and Responsibilities

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 to operate at the direction of the oversight panel The contractor is expected to engage in an open exchange of ideas

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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 and response of all members of the panel and regulatory agencies that have contacted the contractor
- Meet with the Oversight Panel on a monthly basis at a regular scheduled meeting
- Facilitate a one day work session at an early date during which the Oversight Panel will review the contractors work and recommendations and prepare for a public meeting to develop recommendations regarding RSALs 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 contractors 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 of the RSALs

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

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 contractor may wish to include appendices that include more technical details

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

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A synopsis of the study and the results are to be published in a reputable peer review journal for critical analysis

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 Meetings will then be held bi-weekly 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 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

The following schedule is proposed

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

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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

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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
Courier Address Rocky Flats Environmental Technology Site State Hwy 93 and Cactus Rocky Flats CO 80007 • 303 966 7000
Mailing Address PO Box 464 Golden Colorado 80402 0464

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Department of Energy

98 DOE 03279

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 Flats 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

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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 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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Department of Energy

[illegible]

[illegible]

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 Rob

Jessie M Roberson
Manager

cc
J Legare AMEC RFFO

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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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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

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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 LeRov 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

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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

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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

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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

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• 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

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Moore to Lies

Dr Lekoy Moore
Rocky Mountain Peace and Justice Center
Box 1136 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 Epipedon 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 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

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 remobilization 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

Iggy Litaor

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

OVER

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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.

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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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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

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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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

2sb

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VIII
999 18th STREET SUITE 500
DENVER, COLORADO 80202 2466

Ms Kathy Schnoor
City of Broomfield
One DesCombes Drive
P O Box 1415
Broonfield, C0 80038-1415

Subject NAS Review of the Effects of Low-Level Radiation

Dear Ms Schnoor

At the September 15 1997 meeting concerning soil action levels for Rocky Flats, I discussed a review that is currently being conducted by the National Academy of Science on the health effects of low-level radiation The review, which was commissioned by EPA in cooperation with NRC and DOE, is evaluating whether recently published data warrant a comprehensive reassessment of health risks associated with radiation exposure The result of this review could serve to re-affirm the 15 millirem/year dose that EPA has chosen as a target for the cleanup of radioactively contaminated sites or cause the number to be revised up or down

Enclosed is the proposal for the review, which provides a discussion on the scope as well as a list of the review committee members This initial phase of the review is expected to be complete by the end of 1997

Please contact me at (303) 312-6293, if you have any questions about the NAS review I probably won't have answers for you, but I'll hunt them down

Sincerely,

Timothy Rehder

Timothy R Rehder
Rocky Flats Project Manager

cc Jeremy Karpatkin (DOE) w/enclosure
Steve Tarlton (CDPHE) " "
John Corsi (Kaiser Hill) " "

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NATIONAL ACADEMY OF SCIENCES-NATIONAL RESEARCH COUNCIL
COMMISSION ON LIFE SCIENCES
BOARD ON RADIATION EFFECTS RESEARCH

Proposal No 97-CLS-029

Health Risks from Exposure to Low Levels of Ionizing Radiation
(BEIR VII), Phase I

This proposal is submitted by the National Academy of Sciences, which assumes full technical and financial responsibility under its Act of Incorporation for the work to be carried out under any agreement resulting from this proposal

David P Westbrook
Manager, Federal Contracts
Office of Contracts and Grants
National Academy of Sciences
Telephone 202-334-3183

Paul Gilman, Ph.D
Executive Director
Commission on Life Sciences
National Research Council
Telephone 202-334-2500

July 1996

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NATIONAL ACADEMY OF SCIENCES - NATIONAL RESEARCH COUNCIL
COMMISSION ON LIFE SCIENCES
BOARD ON RADIATION EFFECTS RESEARCH

HEALTH RISKS FROM EXPOSURE TO LOW LEVELS OF IONIZING RADIATION (BEIR VII), PHASE I

SUMMARY

The Office of Radiation and Indoor Air of the U S Environmental Protection Agency (EPA), in cooperation with the U S Nuclear Regulatory Commission and the U S Department of Energy, has consulted with the National Research Council (NRC) about the establishment of an NRC committee to consider a large amount of recently published data derived from molecular, cellular, animal, and human epidemiologic studies, and soon-to-be-completed studies, concerning the risks to humans of exposure to low levels of ionizing radiation The data will be evaluated with respect to whether sufficient new information is available since the 1990 BEIR V report to warrant a comprehensive reassessment of health risks resulting from exposures to radiation

The proposed committee, under the Board on Radiation Effects Research (BRER), would provide assistance to EPA beginning late summer 1996 A small multidisciplinary committee of approximately 6 members would be formed to collect and evaluate data The phase 1 scoping study will determine whether it is appropriate and feasible to conduct a reassessment of the health risks If a reassessment is deemed to be appropriate and feasible, the phase 1 study will define the most productive scope for an enlarged phase 2 committee and identify realistic goals and objectives for a phase 2 study (BEIR VII) The scoping study would cost an estimated $230,000 over a 12-month performance period

ORIGIN AND BACKGROUND

Since publication of the National Research Council's 1990 BEIR V report, *Health Effects of Exposure to Low Levels of Ionizing Radiation*, new information on the Japanese atomic-bomb survivors and other cohorts exposed to ionizing radiation has become available Studies at the molecular and cellular levels have pointed the way toward a better understanding of radiation carcinogenesis and might lead to an improved basis for estimating risks associated with low doses and dose rates In addition, there is new information on noncancer effects of radiation and a growing body of information about the processes by which exposures to other agents cause damage at the molecular and cellular levels that may have more general application New statistical methods provide improved tools for characterizing risk

States and the federal government have relied on the BEIR studies of the National Research Council in promulgating regulatory standards and advisory recommendations New information, has prompted renewed questioning of the postulated nonlinearity of the dose-response relationship at environmental (low) levels of exposure Such speculation has raised questions as

to how, in view of current biologic and epidemiologic information, regulatory bodies should characterize risks associated with the doses and dose rates experienced by radiation workers and members of the general public To be credible, federal radiation-protection measures and risk assessments must be based on the best current science and any recommendations for change must be clearly documented and justified Before proceeding with a full-scale BEIR VII review and analysis aimed at updating the measurement of risks related to low-dose, low-LET radiation and exploring the biologic processes determining those risks, it would be advantageous and prudent to conduct a preliminary study that would examine potential scientific and other issues and available sources of new data to confirm the feasibility of a new risk assessment and to define the useful scope of a BEIR VII study

PROPOSED ACTIVITY

The NRC will, by acting on the nominations of the Board on Radiation Effects Research, establish a committee of approximately 6 persons to gather information from molecular, cellular, and animal studies of radiation, other environmental exposures, and epidemiologic studies to evaluate whether such data might enable a BEIR VII committee to reassess the health risks related to exposure to low-level ionizing radiation The preliminary scoping (phase 1) study will review and evaluate the scientific literature pertinent to the biologic and health effects of low-level ionizing radiation and make an effort to learn about the status of all relevant research in progress Based on these data, the committee will determine whether sufficient information has become available since the 1990 BEIR V report to warrant a comprehensive reassessment of health risks in a phase 2 study by an enlarged committee (BEIR VII) The committee will consider such issues as estimation of dose and dose-rate reduction factors, evidence of thresholds or the lack thereof in dose-response relationships, the effect of the presence of possible groups in the population that are genetically predisposed to radiation sensitivity, and the influence of adaptive response and radiation hormesis on assessing the relative risk associated with low-dose exposures

In addition, the committee will comment on the potential for modifying models for projecting radiation-induced cancer risks in the U S population and recommend what could be done to measure and minimize the uncertainties in radiation risk estimates The committee will identify sources of epidemiologic data in addition to the most recent Japanese atomic-bomb survivors, such as populations exposed in the former Soviet Union, nuclear workers in the United States and other countries, residents of high-background areas, and medically irradiated cohorts A representative of the committee or NRC staff will attend appropriate conferences focusing on the subject of the health effects of low-level ionizing radiation including the 1996 Interdisciplinary Meeting on Radiation Quality, Molecular Mechanisms, Cellular Effects and Health Consequences of Low Level Ionising Radiation in Oxford, England, and the 1996 International Conference on Radiation and Health in Beer Sheva, Israel Finally, in assessing what other issues can be profitably addressed, the committee will consider reviews conducted by other organizations since the release of BEIR V, such as the United Nations Scientific Committee on the Effects of Atomic Radiation, the National Council on Radiation Protection and Measurements, and the National Radiological Protection Board

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The committee will recommend issues that could profitably be addressed in a BEIR VII study, provide justification and a basis for those recommendations, list primary sources of data that might be used, assess whether a detailed analysis of particular issues could have an important effect on the measurement or validity of radiation risk estimates, and indicate what scientific disciplines should be represented in order for a committee to address the key issues adequately in in a phase 2 study If the committee concludes that it is not now appropriate to make the reassessments of risk at this time, it will, if possible, suggest what additional data would be needed to make such evaluation appropriate

In considering issues that could be addressed in a BEIR VII study, the committee should at least review the following

- Low-dose cancer risk estimation

  Estimation of dose and dose-rate reduction factors (DDREF) in humans

  Evidence for or against thresholds

  Evidence for or against adaptive response (e g , immune system stimulation or radiation hormesis modifying risk estimates in humans)

- Numerical risk estimation

  Estimation of radiation-induced cancer risks in the U S population by modification of models

  Measurement of uncertainties in radiation risk estimates

- Subpopulation sensitivity estimation

  Estimation of the importance of the existence of subpopulations more sensitive to the effects of radiation

In reviewing those and other issues, the sources of data that will be considered will include (but will not be limited to) the following

- Japanese atomic-bomb survivor data

  Cancer incidence and mortality data available since the BEIR V analysis

  Dependence of risk of cancer on cancer site, age, and time since exposure

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New dosimetric information, particularly pertaining to neutron doses at Hiroshima

Evidence for noncancer effects, including genetic, teratologic, cardiovascular, cataracts, etc

- Other epidemiologic data

  Medically-irradiated cohorts where results can be used to test or improve risk models

  Populations chronically exposed to low, moderate or high doses, including groups exposed in the former Soviet Union, nuclear workers in the U S and other countries, and other suitable population groups, such as residents of high background areas

- Laboratory studies pertaining to mechanisms of radiation-induced carcinogenesis

  Occurrence of various types of DNA damage secondary to cell metabolism and DNA replication, and damage induced by ionizing radiation

  Efficiency of DNA repair processes to include repair of spontaneous and radiation-induced DNA damage

  Importance of specific genetic changes caused by radiation or other agents in carcinogenesis

  Influence of the cell cycle on radiation-induced cellular changes and repair

The committee members will be chosen to represent molecular, cellular, and mammalian radiobiology, radiation epidemiology and biostatistics, carcinogenesis, and risk analysis Membership will be subject to National Research Council approval and bias procedures

PRODUCT AND DISSEMINATION PLAN

The committee will produce a consensus report that contains conclusions and recommendations regarding the feasibility and appropriateness of a phase 2 study of the health risks related to exposure to ionizing radiation (BEIR VII) The report will also identify realistic objectives of a phase 2 study if one is warranted The report will be reviewed in accord with National Research Council procedures

Reports resulting from this effort shall be prepared in sufficient quantity to ensure their distribution to the sponsor, to committee members, and to other relevant parties, in accordance with Academy policy Reports may be made available to the public without restrictions

NATIONAL RESEARCH COUNCIL

COMMISSION ON LIFE SCIENCES

2101 Constitution Avenue Washington DC 20418

BOARD ON RADIATION EFFECTS RESEARCH

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COMMITTEE ON HEALTH RISKS OF EXPOSURE TO
LOW LEVELS OF IONIZING RADIATION (BEIR VII) PHASE I

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*All terms expire August 31, 1997 None are members of the NAE

The National Research Council is the principal operating agency of the National Academy of Sciences and the National Academy of Engineering to serve government and other organizations

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Ex-officio

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***CLS adviser to BEIR VII**

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CBERKLEY@NAS.EDU

DORIS E. TAYLOR
Staff Assistant
DTAYLOR@NAS.EDU

AMY N. O'HARA
Project Assistant
AOHARA@NAS.EDU

Author jerome puskin at X400
Date 9/24/97 9 31 AM
Priority Normal
TO TIMOTHY REHDER at R8CCPO3
Subject NAS review of BEIR V -Reply
---------- Message Contents ----------

I just rembered that the NAS named one person to the BEIR VII Scoping Study in addition to the list I faxed you He is Geoffrey Howe, Ph D , Chairman of the

Epidemiology Department at Columbia University

Note also that although the project was scheduled to end on August 31, it has been extended until the end of the year

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Please contact DeAnne with comments by Dec 16, 1997

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 12, 1997

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

(Name)
National Academy of Sciences
(Address)

(Name)
Chair, BEIR VII Panel
(Address)

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 Messrs Puskin, _ _, and ___

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, IF 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 mRem/year were protective of public health This dose level was used as a basis for interim soil

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Mr Puskin
December 12, 1997
Page 2

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 active 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

---

[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.

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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
NRC

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Post-it® Fax Note 7671	Date 11/21	# of pages ▶ 5
To Persons Listed Below	From Jackie Berardini	
Co./Dept.	Co	
Phone #	Phone # 692 3472	
Fax #	Fax # 782 0095	

SIGN UP SHEET

NAME	PHONE NUMBER	FAX	AFFILIATION
Tim Rehder	312-6293	312 6041	U.S. EPA
KATHY SCHNOOR	438/6312	438/6234	BROOMFIELD
~~JANIK~~ STEWALL	466-5986	469-8554	BROOMFIELD
Ken Korkia	420-7855	420-7579	RFCAB
Steve Tarlton	692-3423	782-4969	CDPHE
NORMIE MORIN	692 2645	782 0188	CDPHE
Tim Holeman	355-5492	355-5530	Broomfield
Tom Marshall	444-6981	444-6523	RFCAB
Dave Shelton	966-9877	966-5001	K-H
VICTOR HOLM	989-9086	980-9076	RFCAB
BOB KANICK	444-0049	444-0072	RFCAB
EDD KRAY	966-2115	/5449	CDPHE
Jeremy Karpatkin	966-2080	6633	DOE/RFFO
Jessie Roberson	966 2025	6054	DOE/RFFO
Jeff Ciocco	301-903-7459	3877	DOE HQ
Jim Fiore	" " "	"	
Ray Greenberg	" " "	"	DOE HQ (tele)
LeRoy Moore	303-444-6981	444-6523	DOE HQ (tele.)
Sam Dixon	426-1202	429-5113	RMPJC
M. Harlow	430-2400/2174	650-1645	City of Westminster
John Corsi	966-6526/~~4255~~	966-4255	City of Westminster
			Kaiser-Hill

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

(Name)
National Academy of Sciences
(Address)

(Name)
Chair, BEIR VII Panel
(Address)

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

Dear Mssrs Puskin, ___, and ___

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As you know, BEIR V concluded that an annual dose no greater than 15/85 mRem would be 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 VIII, U S Department of Energy, and the Colorado Department of Public Health and Environment

There are many DOE 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-

---

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Draft

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Mr Puskin
November 18, 1997
Page 2

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 massive collaborative effort initiated by the Department of Defense regarding alternative technologies for disposal of chemical weapons 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

A brief summary of the DOD process may be useful [illegible] to reviewers *The language in italic print is draft language that requires approval from the Dialogue before it can be used. Deadline for Dialogue comments is 11/15, so that might to fit [illegible] here in Colorado] The Dialogue on Assembled Chemical Weapons Assessment ("Dialogue") was formed in an effort to effectively address the charge of Public Law 104-208 to demonstrate not less than two alternatives to the baseline incineration process DoD and others interested in this issue stated the need to integrate the input of communities, regulators, and other concerned parties into the process of developing criteria and assessing alternative technologies so that decisions are technically sound and publicly acceptable DoD and a diversity of other perspectives asked the Keystone Center, a neutral facilitator specializing in environmental and health policy disputes, to design a meaningful process for stakeholder involvement The Keystone Center convened a wide array of perspectives, including representatives from the nine affected communities, state regulators and tribal representation, Environmental Protection Agency (EPA) staff, Department of Defense staff from affected sites and headquarters, and representatives from national citizen groups that regularly work on this issue Additionally, NAS representatives have agreed to join the Dialogue as participant-observers to provide coordination with their independent evaluation of the alternative technologies The unique nature of this process has enabled the Dialogue to successfully work toward a shared goal collaborative identification, demonstration, and deployment (ultimately) of safe, effective, and broadly acceptable methods for the disposal of chemical weapons*

This consensus-building group has developed ground rules (copy attached) and, in conjunction with DOD, has created a rigorous three-tiered set of program evaluation criteria (Copy available upon request) The criteria include all appropriate (traditional) technical considerations for the evaluation of technologies In addition, criteria have been established for collection of information by which decision-makers will be able to choose viable options in light of additional, non-traditional criteria such as natural resource commitments, potential human

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health and environmental consequences, and socio-economic factors This criteria set has been reviewed and adopted by the National Academy of Science's National Research Committee (NAS) which is conducting an independent, parallel technical assessment of the alternative technologies The alternatives will be evaluated by the citizen/regulator group, DOD and NAS against these collaboratively agreed criteria

Accordingly we propose the following

1 A national public participation effort be launched This could be sponsored by EPA, NAS or the BEIR VII panel individually or in partnership with each other

2 DOE (including both (HQ and Site personnel) should be invited

3 Representatives of state and local government, tribes, and other interests should be invited

4 State and federal regulators (i e, EPA HQ and Region 8 personnel) should be invited

5 When convened, the group should be invited to consider goal/objective statements such as[2]

> The goal of the group is to draw on a wide range of experience, perspectives and expertise in support of the re-evaluation of health risks from exposure to low levels of ionizing radiation

> The objective of the process is to solicit stakeholder input into the evaluation at key 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

6 A strong group facilitator should be engaged

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,

---

[2] I understand that the group, when convened, will want to develop their own goal and objectives However, this might serve as a useful starting point

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

cc
James Fiori DOE-HQ
Jesse Roberson, DOE-RFETS
Jack McGraw, EPA-8

draft

first version
12/10/97

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

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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

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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

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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

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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

8 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

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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200,000 CFM 19 LEL

.01 x 200,000 = 2,000 CFM

22.4 x
1009
454
22.4
81.6

PURPOSE

The purpose of the study proposed in this [illegible] Agreement to determine Plutonium and Americium [illegible]

It must include the following:

1. Are the proposed cleanup levels adequate to protect human health?

2. Will the cleanup levels proposed be adequate to protect human health even if [illegible] and certain areas are used for residential development?

[illegible] program [illegible] RFETS of [illegible] it may be necessary to modify, add to, or subtract [illegible] specific [illegible]

Joe Guldt-Ed 321 7276

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Best Available Copy

Corsi
Bob
DOE
Victor

Best Available Copy

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SHEET NO OF

JOB NO SFL Scope of Work

BY JKS

DATE 12/9/97 TIME 9pm

City of Broomfield

One DesCombes Drive PO Box 1415 Broomfield Colorado 80020

Brg Meeting Agenda

- Schedule of work - Work plan - Timeline
- Selection of Project Panel Members
- Report back from CDPHE - does the proj. disc fit into RFICS scope

Schedule? (Can We get Something out in 12 mo?)

Begin - Dec 12th

- select Panel members - interviews?
- turn scope of work over to OP to refine & finalize
- Final Scope by end of Jan - drop into RFP (CDPHE boiler plate stuff)
- Pre proposal Conf - 2 wks out
- Proposals Due - 2-4 wks after
- interviews w/ contractors (to read & set up interviews)
- Select Contractor
- Negotiate Contract
- Sign Contract & Begin work

Sleboy proposes a Public Scoping meeting w/ Contractor. Where does this fit?

Monthly CD meetings
Quarterly Contractor updates & public review app

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SHEET NO OF

JOB NO

BY

DATE TIME

City of Broomfield

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

Victor - changed his mind about different on & off-site

Bob - stirred risk out of hat

Victor - we should allow the contractor some risk in our calculations

- For comparison purposes the contractor may provide stds for variations

- Peer reviewed plan! Still needs to be put in

It would be expected that the report would be critical analysis?
submit it for publication in a peer reviewed journal

- will be incorporated in RFCA annual revision

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PROPOSED CHANGES IN TEXT OF DRAFT RFP FOR SAL REVIEW

Under "Background" (p 1) substitute for second paragraph
The SALs were calculated based on dose assumptions specified in the SAL agreement The agreement states that during the next 1000 years an office worker in the Rocky Flats industrial area (the core area of the site) may sustain a dose of up to 15 mrem/year over 30 years from material in the RF soil, and that a hypothetical future resident in the Rocky Flats buffer zone may sustain a dose of up to 85 mrem/year over a 30 year period from material in the buffer zone soil The first of these assumes the existence of institutional controls, the second assumes the absence of such controls Calculations to determine how much radioactive material in the soil corresponds to these permitted doses were performed by entering more than seventy input parameters and default values into Argonne National Lab's RESRAD computer program According to the RESRAD calculations, the SALs allow in the industrial area soil plutonium-239/240 up to a concentration of 562 pCi/gram of soil in combination with americium-241 in a concentration of up to 101 pCi/gram of soil In the buffer zone the SALs allow 651 pCi/gram of soil of plutonium-239/240 in combination with 117 pCi/gram of soil of americium-241

First paragraph under "Scope of Work" (p 1)
line 1 Delete "In effect"
line 2, insert after "developed" for other sites contaminated with radionuclides
line 5, insert prior to "calculate" to

Under Action 1, first paragraph
lines 1, 3, 5 change "cleanup standards" or "levels" to soil action levels

Under Action 2 Paragraph beginning on p 2, ending on p 3
page 3, line 2 change "and justifying" to and to justify

Under Action 6
add at end As part of the calculations, include a statement of the assumptions and level of uncertainty involved in the specific approach utilized Conclude with a translation of SALs to both dose and risk

Under Action 8 Paragraph under "Discussion"
line 1 Delete "Basically"
Change second sentence to read Calculations for the existing SALs only considered on-site exposure scenarios
After the third sentence (ending with the words "it is possible these standards will control the cleanup "), insert the following sentence How can the issue of plutonium migration be incorporated into an evaluation of the SALs?

Throughout "Scope of Work" Give titles to the several action items, as follows 1) SALs at other sites, 2) Computer models, 3) Input parameters and assumptions, 4) Land use assumptions, 5) Methodological options, 6) Calculations, 7) Protocols, 8) Actinide migration, 9) Water quality standards

"Schedule/Timeline" (final page)
Begin with At the very beginning of the contract, to ensure that the contractor is aware of concerns of the affected public about the SAL 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
first paragraph, line 4 change "provide sufficient staff is present" to have sufficient staff present

LeRoy Moore, 9 Dec 97

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City of Broomfield

One DesCombes Drive, Broomfield Colorado 80020

FAX COVER SHEET

DATE	December 8, 1997	TIME	2 09 PM
TO	Hank Stovall	FAX	303-469-8554
	Victor Holm	FAX	303-980-9076
	LeRoy Moore	FAX	303-444-6523
	John Corsi	FAX	303-966-4255
	Bob Kanick	FAX	303-444-0072
	Mary Harlow	FAX	303-650--1643
FROM	Kathy Schnoor Public Works/Environmental Services	PHONE. FAX.	303-438-6363 303-438-6234

RE: DRAFT RFP for SAL Independent Review

CC:

Number of pages including cover sheet 7

Message:

Please review the attached first draft of the RFP for SAL Independent Review Today's subcommittee meeting to discuss this draft was cancelled, and has been re-scheduled for:

9:00 AM Tuesday, December 9th

Broomfield City Hall, Blue 2 Conference Room

If you are unable to bring your comments to the meeting tomorrow morning, please contact Bob Kanick directly at 444-0049 by noon on Wednesday

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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 Soil Action Levels (SALs) for radionuclides in the soil at the RFETS site (Attachment A) Intended to be protective of people using the RFETS site after closure, the SALs 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 SALs did not consider off-site migration As part of RFCA, the SALs are to undergo periodic review as new information is available

The SALs were calculated based on the dose assumptions given in RFCA. The agreement states during the next 1000 years no individual exposure levels should exceed either 15 or 85 mrem/year (assuming institutional controls) over 30 years from radioactive contaminants in the RFETS soil 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 SALs, DOE agreed to this independent review of the methods used to convert given dose levels to soil contamination levels or, in effect, cleanup standards 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

In effect, the contractor is being requested to investigate three things First, to review models, methodologies, and cleanup standards that may exist or are being developed as to how they may apply to the RFETS site-specific situation Second, to review the existing analysis used to set the current RFETS SALs as to its accuracy and applicability And third, based on the results of the above investigations, calculate an independent set of SALs

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 Action

Identify and evaluate cleanup standards 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 standards 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 standards 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 standards 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 standards at RFETS, but will simply be used to place the calculated values in context.

2 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 SALs A comparison of the different models using RFETS site-specific data would be useful It is possible that no one model will prove satisfactory for determining both the on-site levels and the off-site risk of

exceeding the existing standards The contractor will be expected to recommend the most appropriate model for the RFETS site-specific conditions and justifying 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 Action

Evaluate the input parameters inputs default inputs, and assumptions for the current analysis (RESRAD) used to set the interim SALs 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 level?

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 3 b) above from least conservative to most conservative with conservative meaning that which results in lower contamination levels given a certain dose limit

d) 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 Action

Evaluate the land use scenarios assumed in setting the current SALs as to their appropriateness and conservative nature in setting such cleanup standards at RFETS Provide a recommendation as to the acceptability of the currently assumed land use scenarios or the appropriateness of alternatives

Discussion

The current analysis used to set the interim SALs at RFETS assumed certain land use scenarios It is not the intent of this review to recommend future land use at the site, but rather to determine the impacts that the possible future land use scenarios may have on the resulting SALs This is to ask are there any other land use scenarios which can be considered more appropriate for setting cleanup standards?

5 Action

Identify and evaluate the methodologies (e g , 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 Within 1 month of the start of the contract present a summary of these methodologies to the RFRSALOP along with a recommendation as to the best suited for such an analysis

Discussion

It is understood that there are several methodologies which can be used to shape the inputs for such an analysis The RFRSALOP wishes to fully understand the nature and implications of each of the potential methodologies so that it can ultimately choose the methodology that can best produce credible and defensible results from this independent review which will be acceptable to the broadest range of stakeholders

6 Action

Use the methodology or methodologies chosen by the RFRSALOP subsequent to 5 above to combine/model 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 land use scenarios in the original analysis as well as those recommended in 4 above

7 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 standards 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 standards 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 standards

8 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 6 above

Discussion

Basically it should be determined that cleanup standards are protective of off-site residents The existing study used to set the SALs only examined on-site exposure scenarios Since off-site air and water quality standards are more restrictive, it is possible these standards will control the cleanup 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 Action

Subsequent to the evaluation of inputs in 3 and the calculation of contamination levels in 6 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 separate summary is to be provided which should be directed to the general public that has no prior knowledge of the SALs 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

Quarterly meetings will be held which will consist of two nightly meetings 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 need to provide sufficient staff is 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

March 1998	Start of contract
April 1998	Presentation of potential methodologies to RFRSALOP
May 1998	Setting of review methodology by RFRSALOP
June 1998	First quarterly report to RFRSALOP
April 1999	Completion of contract, final presentations and report
June 1999	Presentation of results at RFCA review

To: Cathy Sahnow
From: Mickey Hulsey

DRAFT RFP FOR SOIL ACTION LEVELS REVIEW

1 HISTORY.

As the concluding step of the Rocky Flats Cleanup Agreement, on October 18, 1996, the U S DOE and its regulators (EPA and CDPHE) at the Rocky Flats Environmental Technology Site, a former nuclear weapons production facility located in Jefferson County, CO, adopted Interim Soil Action Levels (SALs) for radionuclides in the soil at the Rocky Flats site (Attachment A). Intended to be protective of people using Rocky Flats after site closure, the SALs specify how much radioactive material (primarily plutonium and americium) may remain in the Rocky Flats soil after cleanup without exceeding the permitted exposure (dose) for target populations. The SALs are based in part on future land uses. The SALs are to undergo periodic review as new information is available.

As noted, the SALs thus consist of two parts: dose and calculations to determine the quantity of radionuclides that will not exceed this dose. Regarding dose, the agreement states that during the next 1000 years an office worker in the Rocky Flats industrial area (the core area of the site) may sustain a dose of up to 15 mrem/year over 30 years from material in the RF soil, and that a hypothetical future resident in the Rocky Flats buffer zone may sustain a dose of up to 85 mrem/year over a 30 year period from material in the buffer zone soil. The calculations to determine how much radioactive material in the soil corresponds to the permitted dose were performed by entering more than seventy input parameters and assumptions into a RESRAD computer program. According to the RESRAD calculations the SALs allow in the industrial area soil plutonium-239/240 up to a concentration of 562 pCi/gram of soil in combination with americium-241 in a concentration of up to 101 pCi/gram of soil. In the buffer zone the SALs allow 651 pCi/gram of soil of plutonium-239/240 in combination with 117 pCi/gram of soil of americium-241.

In response to public demands for an independent review of the SALs, on September , 1997, DOE agreed to an independent review not of the dose part of the SALs but of the calculations, including of the RESRAD computer model and alternate models. A citizen review group known as the Rocky Flats Radionuclide Soil Action Level Oversight Panel was created to define the project, to issue a Request for Proposal to interested parties, to contract for the independent review, and to oversee the review from initiation to full completion. CDPHE, through the office of the Rocky Flats Health Advisory Panel, will serve as the administrative conduit for allocation of monies, administration of the contract, and provision of secretarial and organizational support for the Oversight Panel. Accordingly, the present Request for Proposal is issued by the HAP office of CDPHE.

2. OVERVIEW

The contract for this project consists in providing answers to the following principal investigation and evaluation questions in a way that also responds to the appended list of special issues.

A. Principal investigation and evaluation questions

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Best Available Copy

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? Which models are best suited for the site-specific conditions unique to Rocky Flats?

b. What cleanup levels exist at other radionuclide-contaminated sites? Do the processes/models to determine those cleanup levels have application for use at Rocky Flats?

c What are the model input parameters and assumptions applied in determining the SALs established for Rocky Flats? Are these input parameters accurate and credible in simulating soil conditions and converting dose to SALs and converting from dose 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.

d. By applying the best available soils model and appropriate input parameters, as well as a credible and defensive methodology or methodologies, how will the model results impact the translation of dose to soil action levels and the translation to risk?

B. Special Issues:

a Water quality standards The 0 15 pCi/L surface water standard 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 the application of the SALs 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 and other models.

b. Off-site migration. Stakeholders appreciate the potential for long-term off-site migration either through air, water, or soil. They believe that a new or improved soils model should strive to integrate multi-media considerations. Will the Actinide Migration Panel generate such a soils model? How can the issue of plutonium migration be incorporated into an evaluation of the SALs? Some stakeholders believe that by applying ALARA principles, actinides can be minimized and immobilized in order to reduce off-site migration Can this approach be evaluated?

c Input parameters. To ensure that the contractor will adequately address the research questions and in order to minimize the subjective level of interpretation on how the input parameters should be applied, the contractor will work closely with the Oversight Panel to identify the method(s) by which input parameters are applied or tested. Among others, choices include best estimate method, conservative method, bounding method, and probabilistic risk assessment method Stakeholders contend that the excessive amount of radionuclides allowed by the SALs result from repeated application of a less-than-most-cautious approach in calculation after calculation. DOE, on the other

hand, is concerned that maximizing the conservatism of all input parameters could result in a model that lacks "reasonableness"

d. Unique site-specific conditions: What land-use assumptions inform the SAL decision? These assumptions, as well as potential off-site land use developments, provide an important backdrop for the application of a preferred model. To what extent should elevation above sea level be a factor in calculating SALs for Rocky Flats? In addition, other issues impacting soils include: community acceptance of institutional controls, the prospect for deployment of innovative/cost effective technologies for soil remediation, the opportunity for off-site disposal of soils and building rubble, the importance of buffer zone and critical habitat preservation. All these issues, many of which are in flux, should be recognized when judging applicability of the RESRAD or other models at Rocky Flats and the adequacy or appropriateness of the model inputs.

e. Quality assurance: To ensure the best possible results from this review, the contractor needs to include a plan for peer review.

not enough here on QA. & measures

f. Public participation: The contractor will work closely with the Oversight Panel in the design of a public participation plan that includes a scoping process, periodic report and review with the public, and final presentation and evaluation. Give and take with the public throughout the project is crucial to success of this endeavor.

3. PROJECT OBJECTIVES

The contract for this project will cover a twelve (12) month period beginning January 15, 1998, ~~with possible extension for up to an additional six (6) months.~~ During this time the contractor will conduct an independent review of the calculations used for establishment of the Rocky Flats Soil Action Levels, including the RESRAD computer model and possible alternative models, the adequacy of input parameters and assumptions employed in setting the SALs, and the possible applicability of processes and models used for setting soil action levels for radionuclides at other sites. The product expected from the contractor will be a succinct statement regarding the adequacy or inadequacy of the Rocky Flats SALs from a public health and safety standpoint, plus recommendations for changes in the SALs. The contractor will be expected to justify calculations from dose to quantity of radionuclides permitted to remain in soil, as well as to make clear and convincing translations of dose to risk.

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LeRoy

To: Cathy Schnoor
From: Mickey Hooker

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straight off Proj. Doc

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Bob & Peter
will then
pull these
pieces together
by Monday 8th
1:30PM

Use as Template for RFP

THE ROCKY FLATS LOCAL IMPACTS INITIATIVE

5460 Ward Road, Suite 205
Arvada, Colorado 80002

Phone: (303) 940-6090
Fax: (303) 940-6088

REQUEST FOR PROPOSALS
PROFESSIONAL SERVICES

Firms to Provide Contract Services to Assist the Facility and Infrastructure Transition Task Force

1. PROJECT DESCRIPTION

1.1 Background

The Rocky Flats Local Impacts Initiative (RFLII) is the designated Community Reuse Organization for the Rocky Flats Environmental Technology Site (RFETS). The RFETS is a former U.S. Department of Energy (DOE) nuclear weapons production facility near Denver, Colorado, currently undergoing cleanup. Kaiser-Hill, L.L.C. is the primary operating contractor at Rocky Flats.

The 6,500 acre RFETS is divided into two major areas, the industrial area and the buffer zone. The industrial area, approximately 350 acres at the center of the site, includes more than 400 buildings and structures. The following buildings within the industrial area have been identified for potential reuse upon the completion of cleanup: buildings 125, 130, 131, 440, 460, 850, 865, and 883. Weapons production formerly took place in the industrial area. This area is currently undergoing cleanup. The buffer zone, over 6,000 acres that surrounds the industrial area, is primarily open space with some areas of contamination. It is expected that the buffer zone will remain as preserved open space following the completion of cleanup. Cleanup is currently expected to be completed in 2009.

RFLII, in conjunction with the DOE and Kaiser-Hill, is beginning the process of identifying facility and infrastructure transition opportunities and developing a concept plan for future facility reuse. The Rocky Flats Future Site Use Working Group's 1995 report recommended that the Rocky Flats industrial area be cleaned to allow for its conversion to an employment center. Environmental technology, research, and education were identified as a desirable focus for the site's redevelopment.

RFLII convened the public-private Facility and Infrastructure Transition Task Force to develop a concept and recommendations for the future use of Rocky Flats facilities and infrastructure. The Task Force will determine whether an environmental technology center is the best future use of the site and explore other potential uses as well. The

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Task Force is composed of designated representatives from the DOE; Kaiser-Hill; the U.S. Environmental Protection Agency; county, city, and state offices; the local business community; and interested public interest groups.

The work of the Task Force began in July 1997 and will continue through March 1998. The consultant will work with the Task Force from September 1997 through March 1998. RFLII believes that the work outlined below can be completed within a budget of $150,000 or less.

1.2 Scope of Work

The consultant will work with the Facility and Infrastructure Transition Task Force in conducting a redevelopment feasibility analysis and developing and drafting a future use plan for the industrial area at the Rocky Flats Environmental Technology Site. The Task Force will explore the development of an environmental technology center on-site. Other potential future uses for the site may be considered in addition to an environmental technology center as deemed necessary by the Task Force.

The Facility and Infrastructure Transition Task Force recommendations will be integrated into the cleanup plan for the site. The consultant will work integrally with the Task Force to develop and draft a concept and recommendations for the future transition of the facilities and infrastructure at the site. This planning will likely be based in part on engineering and economic analysis conducted by the consultant as described below, following an analysis of infrastructure needs and availability.

Of the approximately 400 buildings and structures located in the industrial area, eight are currently being considered for reuse. The consultant will determine if other facilities in the industrial area are suitable for reuse. For those facilities already identified for reuse, their long term structural viability is unknown. The level of information available regarding on-site buildings and structures varies according to location and past use of facilities. Kaiser-Hill maintains information on all facilities on-site, including those buildings identified for potential reuse. Current infrastructure includes water and sewage treatment, an electric substation, a steam plant, and access roads. The adequacy, condition, and expansion options of this infrastructure have not been analyzed. The identified buildings are scheduled to become available for reuse in 2009 when cleanup of the site is completed.

The work of the consultant may include the research-based analyses described below. The following list is not meant to be exhaustive of the types of analysis a team may propose to conduct as part of this project:

A. The work of the consultant may include an indepth analysis of the site infrastructure. An infrastructure assessment would likely involve an analysis of future needs of the proposed environmental technology center and an evaluation of the existing infrastructure and that which could remain following the completion of cleanup. The Task Force believes that an infrastructure analysis is the appropriate starting point for the consultant's work;

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B. An engineering-based evaluation of the structural viability of the identified facilities and of other facilities that may prove suitable for reuse may be deemed necessary by the Task Force. An assessment of the existing facilities would consider whether the buildings met or could be brought up to standard to meet local, state, and federal building safety and health codes, including compliance with the Occupational Safety and Health Act. Compliance with the Americans with Disabilities Act should be considered as well; and

C. The work of the consultant may also include a marketing/economic feasibility study, determining the future economic viability of an environmental technology center or other uses located on-site. This type of analysis would determine the estimated cost for maintaining and building necessary infrastructure to serve an environmental technology center, the estimated cost for the operation and maintenance of remaining facilities, and how the local community and state will be able to support an environmental technology center or other use considering trends in the regional and national economy and within the environmental technology industry. Cost-benefit, location quotient, and shift-share analysis would likely be included in this type of study.

Firms should develop proposals that provide detailed descriptions of how the consultant will work with the Task Force to determine the best future use of the industrial area. Proposals should describe the proposed work plan in phases including a description of work products that will be completed and presented to the Task Force at the termination of each phase of work.

Specifically, the consultant will:

- provide engineering, economic, and other relevant assessments to the Task Force on the feasibility of reuse of infrastructure, facilities, and land at the RFETS;
- work integrally with the Task Force in developing and drafting a concept and recommendations for the future transition of the facilities and infrastructure as well as an implementation plan for the transition;
- identify potential mechanisms, as well as the advantages and disadvantages of each, for the future management and ownership of the site such as a redevelopment authority, private ownership, or other methods;
- work integrally with the Task Force in developing and implementing public engagement strategies once a draft concept plan and recommendations are developed;
- meet with the full Task Force at least once a month at their regular meetings from September 1997 through March 1998,
- meet with Task Force committees as necessary;

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- facilitate a one-day work session in December 1997 during which the Task Force will develop draft recommendations for the future transition of RFETS facilities and infrastructure;
- from the results of the December one-day work session, more fully develop and draft a detailed recommendation document that will be presented to the Task Force for review and consideration;
- prepare reports, documents, and other materials as described in your proposal; and
- work integrally with the Task Force in developing and drafting a final concept and recommendations for the future transition of facilities and infrastructure, integrating public comments and other revisions.

2. PLACE, DATE, AND TIME FOR RECEIPT OF PROPOSALS

Proposals shall be received by the Rocky Flats Local Impacts Initiative, 5460 Ward Road, Suite 205, Arvada, Colorado, 80002, until 5:00pm Mountain Time on Friday, August 8, 1997.

3. GENERAL INFORMATION AND REQUIREMENTS

3.1 Availability of Information. This Request for Proposals (RFP) is being issued by RFLII on July 17, 1997. The RFP is being made available to firms who requested to receive this RFP relating to facility and infrastructure transition and to any other interested party requesting it. A list of recipients of the RFP may be obtained from RFLII.

Questions about the project should be directed to DeAnne Butterfield or Mari Margil, Rocky Flats Local Impacts Initiative, 5460 Ward Road, Suite 205, Arvada, Colorado, 80002; phone number (303) 940-6090.

3.2 Minority Businesses. It is the policy of RFLII 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 in the project. Contractors shall not discriminate on the basis of race, creed, religion, color, national origin, gender, ancestry, age, marital status, or disability in the bidding for and the performance of subcontracts.

3.3 Supplements and Addenda. Any change to the RFP document issued prior to the date established for submission of proposals will be issued by RFLII to all recipients of record. In the event that RFLII deems that an addendum to the RFP is necessary, the

addendum will be sent by certified mail to all recipients of record. Clarifications, interpretations, and other forms of oral response, whether by RFLII or others, shall not be construed as valid or binding.

3.4 Pre-proposal Conference Call. A pre-proposal conference will be held via telephone conference call at 10:30am Mountain Time on Monday, July 28, 1997. Proposers wishing to participate must notify RFLII by telephone or fax to receive conference call information. Proposers are encouraged to ask questions and satisfy themselves as to the nature of the project and any other matters that can in any way affect the work proposed.

3.5 Withdrawal or Revision of Proposals. A proposer may withdraw or revise a proposal after it has been submitted to RFLII. Withdrawal of a proposal must be made in writing and must occur prior to the time set for receipt of proposals. Any proposal withdrawn for the purpose of revision must be resubmitted in the specified format within the time frame established for receipt of proposals. Proposals may not be withdrawn after the time set for receipt. A proposal is a binding offer which shall remain open and irrevocable for sixty days from the date of submission, or until accepted by RFLII.

3.6 Disqualification of Proposers. The following reasons will be considered sufficient for disqualifying a proposer and the rejection of a proposal or proposals: incomplete proposals, exemptions taken to the terms and conditions, or receipt of a proposal beyond the date and time set for receipt.

3.7 Rejection of Proposals. RFLII reserves the right to reject any or all proposals for any reason and to waive informalities in proposals.

4. PROJECT DATES

The following dates have been established for the review of proposals:

July 17	Issue RFP
July 28	Pre-proposal Conference Call
August 8	Deadline to Respond to RFP
August 14-15	Interviews with Finalists
August 28	Contract Approved
September 2	Work Begins

A Task Force work plan that extends throughout the duration of the project is attached to this document.

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5. PRICE SCOPE

Costs and arrangements for meeting rooms, meals, printing, and other support services will be provided by RFLII separately from the contract resulting from this RFP.

Services solicited in this RFP are not fully determined. In lieu of a project price bid, proposers shall submit hourly rates and expense reimbursement conditions. Proposers shall include an estimate for the total cost of work proposed. Proposals shall also provide a cost breakdown that details specific costs for each phase of work proposed.

6. SELECTION CRITERIA AND PROCESS

RFLII may accept a proposal as submitted or it may elect to negotiate with one or more proposers as hereinafter described.

6.1 Any firm contracting with RFLII must be U.S. owned and must carry workers compensation coverage as required by their state.

6.2 The contract with the consultant will be such that at the end of each phase of work, the Task Force will determine whether or not the consultant shall proceed to the next phase of work. The contract will continue in this "go/no go" manner throughout the duration of the project. Payments for work conducted will be made accordingly.

6.3 Selection Criteria. RFLII will evaluate proposals on the basis of the evaluation criteria listed below:

A. Quality of the Proposal. (35%) Proposals will be evaluated as to their effectiveness and thoroughness in addressing the varying factors involved with this project including the long term nature of the cleanup at the RFETS, the long term planning required of this project, the lack of information regarding the facilities and infrastructure that may remain following cleanup, the undetermined future use of the site, working with a public-private task force, as well as other factors;

B. Experience of the Firm or Firms Submitting the Proposal. (35%) The firm or group of firms must demonstrate experience with the following: engineering and economic analysis, land use planning, the redevelopment of federal facilities and/or contaminated sites, public finance strategies, and working with projects involving public participation and public agencies;

C. Qualifications of Project Personnel and Degree of Satisfaction of Previous Clients. (15%); and

D. Cost. (15%) After evaluation of proposals, the firms deemed most responsive based on scores for parts A, B, and C above will be evaluated based on cost, with a lower bid receiving a higher score.

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6.4 Selection for Negotiation. The RFP Review Team, comprised of designated members of the Facility and Infrastructure Transition Task Force, will review and evaluate all proposals using the criteria described above and may select as many as five proposals for further negotiation or interviews:

A. Verification. During the evaluation, RFLII may request proposers to verify certain aspects of their respective proposals. Substantive discussions will not be held with any proposer when requesting verification; and

B. Notification. RFLII will notify those proposers who are selected for negotiation or interview. RFLII will also notify in writing all proposers who have not been selected.

6.5 Negotiations and Interviews. RFLII may elect to conduct negotiations or interviews either sequentially or simultaneously with all proposers selected. Concepts and ideas developed by any proposer either in the proposal or during negotiations or interviews may be discussed with all proposers. However, each proposer's documents and pricing will be held in confidence by RFLII, to the extent allowed under law as applicable to Colorado public entities and to recipients of federal grants.

6.5.1 Intent. It is the intent of RFLII to conduct negotiations or interviews with selected proposers to:

A. Further define aspects of the project and the proposal;

B. Allow the proposer to better demonstrate his or her understanding of the features of the project and the capacity of the proposer's staff to accomplish the project;

C. Allow each proposer to develop an approach to the ideas and concepts encompassed in alternate proposals submitted by other proposers; and

D. Allow RFLII to define a final scope for the project.

6.5.2 Disposition of Proposals. Submitted proposals shall not be returned and shall become the property of RFLII.

6.6 Final Selection. Following the evaluation and/or negotiation process, RFLII may select that proposer whose proposal is most advantageous to RFLII considering the price and other factors, based on the recommendation of the Task Force RFP Review Team. It is the intent of RFLII to contract with one lead proposer to conduct all elements of this project. However, RFLII reserves the right to contract with more than one firm for separate elements of the project if it is advantageous to RFLII.

After such selection, RFLII will notify in writing all proposers and identify the selected proposer. RFLII will not be obligated to provide information to any proposer concerning the basis for non-selection.

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7. PROPOSAL REQUIREMENTS

7.1 Six original copies of the complete proposal shall be submitted. The proposal shall not exceed 20 pages. Additional background materials may also be submitted for informational purposes, but will not necessarily be utilized to determine compliance with criteria.

7.2 The proposal shall consist, at a minimum, of the following sections:

A. Project approach, including your philosophy, how you would accomplish the goal of working with the Task Force to develop a concept and recommendations for the best future use of the industrial area at the Rocky Flats Environmental Technology Site. Please identify phases for project work during which specific components of the project and work products will be completed. Include a graphic description of the work phases;

B. Capacity to accomplish work, including current and projected workload over the course of this project period (September 1997 - March 1998);

C. Breakout of estimated hours required for each phase of the project;

D. Qualifications of firm and project staff. Name of principal staff person to be assigned to the project;

E. Experience of firm and project staff in projects related to large sites in need of redevelopment, especially with ecological constraints and contamination. Experience of firm and project staff in large public planning processes involving citizen participation and the use of a consensus process. Please include a minimum of two examples of specific tasks performed;

F. References, including names, addresses, phone numbers, and general project description for at least three clients familiar with the quality of the service you performed. Please provide a client list for at least the three previous years;

G. Hourly rates for project staff, estimated travel costs, policies for expense reimbursement, individual cost estimates for each phase of the proposed project, and the total estimated project cost; and

H. Original signature of the lead proposer, along with address, phone, and fax numbers.

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THE ROCKY FLATS LOCAL IMPACTS INITIATIVE

5460 Ward Road, Suite 205
Arvada, Colorado 80002

Phone: (303) 940-6090
Fax: (303) 940-6088

RFP

Facility and Infrastructure Transition Task Force Draft Work Plan

Proposal Negotiation for

July 1, 1997	First Task Force Meeting
July 15 - 31, 1997	First Meetings of Task Force Committees: – Environmental Technology – Facility/Infrastructure – Agenda and Outreach – RFP Review Team Panel Selection of Methodology
July 17, 1997	Issue RFP
July 23, 1997	Task Force Site Tour
August 8, 1997	RFP Proposals Due
Week of August 11, 1997	RFP Review Team Reads and Scores Proposals; Consultants Interviewed
August 19, 1997	Second Task Force Meeting a. choose consultant b. approve Task Force work processes c. reports from Task Force committees
August 28, 1997	RFLII Board of Directors Approves Consultant Contract
September 2, 1997	Consultant Contract Begins

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September - November, 1997	Task Force gathers information and data; develops scenarios for future site use; develops a vision and goals for future site use; has ongoing discussion among Task Force members, resource members, and outside resources; and utilizes ongoing consultant services
Week of December 1 or 8, 1997	One-Day Work Session to Develop Concept and Recommendations for Future Transition and Use of Rocky Flats Facilities and Infrastructure
January, 1998	Consultant Presents Results of December One-Day Work Session to Task Force
February - March, 1998	Task Force Presents Concept and Recommendations for Facility Transition to Community
April, 1998	Task Force Presents Recommendations to RFLII; RFLII Presents Recommendations to the DOE and Kaiser-Hill
May - June, 1998	RFLII, the DOE, and Kaiser-Hill Develop Implementation Plan Based on the Task Force's Recommendations for Future Site Use

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Request for Proposals
Professional Services

Firms to Provide Contract Services to Review the Interim Soil Action Levels for Radionuclides at the Rocky Flats Environmental Technology Site

1 0 Project Description (insert the latest version?)

Background

Bob and Victor's piece as amended

2 0 Place, Date and Time for Receipt of Proposals

Proposals shall be received by the CDPHE HAP office , address, until 5 00 PM Mountain Time on Friday, date, 1998

3 0 General Information and Requirements

3 1 Availability of Information

3 2 Minority Businesses

3 3 Supplements and Addenda

3 4 Pre-proposal Conference (Conference Call)

3 5 Withdrawal or Revision of Proposals

3 6 Disqualification of Proposers

3 7 Rejection of Proposals RFRSALOP reserves the right to reject any or all proposals for any reason and to waive informalities in proposals

4 0 Project Dates

The following dates have been established for the review of proposals

Issue RFP	date1
Pre-proposal Conference	date2=date 1 +2weeks?, 10 days?
Deadline to Respond to RFP	date3=date 2 +2weeks?, 10 days?
Interviews with Finalists	date4= date3 +1week?
Contract Approved	date5=date4 +?
Work Begins	ASAP after contract awarded

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5 0 Price Scope

Costs and arrangements for meeting rooms, meals, printing, and other support services will be provided by CDPHE separately from the contract resulting from this RFP

Proposals shall submit project price bid, as well as, hourly rates and expense reimbursement conditions Proposals shall provide a cost breakdown that details specific costs for each phase of work proposed.

6 0 Selection Criteria and Process

RFRSALOP may accept a proposal as submitted or it may elect to negotiate with one or more proposers as hereinafter described

6 1 Any firm contracting with RFRSALOP must be U S owned and must carry workers compensation coverage as required by their state

???6 2 The contract with the consultant will be such that at the end of each phase of work, the RFRSALOP will determine whether or not the consultant shall proceed to the next phase of work The contract will continue in this "go/nogo" manner throughout the duration of the project Payments for work conducted will be made accordingly ???

6 3 Selection Criteria RFRSALOP will evaluate proposals on the basis of the evaluation criteria listed below

A Quality of the proposal (35%) Proposals will be evaluated as to their effectiveness and thoroughness in addressing the varying factors involved with this project including ???

B Experience of the Firm or Firms Submitting the Proposal (35%) the Firm or Group of Firms must demonstrate experience with the following , working with projects involving public participation and public agencies

C Qualifications of Project Personnel and Degree of Satisfaction of Previous Clients (15%), and

D Cost (15%) After evaluation of proposals, the firms deemed most responsive based on scores for parts A,B,C above will be evaluated based on cost, with the lower bid receiving a higher score

6 4 Selection for Negotiation- the RFRSALOP will review and evaluate all proposals using the criteria described above and may select as many as five proposals for further interviews

A Verification During the evaluation, RFRSALOP may request proposers to verify certain aspects of their respective proposals Substantive discussions will not be held with any proposer when requesting verification, and

B Notification RFRSALOP will notify those proposers who are selected for negotiation or interview The Panel will also notify in writing all proposers who have not been selected

6 5 Negotiations and Interviews

From Rizvi Sultan (riz)
To rfcab@indra com
Cc Robert J Kanick
Subject Draft SAL review RFP
Date Wednesday, November 26, 1997 08 21 00

To Ken Korkia

Dear Ken,

Hi! Bob Kanick here I'm sending you this e-mail via my friend's account here in Switzerland Unfortunately I do not have a way of sending this information to Victor Holm, so I was hoping that you would be able to forward it to him either by e-mail or by fax Of course, it would be good if you reviewed it as well Below is my first draft of what I think the language in the SAL review RFP should
look like Please convey this to Victor Holm and tell him that he can
respond to me by e-mail (orbit@rmi net) or by fax and I will return on
Sunday to see his comments

Thanks and Happy Thanksgiving!
Bob

Draft RFP for SAL Independent Review

The contractor will be required to perform the following

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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 these models

2) Evaluate the models identified in 1) above to determine which are most applicable and best suited to model the site-specific conditions at the Rocky Flats Environmental Technology Site (RFETS) Provide a summary of the strengths and weaknesses of each of the models evaluated as well as a recommendation for the most appropriate model

3) Identify and evaluate cleanup levels which exist 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

4) 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

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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 subseugent conversion to dose rate/contamination level

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 4)b) above from least conservative to most conservative with conservative meaning that which results in lower contamination levels given a certain dose limit

d) For each of the input distributions in 4)c) above, identify an input value which can be considered "reasonable" or "best estimate" Provide the reasoning for these choices

5) 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 (which is to ask: are there any other land use scenarios which can be considered more appropriate for setting cleanup levels?)

6) Identify and evaluate the methodologies (e g 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 Within xx? months of the start of the contract, present a summary of these methodologies to the Soil Action Level Oversight Panel (SALOP) along with a recommendation as to the best suited for such an analysis

7) Use the methodology or methodologies chosen by the SALOP subsequent to 6) above to combine/model the inputs identified in 4) 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 land use scenarios in the original analysis as well as those recommended in 5) above

8) Subsequent to the evaluation of inputs in 4) and the calculation of contamination levels in 7) 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 Commision are met?

9) Evaluate the following and, at a minimum, qualitatively

assess the impact they may have, if any, on the resulting contamination levels determined in 7) above

a) community acceptance of institutional controls as may have been assumed by the land use scenarios

b) the prospect for deployment of innovative/cost effective soils remediation technologies

c) the opportunity for off-site disposal of soils and building rubble

d) the importance of buffer zone preservation and critical habitat

10) 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

11) The scope of this work must ensure appropriate quality assurance and peer review protocols are met Within xx months of the start of the contract, identify to the SALOP the mechanisms to be used for these

plug in measurement

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Independent Review of Radionuclides Soil Action Levels for the Rocky Flats Cleanup Agreement

Victor Holm and Bob Kanick
December 3, 1997

DRAFT

~~**1.0 Project Description**~~
~~The purpose of the study is to independently determine the soil cleanup action levels for transuranic elements in the surface soils at Rocky Flats that will be protective of future users of the site and surrounding communities. The Rocky Flats Cleanup Agreement (RFCA) specifies two soil action levels, Tier I and Tier II. The Tier I action level is the surface soil cleanup level in the presence of institutional controls. It will result in no more than 85 mrem annual exposure to the maximally exposed individual if the institutional controls fail. The Tier II level is the unrestricted release level and will result in no more than 15 mrem annual exposure. The second purpose of the study is to determine the soil cleanup level that will reasonably prevent an exceedence of the state water quality standard for surface waters leaving the site.~~

The study will use existing 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 assuring themselves of the sufficiency and quality of this data and informing the committee at an early date if additional data is required. The soil action levels have already been determined as part RFCA. The contractor should review these results, but will be independently responsible for recommending cleanup levels. Except for reviewing the current soil action levels and recommending appropriate changes the contractor may suggest that the scope of the study be modified. Deviation from the proposed scope of work will not be considered unresponsive to the RFP.

2.0 Scope of Study

2.1 The contractor will survey past examples of soil action levels adapted or projected for the cleanup of other sites. 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 standards and the subsequent history of the site including any cleanup. The survey does not need to be exhaustive. 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 soil action levels at Rocky Flats, but will simply be used to place the calculated values in a national context.

2.2 The contractor will evaluate existing dose response models. Models that are inappropriate to the site conditions obsolete or which can not be readily validated should not be included. RESRAD should be included due to its use in determining the current action levels. A comparison of the different models using site-specific Rocky Flats data would be useful. It is possible that no one model will prove satisfactory for determining both the on site levels and the

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off site risk of exceeding the existing standards The contractor will be responsible for selecting the most appropriate model for the site-specific conditions at Rocky Flats and justifying that decision Whichever model or models is chosen 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 used for the on-site standard, RESRAD should be run in parallel with the chosen model as a comparison

2 3 All of the input parameters to the model need to be examined Parameters that are easily confirmed, non-site specific or are specified by EPA or other regulatory authority, should be commented upon and there sensitivity to the final result determined If the investigators feels that the EPA specified value is not appropriate an alternative should recommended For parameters that are site-specific to Rocky Flats, the distribution of possible values and the sensitivity of these parameters to the final standard needs to be independently confirmed Because of the sensitivity of some parameters to the final value, the analysis should go beyond simply determining the most likely value A through study of the distribution of possible values should be performed A probability risk assessment should then be performed Using Monte Carlo techniques or other similar statistical methods the probability of exceeding a standard dose should made The final Soil Action Level should be expressed in terms of a probability of not exceeded the established dose As a check on the risk based numbers a separate bounding analysis should be performed using reasonable conservative values. The Soil Action Level should also be expressed in terms of cancer risk using the standard EPA radionuclide slope factors

2 4 The previous study for determining soil action levels only examined on-site exposure scenarios Since off-site air and water quality standards are more restrictive, it is possible these standards will control the cleanup 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. The contractor should study these and any other relevant data and determine what cleanup level will be reasonably protective of existing off-site standards It is understood that this conclusion is tentative pending completion of the Actinide Migration Study If possible a time plot of surface water contamination for a range of soil cleanup levels should be produced. It is possible that a different level of cleanup may be required for different areas of the site Wind blown dust is another form of possible migration of contamination off-site A cleanup level that is protective to off-site residents should be determined. 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 the study as early as possible in order to facilitate the collection and analysis of additional data needed for the study

2 5 The current soil action levels make provisions for institutional controls As part of the study of dose response models it will be necessary to model the target populations for the study These target populations are directly related to future land use scenarios Broad community input of future land uses is essential to the study The contractor will be expected to work with the community in defining these hypothetical persons

2 6 The soil action levels adapted will be determined in part by the method chosen for

remediation. The contractor should survey soil cleanup technologies that have been used or are under development Special care should be taken to study methods that are less invasive of the environment than wholesale removal of the soil It is not envisioned that the scope of this study will include research or testing of new technologies, nor, need the survey be exhaustive of all possible technologies Recommendations of new methods that could be investigated would be helpful

2 7 For the two or three most promising methods of cleanup the contractor should investigate how the soil action levels would be implemented This study should include sample spacing and depth, sampling methods and quality assurance that the action levels are being met Standards for laboratory analysis and field radionuclide determination should be suggested

~~One of the principal goals of this study should be to integrate likely cleanup technologies, land uses and cleanup levels in such a way that the community can choose a cleanup level that minimizes human health risk, environmental damage and cost while at the same time maximizes future land use flexibility~~

Define the sampling method that is commensurate with the

Proposed Additional Language for Section 4 6

Specify a scientifically credible method for guaranteeing that the soil action level and associated clean up processes will achieve the specified SAL and who should provide oversight

Specify the sampling method, process protocol, chain of custody and Quality Controls for collecting samples What are the qualification criteria for the testing lab?

Slater unit 3
to Mon 8th 1:30

City of Broomfield
One DesCombes Drive • PO Box 1415 • Broomfield Colorado 80020

SHEET NO OF
JOB NO SAL SubComm - Scope of Work
BY KS
DATE 12/3/97 TIME 9AM
Blue 1

KS, Frank, Victor, Bob Michaels

ICRP - land clean-up levels for Radionuclides
range from residential to outdoor worker

blanket statement about

style the same as Scientific American
Chamber of Commerce level
Public Brochure
+ Technical Report

Monthly Meetings of Fand w/ Contractor
representative
Quarterly Mtgs w/ Eng Team

Plutonium 1429 → 240? 85 mrem
oxide form
to mixed Pu → 30-40? 15 mrem

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Best Available Copy

January 1998

Request for Proposal

Recipient

Dear

The Colorado Department of Public Health and Environment and the many organizations and individuals that comprise the Soil Action Level Review Oversite Panel are seeking proposals through a competitive process for services to manage all aspects of a collaborative stakeholder process, the goal of which is to review the Interim Soil Action Levels established by DOE, EPA and CDPHE in the Rocky Flats Clean-up Agreement A copy of the Request for Proposals (RFP) is enclosed for your consideration Firms, or consortia of firms, with proven expertise in soil chemistry, soil remediation and computer modelling are encouraged to respond to the enclosed RFP

Should you decide to respond to the enclosed RFP, 15 copies of your proposal are due at the office of _____ no later than 5 00pm, , 1998 A preproposal conference will be held for prospective proposers on ,1998 from 1 00-3 00PM at the _____conference room (address) Prospective proposers unable to attend this briefing in person are invited to participate by telephone conference If this is desired, please call _____ at _____ to arrange for your participation.

Thank you

Sincerely,

CDPHE

enclosure

EXAMPLE

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COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT

REQUEST FOR PROPOSALS FOR INDEPENDENT SCIENTIFIC REVIEW OF ROCKY FLATS INTERIM SOIL ACTION LEVELS FOR RADIONUCLIDES

INTRODUCTION

Purpose- The purpose of this solicitation is to request proposals to perform an independent scientific review of the Interim Soil Action Levels for Radionuclides per the Rocky Flats Clean-up Agreement's Action Level Framework (Attached)

Proposers should recognize that the proposed process is goal-oriented towards successful development in a timely fashion of a scientifically and legally adequate review Proposers must demonstrate a record of effective consensus building among stakeholders with currently very diverse goals, needs, expectations and levels of understanding about radionuclides in soil Thus proposers must demonstrate both an ability to produce a technically credible product and a commitment to and understanding of the management of a multi-party negotiating process to produce such a product

Proposal Due Date- 15 copies of the proposal are due at the office of_____ no later than 5 00PM on _____,1998

Project Sponsors This project is a co-operative effort between Colorado Department of Public Health and Environment and the organizations, entities, and individuals that comprise the Soil Action Level Oversite Panel (List of Panel members attached)

Background and Project Summary (Include Project Description language here)

PROJECT MANAGEMENT AND STRUCTURAL FEATURES

Administration and Project Support - The collaborative planning process will be administered by the Oversight Panel A contract will be let through the Colorado Department of Public Health and Environment, _____Division?

The state will be providing necessary administrative functions Proposers are encouraged to consider and present how they intend to co-ordinate with the state

Oversight Panel - The Oversight Panel was convened in December for purposes of drafting the scope of work and issuing the RFP The Oversight Panel will be guiding the scientific review, providing for public participation in the review process, and making recommendations back to DOE, EPA and CDPHE on the appropriateness of the Soil Action Levels in the RFCA

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Within the Oversight Group, there is great diversity There are representatives from local governments, technical/scientific experts, public interest group members, and interested citizens Many of these stakeholders believe that the setting of these soil action levels for radionuclides is the most important task in assuring a safe clean up at Rocky Flats Proposers should convey how they will manage this stakeholder diversity

Additional Technical Information - The Actinide Panel and their findings Proposers should convey how they will integrate the contributions this group can make to the collaborative review process

Funding- Funding for this effort will be provided by a grant from the Department of Energy Rocky Flats Office to the CDPHE

Project Cost - The project cost will be negotiated between the successful firm and the CDPHE, based upon available financial resources, the overall approach the successful firm intends to take (as described in its proposal) and a detailed Scope of Work that will be developed and agreed to by the successful firm and the Oversight Panel

Payment for Services - Distribution of payments for work on this project will be made in accordance with the method of payment to be determined under a contract to be negotiated between the successful firm and the CDPHE The normal procedures provides for monthly billing for work actually performed The contractor will submit monthly progress reports and request for payment to the CDPHE contract administrator

Project Initiation Date - The successful contractor must be able to initiate work immediately upon execution of a contract with the CDPHE This is expected to be on or around the middle of January, 1998

PROJECT GOALS AND OBJECTIVES

(Take from project description)
Project Goals -

Project Objectives -

FORMAT AND CONTENT OF THE PROPOSAL

General - The proposal should include a detailed description of the approach the prospective firm will use to achieve the goals and objectives described herein. Proposals should provide the specific personnel to be used (include appropriate resumes), an organizational chart, and a time schedule for completing both phases of the project A cost estimate, including a schedule of labor and indirect charges, shall also be submitted based on the proposer's calculation of the time and effort to be expended during each activity Final project costs will be negotiated between the CDOHE and the contractor

The content and format of proposals should follow the outline below as closely as possible Proposals should be concise and relevant to the identified goals and objectives

Firm Qualifications - Include a brief discussion of the firm's relevant background and expertise Also provide a list of pertinent projects performed within the past five years, including total project costs and client references Examples of the firm's ability to write, edit and produce written products associated with the project's goals and objectives should be provided Production capabilities for associated graphics and drawing should also be incorporated in this section

Personnel Qualifications - Provide brief resumes for all personnel proposed to work on this project Include a brief description of only those projects the person has been involved with that are relevant to this project

Because of the unique nature of this project, the qualifications and experience of project personnel, including project manager, specialists and other experts is critical Therefore, the firm awarded this contract will be required to notify the Oversight panel immediately upon any changes or replacement of the staff assigned to this project. After consulting with the Oversight Panel , the CPDHE may, at its discretion, terminate the contract if it determines that a change in staff will compromise the integrity or timely accomplishment of the project

Team Organization - The proposal shall include management and organizational structure of the project team, the specific personnel involved in the project team, individual levels of involvement, key personnel, and the responsibilities of the persons specified, including an indicator of how much time those persons will devote to this project

Conflicts of Interest - The proposal shall disclose all potential conflicts that the Contractor or any team member may have

Contractor's Project Management - The Contractor's Project Manager and roles of personnel assigned to this project should be presented in an organization chart and brief narrative form In the narrative section provide time availability and pertinent project organizational skills

Scope of Services -
Project Costs -
Project Schedule -

SELECTION PROCESS

STATE OF COLORADO

OFFICE OF THE EXECUTIVE DIRECTOR

Department of Natural Resources
1313 Sherman Street Room 718
Denver Colorado 80203
Phone (303) 866-3311
TDD (303) 866-3543
FAX (303) 866-2115

DEPARTMENT C
NATURAL
RESOURCE

Roy Romer
Governor

James S Lochhead
Executive Director

Ronald W Cattany
Deputy Director

MEMORANDUM

TO Preble s Meadow Jumping Mouse Working Group Members
(see distribution list)

FROM Doug Robotham

DATE November 19, 1997

RE (1) Final version of PMJM RFP, (2) Next full Working Group Meeting

Please Note

The next meeting of the full PMJM Working Group is scheduled for December 9, 1997, 10:00 am - noon, at the Colorado Department of Natural Resources, Room 220, 1313 Sherman Street, in Denver.

I have attached for your information the final Request for Proposals that was distributed on November 3, 1997 Seven responses were received by the November 18 deadline. Per agreement at the October 27, 1997 meeting of the full PMJM Working Group, the Steering Committee will meet on November 25 at the Department of Natural Resources to review and rank these responses The Steering Committee will then invite those respondents showing the most promise to interviews on December 5 Based on these interviews, the Steering Committee will make a recommendation to the full Working Group at the Working Group's next meeting on Tuesday, December 9 Assuming the full Working Group concurs with the Steering Committee's recommendation, my goal is to have the contracting process complete by December 19

As a member of the PMJM Working Group, you are also invited to review the responses to the RFP Since these responses are quite lengthy, we are not able to make copies for you However. you are invited to arrange to check out the full set of the responses for a three hour time period between now and December 9 to either read or make your own copies To do so. please call Deborah Mellblom of my staff at (303) 866-3337 to arrange a time to come by the CDNR offices on 1313 Sherman Street in Denver Thank you

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DEPARTMENT C
NATURAI
RESOURCE

Rov Romer
Governor

James S Locnhead
Executive Director

Ronald W Cattany
Deputy Director

November 3, 1997

Request for Proposal
Recipient

Dear _____

The Colorado Department of Natural Resources (CDNR) and the many organizations and individuals that comprise the CDNR Preble's meadow jumping mouse Working Group are seeking proposals through a competitive process for services to manage all aspects of a collaborative stakeholder process. the goals of which are to produce a plan and associated implementing agreements to conserve the Preble's meadow jumping mouse (PMJM) and its habitat along Colorado's Front Range A copy of the Request for Proposals (RFP) is enclosed for your consideration Firms, or consortia of firms, with proven expertise in mediating and brokering complex multi-party agreements involving the legal, policy, and technical dimensions of wildlife conservation. natural resource and land use planning, and private property rights are encouraged to respond to the enclosed RFP

Should you decide to respond to the enclosed RFP, ten copies of your proposal are due at the offices of the Executive Director of the Colorado Department of Natural Resources no later than 3 00 PM, November 18, 1997 I will conduct a briefing and be available to answer any questions from prospective proposers on Monday, November 10, 1997, 1 00 pm - 3 00 pm mountain standard time, at the CDNR conference room (room 719), 1313 Sherman Street, Denver, CO Prospective proposers unable to attend this briefing in person are invited to participate by telephone conference If you so desire, please call Deborah Mellblom at (303) 866-4901 to arrange for your participation

Thank you

Sincerely,

Douglas M Robotham
Assistant Director

enclosure

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COLORADO DEPARTMENT OF NATURAL RESOURCES

REQUEST FOR PROPOSALS FOR PROJECT MANAGEMENT, MEDIATION, AND PLAN/AGREEMENT DEVELOPMENT SERVICES

PREBLE'S MEADOW JUMPING MOUSE COLLABORATIVE PLANNING PROJECT

INTRODUCTION

Purpose -- The purpose of this solicitation is to request proposals to manage all aspects of a collaborative stakeholder process, the goals of which are to produce a plan and associated implementing agreements to conserve the Preble's meadow jumping mouse (PMJM) and its habitat along Colorado's Front Range Firms, or consortia of firms, with proven expertise in mediating and brokering complex multi-party agreements involving the legal, policy, and technical dimensions of wildlife conservation, natural resource and land use planning, and private property rights are encouraged to submit proposals.

While emphasis will be placed on a full and fair collaborative process, proposers should recognize that the proposed collaborative process is goal-oriented towards successful development in a timely fashion of a scientifically and legally adequate plan and associated implementing agreements. The plan and implementing agreements must meet the terms of the U S. Fish and Wildlife Service's proposed *Candidate Conservation Agreements with Property Owner Assurances* policy and rules, or, if the USFWS adds the PMJM to the list of species protected under the federal Endangered Species Act (ESA), the requirements of Habitat Conservation Plans pursuant to ESA section 10 and associated regulations. The plan and implementing agreements must also provide a framework within which consultations pursuant to ESA section 7 can be successfully and efficiently completed, should the USFWS determine to list the PMJM. Therefore, in the selection process, special consideration will be given to proposers who can bring to the proposed enterprise successful track records in developing collaborative species / habitat conservation agreements in accordance with various ESA - related permitting requirements, including candidate conservation agreements with property owner assurances (CCAs), habitat conservation plans (HCPs), and section 7 requirements

In addition to demonstrating capacity to producing a scientifically and legally adequate plan and associated implementing agreements, proposers must demonstrate a record of effective consensus building among stakeholders with currently very diverse goals. needs, expectations and levels of understanding about the content and effects of the proposed collaborative conservation plan and agreements Thus, proposers must demonstrate both an ability to produce a technically credible product and a commitment to and understanding of the management of a multi-party negotiating process to produce such a product

Proposal Due Date -- Ten copies of the proposal are due at the offices of the Executive Director of the Colorado Department of Natural Resources no later than 3 00 PM, November 18, 1997

Project Sponsors -- This project is a cooperative effort between the Colorado Department of Natural Resources, its Division of Wildlife, the U S Fish and Wildlife Service, and organizations, entities, and individuals that comprise the PMJM Working Group

Background and Project Summary -- On November 29, 1995, Governor Roy Romer and Interior Secretary Bruce Babbitt signed a *Memorandum of Agreement Concerning Programs to Manage Colorado's Declining Native Species* ("MOA"), attached as Exhibit I This MOA commits state and federal wildlife and habitat management agencies to work in a coordinated fashion to conserve Colorado s declining native species, including both species that have been listed under the ESA and species whose populations are declining but which have not yet been added to the endangered species list. The MOA also commits state and federal agencies to establish a cooperative framework within which local governments and people in the private sector can voluntarily contribute to the conservation of Colorado's declining native species Key elements of this cooperative framework are described in the text of the MOA.

To provide strategic suggestions on MOA implementation, the Colorado Department of Natural Resources last summer convened an Advisory Committee comprised of community leaders from throughout Colorado. Among other suggestions, the Advisory Committee suggested that work should be initiated to develop a collaborative pre-listing conservation plan for the PMJM Advisory Committee members reasoned that such a plan could provide an early model of how the MOA could be implemented and could help to forestall probable controversy should the USFWS decide to list the PMJM without a plan to guide subsequent regulatory actions that may be required by the ESA. Several Advisory Committee members agreed to serve on a newly created PMJM Working Group, which first met in November of 1996.

On March 28, 1997, the U S. Fish and Wildlife Service published a proposed rule in the Federal Register to add the Preble's meadow jumping mouse (*Zapus hudsonius preblei*) to the list of endangered species eligible for protection under the ESA. The Service cited declining populations and widespread habitat alteration as the basis for its determination that the species should be listed as endangered pursuant to ESA section 4 Pursuant to its regulations, the Service has one year to publish a final rule or to withdraw the proposed rule, unless it grants itself one six month extension to resolve any disagreements among experts pertaining to the proposed listing decision.

The collaborative planning project for which proposals are being solicited is intended to fulfill the overall direction provided by the MOA. Specifically, the resulting PMJM plan and implementing agreements should either obviate the need to list the PMJM in the first place or if listing occurs, provide the framework within which various ESA - related regulatory requirements can be met efficiently and in a broadly supported manner The

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intent is to protect the PMJM and its habitat collaboratively and thereby render the regulatory effects of the listing on private enterprise and public decision-making as unobtrusive as possible

PROJECT MANAGEMENT AND STRUCTURAL FEATURES

Administration and Project Support -- The collaborative planning process will be administered by the *Project Steering Committee*, comprised of representatives of the PMJM Stakeholders' Working Group, the Colorado Department of Natural Resources, its Division of Wildlife, and the U S Fish and Wildlife Service. Routine administrative functions will be provided by the Department of Natural Resources and its Division of Wildlife A contract will be let through the Colorado Department of Natural Resources or one of its affiliated divisions

In addition to providing necessary administrative functions. state and federal agencies will be providing significant technical support to the project in several ways, including the development of a geographic information system (GIS), scientific data collection and analysis, and scientific report writing In addition, state and federal agencies will participate in the planning process as stakeholders. Several members of the Stakeholders' Working Group have the expertise to bring substantial in-kind resources to the process, including site conservation planning and site selection, development of resource management regimes, data, rights to land, mineral, and water resources, and voluntary land conservation and land banking techniques. Thus, proposers are encouraged to consider and present how they intend to coordinate and maximize the potential in-kind contributions from project stakeholders to achieve the project's goals.

PMJM Stakeholders' Working Group and Steering Committee -- CDNR convened a PMJM working group in late 1996 for purposes of exploring how to organize a collaborative planning process to address issues related to the proposed listing of the PMJM With the publication of the USFWS proposed rule to list PMJM as endangered under the ESA in March, 1997, this working group has expanded from its original 10 members to over 50 members At its monthly meeting in September, 1997, the Working Group selected a smaller Steering Committee to efficiently consider information and proposals about how to proceed with the collaborative planning process and to make recommendations to the full Working Group See Exhibit II for a current listing of the membership of the Stakeholders' Working Group and Steering Committee

Within the Working Group, there is great diversity Some members are presently more engaged than others, perhaps because they have a more developed perspective on what they would like to achieve by participating on the Working Group Some members have great familiarity and experience with developing plans to conserve biological resources, while others, who pursue their livelihoods through other means. have virtually no such experience Some members have a detailed working knowledge of the ESA, while others have only a general knowledge of the ESA and its procedures and mechanisms Some working group members, such as the Department of Energy and Department of Defense,

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require products designed to comply mainly with ESA section 7, while other members from the private sector and local governments may be more concerned with securing products from the planning process related to sections 9 and 10 (i e habitat conservation plans facilitating incidental take permits. Many stakeholders believe that a plan and implementing agreements can be developed consistent with the USFWS's proposed candidate conservation agreement rules, thereby obviating the need to list Proposers should convey how they will manage this stakeholder diversity

Additional Technical Groups -- In addition to the Stakeholders' Working Group, an ad hoc group of small mammal experts has been meeting periodically during the past three years under the auspices of the Colorado Division of Wildlife to coordinate field work, data collection, and analysis. An offshoot of this experts' group is currently working to summarize what is and what is not known about PMJM biology Its draft report will be available by the end of November The purpose of this draft report is to begin establishing and communicating the scientific basis for subsequent PMJM conservation strategies. Proposers should convey how they will integrate the contributions these technical groups can make into the collaborative process.

Funding -- Funding for this collaborative planning effort will be provided by a combination of sources, including the Colorado Department of Natural Resources' Division of Wildlife (grant from the Great Outdoors Colorado Trust Fund), the U.S Fish and Wildlife Service, and additional contributions provided by members of the stakeholders' working group.

Project Cost -- The project cost will be negotiated between the successful firm and the Colorado Department of Natural Resources, based upon available financial resources, the overall approach the successful firm intends to take (as described in its proposal) and a detailed Scope of Work that will be developed and agreed to by the successful firm and the *Project Steering Committee*.

Payment for Services -- Distribution of payments for work on this project will be made in accordance with the method of payment to be determined under a contract to be negotiated between the successful firm and the Colorado Department of Natural Resources The normal procedures provides for monthly billing for work actually performed. The contractor will submit monthly progress reports and request for payment to the DNR management team

Project Initiation Date -- The successful contractor must be able to initiate work immediately upon execution of a contract with the Department of Natural Resources. This is expected to be on or around the middle of December, 1997.

PROJECT GOALS AND OBJECTIVES

Project Goals -- The goals of the proposed collaborative planning project are ambitious, technically complex, and require significant attention to meeting the needs and

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expectations of the project's various stakeholders. The goals as presently agreed upon by the PMJM Stakeholders' Working group are

1) Develop a scientifically adequate plan to conserve the PMJM and its habitat, relying upon and coordinating the planning and technical capacities of the stakeholders to the maximum extent feasible

2) Develop legally adequate agreements and other mechanisms to implement the plan in a manner that enjoys the broadest possible support from the project stakeholders

Proposers should understand that the planning process must encompass the needs of stakeholders and the PMJM throughout its range, but that plan implementation will. in all likelihood. consist of several locally-specific actions and agreements Moreover, some stakeholders have concerns that extend range-wide while the concerns of others are limited to a particular locale Proposers should therefore reflect how they would accommodate both range-wide and locally-specific priorities.

Project Objectives -- To achieve the project goals, proposers must demonstrate a capacity to successfully meet the following objectives:

1) Design, in close association with the project stakeholders, all aspects of the collaborative planning process, including participation, groundrules and related communication protocols, and success criteria.

2) Provide, as appropriate, facilitation, mediation and/or negotiation support services sufficient to ensure collaborative process is successful as designed At a minimum, the following deliverables/services must be produced/provided:

   a) written assessment of stakeholders' goals, perceptions, and project outcome expectations for use as a communications device within the stakeholders' working group

   b) preparation and distribution of meeting agendas and appropriate background material

   c) facilitation of between-meeting communications between and among stakeholders, as necessary and appropriate

   d) preparation of meeting summaries and other meeting follow-up needs

3) preparation, or coordination of the preparation. of all reports and other narrative pertaining to the plan

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4) preparation, or coordination of the preparation, of draft implementing agreements, including all relevant findings and attachments. These agreements should clearly demonstrate how biological goals will be obtained, including the specific institutional and financial arrangements which will be employed

Project to be Completed in Two Phases -- Proposers should show how these deliverables and services will be produced/provided over a time period broken into two phases The first phase will be measured from the time the contract with the successful firm is executed to March 28, 1998 The second phase will extend from March 29, 1998 to approximately one year from the date of execution of the original contract, subject to periodic review and re-evaluation

Proposers should recognize that an important criterion upon which they will be judged in the selection process will be their realistic capacity to achieve maximum progress during the first phase, as well as their capacity to complete the effort by December 1, 1998 Proposers therefore should reflect in detail how much progress reasonably can be achieved by the end of the first phase, assuming cooperation from the Working Group and reasonable progress by individual stakeholders in developing or completing various technical inputs, including a functional GIS, scientific analysis and report writing, site conservation selection and planing, etc.

If the PMJM is listed prior to completion of the collaborative planing process (i.e. at the conclusion of the first phase), proposers should convey how they could address the needs and expectation of project stakeholders until such time as the proposed collaborative plan can be completed.

Single vs. Multi-species Orientation -- The Working Group has discussed but not resolved the question of whether the collaborative process should be focused strictly on the PMJM and its habitat or should have more of a multi-species orientation. Proposers should convey how they would address and resolve this threshold question and what they would approach a multi-species planning process, should the Working Group decide it was advisable to pursue such a path.

National Environmental Policy Act (NEPA) Compliance -- To be functional as decision-making tools, the proposed plan and implementing agreements likely will be subject to the provisions of NEPA. While it is unlikely that any formal NEPA compliance measures will occur during the project's first phase, actions undertaken or completed during the first phase should contribute to an efficient NEPA compliance process in the second phase. Firms responding to this solicitation should recognize that this RFP is not intended to secure services for NEPA compliance activities Still, proposers should convey how they would ensure that the products of the proposed collaborative planning process could be fully and efficiently integrated into a NEPA review process

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FORMAT AND CONTENT OF THE PROPOSAL

General -- The proposal should include a detailed description of the approach the prospective firm will use to achieve the goals and objectives described herein Proposals should provide the specific personnel to be used (include appropriate resumes), an organizational chart, and a time schedule for completing both phases of the project A cost estimate, including a schedule of labor and indirect charges, shall also be submitted for both phases, based on the proposer's calculation of the time and effort to be expended during each phase Final project costs will be negotiated between the Department of Natural Resources and the contractor.

The content and format of proposals should follow the outline below as closely as possible Proposals should be concise and relevant to the identified goals and objectives

Firm Qualifications -- Include a brief discussion of the firm's relevant background and expertise Also provide a list of pertinent projects performed within the past five years, including total project costs and client references. Examples of the firm's ability to write, edit and produce written products associated with the project's goals and objectives should be provided. Production capabilities for associated graphics and drawing should also be incorporated in this section.

Personnel Qualifications -- Provide brief resumes for all personnel proposed to work on this project Include a brief description of only those projects the person has been involved with that are relevant to this project.

Because of the unique nature of this project, the qualifications and experience of project personnel, including project manager, specialists, biologists, lawyers, and other experts, is critical. Therefore, the firm awarded this contract will be required to notify the Project Steering Committee immediately upon any changes or replacement of the staff assigned to this project. After consulting with the Project Steering Committee, the Department of Natural Resources may, at its discretion, terminate the contract if it determines that a change in staff will compromise the integrity or timely accomplishment of the project.

Team Organization -- The proposal shall include management and organizational structure of the project team, the specific personnel involved in the project team, individual levels of involvement, key personnel, and the responsibilities of the persons specified, including an indicator of how much time those persons will devote to this project

Conflicts of Interest -- The proposal shall disclose all potential conflicts that the Contractor or any team member may have

Contractor's Project Management -- The Contractor's Project Manager and roles of personnel assigned to this project should be presented in an organization chart and brief

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narrative form. In the narrative section provide time availability and pertinent project organizational skills

Scope of Service -- The proposer's proposed Scope of Services should be specific to the goals and objectives described herein This Scope may be revised during contract negotiations and the final Scope of Services will be made part of the contract. The proposed Scope of Services shall include an introduction, a section describing project administration and a detailed description of the approach and work plan the prospective firm intends to use The introduction should include a project overview including a statement of the project purpose, goal, objectives, and the general project approach. The project administration section should describe the project team member firms, team organization. coordination and reporting, project schedule and work products The detailed approach and work plan should include the techniques/methodologies to be employed, linkages between tasks, likely sources of information to be used, and anticipated problems, if any, in accomplishing the required tasks due to time, data, or monetary constraints. The proposal should specifically address how the prospective firm intends to work with the Project Steering Committee, the Stakeholders' Working Group, and others to formulate the plan and implementing agreements.

Project Costs -- Firms responding to this solicitation should clearly identify anticipated costs associated with meeting the goals and objectives described herein. Firms are reminded to clearly identify the cost for each work task and the anticipated number of hours allocated for each task by personnel responsible for these tasks. Also, a schedule of the hourly rates of the firm's personnel effective for the duration of the contract, together with transportation costs per mile, per diem travel rates, overhead charges, etc. should be included.

Project Schedule -- Firms responding to this solicitation are reminded that proposals should show how the project deliverables and services will be produced/provided over a time period broken into two phases. The first phase will be measured from the time the contract with the successful firm is executed to March 28, 1998. The second phase will be measured from March 29, 1998 to an indefinite point in the future. Firms responding to this solicitation should recognize that important criterion upon which they will be judged in the selection process will be their realistic capacity to achieve maximum progress during the first phase. as well as their capacity to complete the project as quickly after the beginning of the second phase as possible.

SELECTION PROCESS

The following process will be used to evaluate and rate proposals and select the successful firm.

1 The written proposals will be evaluated by the Project Steering Committee members A list will be developed of the top three qualified firms All firms will be notified of their status on or before November 26, 1997

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2 An oral presentation to the Project Steering Committee will then be scheduled for December 5, 1997 with each of the top three qualified firms at which time the firms will present their respective proposals Each firm will be allowed up to 40 minutes for its presentation and up to 20 minutes for questions and answers Based on their evaluation of the written proposals and oral interview, the Project Steering Committee will rank the three firms and recommend to the DNR Executive Director that contract negotiations be initiated with the most highly ranked firm

3 The final ranking of the top three firms will be based upon their written proposal and their oral interview

4 Contract negotiations will then be initiated with the highest ranked firm If a satisfactory contract cannot be negotiated, negotiations with the second qualified firm will be initiated, and so on

Evaluation of Criteria -- The Project Steering Committee will consider the relevant experience of the firm, its understanding of the project's goals and objectives, how well the proposed scope of services meets the needs of the project, written and oral communication skills, and if the project can be completed in a timely and financial efficient manner The general categories for scoring the proposal and oral interviews will be as follows·

1. Firm capabilities
   - firm's(s') qualifications
   - personnel qualifications
   - team organization
   - project management
   - approach to coordinating with and reporting to the Project Steering Committee
   - project administration
   - ability to remain highly financially efficient
   - ability to accomplish project goals and objectives as rapidly as possible, with an emphasis on accomplishing as much as possible during the first phase
   - familiarity with the Colorado Front Range setting

2. Proposed scope of services
   - project overview
   - understanding of project purpose, goal and objectives
   - general approach
   - detailed work plan
   - method of performing work tasks
   - work products

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3. Communications capabilities
   - style and content of the written proposal
   - oral presentation at the interview
   - responses to questions

4 Cost

I.\ROBOTHAM\NATIVE\PREBLE\RFP4 DOC

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EXHIBIT I

MEMORANDUM OF AGREEMENT
between
THE STATE OF COLORADO
and
THE DEPARTMENT OF THE INTERIOR
CONCERNING PROGRAMS TO MANAGE
COLORADO'S DECLINING NATIVE SPECIES

I. BACKGROUND AND PURPOSE

The State of Colorado's fish and wildlife and the habitats upon which they depend represent a unique and valuable part of the state's and the nation's natural and cultural heritage. The State of Colorado (State), through the Colorado Department of Natural Resources and its Division of Wildlife and many other state agencies whose actions affect fish and wildlife, and the Department of the Interior (Department), through the U.S. Fish and Wildlife Service and other agencies within the Department whose actions affect fish and wildlife, are committed to the management and conservation of Colorado's wildlife species, particularly as these species come under increased pressure from habitat loss, degradation, and fragmentation resulting from Colorado's rapid growth and development.

This Agreement between the State and the Department is intended to facilitate and promote collaboration and cooperation in managing and conserving fish and wildlife species and habitat within Colorado in a manner that is consistent with the present direction of Colorado's Smart Growth Initiative as well as state and federal laws. The State and the Department are committed to taking an approach to fish and wildlife conservation that uses the flexibility inherent in state and federal laws and regulations and emphasizes voluntary participation of a broad spectrum of partners to achieve long-term conservation and development solutions. These partners include landowners, water right holders, anglers, hunters, conservationists, the public, Native American tribal governments, local governments and state and federal agencies. This Agreement is further intended as a vehicle to demonstrate that the Departments's flexibility in its implementation of the Endangered Species Act (Act) can be used to find practical solutions that will reduce the need to list species, to consider social and economic issues, and to implement a habitat and community approach to conservation. Finally this Agreement is intended to provide a framework to encourage the voluntary participation of non-governmental parties in the conservation of sensitive fish, wildlife, and habitats. As such, this agreement is intended to complement the many other state and federal programs set up to work with non-governmental parties.

II. AUTHORITIES AND RESPONSIBILITIES

A. The Department of Natural Resources has responsibility, through its divisions, to promote the proper use and conservation of the State's land, water, wildlife,

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mineral and energy resources, and authority to develop integrated plans to accomplish these goals and to negotiate with the federal government in all resource and conservation matters. The State of Colorado, through the Colorado Division of Wildlife, has broad trustee and law enforcement responsibilities for the protection, management, and enhancement of the State's fish and wildlife resources and their habitats on federal, state, and private lands. In addition the Colorado Division of Wildlife's Long-Range Plan, adopted in 1994, states that the "Division's foremost aim in the future will be to protect and enhance the viability of all Colorado's wildlife species." The Division intends to meet this goal by using "management programs that are coordinated with those of other managers using the best available data to consider their effects over large areas and long timeframes, and that are biologically sustainable, socially desirable,and economically feasible." The State of Colorado, through the Colorado Water Conservation Board, has sole authority to acquire and protect instream flow water rights to preserve the natural environment to a reasonable degree within the framework of the State's water rights system. The State of Colorado, through the Colorado Division of Parks and Outdoor Recreation's Natural Areas Program, has the authority to recognize certain areas that contain significant biological resources, including plants, as designated Natural Areas.

B. The Department of Interior has authorities under the Act to list species as threatened or endangered, recover listed species, maintain a list of candidate species which may require future federal listing, and consult on federal actions which may adversely affect listed species. The Department has responsibility for migratory birds under the Migratory Bird Treaty Act. The Department has responsibilities for commenting on fish and wildlife matters relating to federal activities such as permits, licenses, superfund sites, oil pollution responses, land management decisions, and water projects. It also has authority and responsibility for management of fish and wildlife habitats on lands managed by the Department.

The Department's authority for entering into this agreement include the Endangered Species Act of 1973, the Migratory Bird Treaty Act, Fish and Wildlife Coordination Act, Bald Eagle Act, and Refuge Administration Act.

C. Cooperative initiatives between the Department and the State are specifically authorized by section 6 of the Endangered Species Act whereby the Secretary of the Interior is authorized to cooperate with States to the maximum extent practicable and "may enter into agreements with any state for the administration and management of any area established for the conservation of endangered species or threatened species."

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III. GENERAL PRINCIPLES FOR SPECIES NOT LISTED UNDER THE ACT

A. The State and the Department affirm their commitment to cooperatively take actions, and encourage others to voluntarily take actions in concert with the State's and the Department's duties, such that the need for future protection under the Act will be greatly reduced and in some cases eliminated.

B. These actions will be identified, organized and implemented through the development of collaborative action plans *(hereinafter referred to as Conservation Agreements)* designed to reduce or eliminate risks to species and their habitats that might otherwise lead to the need for their protection under the Act. While it is recognized that existing laws provide a framework for implementation of these Conservation Agreements, the State and the Department agree, when developing and implementing Conservation Agreements, to place the highest emphasis on voluntary measures that reduce or remove risks to species and habitats so that mandatory measures as may be required by law do not have to be invoked.

C. The State and Department believe that Conservation Agreements will be most successful where they appropriately and flexibly balance economic vitality, respect for the property rights of landowners and water users, and maintenance of public values, including hunting and angling opportunities. Therefore, the State and the Department believe that Conservation Agreements need to be:

(1) based on sound and objective scientific data and analysis, informed as appropriate by peer review;

(2) based on a decision-making framework that is collaborative and which places a premium on effective, quick, and responsive communication;

(3) cost-effective, such that participants actively keep costs to a minimum by selecting the least costly means to implement Conservation Agreements, by capturing economies of scale through watershed approaches that address multiple conservation objectives, and by developing efficiency enhancing measures that apply to all aspects of the administration of Conservation Agreements in order to reduce overhead;

(4) predictable, such that participants fully understand what is expected of them; if expectations change as a result of the adaptive and dynamic nature of implementing Conservation Agreements on the ground, then the basis for these changes will be fully communicated well in advance of making the desired changes on the ground;

(5) adaptive, such that participants can easily change approaches or tools according to results of monitoring and evaluation, consistent with

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maintaining the objectives of sound science, cost-effectiveness and predictability;

(6) responsive to considering the economic vitality of areas affected by such agreements.

D. The State and the Department envision that a series of Conservation Agreements will be developed over time by governmental and non-governmental entities pursuant to this Memorandum of Agreement. To facilitate development of species or habitat specific Conservation Agreements, the State and the Department will:

(1) work with all interested parties and each other to identify species and habitats that could benefit most from voluntary conservation efforts to protect and enhance them and thereby reduce or preclude the need for their protection under the Act. This will be done in a manner that supports local government planning and decision-making processes, and respects interests and opportunities for landowners, water users, hunters, and anglers;

(2) encourage at every opportunity a multiple species, landscape, watershed, and/or community approach to species and habitat conservation, in contrast to single species approaches, that will allow for multiple issues and opportunities to be addressed together to benefit Colorado's fish, wildlife, plants and habitats. Such an approach can be helpful in ensuring the overall, long-term efficiency of conservation actions.

(3) provide support for local decision-makers by providing timely and accurate information regarding species, habitats, and pressures that threaten their continued health in a manner that can be efficiently integrated into local comprehensive plans;

(4) catalogue and make available a broad range of existing tools to protect, rehabilitate and enhance land and water habitats, including but not limited to cooperative agreements, resource management plans (including management of non-native species), protection of instream flows as provided by state law, and willing-seller acquisition of conservation easements, leases and in some cases, fee simple interest in land;

(5) explore how other innovative tools can be used to create incentives for landowner, water right holders, local governments and others that will result in conservation of fish, wildlife and plants, and their habitats in a manner that enhances the assets of landowners and water right holders. These innovative incentives could include habitat banking, tradeable

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permit concepts, capture of tax benefits, transferable development rights and density bonuses, and other measures.

IV. GENERAL PRINCIPLES FOR SPECIES LISTED UNDER THE ACT

A. The Department reaffirms its commitment to apply the ten principles presented by the Clinton Administration to reform and implement the Act. These principles commit the Department to work closely with the State and all affected parties to:

(1) base decisions on sound and objective science;

(2) minimize social and economic impacts;

(3) provide quick, responsive answers and certainty to landowners;

(4) treat landowners fairly and with consideration;

(5) create incentives for landowners to conserve species;

(6) make effective use of limited public and private resources by focusing on groups of species dependent on the same habitat;

(7) prevent species from becoming endangered or threatened;

(8) promptly recover and de-list threatened and endangered species;

(9) promote efficiency and consistency; and

(10) provide state, tribal and local governments with opportunities to play a greater role in carrying out the Act.

B. The State and the Department agree to work together and participate in the conservation of fish, wildlife, and plant species and their habitats. For those species currently listed under the Act the State and the Department agree to coordinate efforts to define clear and achievable recovery objectives to protect and recover these species and their habitats, and to seek down-listing and de-listing as soon as practicable after recovery objectives have been met.

C. The State and the Department agree to work with partners, including landowners, water right holders, the public, Native American tribal governments, other Federal and local agencies, conservation organizations, and other organized groups that can assist with species conservation and recovery. The State and the Department will emphasize voluntary actions with partners.

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D. The Department will retain responsibility for protecting species under the Act, and will work in close coordination and cooperation with the State in determining when, and if, a species requires such protection.

E. If a species covered by a Conservation Agreement ultimately requires protection under the Act, the Conservation Agreement will serve as the foundation for the state and federal agencies, in cooperation with all other affected parties, to jointly develop a Recovery Agreement. The Recovery Agreement will retain those elements of the Conservation Agreement that will benefit the species as well as actions additional to those in the Conservation Agreement that are necessary to conserve and recover the species. It will be the affirmative responsibility of the Department to advise the State of specific changes or additions needed to allow a Conservation Agreement to serve as a Recovery Agreement within 90 days after final listing of a species or as otherwise agreed to by the State and the Department.

The State and the Department believe that development and implementation of Recovery Agreements will streamline implementation of the formal requirements of the Act for threatened and endangered species to the mutual benefit of conservation and development goals. Recovery Agreements will outline specific actions to be taken by state and federal agencies and other affected parties that will serve the following functions:

(1) identify priority actions likely to accelerate recovery and down-listing or delisting of the species;

(2) provide a basis, as appropriate, for the development of Conservation Recommendations, Reasonable and Prudent Measures and Reasonable and Prudent Alternatives for activities requiring consultation under Section 7 of the Act;

(3) provide a framework for the development of Habitat Conservation Plans and, for threatened species, 4(d) rules.

F. The State and the Department intend Recovery Agreements to, where practicable, focus on habitat-based, landscape, and multiple species approaches to conservation actions and planning that will allow multiple issues and opportunities to be considered together to benefit Colorado's fish, wildlife, plants, and habitats.

The State and the Department agree that there is value in taking a broad view of public lands (State and Federal) and their management to determine if there are opportunities to develop public land management objectives and practices that better promote conservation of species and habitat conditions that sustain them, consistent with multiple uses where permitted. The State and the Department also

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agree that it is essential to consider economic vitality in the affected areas. To advance these objectives, the State and the Department will collaborate on developing strategies intended to optimize conservation measures on public land and that provide additional flexibility for private landowners. These strategies may include options such as creation of collaborative management agreements, voluntary conservation and recovery agreements with private landowners, industry, non-governmental conservation organizations, and others, and adjustment of public land ownership patterns through sales, exchanges, leases, easements and other means.

G. The State and the Department intend that upon agreement of all affected parties where both listed species covered by Recovery Agreements and unlisted species covered by Conservation Agreements occupy similar habitats and would benefit from similar conservation actions, the Conservation Agreements may be annexed to the Recovery Agreements to facilitate conservation planning that (1) will benefit multiple species; (2) will promote accelerated recovery of listed species; and (3) will implement actions intended to preclude the need to list species not yet listed. The State and the Department will emphasize actions that benefit multiple species, both listed and unlisted.

H. Where reintroduction of a listed species is necessary for recovery and identified in a recovery plan, the Department will consult with the State and other affected parties prior to reintroduction and will incorporate such actions into any Recovery Agreement.

V. TASKS

A. The State and the Department will establish a Steering Committee by December 31, 1995, for the purpose of sharing information, reviewing lists of species at risk, and discussing ideas for their conservation and management.

B. Consistent with the direction set forth in III.C., the State and the Department agree to mutually develop standards regarding the content of and approval process for Conservation Agreements within 6 months of execution of this Memorandum of Agreement.

C. The State and the Department agree to develop and implement programs to determine and monitor the status of species at risk.

D. The State and the Department will encourage partners and stake holders to take a leadership role in working with the State and the Department to develop and implement conservation actions through Conservation Agreements and Recovery Agreements The State and the Department will initially focus conservation actions in Colorado on.

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(1) declining aquatic species including but not limited to South Platte River species, Arkansas darter, Rio Grande sucker, Colorado River Cutthroat trout, and Rio Grande cutthroat trout;

(2) declining short grass prairie species including but not limited to mountain plover, swift fox, burrowing owl, ferruginous hawk and lark bunting;

(3) declining populations of sage grouse and Columbian sharptail grouse;

(4) declining populations of Preble's meadow jumping mouse;

(5) declining amphibians including but not limited to boreal toad and wood frog; and

(6) remaining recovery actions that will allow delisting to be proposed for the greenback cutthroat trout.

E. Within 6 months of execution of the Memorandum of Agreement, the State and the Department will develop criteria to be used to develop a more comprehensive priority list of species requiring conservation and management attention.

F. The Department will provide the State and other affected parties with timely information about petitions, listings, recovery plans, and, with the concurrence of the Federal action agency, major section 7 issues.

G. The State and the Department will endeavor to secure funds to implement specific actions under this Memorandum of Agreement.

VI. IT IS MUTUALLY AGREED AND UNDERSTOOD BY AND AMONG THE DEPARTMENT AND THE STATE THAT:

A. The performance of the State and the Department under this Memorandum of Agreement is contingent upon the authorization and appropriation of funds.

B. Specific work projects or activities that involve the transfer of funds, services, or property between the State and the Department will require the execution of separate agreements or contracts, contingent upon the availability of funds.

C. This Memorandum of Agreement in no way restricts the State or the Department from participation in similar activities or arrangements with other public or private agencies, organizations, or individuals.

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D. This Memorandum of Agreement may be modified or amended upon written request of any party hereto and with the subsequent written concurrence of the other party. Participation in this Memorandum of Agreement may be terminated by the Department or the State with a 30-day written notice to the other party. Unless terminated under the terms of this paragraph, this Memorandum of Agreement will remain in effect until December 31, 1999.

Governor Roy Romer
State of Colorado

11/29/95
Date

Secretary Bruce Babbitt
United States Department of the Interior

11/29/95
Date

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Draft RFP for SAL Independent Review

remove std use RSAL'S

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 Soil Action Levels (SALs) for radionuclides in the soil at the RFETS site (Attachment A) Intended to be protective of people using the RFETS site after closure, the SALs 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 SALs did not consider off-site migration As part of RFCA, the SALs are to undergo periodic review as new information is available

The SALs were calculated based on the dose assumptions given in RFCA ~~The CPH agreement states during the next 1000 years no individual exposure levels should exceed either 15 or 85 mrem/year (assuming institutional controls) over 30 years from radioactive contaminants in the RFETS soil.~~ 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 SALs, DOE agreed to this independent review of the methods used to convert given dose levels to soil contamination levels or, in effect, cleanup standards. 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

~~In effect,~~ the contractor is being requested to investigate three things First, to review models, methodologies, and cleanup standards that may exist or are being developed as to how they may apply to the RFETS site-specific situation Second, to review the existing analysis used to set the current RFETS SALs as to its accuracy and applicability And third, based on the results of the above investigations, calculate an independent set of SALs

for other sites contaminated w/radio

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 will be expected to provide a plan for pl[illegible]

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 Action

Identify and evaluate ~~cleanup standards~~ soil contamination levels 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~~ soil limits 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 standards 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 standards 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 standards 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 standards at RFETS, but will simply be used to place the calculated values in context.

2. 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 to its use in determining the current SALs A comparison of the different models using RFETS site-specific data would be useful. It is possible that ~~no one~~ model will prove satisfactory for determining both ~~the on-site levels and the off-site risk of~~

need to keep the [illegible]

The contractor is encouraged to find a model that includes both on-site and off-site dose.

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soil (or water quality stds), air?

~~exceeding the existing standards~~ The contractor will be expected to recommend the most appropriate model for the RFETS site-specific conditions and justifying 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 Action

– lower risk for off-site than on

Evaluate the input parameters, inputs, default inputs, and assumptions for the current analysis (RESRAD) used to set the interim SALs 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 level? and health risk to exposed individuals.

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 3 b) above from least conservative to most conservative with conservative meaning that which results in lower contamination levels given a certain dose limit

d) 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 Action

set in RFCA (includes a free release residential std)

Evaluate the land use scenarios assumed in setting the current SALs as to their appropriateness and conservative nature in setting such cleanup standards at RFETS Provide a recommendation as to the acceptability of the currently assumed land use scenarios or the appropriateness of alternatives

Jeremy's comment: use land use scenarios already accepted in RFCA – This is included in #6.

Discussion

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The current analysis used to set the interim SALs at RFETS assumed certain land use scenarios It is not the intent of this review to recommend future land use at the site, but rather to determine the impacts that the possible future land use scenarios may have on the resulting SALs This is to ask are there any other land use scenarios which can be considered more appropriate for setting cleanup standards?

5 Action

Identify and evaluate the methodologies (e g , 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 Within 1 month of the start of the contract, present a summary of these methodologies to the RFRSALOP along with a recommendation as to the best suited for such an analysis

Discussion

It is understood that there are several methodologies which can be used to shape the inputs for such an analysis The RFRSALOP wishes to fully understand the nature and implications of ~~each of~~ the ~~potential~~ methodologies so that ~~it can ultimately choose~~ the methodology that ~~can best produce~~ credible and defensible results ~~from this independent review~~ which will be acceptable to the broadest range of stakeholders

6 Action

Use the methodology or methodologies chosen by the RFRSALOP subsequent to 5 above to combine/model 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 land use scenarios in the original analysis ~~as well as those recommended in 4. above~~

7 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 standards 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 standards will actually be met in terms of what contamination levels are ultimately measured at the site This study should clearly delineate such parameters

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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 standards

8 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 6 above

Discussion

~~Basically~~ It should be determined that cleanup standards are protective of off-site residents ~~The existing study used to set the SALs only examined on-site exposure scenarios~~ Since off-site air and water quality standards are more restrictive, it is possible these standards will control the cleanup 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.

chg to okay's sentence

9 Action

Subsequent to the evaluation of inputs in 3. and the calculation of contamination levels in 6 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 separate summary is to be provided which should be directed to the general public that has no prior knowledge of the SALs 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

Quarterly meetings will be held which will consist of two nightly ~~meetings~~ 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 need to provide sufficient staff ~~is 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

March 1998	Start of contract ? Why not Jan Feb
April 1998	Presentation of potential methodologies to RFRSALOP
May 1998	Setting of review methodology by RFRSALOP
June 1998	First quarterly report to RFRSALOP
April 1999	Completion of contract, final presentations and report
June 1999	Presentation of results at RFCA review

what happened to 12 months this is 15 months ?

FAX MEMORANDUM
JUNE 25, 1997

TO: BOB TRUE

FROM: TIM HOLEMAN - BROOMFIELD ENVIRONMENTAL AND NATURAL RESOURCE ADVISOR

RE: RFCA ANNUAL REVIEW

Broomfield has the following comments to submit to the RFCA parties as you conduct the annual review.

1. Soil Action Levels

We disagree with the 15/85 standard. In our comments on establishment of these standards, Broomfield states its belief that a more restrictive standard is appropriate. In light of recent findings by the Actinide Migration Panel, recent correspondence by the U.S. EPA and the abandonment of the EPA rulemaking, the RFCA annual review is a good time to reassess further scientific evaluation.

Broomfield continues to support the accelerated cleanup plan, but only done in a safe manner and with rigorous oversight. We believe the interim action level merits new attention from nationally recognized scientists. Specifically, the linkage between water quality and soil - and the further impact of erosion and wind - as stated by the Actinide panel, suggests the need for a coordinated and comprehensive re-review. We suggest that a working group of the RFCA parties, Kaiser-Hill, downstream communities, Jefferson County and nationally known experts be convened by DOE to scope out additional research and additional computer modeling.

2. Intergovernmental Cooperation

As implementation proceeds, Broomfield recommends that the parties find new ways to incorporate impacted communities more effectively in the consultative process. Certain cleanup and water quality issues require a higher standard of collaboration with impacted communities. Appendix two and five offer useful and important guidance on intergovernmental cooperation. Appendix Two overs useful rules of thumb for interaction which should also be applied in those instances when local goverment land use, water quality, community development and public health and safety obligations and authority will be impacted by a RFCA decision.

In addition, the standard operating procedure of the RFCA parties is to limit their formal discussions, scoping activities, training and overall implementation to the three parties alone. We encourage the parties to expand the scope of participation in some of

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these activities because we believe it will improve public support and the quality of decisions.

3. Information Exchange

The ASAP plan must be accompanied by accelerated public interaction and information exchange. Broomfield recommends completion of the Rocky Flats WEB page as an additional central source for obtaining many of the cleanup decision-making documents. Because of the burdensome job of keeping pace with the distribution of draft and final documents, many such documents are not made available in a timely fashion for non-RFCA party review. In some cases, we are not even aware of the availability of key documents, including those commissioned by Kaiser-Hill to support its ASAP goals.

4. Technology Development

Innovative technologies are not specifically referenced in the RFCA. Kaiser-Hill has recently hired a technology development specialist. How will Kaiser-Hill's technology development program help to accelerate and improve RFCA implementation?

True
Jackie
Howard

REGIONAL ADMINISTRATORS OFFICE

97 JUN 19 PM 2:20

WESTMINSTER

June 17, 1997

JUN 20 1997

Patti Shwayder, Executive Director
Colorado Department of Public Health and Environment
4300 Cherry Creek Drive South
Denver, Colorado 80222-1530

Jessie M Roberson, Manager
United States Department of Energy
Rocky Flats Field Office
P O Box 928
Golden, Colorado 80402-0928

Jack McGraw, Acting Regional Administrator
United States Environmental Protection Agency
999 Eighteenth Street 500
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City of Westminster
Office of the
Mayor

4800 West 92nd Avenue
Westminster Colorado
80030

303-430-2400
FAX 303-430-1809
TDD 303-428-0648

Dear Ms. Shwayder, Ms Roberson, and Mr McGraw:

The City of Westminster requests to be included in the annual review of the Rocky Flats Cleanup Agreement scheduled to be completed by the regulators in July Although we are not signators to the cleanup agreement, our residents and City water supply are located directly downwind from the Rocky Flats Environmental Technology Site (RFETS) As local government elected officials, we have the fiduciary duty to protect the health and welfare of our citizens. To this end, we believe that our input into this important agreement is necessary.

Mayor Pro Tem Sam Dixion is the designated City representative for this review Her alternate will be Mary Harlow, Rocky Flats Coordinator Please notify us of dates and time for the review meetings

Thank you in advance for recognizing our request for participation

Sincerely,

Nancy M. Heil

Nancy M. Heil
Mayor

cc City Council
City Manager Bill Christopher
Ron Hellbusch, Director of Public Works and Utilities
Mary Harlow, Rocky Flats Coordinator

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WESTMINSTER

June 18, 1997

Mr Bob True
Public Information/Community Relations
Colorado Department of Health and Environment
4300 Cherry Creek Drive South
Denver, Colorado 80222-1530

City of Westminster
Department of
Public Works
and Utilities

4800 West 92nd Avenue
Westminster Colorado
80030

303-430-2400
FAX 303-650-1643
TDD 303-428-0648

Dear Mr True

The City of Westminster would like to provide comments for the first annual review of the Rocky Flats Cleanup Agreement (RFCA). As you know, several site buildings obstruct the natural flow of underground streams at the Rocky Flats Environmental Technology Site (RFETS) The groundwater is being forced to surface as springs and seeps We are concerned about the effects the removal of the foundations of these building will have on the present groundwater flow The deep aquifer which flows into Standley Lake could eventually be impacted by these changed flow patterns Accelerated off-site contaminated groundwater plume movement has the potential to impact Woman Creek Reservoir

We are requesting that a conceptual model be constructed to determine the impacts of foundation removal on groundwater flows The model should contain information on a "worst-case scenario" for the movement of contaminated groundwater plumes off-site and into the deep aquifer. This model should then become part of the RFCA We are further requesting that the City's concerns for contaminated groundwater impacts on Standley Lake and Woman Creek Reservoir be archived for incorporation into the final Record of Decision (ROD) for the RFETS

The Soil Action Levels set for the cleanup of the RFETS are still of concern to the City We are not fully confident that they are protective of human health and the environment The City has written to both the United States Department of Energy (DOE) and the United States Environmental Protection Agency (EPA) in support of the Citizens Advisory Board's request to obtain a National Academy of Science review of the levels and the RESRAD model used to develop them

(Continued)

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The ERRATA to the RFCA was to be issued last year It was our understanding that the Parties were in full agreement on the issues to be addressed in the ERRATA We therefore request that it be released as soon as possible

Thank you for the opportunity to provide our comments on this important document We look forward to your reply

Yours truly

Ronald A Hellbusch
Director of Public Works and Utilities

cc· Sam Dixion, Mayor Pro Tem
Bill Christopher, City Manager
Mary Harlow, Rocky Flats Coordinator
Dave Kaunisto, Senior Water Resources Engineer

Edd Kray
06/24/97 09 09 AM

To Rober true@state co us
cc steve tarlton@state co us
Subject new soil action level info

Bob

As part of the annual review of the soil action levels, with new information due by June 27th, 1997, I wish to submit the following

The Nuclear Regulatory Commission (NRC) has published a document, Working Draft Regulatory Guide on Release Criteria for Decommissioning NRC Staff Draft for Comment, NUREG 1500, published August 1994 The document includes information on release criteria, calculational methods and methods for showing compliance with the then upcoming NRC rule on decommissioning. Tables within the document include criteria for decommissioning which are in conflict with values calculated by RFETS as part of the Soil Action Levels For example

1 Table A-1, page A-14 indicates that 1 pCi/g Pu 239 or 240 in soil provides a total dose of 7 95 mrem/y Am241 at 1 pCi/g provides a dose of 8 20 mrem/y

2 Table B-2, page B-20, states that the soil concentration limits @ 15 mrem/y for a residential scenario are 1 89 pCi/g for Pu-239 and 249 and 1 83 pCi/g for Am-241

The document notes that these values are conservatively calculated for a generic situation and not based on site specific information Nevertheless, the very wide discrepancy between these values and our RFETS soil action levels needs to be justified, particularly since NRC is likely to be the site regulator by the time that decommissioning is completed

I have spoken to Mr Dave Fauver at NRC Headquarters in Washington (301-415-6625) on this issue and requested that NRC review the RFETS Soil Action Levels for inconsistencies with the NRC calculational methods used in NUREG-1500 The NRC values were stated to have been also derived using the RESRAD code. I was informed that he would need administration approval to perform this type of review. I have not recieved a response to this request at this time

I am sending a complete copy of NUREG-1500 by courrier to you for the review committee's usage

You may reach me at 966-2115 should you have need for additional information

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MEMORANDUM OF UNDERSTANDING

by and between

THE REPUBLIC OF THE MARSHALL ISLANDS,

THE RONGELAP ATOLL LOCAL GOVERNMENT COUNCIL,

THE UNITED STATES DEPARTMENT OF ENERGY

OFFICE OF ENVIRONMENT, SAFETY AND HEALTH

and

THE UNITED STATES DEPARTMENT OF THE INTERIOR,

OFFICE OF TERRITORIAL AND INTERNATIONAL AFFAIRS

for the

RONGELAP RESETTLEMENT PROJECT

This MEMORANDUM OF UNDERSTANDING (hereinafter referred to as "MOU"), is made by and between the REPUBLIC OF THE MARSHALL ISLANDS (hereinafter referred to as "RMI"), the RONGELAP ATOLL LOCAL GOVERNMENT COUNCIL (hereinafter referred to as "RALGOV"), the UNITED STATEMENT DEPARTMENT OF ENERGY represented by the Office for Environment, Safety and Health (hereinafter referred to as "DOE/ES&H"), and the UNITED STATES DEPARTMENT OF THE INTERIOR represented by the Office of Territorial and International Affairs (hereinafter referred to as "DOI/OTIA").

WITNESSETH:

WHEREAS, the purpose of this MOU is to implement provisions of Title I, Sections 103(i) and 105(c) of U.S. Public Law 99-239; and

WHEREAS, in furtherance of the foregoing provisions of U S. Public Law 99-239 and Nitijela Resolution 1986-62, RMI and RALGOV have caused to be prepared the "Rongelap Atoll Resettlement Project Scientific Work Plan", a copy of which is attached hereto (and hereinafter referred to as the "Rongelap Work Plan"); and

WHEREAS, in furtherance of the foregoing provisions of U.S. Public Law 99-239, the U.S. Congress has appropriated funds for the implementation and support of the Rongelap Work Plan pursuant to Public Law 102-154; and

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WHEREAS, RMI and RALGOV have agreed to and shall by a future separate agreement establish a Rongelap Resettlement Project (hereinafter referred to as the "Rongelap Resettlement Project") in order to fully implement and assure the day-to-day management of the scientific studies and conduct other resettlement activities; and

WHEREAS, all the parties to this MOU are committed to taking all actions required in order to assure the timely implementation of the Rongelap Work Plan and such future resettlement activities and actions as may subsequently prove necessary such that the resettlement of the people of Rongelap may be secured;

NOW THEREFORE, be it agreed as follows:

ARTICLE I - GENERAL

Agreement generally by and between the signatory parties:

1. The activities of the Rongelap Atoll Resettlement Project Scientific Work Plan, otherwise referred to herein as the "Rongelap Work Plan", are hereby endorsed by each of the signatory parties as the proper scientific studies that are necessary to characterize the radiological and environmental conditions of the southern islands of Rongelap Atoll, and upon which the determination for resettlement of the southern islands will be made and further that:

2. The signatory parties commit themselves, one to the other and each to all, that upon receipt of funding for the Rongelap Work Plan pursuant to U.S. Congressional appropriation they shall fully cooperate in and support the completion of the Rongelap Work Plan and the studies undertaken pursuant thereto.

ARTICLE II

AGREEMENT BY AND BETWEEN DOI/OTIA AND DOE/ES&H, RALGOV, AND RMI FOR THE IMPLEMENTATION AND CONDUCT OF THE RONGELAP WORK PLAN IN SUPPORT OF THE RESETTLEMENT OF THE PEOPLE OF RONGELAP

The Department of Interior/Office of Territorial and International Affairs, the Department of Energy/Office of Environment, Safety and Health, the Rongelap Atoll Local Government Council on behalf of the People of Rongelap, and the Republic of the Marshall Islands further agree that:

[The initial stage - Determination of readiness for resettlement]

1. The study and ultimate resettlement of Rongelap shall be undertaken in stages, beginning with an initial environmental and radiological assessment of Rongelap Island and those islands comprising the southern one-half of Rongelap Atoll, said area to encompass on the western side of Rongelap Atoll from Bokonlep Island south and on the eastern side from Erebot Island south.

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2 The primary condition of a determination to initiate resettlement for the area defined in Section 1 of this Article is that the calculated maximum whole-body radiation dose equivalent to the maximally exposed resident shall not exceed 100 millirem (mrem)/year above natural background, based upon a local food only diet, such that if the radiological assessment undertaken in accordance with the Rongelap Work Plan demonstrates that no individual would receive an annual radiation dose equivalent in excess of 100 mrem above natural background, resettlement will ensue. RALGOV may at its discretion give consideration to additional potential measures (i.e., application of fertilizers) to reduce individual and population radiation exposures to the returning population further below the 100 mrem/year limit.

3 The "local food only diet" declaration is meant to constitute a traditional Rongelapese diet consisting of local food taken, grown and/or gathered from the southern islands of Rongelap Atoll and the immediately surrounding waters as defined in Section 1 of this Article. It is agreed that the makeup of a Rongelap "local food only diet", and for comparison purposes a more "realistic diet", shall be more precisely determined and quantified pursuant to the Rongelap Work Plan, in consultation with the Rongelap community. In its determination of what constitutes a "local food only diet", the Rongelap Atoll Local Government Council may at its discretion include imported foods that are staples of the diet, e.g. rice.

4. (a) An additional condition of mitigation is the extent of transuranic contamination, especially plutonium contamination of soil. The parties are agreed that this issue, as well as the possible need for an environmental cleanup program solely for transuranic contamination, requires careful deliberation. To this end, it is agreed that the studies undertaken pursuant to the Rongelap Work Plan shall include measurements of transuranics in the environment of Rongelap Atoll, utilizing as an action limit the screening level of the U. S. Environmental Protection Agency ("EPA") of 0.2 microcuries per square meter, which has been translated by the DOE/ES&H into an activity concentration of 17 picocuries/gram (pCi/g) of transuranics averaged in the top 5 centimeters (cm) of soil. The action limit has been set at 17 pCi/g of transuranics in soil. Measurement of transuranic contamination in the environment and determination of whether the action limit has been met or exceeded will be made pursuant to an appropriate environmental sampling plan developed by the Rongelap Resettlement Project.

(b) Should the Rongelap Work Plan investigations determine that no soil concentration of transuranics is in excess of the aforementioned prescribed action limit, then no further consideration for soil clean-up of transuranics is warranted. If, on the other hand, it is determined that soil concentrations exceed the prescribed action limit, then recommendations as to the need for remedial activity and/or clean-up shall be included as part of the report prepared pursuant to the Rongelap Work Plan.

(c) To the extent that transuranic contamination exists in excess of the prescribed action limit but is limited in nature, controllable, and does not impact designated dwelling, food gathering, food growing, and/or recreational areas, then resettlement may ensue while mitigative measures are considered and/or undertaken.

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5. In the event the assessment of Rongelap Atoll conducted pursuant to the Rongelap Work Plan demonstrates that radiological conditions on Bokonlep Island or Erebot Island (and their immediate waters) exceed the herein-defined standards for resettlement, the overall determination to initiate resettlement for the southern islands of Rongelap Atoll shall be made without consideration of, and to the exclusion of, radiological conditions on Bokonlep Island or Erebot Island.

[A determination of non-readiness for resettlement]

6 In the event that the environmental and radiological assessment undertaken pursuant to the Rongelap Work Plan demonstrates that the southern islands of Rongelap Atoll are not ready for resettlement without first undertaking a clean-up and remedial program, the Rongelap Resettlement Project shall immediately prepare a report for presentation to the parties hereto containing recommendations as to clean-up requirements and optional remedial activities designed to make the southern islands of Rongelap Atoll ready for resettlement.

[Need for further surveys]

7. (a) In the event the Rongelap Work Plan report(s) to be prepared by the Rongelap Resettlement Project in accordance with Article III, Section 6(a) of this MOU demonstrate(s), based upon the standards and criteria herein set forth,

(1) that the southern islands of Rongelap Atoll are fully resettleable, the second stage of project study shall be the radiological characterization of the northern islands of Rongelap Atoll; or, alternatively,

(2) that the southern islands of Rongelap Atoll are not fully resettleable without remedial activity and/or clean-up, even after consideration of Section 5 to this Article, then the Rongelap Resettlement Project shall immediately propose for consideration by the parties an extended environmental radiation characterization necessary to support the development of remedial actions and/or clean-up, as prescribed by Section 6 of this Article, environmental radiation characterization in such other areas as Rongerik Atoll and Ailinginae Atoll and further, upon completion of these objectives, the Rongelap Resettlement Project would proceed with the evaluation of the northern islands of Rongelap Atoll as prescribed in subsection 7(a)(1).

(b) It is the intent of the parties to ensure that appropriate environmental and radiological assessments are ultimately conducted of all of the ancestral homeland of the Rongelap people to include the remainder of Rongelap Atoll, Ailinginae Atoll, and Rongerik Atoll. It is understood that these additional studies contemplated by this section are subject to and conditioned upon future U S. Congressional funding.

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[Resettlement]

8. Rongelap community resettlement will ensue if the initial assessment described at Section 1 of this Article establishes that no individual residing on the southern islands of Rongelap Atoll and consuming a local food only diet would receive a calculated dose of 100 mrem/year or more of radiation above natural background in the Marshall Islands.

9. Once a determination of readiness for resettlement by the Rongelap Resettlement Project is made and affirmed by the parties to this MOU, planning for resettlement and implementation thereof shall immediately commence, with the full cooperation of all parties to this MOU It is the understanding and expectation of the parties that funding for rehabilitation and resettlement shall be provided by way of separate U S. Congressional appropriation, the funds to be transferred from the U. S. Government to a Rongelap Resettlement Trust Fund in accordance with the trust agreement between DOI, RMI, and RALGOV for utilization consistent with this section and any conditions or requirements imposed by Congress.

10. For purposes of resettlement, "Rongelap community resettlement" refers to the voluntary return to Rongelap Atoll of the Rongelap people now residing on Mejatto Island and such other citizens of the Marshall Islands who by virtue of their land rights in Rongelap Atoll voluntarily wish to be resettled.

11. The parties recognize that health concerns may exist for many members of the Rongelap community by virtue of their prior exposure to radiation. Additionally, they recognize the need for continued radiological monitoring both of returned citizens and of the Rongelap Atoll environment upon resettlement. Accordingly, the parties agree to address these problems as part of the resettlement program.

12. The parties also agree that in the event of a determination for resettlement and subsequent resettlement, relevant revisions to recommended individual exposure levels as expressed in International Commission for Radiation Protection ("ICRP") and National Council on Radiation Protection and Measurements ("NCRP") guidelines will be reviewed to ensure that radiation exposures are maintained at an acceptable level of risk.

[Future]

13. If in the future applicable radiation protection standards (e.g., the NCRP and the ICRP) are significantly reduced to below current recommendations, or post-resettlement whole-body measurements indicate that Rongelap residents are being exposed to radiation levels in excess of the 100 mrem/year limit established by Section 2 of this Article, then the parties agree to reevaluate the individual doses being received by the population or an individual at that time to determine that no individual is being exposed to any undue risk, and take such remedial action as shall at that time be deemed appropriate.

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ARTICLE III

AGREEMENT BY AND BETWEEN THE RONGELAP ATOLL LOCAL GOVERNMENT COUNCIL (RALGOV) AND THE REPUBLIC OF THE MARSHALL ISLANDS (RMI)

The RALGOV and RMI further agree that:

1 In order to facilitate the implementation of this MOU and the Rongelap Work Plan, RALGOV and RMI shall establish a separate entity, to be known as the Rongelap Resettlement Project, which shall serve as the contracting authority for implementation of this MOU and the Rongelap Work Plan, and which shall be governed jointly by one representative of RMI and one representative of RALGOV

2 The scientific direction and operational management of the Rongelap Resettlement Project shall be delegated by RMI and RALGOV, through the Rongelap Resettlement Project, to a Rongelap Resettlement Project Scientific Management Team (hereinafter the "Scientific Management Team"). In addition to his/her duties and obligations as set forth in Section 3 of this Article, one member of the Scientific Management Team, mutually selected by RMI and RALGOV, shall serve as principal scientific advisor to the Rongelap Resettlement Project.

3. The Scientific Management Team shall be selected by RMI and RALGOV and be comprised of not less than two nor no more than three appropriately qualified scientists. The members of the Scientific Management Team shall be assigned joint responsibility for the scientific direction and operational management of the Rongelap Resettlement Project, notwithstanding that their respective duties and responsibilities under the Rongelap Work Plan may vary. At least one of the scientists shall have demonstrated expertise in environmental and radiological analysis. Upon appointment of the scientists comprising the Scientific Management Team, RMI and RALGOV shall through the Rongelap Resettlement Project provide a service contract for each individual's term of appointment.

4. RMI and RALGOV shall utilize such funding as is made available by the Government of the United States, pursuant to Congressional appropriation, and the assistance of the RMI Nationwide Radiological Study pursuant to Article VI, paragraph 7 of this MOU and Article II, Section 1(e) of the Agreement Between the Government of the United States and the Government of the Marshall Islands for the Implementation of Section 177 of the Compact of Free Association ("the Section 177 Agreement"), to fulfill the scientific and technical requirements of the Rongelap Work Plan as well as the reporting requirements that are mandated by this MOU.

5. The RALGOV and RMI shall also mutually establish and contract for a Rongelap Resettlement Project Scientific Peer Review Group (hereinafter the "Scientific Peer Review Group"), to provide scientific peer review of the implementation of the Rongelap Work Plan and other technological aspects of the conduct of the Rongelap Resettlement Project. The Scientific Peer Review Group shall be available for consultation to the Scientific Management Team as necessary to execute the Rongelap Work Plan. The RALGOV and RMI may upon

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mutual agreement change membership on the Scientific Peer Review Group as resettlement proceeds, and needs dictate.

6 (a) The RALGOV and RMI shall charge the Scientific Management Team with the responsibility of providing the following reports, in both English and Marshallese, to the Rongelap Resettlement Project established pursuant to Section I of this Article:

(1) On or before May 1, 1992, a preliminary report on the readiness of the southern islands of Rongelap Atoll for resettlement in order to permit the parties to decide whether to pursue the study option set forth at Section 7(a)(2) of Article II of this MOU in preference to the option described at Section 7(a)(1).

(2) Upon conclusion of the Rongelap Work Plan, a comprehensive report, in both English and Marshallese, shall be prepared on the radiological conditions on Rongelap Island and the southern islands of Rongelap Atoll, pursuant to such requirements and such schedules as may subsequently be deemed necessary by RMI and RALGOV. Said report shall address each component of the Rongelap Work Plan, any necessary and appropriate recommendations following therefrom, and shall include: a summary of study results; dose to infants and children; dose assuming a local food only diet; a comparison and analysis of the dose assuming a "local food only" diet as compared to a "realistic diet" that includes imported foods; and dose due to plutonium.

(b) Upon conclusion of subsequent stages of the Rongelap Resettlement Project, comprehensive reports shall be prepared pursuant to such requirements and schedules as may subsequently be deemed necessary by RMI and RALGOV.

7. Upon receipt of a Scientific Management Team report pursuant to Section 6 of this Article, the Rongelap Resettlement Project shall provide copies of same to the Scientific Peer Review Group for review, comment and recommendation. Resulting recommendations of the Scientific Peer Review Group shall be formally accepted or rejected by the Rongelap Resettlement Project.

8. RALGOV and RMI shall, through the Rongelap Resettlement Project, forward any report received pursuant to Section 6 of this Article to the parties to this MOU. Reports forwarded to the DOE/ES&H shall be accompanied by any comments and/or recommendations thereon received from the Rongelap Resettlement Project Scientific Peer Review Group

[Assurance of future funding]

9. RALGOV and RMI hereby commit and pledge to one another that in the event the findings, conclusions and recommendations resulting from the Rongelap Work Plan warrant additional U.S. Congressional funding -- for further studies, clean-up and remedial programs, and/or for resettlement of the Rongelap people -- they will diligently and in good faith work together to obtain the additional Congressional appropriations and funding required.

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10. RALGOV and RMI agree to do everything within their respective powers to maintain the scientific integrity of the studies and assessments undertaken pursuant to the Rongelap Work Plan, and to report in writing any compromise thereof to the other parties to this MOU.

ARTICLE IV - DEPARTMENT OF ENERGY, OFFICE OF ENVIRONMENT, SAFETY AND HEALTH (DOE/ES&H)

The DOE/ES&H further agrees that:

1 The DOE/ES&H shall cooperate with and support the Rongelap Resettlement Project, specifically the Rongelap Work Plan, as requested and to the extent feasible, by providing whenever possible during the execution of its routine biannual environmental monitoring missions such logistical and other support as is mutually agreed, that will assist the Rongelap Resettlement Project in transporting necessary personnel and equipment to and from Rongelap Atoll.

2. Subject to modifications as the parties to this MOU might in the future agree, and Congress might subsequently endorse, DOE/ES&H shall continue the conduct of its bioassay and medical missions for the Rongelap people during and after resettlement of Rongelap, pursuant to Section 103 (h)(1) of Public Law 99-239.

3. Copies of reports received pursuant to Article III, paragraph 8 of this MOU shall be transmitted by DOE/ES&H to the NAS Scientific Peer Review Group for review and comment.

4. The DOE/ES&H shall give due consideration to the recommendations of its scientific peer review group (NAS). DOE/ES&H shall also assure all communications and recommendations by the NAS scientific peer review group are forwarded to RALGOV and RMI, for transmittal to the Rongelap Resettlement Project Scientific Peer Review Group.

5. Upon request by the Rongelap Resettlement Project and/or the Rongelap Project Scientific Management Team, DOE/ES&H shall furnish requested data relevant to the successful implementation and completion of the Rongelap Work Plan to the Rongelap Resettlement Project.

6. The DOE/ES&H agrees to conduct its Rongelap Atoll scientific activities and studies in a manner best calculated to complement and support the Rongelap Work Plan and the Rongelap Resettlement Project. To this end, DOE/ES&H shall regularly consult with the Rongelap Resettlement Project, the Rongelap Scientific Management Team, and other appropriate RALGOV and RMI representatives as to planned and ongoing DOE/ES&H or DOE/ES&H-contracted projects and activities related to or otherwise affecting Rongelap.

7. The DOE/ES&H shall provide or make available to RALGOV, RMI, the Rongelap Resettlement Project and/or the Scientific Management Team, without charge, requested declassified information, documents and data in DOE's possession, or under its custody or control, concerning past atmospheric and

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terrestrial measurements relevant to the resettlement of the Rongelap people. To the extent if any documents of established relevancy are found to be classified, DOE/ES&H shall, upon request, immediately initiate a classification/declassification review in order to ensure, to the maximum extent possible, full disclosure of all information relevant and necessary to the Rongelap Resettlement Project and successful completion of the Rongelap Work Plan.

ARTICLE V - RONGELAP ATOLL LOCAL GOVERNMENT COUNCIL (RALGOV)

The RALGOV further agrees that:

1. As set forth in Article II of this MOU, RALGOV agrees on behalf of the People of Rongelap that if the initial environmental and radiological assessments of the areas described in Section 1 of Article II establishes that no individual resettling to the southern islands of Rongelap Atoll and subsisting on a local food only diet would receive an annual radiation dose exceeding 100 mrem/year above natural background or would be incidentally exposed to concentrations of transuranics in the soil in excess of the prescribed action limit of 17 pCi/g, Rongelap community resettlement will ensue without consideration for mitigation. However, consideration may be given by RALGOV to additional potential measures (i.e., application of fertilizers) to reduce individual and population radiation exposures to the returning population further below the 100 rem/year limit.

2. RALGOV shall support the timely completion of the Rongelap Work Plan through:

(a) Making the RALGOV Members available to confer with the Scientific Management Team upon request;

(b) Securing any necessary permissions for access, entrance, and the conduct of the Rongelap Work Plan from individuals that may be required so that the Rongelap Resettlement Project can undertake and complete all project field work;

(c) Serving as a liaison between the Scientific Management Team and the Rongelap community at large;

(d) Providing local personnel and community support as necessary to accomplish the objectives of the Rongelap Work Plan and any forthcoming approved activities related to resettlement.

ARTICLE VI - REPUBLIC OF THE MARSHALL ISLANDS (RMI)

RMI further agrees that:

1. The Rongelap Resettlement Project and Rongelap Work Plan shall be undertaken in conjunction with the RMI Nationwide Radiological Study conducted pursuant to Article II, Section 1(e) of the Section 177 Agreement.

2. RMI shall, upon receipt of funds from the DOI/OTIA pursuant to this MOU, assure the availability of these funds to the Rongelap Resettlement Project within five (5) business days of receipt thereof, pursuant to the terms and conditions to be set forth in a separate agreement to be entered into and by and between the Rongelap Resettlement Project, RMI and RALGOV.

3. RMI assures that it will comply with all applicable U.S. Federal laws, regulations and requirements as they relate to the application, acceptance, use and accounting of funds provided pursuant to this MOU.

4. An SF-270, Request for Advance or Reimbursement, will be submitted by RMI to DOI/OTIA for release or drawdown of funds on a quarterly basis Said Requests shall be made in consultation with, and pursuant to instructions received from the Rongelap Resettlement Project.

5. An SF-269, Financial Status Report, will be submitted by RMI to DOI/OTIA quarterly.

6. RMI shall provide copies of all Financial Status Reports and Requests for Advances or Reimbursements, and any other reports required pursuant to this MOU, the Rongelap Resettlement Project, which shall in turn make same available to the parties to this MOU on a quarterly basis.

7. Utilizing the funds made available to the RMI Government pursuant to Article II, Section 1(e) of the Section 177 Agreement, the RMI Nationwide Radiological Study shall contribute certain of its services to the Rongelap Reassessment Project.

8. RMI is to assure the clearing and maintenance of the air runway on Rongelap Island during the course of the Rongelap Resettlement Project sufficient to permit air traffic to and from Rongelap Island.

ARTICLE VII - DEPARTMENT OF THE INTERIOR, OFFICE OF TERRITORIAL AND INTERNATIONAL AFFAIRS (DOI/OTIA)

The DOI/OTIA agrees that:

1. The DOI/OTIA shall transfer to the RMI the appropriate portion of such funds as are appropriated by the United States Congress, pursuant to the FY 1992 Appropriation Act (P.L. 102-154) for the Department of Interior for the purpose of implementing the Rongelap Resettlement Project/Rongelap Work Plan.

2. The appropriate portion of funds specifically appropriated by the U.S. Congress for the purpose of implementing the Rongelap Work Plan shall be transferred to the RMI on a quarterly basis pursuant to, and upon receipt by DOI/OTIA of a quarterly SF-270 Request for Advance or Reimbursement.

3. Copies of all financial status reports submitted to DOI/OTIA, and any other reports required to be submitted to DOI/OTIA by this MOU, shall be provided on a timely basis to all parties to this MOU.

ARTICLE VIII - ADDITIONAL AGREEMENTS

All parties further agree:

1. The Rongelap Resettlement Project shall be initiated on or about March 1, 1992, or as soon as practicable after funding is made available by the United States Government. It is the understanding and intent of the parties to this MOU that the Rongelap Resettlement Project shall conclude its mandate and submit its final report pursuant to the Rongelap Work Plan and this MOU on or before April 1, 1993.

2 This MOU shall remain in effect pending completion of the Rongelap Resettlement Project This MOU may be amended by the mutual consent of the parties hereto

3 This MOU shall be governed and interpreted in accordance with applicable laws of the United States and the Republic of the Marshall Islands. In the event of dispute with respect to the interpretation or execution of this MOU, the parties agree to in the first instance seek to resolve such dispute through good faith negotiations by and between themselves. Should such negotiations fail, resolution of the matter in dispute shall be governed by the Conference and Dispute Resolutions provisions of Title Four, Article II, of the Compact of Free Association, although nothing contained therein shall be construed as a bar to direct and immediate participation by RALGOV in any conference or dispute resolution activities thereunder.

4. Program Funding - The details of the levels of support to be furnished between DOE/ES&H and DOI/OTIA with respect to funding will be developed in specific interagency agreements or other agreements, subject to the availability of funds. This MOU shall not be used to obligate or commit funds or as the basis for the transfer of funds. The DOE/ES&H and the DOI/OTIA will provide each other mutual support in budget justification to the Office of Management and Budget and hearings before the Congress with respect to programs on which the organizations collaborate.

5. Management Arrangements - This MOU envisages direct communication between DOE/ES&H and officials of other organizations involved in managing the work to be performed. Interagency agreements or project plans will set forth specific arrangements for program implementation. Such plans set forth necessary cooperative arrangements and procedures for handling decisions required by various Government officials. Specific funding and tasking will be implemented through interagency agreements.

6. Public Information Coordination - Subject to the Freedom of Information Act (5 U.S.C. 552), decisions on disclosure of information to the public regarding projects and programs referenced in this MOU shall be made by DOE/ES&H or DOE/OTIA following consultation with the other parties representatives.

6 Amendment and Termination - This MOU may be amended by written agreement between the parties. This MOU may be terminated by the mutual

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written agreement of the parties or by any party upon 45 day written notice to the other parties.

7. Effective Date - This MOU shall be effective upon the latter date of signature of the parties. It shall remain in effect for a 5-year term from the effective date.

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APPROVED AND SO AGREED

U S Department of Energy
Office of Environment, Safety
and Health

Date. 2/21/92 BY

U S Department of the Interior
Office of Territorial and
International Affairs

Date 2/21/92 BY

Republic of the Marshall Islands

Date. 2/21/92 BY

Rongelap Atoll Local Government Council

Date: 2/21/92 BY: Mayor, RALGOV

Date: 2/21/92 BY: Senator

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Tim -
letter to
Jessie &
sign
thank
you
Skaggs
Fiori
alum
Panza
Re: funding

To: [unknown], Kschnoor
From: INTERNET:TimHoleman@aol.com, INTERNET:TimHoleman@aol.com
Date: 11/11/97, 3:39 PM
Re: corrected version II

Sender: TimHoleman@aol.com
Received: from mrin83.mail.aol.com (mrin83.mx.aol.com [198.81.19.1'
by dub-img-3.compuserve.com (8.8.6/8.8.6/2.8) with ESMTP i(
for <Kschnoor@compuserve.com>; Tue, 11 Nov 1997 17:39:07 -(
From: TimHoleman@aol.com
Received: (from root@localhost)
by mrin83.mail.aol.com (8.8.5/8.7.3/AOL-2.0.0)
id RAA10561 for Kschnoor@compuserve.com;
Tue, 11 Nov 1997 17:39·04 -0500 (EST)
Date: Tue, 11 Nov 1997 17:39:04 -0500 (EST)
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To: Kschnoor@compuserve.com
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Review of Radionuclides in Soils CleanupAction Level Modeling
Draft Project Description
October 31, 1997

1.0 Project Description and Product

In light of recent events and reappraisal of the establishı levels of residual plutonium in the Rocky Flats soils, the U.S.] of Energy has agreed to support and fund a community-based advisor; oversee an independent evaluation of radionuclide soil action leve. purposes of the evaluation are to independently analyze the soil c action level (for transuranic elements in the soils at Rocky Flats recommend changes as appropriate. The evaluation will be conducte(reviewed by acknowledged experts chosen by the panel.
Get Jermy['s language.

An oversight panel will be formed and will consist of a (local government, federal and state regulators, environnemtnal cit. interested citizens. Over a twelve to fifteen month period - from 1 contract award - the group will, through CDPHE, contract with appr(professional specialists to assess the appropriateness of the curr(model and any alternative models.

The results of this investigation and evaluation will be : RFCA principals to provide additional guidance in the ongoing refi:

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soil action levels. An RFP will be issued and the panel, with the assistance of CDPHE, will select a winning proposal and negotiate ‹ scope of work with the winning the contractor.
the evaul wityll be conducted and perr review by achknowledged exp‹

2.0 Process and Administration

2.1 Project Administration

the group likes this method: (leroy)

The Colorado Department of Public Health and Environment, ‹ of the Rocky Flats Health Advisory Panel, will serve as the admini: conduit for allocation of the monies, administration of the contra‹ secretarial and organizational requirements of the oversight panel

2.2 Establishment of the Oversight panel

The community-based oversight group shall be called the Ro‹ Radionuclide Soil Action Level Oversight Panel. The Oversight Pane. consist of the following members:

Six members of local government. The members sha. the consensus approval of interested local governments
Two members of the public interest community. <(I downwind members) Members shall be self-selected by the consensus ‹ interested public interest groups.
Three representatives from the Technical communit: representative from the HAP. Representatives shall be selected b: interim adhoc group after a public notice and review of candidates
Two members of the general public. Representativ‹ the interim adhoc group after a public notice and review of candid‹
One member of the RFCAB. Member shall be nominat‹

Ex-officio members: U.S. Department of Ener‹
U.S. Environmental Protect
Colorado Department of Pub

An Interim adhoc group consisting of the following members guide creation of the full panel. The interim panel consists of tl following representatives; City of Broomfield (Hank Stovall and Ka‹ Schnoor); City of Westminster(Sam Dixion and Mary Harlow); The Pe‹ Justice Center (LeRoy Moore); CAB (Victor Holm and Ken Korkia); (DOE - Steve Slaten; Kaiser-Hill - Dave Shelton and John Corsi); (Norma Morin and Ed Kray).

2.3 Selection of a Contractor(s)

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The oversight panel shall oversee the refinement of the Pr. Investigation and Evaluations Questions (described below - 3.0) to addressed by outside contractors. The panel shall utilize the exp contractor or contractors to conduct the research needed to addres: Principal Investigation and Evaluation Questions and consideratio issues. An RFP will be issued and the panel, with the assistance o. will select a winning proposal and negotiate a final scope of work winning the contractor, (including design of peer review processes

Leroy's y

2.4 Process Management

All meetings shall be advertised and open to the public. T shall be encouraged to provide input to the panel. The panel sha for consensus, (Tom: the panel shall define its purposes on the tr from concensus to majority) but when necessary, work by the proce majority vote. (Marshall: The panel should design a public parfti process, and initial input from interested stakeholders). CDPHE w. the panel in drafting the necessary documents and the RFP. In addi administrative and coordinating services, CDPHE will serve as an adminstrative liaison between the panel and the contractor and hel disseminate information and results. DOE and Kaiser will work to access to all available data and relevant documentation. The Overs will not be paid.

2.5 Relationship to the Actinide Panel

The RESRAD model limits its review to on-site impacts. Th the research will be the review of the RESRAD model, but many stak believe that the impacts on off-site migration of radionuclides is concern. Therefore, the ongoing research of the Actinide migratio site investigations into the short and long-term migration and fat actinides should be woven into the contractors activities as appro addressing the Principal Questions. Because the Actinide Panel i addressing the potential for surface water migration off-site, th Panel should coordinate and incorporate the Actinide panel results timing of the activities of the contractor. It is expected that t contractor will meet at least once with the actinide migration inv to share information and coordinate efforts as appropriate and tha oversight panel will be kept fully appraised of the activities and the actinide migration investigators.

3.0 Principal Investigation and Evaluation Questions

Described below are the specific research questions to be project.These questions will provide guidance in the development o and serve as the basis for negotiation of a final scope of work wi

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winning contractor(s).

a. What are the various models which can be applied impacts of plutonium in Rocky Flats soils, including the RESRAD mo Analyze these models to determine which ones are best suited for t site-specific conditions of Rocky Flats.

b. What are the model input parameters and assumpti existing models in use at Rocky Flats? Are these input parameter and credible in simulating soil conditions and associated dose and Each of these parameters should be commented upon as to distribut possible values, from most conservative to least conservative (inc "reasonable" value), and the sensitivity of these parameters to t result.

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

d. What processes/models have been used to determin plutonium contaminated sites and do these processes/models have ap for use at Rocky Flats.

4.0 Special Issues

Below is a list of issues for the panel and the contractor as the final scope of work is negotiated. This list is a compila concerns and working assumptions expressed by stakeholders, DOE, K CDPHE and EPA to provide a backdrop for the final design of the s work.

4.1 Establishment of the RSAL: Under the Rocky Flat RFCA principals agreed upon the current RSAL to establish interim levels for radionuclides (primary plutonium and americium) to be p of people using Rocky Flats after site closure. The RSAL did not c off-site migration. These RSAL's are to undergo periodic review as information is available.

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

4.3 Off-site Migration: Recognizing the lead role

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stakeholders appreciate the potential for long-term off-site migrat through air, water or soil, and believe that a new or improved soi. should strive to integrate multi-media considerations. Some stakel believe that by applying ALARA principles, actinides can be minimi: immobilized in order to reduce off- site migration.

4.4 Input Parameters: To ensure that the contractor address the research questions and in order to minimize the subject of interpretation on how the input parameters should be applied, tl work and the contractor must strive to identify, at the onset, the which input parameters are applied or tested. Among others, choic Best estimate method, conservative method, bounding method, and probabilistic risk assessment method. Specifically, stakeholders concerned that the 561pCi/gram action levels is high. Likewise, DOI concerned that maximizing the conservatism of all input parameters result in a model that lacks "reasonableness".

4.5 Uniquie Site Specific Conditions: The RFCA ope. assumption that cleanup activities and cleanup levels will allow f land use scenario of ???? This assumption, as well as off-sit developments, provide an important backdrop for the application of preferred model. In addition, other issues impacting soils includ community acceptance of institutional controls; the prospect for d of innovative/cost effective soils remediation technologies; the o for off-site disposal of soils and building rubble; and, the impor buffer zone preservation and critical habitat. All these issues, which are in flux, should be recognized when judging the applicabi. RESRAD or other models at Rocky Flats and the adequacy or appropr. the model inputs.

4.6 Quality Assurance: Quality assurance is critic contractor results are credible, believable and consistent with es practices for analysis of radionuclides. The scope of work must e appropriate quality assurance and peer review protocals.

5.0 Timeline:

General Timeline: - 12 to 15 months from

October to December, 1997 - Convening of oversight of scope of work and de

January, 1998 - Award of contract.

March to Dec, 1998 - Contractor performs s technical review meetin

Jan to March, 1999 - Final report (Panel

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Response by July 2

June 18, 1997

Mr Alvin Alm, Assistant Secretary of Energy for Environmental Management
Department of Energy, EM-1
1000 Independence Avenue, SW
Washington, DC 20585

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

Mr. Jack McGraw, Deputy Regional Administrator
EPA Region VIII
999 18th Street, Suite 600
Denver, CO 80202-2466

Mr Tom Looby, Director, Office of the Environment
Colorado Department of Public Health and Environment
4300 Cherry Creek Drive South
Denver, CO 80222-1530

Dear Mr Alm, Ms Roberson, Mr McGraw, and Mr Looby:

The signatories of this letter call for the appointment of an independent body to conduct a thorough review of the adequacy of the established action levels for radionuclides in soil at Rocky Flats.

CONSIDERATIONS

1) In August 1996, as a final step in the long process of creating the Rocky Flats Cleanup Agreement, the Department of Energy and its regulators at Rocky Flats (EPA and CDPHE) proposed action levels for radionuclides in the soil at Rocky Flats. Referred to as the 15/85 mrem/year standard, this proposal may be summarized as follows: Under a situation of active controls at the site (such as restricted access), radionuclides remaining in the soil at Rocky Flats may expose an office worker in the Rocky Flats industrial zone to no more than 15 millirem per year in excess of natural background radiation levels for at least 1000 years, or, after removal of active controls, materials in the soil may expose a hypothetical future resident farming on the site to no more than 85 mrem/year above background for the duration of the 1000 years. Remediation activity would be triggered when the quantity of radionuclides in the soil could result in a dose above said 15/85 mrem/year exposure for the targeted individuals.

2) In the extensive public comment that ensued, attention focused on the great uncertainties inherent in this proposal. Members of the public repeatedly urged the agencies to take the most cautious approach in every area of uncertainty. Time and again the agencies were faulted for taking a less-than-most-cautious approach on point after point, especially in their calculations to determine how much radioactive material could remain in the soil without exceeding the exposure being proposed as permissible. Members of the public were well aware that multitudes of small uncertainties added up cumulatively to uncertainties of a very large magnitude.

3) Affecting all public discussion of the proposal for Rocky Flats was the widely held belief that EPA expected soon to promulgate a national standard for radionuclides in

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soil to apply to cleanup of all DOE nuclear weapons production facilities nationwide. Indeed, the 15/85 mrem/year for 1000 years number proposed for Rocky Flats came from *40CFR196, EPA Radiation Site Cleanup Regulation*, the text of the standard EPA expected to promulgate nationally. During the public comment on the Rocky Flats proposal, numerous citizens insisted that it would be unwise to adopt action levels for Rocky Flats before a national standard was established. Moreover, no national standard should be set without involving affected populations at all relevant DOE sites in a nationwide debate on the merits of EPA's proposed standard To adopt action levels for Rocky Flats prior to such a debate and prior to adoption of a national standard would be premature and would set a bad precedent.

4) The public participation process on soil action levels for Rocky Flats showed near universal public opposition to the proposal advanced by DOE and its regulators. The Rocky Flats Citizens Advisory Board and numerous citizen groups recommended against adoption of soil action levels for Rocky Flats at the present time.

5) Despite this strong public opposition, on 18 October 1996 DOE, EPA and CDPHE adopted the action levels they had all along proposed.

6) On the following day, 19 October, DOE Assistant Secretary Alvin Alm encountered a group of very disgruntled local citizens at a public meeting in Arvada, Colorado. Before the day was out he said an early review of the action level decision would be appropriate. Furthermore, Mr. Alm suggested that an independent body might conduct this review.

7) Meanwhile, *40CFR196*, EPA's proposed national action level standard for radionuclides in soil has been shelved. This underscores the premature nature of the 18 October 1996 decision taken regarding Rocky Flats.

8) The soil action levels adopted for Rocky Flats allow in the soil of the buffer zone a quantity of plutonium that emits up to 651 picocuries per gram of soil in the company of americium emitting up to 117 picocuries per gram of soil, since this amount purportedly would result in an exposure of no more than 85 mrem per year to a hypothetical resident in the buffer zone. For the industrial zone, the adopted action levels allow 562 picocuries of plutonium per gram of soil plus 101 picocuries of americium per gram of soil, because this amount purportedly would result in an exposure of no more than 15 mrem per year to an office worker in the industrial zone. At Enewetok, where the U.S. conducted nuclear weapons tests, the AEC/ERDA decided that concentrations exceeding 40 picocuries of plutonium per gram of soil were too unsafe to allow people to move back into the area.

9) Faced with having to clean up the Western New York Nuclear Services Center in West Valley, NY, in 1993 the New York State Department of Environmental Conservation promulgated the following standard: "The effective dose equivalent to the maximally exposed individual of the general public, from radioactive material remaining at a site after cleanup, shall be as low as reasonably achievable and less than 10 mrem above that received from background levels of radiation in any one year." In setting this standard New York State authorities rejected NRC and EPA recommendations that they adopt "a dose limit of 15 mrem/yr in excess of natural background radiation over the first 30 years."

CONCLUSION

The foregoing clearly shows the wisdom of an early, independent review of the Rocky Flats soil action levels. It remains to specify what should be included in the

review, who should do it, how the affected public should be involved, who should pay for the study, and what timetable should be followed.

A) WHAT SHOULD BE THE SCOPE OF THE REVIEW: The single most important question to be considered in the envisioned review is this. Does the adopted soil action level standard adequately protect people in and around the Rocky Flats site for as long as necessary? This question needs to be applied with unrelenting rigor to four aspects of the adopted Rocky Flats soil action level standard: (a) the adequacy of the dose level; (b) the appropriateness of the targeted exposed persons [office worker on site; future resident farming on site]; (c) the suitability of the 1000 year time frame; and (d) the viability of the calculations used to determine what amount of radioactive material in the soil corresponds to the designated permissible dose. Regarding the last of these, care needs to be taken to discover the most cautious approach at every point along the line, such as in low-dose exposure, relative biological effectiveness for plutonium, soil sampling methods, respirable fraction of soil, breathing rate, migration of radionuclides left in soil, computer modeling, provision for unusual events such as fire, floods, earthquakes, mechanical disturbance, surface slope The review needs to show the cumulative total of all uncertainties. As an outgrowth of its findings, the review group should make clear recommendations regarding the Rocky Flats soil action levels Should the action levels as adopted in October 1996 be retained, scrapped, adjusted in minor ways, revised in major respects? Finally, what is the judgment of the review body regarding whether soil action levels should be set for Rocky Flats prior to the establishment of a national standard?

B) WHO SHOULD PERFORM THE REVIEW: The review needs to be performed by a body independent of ties to any of the affected government agencies yet capable of commanding their respect. This body must also be able to command the respect of the knowing public The review team could be either a standing body with scientific competence or a contractor with expertise in this area. To choose the review team and then to guide its work from inception till completion, we propose creation of a six-to-eight member oversight committee. The oversight committee would be composed of non-agency Denver-area residents selected by an independent citizen group such as the Rocky Flats Citizens Advisory Board and acceptable to the affected agencies.

C) HOW SHOULD THE PUBLIC BE INVOLVED: In addition to the guidance activity provided by the aforementioned oversight committee, ample opportunity must be provided for public participation and comment on the action levels as adopted as well as on any proposed modifications to the adopted levels. The first act of the review group, as soon as it gets itself constituted, should be to convene a public meeting to hear the concerns of any and all citizens who wish to express themselves (in effect, a scoping meeting). As the review work moves along, other meetings should be held to apprise the public of findings and to seek input, whether of approbation, suggestion, or criticism

D) WHO SHOULD PAY THE COST: The three affected government agencies should bear the cost of the review team's work as an extension of the process of creating the Rocky Flats Cleanup Agreement. This would include expenses of the oversight committee.

E) WHAT TIMETABLE SHOULD BE FOLLOWED: The review team should conduct its work in an expeditious manner, striving not to exceed a two year time frame, with an earlier completion date if possible. DOE should structure its environmental restoration program at Rocky Flats such that the need to revisit environmental

restoration activities is minimized in the event that soil action levels are made more stringent.

We would appreciate a response to this proposal by July 2, 1997. Should you have any questions please feel free to contact LeRoy Moore of the Rocky Mountain Peace and Justice Center (303) 444-6981, Eugene DeMayo Rocky Flats Committee Chair of the Sierra Club (303) 938 9458, or Sam Cole of the Denver Chapter of Physicians for Social Responsibility (303) 298-8001.

Yours sincerely,

As Organizations
American Friends Service Committee, Colorado Chapter - Byron Plumley, Ph D.
Boulder Green Alliance - Mark Ruzzin
Clean Water Action - Carmi Mcclean
Colorado Coalition for the Prevention of Nuclear War - Vivienne Perkins, Ph D
Colorado Peace Action - Andy Hanscom
Colorado People's Environmental and Economic Network - Beth Blissman
Environmental Defense Fund, Rocky Mountain Chapter - Dan Luecke
Mountain Forum for Peace - Arlene Strand
New Jewish Agenda -Mark Cohen
Physicians for Social Responsibility, Denver Chapter - Sam Cole
Pikes Peak Justice and Peace Commission - Mary Bauer, S.C.
Rocky Mountain Peace and Justice Center - LeRoy Moore, Ph.D
Sierra Club, Rocky Flats Committee - Eugene DeMayo, O.D.
Sierra Club, Nuclear Waste Task Force - John Winchester
Solstice Institute - Ben Lipman
University of Colorado Environmental Center - Ed von Bleichert
Women's International League for Peace and Freedom, Boulder County

As Individuals (organizations listed for identification purposes only)
Joe Goldfield, P.E.
Nicholas Helburn, Ph.D. - Professor Emeritus, University of Colorado
Judith Mohling, Ph.D
Janna Stieg
Dorothy Rupert - Colorado State Senator
Niels Schonbeck, Ph.D.- Metropolitan State College
Chet Tchozewski - Global Greengrants Fund
Dick Williams, Ph D., and Gretchen Williams - residents of Broomfield

cc: Federico Pena, Secretary of Energy
Carol Browner, Director, Environmental Protection Agency
Governor Roy Romer
Senator Ben Nighthorse Campbell
Senator Wayne Allard
Representative David Skaggs
Representative Diana DeGette
Representative Dan Schaefer
Representative Bob Schaeffer
Rocky Flats Citizens Advisory Board
Rocky Flats Local Impacts Initiative

To CMD Sep 14, 1998

Technical Evaluation of RSAL Grant Amendment dated 8/31/98

1 All areas are considered reasonable and prudent, except as noted in paragraphs 2 to 4

2. The Rocky Flats Field Office (RFFO) believes that Task 6 should be a literature review and a review of the current methods of sampling and analysis at RFETS. Therefore, RFFO believes that 120 hours ($12,422 with G & A and profit) for Task 6 is reasonable and prudent.

3 RFFO position on Task 7 is that RAC have two scientists meet with the AMP (which meets quarterly for two days each) at their regularly scheduled meetings. Two people x two days x four quarterly meetings - 128 hours/plus travel Revised estimate for this task based on 128 hours (with G&A and profit) is $13,249.

4 A Peer Review was recommended in the amount of $17,500. Although a peer review of any scientific study is worthwhile, scientists usually do it by publishing their works RFFO did not agree to fund a peer review and it should be up to RAC to conduct their own peer review at their own expense or another group should fund it. The $17,500 requested for this portion of the grant is disapproved.

5 Total approved RSAL Grant budget is

Work products:	$349,377
Travel.	$49,606
Total	$398,983

Larry A Helmerick

Larry A Helmerick
Contracting Officer's Representative

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SUNDAY CAMERA

September 27, 1998

Post-it® Fax Note 7671	Date 9-29-98 # of pages ▶ 1
To Carla Sanda	From LeRoy
Co./Dept.	Co
Phone #	Phone # 444-6981
Fax # 303-456-0858	Fax #

GUEST OPINION

CLEANUP OF ROCKY FLATS

A key issue in the November elections

By LeRoy Moore

On Nov 3 Colorado voters will make two choices that could prove crucial in efforts to clean up the contaminated Rocky Flats site. First, who will be governor? And second, who will occupy the congressional seat being vacated by David Skaggs, whose district includes Rocky Flats? Lieutenant Governor Gail Schoettler, a Democrat, and Republican Bill Owens seek the governorship Republican Bob Greenlee and Democrat Mark Udall vie for Skaggs' seat.

Voters need to know the stance of these candidates regarding cleanup of the Department of Energy's Rocky Flats facility 16 miles northwest of central Denver, where for four decades the explosive plutonium cores of nuclear bombs were made. More specifically, voters need to know what each candidate will do about the Rocky Flats "soil action levels."

In October 1996, DOE and its regulators – the EPA and the Colorado Department of Public Health and Environment – adopted standards for the amount of plutonium and other radioactive materials that may legally remain in the soil at Rocky Flats after "cleanup" of the site. These standards are called "soil action levels," because cleanup action is triggered if radiation in the soil exceeds the set standard. The "soil action levels" thus are the closest thing we have to an official definition of "clean."

Because inhaling a minuscule speck of plutonium can cause cancer, and because plutonium remains radioactive for 240,000 years, any amount left in the soil presents a permanent danger of exposure to radiation. The action level specifies the quantity of such material allowed in the soil in picocuries (a measure of radiation) per gram of soil. Assuming the presence of no other radioactive material, the level allowed for Rocky Flats is 1429 picocuries of plutonium per gram of soil.

Denver resident Joe Goldfield produced a table comparing the Rocky Flats soil action levels with those adopted for other sites also contaminated with plutonium. Here are some of his numbers (in picocuries of plutonium per gram of soil)

Rocky Flats:1429

Enwetak Atoll (bomb test site in the Pacific). 40

Johnston Atoll. 15

Hanford Nuclear Reservation in Washington State: 34

Nevada Test Site: 200

Goldfield calls the discrepancy between the standards for Rocky Flats and for other sites "striking"

VOTERS NEED TO KNOW THE STANCE OF CANDIDATES REGARDING CLEANUP OF THE DEPARTMENT OF ENERGY'S ROCKY FLATS FACILITY 16 MILES NORTHWEST OF CENTRAL DENVER, WHERE FOR FOUR DECADES THE EXPLOSIVE PLUTONIUM CORES OF NUCLEAR BOMBS WERE MADE.

Also striking is the difference between the officially adopted standard and the 1995 recommendation of the Rocky Flats Future Site Use Working Group. This broadly representative citizen body recommended that Rocky Flats be cleaned to average background radiation level when it is technologically possible to do this in a cost-effective, environmentally responsible manner Global fallout has left an average background level for plutonium along the Front Range of 0 04 picocuries per gram of soil. The 1429 level adopted for Rocky Flats is almost 36,000 times higher

Of the four candidates mentioned above, only Lt. Gov Schoettler already has a public record on the issue at hand. This is so because Gov Roy Romer assigned to her the leading role on behalf of the state government in setting soil action levels for Rocky Flats. He should have known better, since she had already betrayed citizens of Colorado in the way she played a similar role for cleanup of the Rocky Mountain Arsenal, a site whose legacy will be permanent adverse health dangers.

In the case of Rocky Flats, relying on Schoettler's judgment, Romer signed on to the soil action levels she helped generate. He reportedly was shocked a few months later when he saw Joe Goldfield's paper comparing the officially adopted Rocky Flats soil action levels with those from other sites.

When the Rocky Flats soil action levels were adopted in October1996 Schoettler and others from the pertinent government agencies ignored the near-universal public opposition to what they were proposing. The opposition persisted, however, in time adding Rep Skaggs to its number. As a result last fall DOE agreed to fund a citizen-controlled independent scientific review of the calculations behind the action levels. This review, set for completion by September 1999, may recommend a revision downward of the soil action levels to allow less plutonium in the soil.

In this context, each of the above-mentioned candidates – not least Lt. Gov Schoettler – needs to provide clear responses to the following questions.

* If, as seems likely, the independent review recommends a downward revision of the Rocky Flats soil action levels, will you support such a recommendation?

* What steps will you take to ensure an immediate adoption of any proposed lower number?

* Will you press the DOE to put resources into development of technology for safe cleanup and neutralization of radioactive materials left in the environment?

(LeRoy Moore Ph.D primary author of the "Citizen's Guide to Rocky Flats" is a consultant for the Rocky Mountain Peace and Justice Center of Boulder)

RF/RMRS-98-285.UN

PRELIMINARY REPORT ON SOIL EROSION/SURFACE WATER SEDIMENT TRANSPORT MODELING FOR THE ACTINIDE MIGRATION STUDY AT THE ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

FISCAL YEAR 1998

REVIEWED FOR CLASSIFICATION/UCNI
By M.D. Shepard (UNU)
Date 12.7.98

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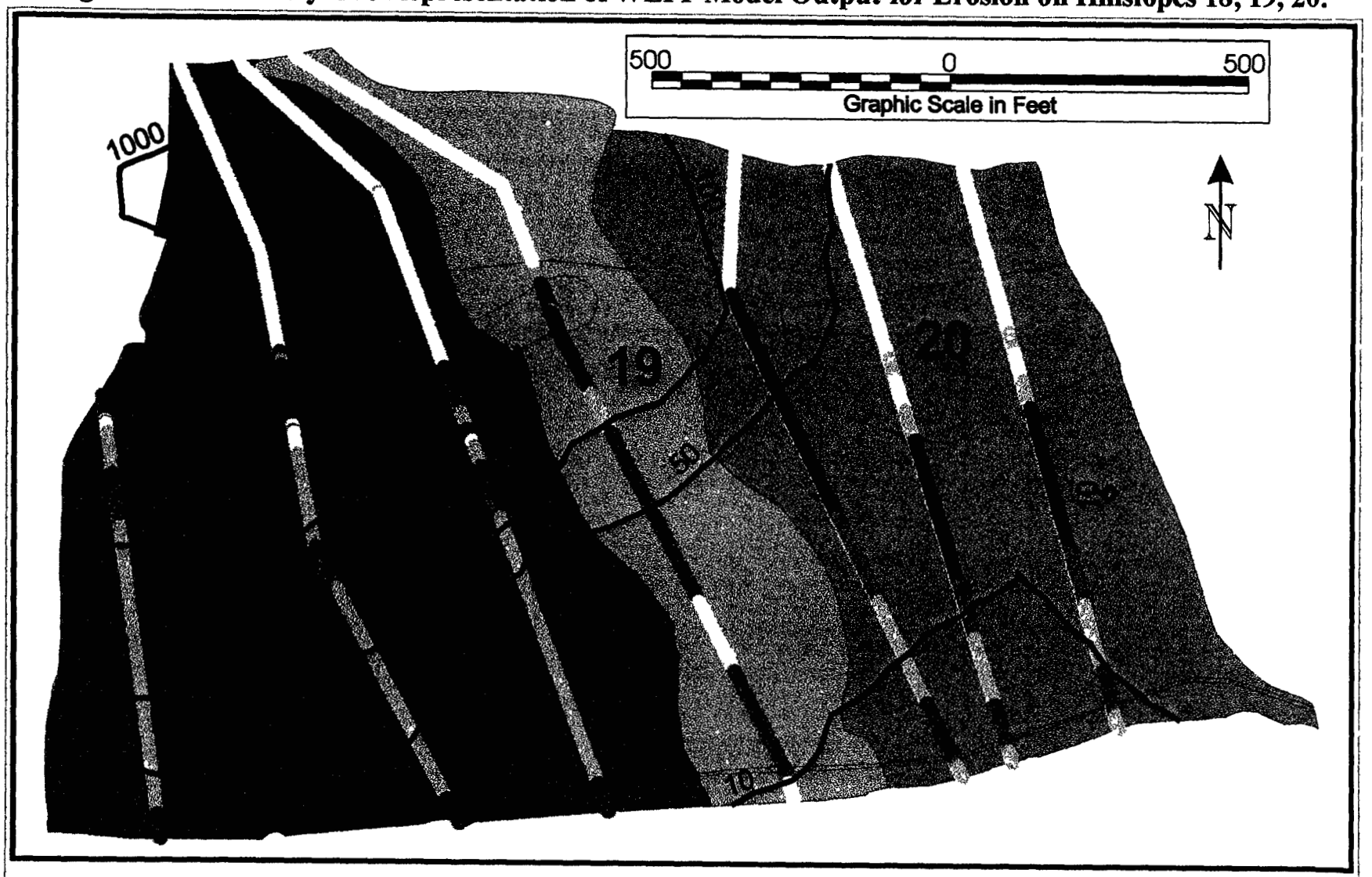
November 1998

Figure 2. Preliminary GIS Representation of WEPP Model Output for Erosion on Hillslopes 18, 19, 20.



LEGEND

Soil Deposition

Soil Loss

Hillslope

19

Pu. pCi/g

Notes

1) Hillslopes are individually shaded for delineation only

RMRS

99-0065

Rocky Mountain Remediation Services, L.L.C.
Geographic Information Systems Group
Rocky Flats Environmental Technology Site
P.O. Box 464
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15/63