



**SYSTEMATIC  
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15 November 1991

Fraser R. Lockhart, Director  
Environmental Restoration Division  
Department of Energy  
Rocky Flats Office  
Golden, CO 80402-0928

Re: Review of Baseline Risk Assessment and Environmental Evaluation Sections of:

Phase I RFI/RI Work Plan: RFP OPWL (OU 9) November 1991

In addition to the two chapters reference (Chapters 8,9), I reviewed Chapter 2 in order to gain enough background to evaluate the health risk assessment and environmental evaluation approaches presented.

In general, the workplan is much better written and more clearly presented than those I have previously reviewed. However, my concerns with respect to the "boulderplate" approach to health risk assessment and environmental evaluation (See October 30 memo) have not been answered by the current workplan.

I believe RFO will do itself a great disservice if it attempts to comply with the IAG by completing equivalent risk assessments on all OUs as they are currently defined as if each were independent. Because the OU 9 case is so clear in its overlap among other IHSS units and OUs, it would seem to me that DOE could gain regulatory acceptance of the following to meet IAG terms:

all OU9 investigations will focus along the pipelines and tankages and if contaminated areas are specifically identified where these lines/tanks were or are sources further investigation would be incorporated into the appropriate OU

no stand alone health risk assessment be performed on OU9 but instead the source terms identified during the RI used as worst case leaks in the site wide Risk Assessment or at least in the appropriate OU in terms of a contiguous portion of the landscape -- an alternative is to use the failure consequence analysis as the mechanism for evaluating the pipeline and tank risks treating the contamination detected as failure points.

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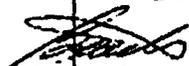
even less useful is an environmental evaluation performed on OU 9 as a stand alone unit; if any environmental evaluation is to be conducted supporting this OU only it should :

- (1) identify what if any ecological communities exist along the OU 9 pipe route
- (2) eliminate any ecosystem level approach to EE in OU 9; it is not rational to believe there is any system level functions which could be monitored meaningfully within this extremely developed (disturbed) portion of the plant
- (3) estimate only biouptake which could impact human exposure or impact populations of protected/sensitive species or trophic "kingpins"

My recommendation would be that the EE be conducted as portions of the other OUs and cross referenced appropriately.

I have included on the following pages an alternative approach to risk assessment that I believe would assist RFO greatly.

Sincerely,



Beverly S. Ausmus, PhD

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### Alternative Risk Assessment Strategy

An increasingly important set of problems to the field offices and to OER is that resulting from the conflicts and inefficiencies arising from implementation of the initial FFCAs for the several sites. These have often mandated, as they have at RFP, identification of OUs, schedules for workplans, RI/FS, corrective actions, etc. While the intent of these mandates was to provide a clear and performance track for bringing DOE facilities into compliance with RCRA and RCRA (as well as other federal and state regulations), the realities of their implementation are inefficiencies, inappropriate timing and implementation of activities, redundant work activities, and tasking of too many simultaneous activities.

In evaluating the RA efforts on several DOE facilities, it has become apparent that one of the major problems is the lack of a consistent, proactive comprehensive risk assessment strategy for site assessment. To resolve this problem in a timely manner and to prepare the basis for renegotiations of FFCAs as needed to allow DOE to implement its compliance program in an optimal way at the various affected facilities the following recommendation is made:

**Focus:** Assessment focuses on the evaluation of the public health and safety risks, environmental risks, the distribution of contaminants of concern in the facilities and the environmental media at the site within the context of public perceptions and fears.

**Recommendation:** Prepare RFO-wide comprehensive risk assessment standard operating procedures (SOP) which detail a uniform set of performance criteria in applying methodologies to identify and evaluate human (occupational and public) and environmental risks from: (1) existing conditions now and at designated times (e.g. 1, 5, and 10 years) in the future, (2) alternative remediations and (3) under worst case release or accident conditions.

Within the SOPs, define the basis of prioritization among RCRA sites and facilities and gain concurrence from EPA and State authorized agencies for that methodology. (This allows a mechanism to be implemented which defines a prioritization scheme which RCRA does not address in statute or in regulation).

Within the SOPs, integrate the NRDA (Natural Resource Damage Assessment) such that the resulting analyses meets the requirements of both an environmental evaluation and NRDA (CERCLA Section 107 as interpreted by

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the 1989 Federal Appeals Court Ruling [DC Cir. 1989] allowing Natural Resource Trustees (including EPA, State agencies and Indian Tribes) to set "existence values" on natural resources).

Within the SOPs, integrate the monitoring and modeling requirements to assess compliance with the CAA provisions of maximum public dose of  $< 10$  mrem/yr.

**Discussion:** The only mechanism that DOE has to implement a consistent and effective assessment program allowing implementation of timely cost effective RA and D&D projects across more than 10 states is providing a comprehensive and rigorous assessment process on which the balance of the RA/D&D can be founded. Such a SOP would allow a strongly defensible basis to be provided for OER prioritization among sites and projects in the face of political and public pressures as well as OMB realities. CAA monitoring/modeling would be consistent across all facilities. Finally, the NRDAs could be prepared proactively allowing potential resource damages to be minimized and residual impacts following remediation minimized.

The Figure summarizes the approach recommended develops a set of risk assessment Standard Operating Procedures (SOPs) which will benefit the field office implementations of specific programs, site wide activities and will provide OER review, guidance and consistency to the field.

We would convene a small task force of specialists in risk assessment to develop SOPs which present performance criteria not definitive procedures for field project use. Included in the SOPs would be a DOE appropriate DQO process outlining the application of the principles to the entire assessment process (including certification report preparation). Currently available guidance is highly slanted toward analytical data quality only. While EPA's Las Vegas Laboratory has made a great contribution to the use of DQOs throughout the assessment process, the process needs to incorporate DOE Orders/Notices.

The methodology for using risk assessment for priority setting for resource allocation would be included as a performance based standard. Criteria for health risk assessment and ecological risk assessment would be broadened from the EPA guidance to meet DOE objectives and responsibilities for occupational health and stewardship of ecological systems on DOE reservations.

Tools to be used in the implementation of SOPs will be included as benchmarks, referenced models, statistical programs, etc from which the implementing office can

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select appropriate ones for application to specific projects. Criteria for tool selection would be provided, especially that discriminating among qualitative and quantitative assessment results.

The responsiveness of the SOPs developed is much greater than CERCLA. The Figure lists the portions of NEPA, CWA, CERCLA, RCRA and CAA which could be addressed using the prepared SOPs.

Finally, there will be several uses of the prepared SOPs. These would range from their use in establishing site specific SOPs to their use as guidance in preparing ranking among sites and risk estimations. Of particular value in increasing the quality of OER project assessment activities will be the use of the resulting site specific risk assessment tools as evaluations in the remediation alternatives assessment process (during FS, primarily). In addition, these resulting assessment tools can be used to specify and defend monitoring and surveillance programs (especially for interim status sites). Finally, the output of the rigorous assessments resulting from the use of the SOPs will be firm technical basis for renegotiating FFCAs, especially to prepare comprehensive assessments on ecologically meaningful units of the landscape.

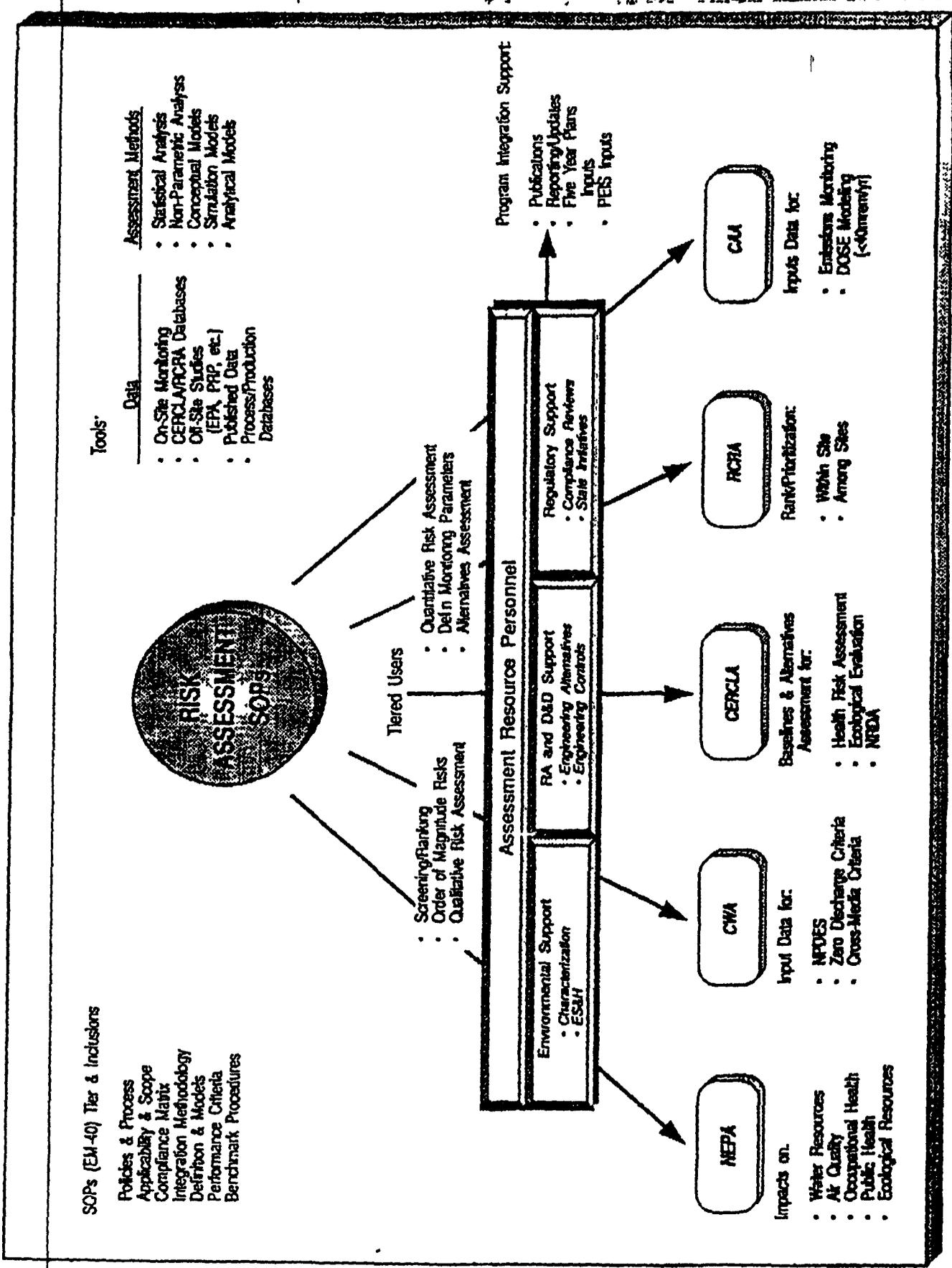


Figure . . . Diagrammatic Representation of the Use of a Comprehensive SOP Set for Risk Assessments