



Department of Energy
Washington, DC 20585

NOV 9 1992

Mr. Joseph J. Holonich, Director
Repository Licensing & Quality Assurance
Project Directorate
Division of High-Level Waste Management
Office of Nuclear Material Safety
and Safeguards
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Mr. Holonich:

You are invited to attend the U.S. Department of Energy's (DOE) Office of Civilian Radioactive Waste Management (OCRWM) workshop on the use of expert judgment on November 18-20, 1992, in Albuquerque, New Mexico. In part, the workshop is being held as a commitment to the Nuclear Waste Technical Review Board (NWTRB), which recommended in its Fourth Report to Congress that DOE examine the use of expert judgment in its current performance assessment and in performance assessment exercises of other organizations, and that DOE propose ways of improving the use of expert judgment in programmatic decision-making. An agenda is enclosed.

PURPOSE AND OBJECTIVE

The objectives of this workshop are to enhance the quality of DOE/OCRWM decisions through appropriate use of expert judgment. To achieve this objective, we will:

1. Discuss how DOE/OCRWM has defined and used expert judgment.
2. Learn how other programs have used expert judgment.
3. Explore strengths and limitations of using expert judgment for decision making.
4. Recommend appropriate application of expert judgment within the DOE/OCRWM program.

LOCATION

The workshop will be held at the Albuquerque Hilton Hotel, 1901 University Boulevard N.E., Albuquerque, New Mexico. A block of rooms has been reserved at the Fairfield Inn by Marriott immediately adjacent to the Hilton. Room rates are \$59.00 per day (tax inclusive). To make a reservation, please contact Linda Evans at (702) 794-7693.

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DINNER

A dinner will be held on Wednesday evening, November 18, 1992, at Restaurant Andre for all workshop attendees who wish to attend. When you make your hotel reservations, please notify Linda Evans of your intention to attend the dinner.

If you have any questions, please contact Mr. Chris Einberg of my office at 202-586-8869.

Sincerely,



John P. Roberts
Acting Associate Director for
Systems and Compliance
Office of Civilian Radioactive
Waste Management

Enclosure:
Workshop Agenda

cc: w\enclosure
C. Gertz, YMPO
R. Loux, State of Nevada
T. Hickey, Nevada Legislative Commission
M. Baughman, Lincoln County, NV
J. Bingham, Clark County, NV
B. Raper, Nye County, NV
P. Niedzielski-Eichner, Nye County, NV
G. Derby, Lander County, NV
P. Goicoechea, Eureka, NV
C. Schank, Churchill County, NV
F. Mariani, White Pine County, NV
V. Poe, Mineral County, NV
E. Wright, Lincoln County, NV
J. Pitts, Lincoln County, NV
R. Williams, Lander County, NV
J. Hayes, Esmeralda County, NV
M. Hayes, Esmeralda County, NV
B. Mettam, Inyo County, CA
C. Abrams, NRC

AGENDA
EXPERT JUDGMENT WORKSHOP
Albuquerque, NM
November 18-20, 1992

Wednesday, November 18, 1992

8:00	Introductory Remarks	Dr. John Bartlett, DOE/OCRWM
8:20	Overview	Dr. Russell Dyer, DOE/TMP
9:00	NWTRB Remarks	Dr. D. Warner North, NWTRB
9:30	The Role of Expert Judgment in Creating Quality Decisions	Dr. Ronald Howard, Stanford U.
10:30	BREAK	

PANEL I: THE PROCESS OF QUANTIFYING EXPERT JUDGMENT
Moderator: Dr. Bruce Judd, Decision Analysis Co.

10:45	Systematic Process for Assessing Expert Judgment	Dr. Ralph Keeney, USC
11:25	Open Discussion	
11:35	Avoiding Probability Assessment Biases	Dr. Hiley Markhofer, Applied Decision Analysis, Inc.
12:10	Open Discussion	
12:20	LUNCH	
1:35	What if Experts Disagree?	Dr. Peter Morris, Applied Decision Analysis, Inc.
2:10	Open Discussion	
2:20	Panel Discussion: Questions	Dr. Bruce Judd

1. If the topic were changed from "using expert judgment" to "using human knowledge," how would it affect anything said at this workshop?
2. Are there situations when expert judgment (human knowledge) is not used?
3. On what basis is the level of detail and formality for incorporating expert judgment in performance assessments or in decision-making chosen?
4. When is consensus necessary and appropriate?
5. Should expert judgments be weighted; if so, how could this be done?
6. How are alternative models handled?

ENCLOSURE

3:20 BREAK

4:05 NRC Comments on Use of Expert Judgment Dan Fehring/Margaret
Federlein, NRC

4:20 Open Discussion

PANEL II, PART A: EXPERT JUDGMENT AS A DATA SUPPLEMENT
Moderator: Dr. James Duguid, CRRES/M&O

4:30 Principles Involved Dr. Milton Harr, Purdue U.

4:50 Open Discussion

5:00 Experience from Total System Performance Assessment Paul Kaplan, ENL

5:20 Open Discussion

5:30 EPRI Performance Assessment Modeling Dr. Robert Shaw, EPRI

5:50 Open Discussion

6:00 ADJOURN

Thursday, November 19, 1992

PANEL II, PART B: EXPERT JUDGMENT IN MODEL VALIDATION
Moderator: Dr. Abraham Van Luik, CRPS/M&O

- 8:00 Overview Dr. Chin Fu Tsang, LBL
- 8:20 Open Discussion
- 8:30 Experience NRC from Low-Level Waste Program Dr. Matthew Kozak, SNL
- 8:50 Open Discussion
- 9:00 Experience from Waste Isolation Pilot Project Dr. Katherine Trauth, SNL
- 9:20 Open Discussion
- 9:30 Panel Discussion: Questions Dr. Abraham Van Luik
1. What fundamentals are involved when expert judgment is being used either to extend existing data/knowledge or as a substitute for additional data gathering?
 2. What constraints should be imposed to ensure that the use of expert judgment is defensible when it either extends existing data or is used in lieu of additional data gathering?
 3. How may expert judgment be used in the evaluation of the "validity" of long-term and long-distance predictions of geologic processes?
 4. Can expert judgment add to the limited confidence that can be obtained from short-term/short-distance testing in support of long-term/long-distance predictions?
 5. How has the quantitative use of expert judgment been used to develop and/or to establish confidence in performance assessment modeling?
- 10:30 BREAK

PANEL III: EXPERT JUDGMENT IN PROGRAMMATIC DECISIONS
Moderator: Dr. Jean Younker, CRPS/M&O

- 10:45 State of Nevada Experience Steven Frischman, State of Nevada
- 11:00 Open Discussion
- 11:10 OCRWM Site-Selection Experience Dr. Thomas Isaacs, DOE/OCRWM
- 11:25 Open Discussion

11:35 Views on Use of Expert Judgment in Programmatic Decisions Dr. Paul Pomeroy, ACW

11:50 Open Discussion

12:00 LUNCH

1:15 DOE Management Perspective on the Use of Expert Judgment Dr. Steve Broccum, DOE/OCRWM

1:30 Open Discussion

1:40 Lessons Learned from Past Experience with Use of Expert Judgment Dr. Leon Reiter, NWTRB

1:55 Open Discussion

2:05 Panel Discussion: Questions Dr. Jean Younker

1. Does explicit incorporation of expert judgment in programmatic decisions lead to more defensible decisions?
2. What types of implicit use of expert judgment in programmatic decision-making is most prevalent in your experience?
3. Are you aware of cases where explicit use of expert judgment in programmatic decisions has made a difference in the outcome?

PANEL IV: INDUSTRY EXPERIENCE WITH EXPERT JUDGMENT
Moderator: Dr. Robert Shaw, EPRI

3:00 Eastern United States Seismic Hazards Dr. Robin McGuire, Risk Engineering, Inc

3:15 Open Discussion

3:25 Legal Aspects of Licensing Hearings Michael McGarry, Winston & Strawn

3:40 Open Discussion

3:50 BREAK

4:05 New Production Reactor Seismic Design Dr. John Savy/LLNL

4:15 Open Discussion

4:25 Vallecitos Reactor Licensing Dr. Robert Jackson, Roy F. Weston, Inc.

4:40 Open Discussion

4:50 International Programs Dr. Steven Hora, Univ. of Hawaii

5:05 Open Discussion

5:15 Panel Discussion: Questions

Dr. Robert Shaw/EPRI

1. What does experience tell us about the use and application of expert judgment? Evaluate the process you used.
2. Evaluate the decision(s) reached as a result of the expert judgment process you used.
3. What are the strong/weak points of expert judgment as it is currently compiled and used?
4. How can expert judgment best be elicited to produce acceptance in the regulatory arena?
5. What makes expert judgment difficult for regulators to accept? How could the process be conducted or the results be formulated to make expert judgment more acceptable?
6. How can expert judgment panel selection be accomplished objectively? Will this influence the degree to which results are accepted in the regulatory area? How?

6:15 ADJOURN