

**PRESENTATION TO THE  
NUCLEAR WASTE TECHNICAL REVIEW BOARD  
ON THE**

***FINAL REPORT*  
OF THE  
SECRETARY OF ENERGY ADVISORY BOARD  
TASK FORCE ON RADIOACTIVE WASTE MANAGEMENT**

**DR. TODD LA PORTE  
UNIVERSITY OF CALIFORNIA, BERKELEY  
TASK FORCE CHAIRMAN**

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## KEY DEFINITIONS

**PUBLIC:** This refers to the range of non-governmental groups and associations, state, local and tribal governments, and individuals that have a potential or actual interest in the Department of Energy's radioactive waste management programs. The term is used synonymously with stakeholders.

**TRUST:** The belief that those with whom one interacts intend to behave in a manner that takes into account one's interests even in situations where neither partner is in a position to evaluate and/or thwart a potentially negative course of action.

**CONFIDENCE:** The judgment that those with whom one interacts are competent to carry out their responsibilities and have the capacity to fulfill their commitments even in situations where considerable effort must be expended.

**TRUSTWORTHY:** Meriting both the trust and confidence.

## DESIGN BASIS FOR INTERNAL OPERATIONS

When the public gains access to programs, they should discover activities within the organization that increase institutional trustworthiness not decrease it.

The higher the potential hazard...the more critical is their proper conduct.

The Agency should commit itself and require its contractors to:

- Maintain a high level of professional and managerial competence, continually honed by rigorous training;
- Establish and meet reasonable technical performance measures and schedule milestones that are dictated by a project's intrinsic scientific requirements;
- Pursue technical options and strategies whose consequences can be most clearly demonstrated to broad segments of the public;\*
- Reward honest self-assessment that permits the organization to get ahead of problems by identifying them and airing them and resolving them *before* they are discovered by outsiders;\*
- Develop tough internal processes that include stakeholders for reviewing operations and discovering potential and actual errors;\*
- Institutionalize responsibility for promoting and protecting the internal viability of efforts to sustain public trust and confidence throughout the organization.\*

## MEASURES THAT SHOULD BE ADOPTED THROUGHOUT THE DEPARTMENT

1. *To make the Department's scientific work even more credible, it should:*

- Expand to the maximum extent possible its external independent peer review network to include experts from affected states, localities, and Indian tribes and other countries.\*
- Involve stakeholders in the process of selecting external peer reviewers.\*
- Jointly design and conduct experiments and share data at the earliest possible time with teams from host, corridor, and affected communities and tribes.\*
- Seek authorization for joint auditing of quality assurance programs.\*
- Be prepared to "bend over backwards" to address and resolve, if possible, plausible scientific arguments that might arise over the life time of the waste management programs.\*
- Allow stakeholders to nominate, subject to negotiated preconditions, individuals who would participate in exercises that elicit the expert judgments that are often employed in safety and risk analyses.\*
- Clarify carefully and publicly the reasons when advice from technical overseers, such as the National Academy of Sciences and the Nuclear Waste Technical Review Board, is not accepted.\*

2. *To build...a new culture within the Department, it should:*

- Undertake an assessment to determine to what degree the current incentive structure rewards those whose behavior is consistent with the objectives of the emerging culture.
- Develop measures by which improvements or decrements can be objectively charted.
- Disseminate on a systematic basis throughout DOE experientially derived "best practices" for building, sustaining, or recovering public trust and confidence.
- Consider the deployment of "trust and confidence" teams that would independently evaluate how different units performed.\*

3. *To ensure that the public trust and confidence implications of critical Departmental activities have been properly...weighed, the Secretary should:*

- Order that any analysis of policy options presented to him/her or to Cognizant Secretarial Officers include an explicit assessment of the impact on trust and confidence for various segments of the public.
- Support efforts to increase the objectivity of those assessments over time.
- Require a sound explanation for the recommendation of an option that is likely to substantially weaken the trust and confidence of any significant segment of the public.
- Publish that explanation along with a plan for mitigating the causes of lower trust and confidence.\*
- Review the predicted effects for degree of consistency with actual public reactions. Publicize such reviews both for internal managerial purposes and public understanding.\*

4. *To ensure that organizational dysfunctions are not responsible for operational problems that could lead to decreased institutional trustworthiness, the Department should:*

- Devolve greater authority and responsibility to the Field Offices to manage issues that have significant trust and confidence implications at the local level.
- Enhance the connections between policy, program decisions, and budget.
- Determine whether increased organizational redundancy on activities critical to safety is required.
- Maintain sufficient employee technical and managerial capacity to oversee at a rather detailed level contractor activities.
- Support and develop mechanisms to learn from innovations by Field Offices that have increased public trust and confidence.\*
- Institute overlapping self-regulatory processes.\*
- Reward the discovery and correction of error.\*

5. *To ensure reliable and high-quality technical and programmatic performance, the Department should:*

- Establish incentives for quality work as well as measures of quality.
- Be willing to revise schedules rather than decrease quality.
- Work with affected parties in establishing both the measures of quality and schedules.
- Adopt technical design and development strategies that most easily demonstrate to an attentive public that uncertainties have been reliably bounded.\*



## MEASURES THAT SHOULD BE ADOPTED BY OCRWM

1. *To acknowledge by deeds that the first-of-a-kind nature of its activities requires special attention to public trust and confidence, OCRWM should:*
  - Aim to design a repository system whose predictable performance exceeds by a substantial margin the standards set up by the regulators.\*
  - Adopt a technical strategy that takes into account ways of making performance claims persuasive to broad segments of the public. This might involve the use of multiple, redundant barriers including robust engineered barriers.\*
  - Devise a process for characterizing and developing potential repository sites that is sequential, incremental, and specifically designed to learn from and respond to new information.\*
  - Leave no room for a mistaken impression to arise that the early site characterization process is in anything other than an exploratory mode.\*
  - Foster a culture that will resolve uncertainties in a manner that places the highest priority on protecting health, safety, and the environment.\*

2. *To acknowledge the...barriers to trust and confidence that arose when the bargains contained in the NWPA...collapsed..., OCRWM should:*

- Support research and development in alternative technological approaches to disposing of radioactive waste.
- Develop contingency plans should Yucca Mountain prove unsuitable for a repository.
- Revisit the dual issues of multiple sites and multiple repositories using the opportunity provided by a recently mandated report to Congress.
- Emphasize that the primary driving force behind this program is the need to solve a serious national problem.
- Explore ways of responding to concerns of nuclear utilities that derive from the difficulties the Department has encountered in constructing either central storage facilities or a geologic repository on a timely basis.\*

## TASK FORCE ON RADIOACTIVE WASTE MANAGEMENT

Dr. Todd La Porte -- Chairman  
Professor, Political Science  
University of California  
Berkeley, California

Ms. Barbara Barry  
Department of Health\*  
State of Colorado  
Denver, Colorado

Dr. William Bishop  
Vice President  
Desert Research Institute  
Las Vegas, Nevada

Mr. William Eichbaum  
Vice President  
World Wildlife Fund  
Washington, DC

Mr. Robert Fri  
President  
Resources for the Future  
Washington, DC

Ms. Kristine Gebbie  
Secretary of Health\*  
Washington State  
Olympia, Washington

Dr. Donald Kettl  
Professor, Political Science  
University of Wisconsin  
Madison, Wisconsin

Mr. John Landis  
Senior Vice-President  
Stone and Webster  
Boston, Massachusetts

Mr. David Lester  
Executive Director  
Council of Energy Resource Tribes  
Denver, Colorado

Mr. Gene Lucero  
Partner\*  
Sidley and Austin  
Los Angeles, California

Dr. Alfred Schneider  
Professor Emeritus, Nuclear Engineering  
Georgia Institute of Technology  
Atlanta, Georgia

Mr. Mason Willrich  
Chief Executive Officer  
PG&E Enterprises  
San Francisco, California

Mr. Michael Wilson  
Chairman\*  
Florida Public Service Commission  
Tallahassee, Florida

Dr. Mayer Zald  
Chairman, Sociology and Social Work  
University of Michigan  
Ann Arbor, Michigan

Dr. Daniel Metlay  
Task Force Director  
Office of the Secretary of Energy Advisory Board  
US Department of Energy

\*Position at time of appointment to Task Force.

Robert Fri participated fully in the work of the Task Force through the completion of the December 1992 Draft Report, in which he fully concurs. Subsequently, he became chair of a National Research Council committee to evaluate the technical basis for the health and safety standards at the proposed repository at Yucca Mountain. Thereafter, he did not participate in the meetings or deliberations of the Task Force, but did provide notes to the staff on the Proposed Final Task Force Report. Due to schedule conflicts, Mason Willrich was not able to attend a number of the public meetings. His contributions to the Task Force's deliberations were, therefore, based largely on his previous experience as an observer of the civilian radioactive waste management program.

## EXECUTIVE SUMMARY

The Task Force on Radioactive Waste Management was created in April 1991 by former Secretary James D. Watkins, who asked the group to analyze the critical institutional question of how the Department of Energy (DOE) might strengthen public trust and confidence in the civilian radioactive waste management program. The panel met eight times over a period of 27 months and heard formal presentations from nearly 100 representatives of state and local governments, non-governmental organizations, and senior DOE Headquarters and Field Office managers. The group also commissioned a variety of studies from independent experts, contracted with the National Academy of Sciences and the National Academy of Public Administration to hold workshops on designing and leading trust-evoking organizations, and carried out one survey of parties affected by the Department's radioactive waste management activities and a second one of DOE employees and contractors. What follows is a summary of the logic and the conclusions upon which the unanimous recommendations of the Task Force are based.

### PUBLIC TRUST AND CONFIDENCE AS A CRITICAL INSTITUTIONAL ISSUE

On a pragmatic level, public trust and confidence is generally essential for agencies to carry out effectively missions assigned to them. More fundamentally, however, trust and confidence makes a central contribution to sustaining the legitimacy of public organizations within the American system of governance. That contribution derives from a democratic ideology that demands that public institutions operate in a transparent manner, that they adopt processes that not only permit but encourage broad segments of the population to participate, and that no segment finds itself permanently a "loser" in policy controversies.

### MAJOR FINDINGS

Although the Task Force recognized that there might be particular instances that run contrary to a given finding, it believed that the conclusions set forth below represent strong central tendencies.

- Despite some progress over the last four years, there is widespread lack of trust in DOE's radioactive waste management activities. That distrust is not irrational, nor can it be discounted merely as a manifestation of the "not-in-my-back-yard" syndrome.
- This distrust will continue for a long time, will require sustained commitments from successive Secretaries of Energy to overcome, and will demand that DOE act in ways that are unnecessary for organizations that have sustained trust and confidence.
- Measures to strengthen public trust cannot simply be appended to on-going activities. They must be an outgrowth of an agency-wide recognition that most programmatic *choices* have consequences for institutional trustworthiness.
- The behavior of organizations responsible for managing radioactive waste and the results they produce will be far more important in creating or inhibiting public trust and confidence than will be their organizational forms and structures.

- The inherent demands of the program conducted by the Office of Civilian Radioactive Waste Management (OCRWM) seriously reduce its ability to take some steps that might strengthen public trust and confidence. It does, however, retain enough discretion to take others.

- OCRWM has a relatively constricted view of what is required to restore trustworthiness; it has not implemented any consistent approach to doing so; and has rarely considered explicitly the consequences of its actions for public trust and confidence.

- The institutional context within which the Office of Environmental Restoration and Waste Management (EM) operates presents opportunities for developing institutional trustworthiness.

- EM has a broader conception of what is needed to build trustworthiness and has set in place an elaborate structure for doing so. It has not demonstrated, however, that it can maintain trustworthiness as it grapples with contentious issues nor has it developed a strategy for managing emerging constraints that might limit its capacity to sustain public trust and confidence.

## RECOMMENDATIONS

The Task Force advanced an elaborate set of detailed, specific recommendations, which cannot be easily summarized or distilled in an Executive Summary. Instead, the *design basis* for them is presented below.\*

## INTERACTIONS WITH EXTERNAL PARTIES

Especially when agencies are the initiators of programs that could be seen as levying more potentially harmful effects than benefits on citizens and communities, agency leaders must give all groups of citizens and their representatives opportunities for involvement and must demonstrate fairness in negotiating the terms of their immediate relationship. In general, the agency should commit itself to:

- Early and continuous involvement of state and/or local advisory groups as well as national advisory bodies on which a broad range of stakeholders (including, but not limited to the nuclear industry, electric utilities, public utility commissions, potential host and corridor states, communities, and tribes, environmental and public interest groups) are represented.

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\* The Task Force is not prepared to say that its suggestions are *sufficient for increasing institutional trustworthiness*. In the first place, the group cannot assert in good conscience that it has identified all of the changes that are important for strengthening public trust and confidence in DOE's radioactive waste management programs. There may be some others that it has not contemplated. Second, while it is convinced that all of its recommendations are useful and important and that every effort must be made to put them *all* into action, it cannot predict with any certainty the precise consequences of not carrying out one-tenth, one-sixth, or one-quarter of them. Third, the Task Force recognizes that, regardless of what DOE does, some segments of the public will never accord it much trust and confidence. They are opposed as a matter of principle or tactics to the missions the Department of Energy has either been charged to undertake by Congress or has undertaken on its own discretion. Notwithstanding this caveat, the Task Force does believe that adopting its advice is sufficient for DOE to show that it is *worthy of trust*. For some affected parties that showing is of little consequence. For others, it may be too little value bought at too high a price. And for still others, it may be critical.

That involvement would be characterized by frequent contact, complete candor, rapid and full response to questions, use of at least some suggestions, and assistance in increasing the technical and oversight skills of the community;

- Carrying out agreements unless modified through an open process established in advance;
- Consistent and respectful efforts to reach out to state and community leaders and to the general public for the purpose of informing, consulting, and collaborating with them about the technical and operational aspects of Departmental activities;
- Active, periodic presence of very high level agency leaders making themselves visible and accessible to citizens and their representatives;
- Unmistakable agency and program residential presence in the locality that contributes its energies to community affairs and pays through appropriate mechanisms its fair share of the tax burden; and
- Assuring the availability of negotiated benefits for the community along with the resources to affected host and corridor communities that might be needed to detect and respond to unexpected costs.

## **INTERNAL OPERATIONS AND PROGRAMMATIC CHOICES**

When the various segments of the public gain access to programs, they should discover activities taking place within the organization that increase institutional trustworthiness not decrease it. The higher the potential hazard associated with those activities, the more critical is their proper conduct. In general, the agency should commit itself and require its contractors to:

- Maintain a high level of professional and managerial competence, continually honed by rigorous training;
- Establish and meet reasonable technical performance measures and schedule milestones that are dictated by a project's intrinsic scientific requirements;
- Pursue technical options and strategies whose consequences can be persuasively communicated to broad segments of the public;
- Reward honest self-assessment that permits the organization to get ahead of problems by identifying them and airing them and resolving them before they are discovered by outsiders;
- Develop tough internal processes that include stakeholders for reviewing operations and discovering potential and actual errors; and
- Institutionalize responsibility for promoting and protecting the internal viability of efforts to sustain public trust and confidence throughout the organization.

*The individual recommendations that are contained in the body of this Report could be interpreted as being consistent with simply endorsing current practices or offering marginal changes to the status quo. The Task Force, however, wishes to make clear that its advice should not be properly viewed in that light; the recommendations are not simply choices on a **menu** -- something from Column A can be picked to go along with something from Column B; rather they represent the panel's **recipe** for what the Department should do to strengthen public trust and confidence; they are threads of roughly comparable importance that make up a fabric. This does not mean that Departmental decision-makers must implement them all or at once; there will clearly be situations when other considerations have to take precedence. But DOE leaders need to realize that unless they commit to changing fundamentally how DOE conducts its business, they will increasingly encounter situations that further erode public trust and confidence. Pursuit of a menu of separate choices versus acceptance of a recipe for integrated basic change is a proper standard for evaluating how the Department responds to the Task Force's advice.*

## **TASK FORCE ACTIVITIES**

### **TASK FORCE MEETINGS**

Washington, DC	May 14, 1991
Oakland, CA	November 6-7, 1991
Washington, DC	January 9, 1992
Irvine, CA	February 4-5, 1992
Amargosa Valley, NV	May 1, 1992
Las Vegas, NV	May 2, 1992
Richland, VA	June 16-17, 1992
San Diego, CA	December 10-11, 1992
Washington, DC	July 8, 1993

### **TASK FORCE SITE VISITS**

Yucca Mountain Site  
Hanford Reservation

### **MATERIALS PREPARED FOR THE TASK FORCE**

George Akin, "Management Lessons Learned in Clean-Up Situations"

Jack Citrin, "Political Trust and Risky Policy"

Frank Dobbin, "Institutional Legitimacy in the Public Sector: A Synopsis of Recent Research"

Thomas Grumbly, "Building Public Trust By Letting Go: The Problem of Institutional Credibility in Turned-Off America"

National Academy of Public Administration, "Recovering Public Trust and Confidence in Managing Radioactive Waste: Summary of Workshop Proceedings"

National Research Council, "Workshop on Establishing Institutional Credibility: Summary of Proceedings"

Dan Reicher, "Gaining Public Trust and Confidence in the US High-Level Nuclear Waste Program"

Mark Suchman, "On the Control of Legitimacy in Organizational Life: Strategic and Institutional Approaches"



Craig Thomas, "Reorganizing Public Organizations: Alternatives, Objectives, and Evidence"

"AMFM's Corporate Solution for Radioactive Waste Management: Appealing But Inappropriate?"

"Public Trust in Organizations and Institutions: A Sociological Perspective"

## **ACTIVITIES OF SEAB STAFF IN SUPPORT OF THE TASK FORCE**

### *SITE VISITS*

Hanford Reservation  
Savannah River Site  
Waste Isolation Pilot Plant  
Yucca Mountain Site

### *CASE STUDIES*

Development of DOE's Repository Siting Guidelines  
Decision to narrow site investigation from five to three locations  
Decision to site the Waste Isolation Pilot Plant at Carlsbad, New Mexico  
Process leading to the passage of the 1987 Nuclear Waste Policy Act Amendments  
Decision to suspend work on the second high-level waste repository  
Proposed location of an MRS in Oak Ridge, Tennessee  
Early efforts to identify environmental contamination at DOE facilities  
Negotiation of the Tri-Party Agreement  
Evolution of the Departmental thinking about robust engineered barriers  
Development of Quality Assurance procedures for site investigation

### *SURVEY DESIGN AND ADMINISTRATION*

Survey of DOE employees and contractors  
Survey of Stakeholders