

rec'd with letter dtd  
12/16/92  
9212220221 921216

**DRAFT WORKING PAPER**

for

**DISCUSSION by the SEAB TASK FORCE**

on

**RADIOACTIVE WASTE MANAGEMENT**

**December 10-11, 1992**

in

**San Diego, California**

**THIS DRAFT WORKING PAPER DOES NOT NECESSARILY REPRESENT  
THE VIEWS OF THE TASK FORCE**

9212220242 921216  
PDR WASTE  
WM-11 PDR

102  
Rec'd w/letter DTD 9212220221 921216 MD  
9212220227 921216 MD  
9212220248 921216

# TABLE OF CONTENTS

## ***PART ONE***

INTRODUCTION	1
PERSPECTIVE	2
RADIOACTIVE WASTE MANAGEMENT	3
PUBLIC TRUST AND CONFIDENCE	9
OBSERVATIONS AND FOUNDATIONS	14
INSTITUTIONAL CONTEXT OF RADIOACTIVE WASTE MANAGEMENT	16
FINDINGS	24
RECOMMENDATIONS	33

## ***PART TWO (TO BE SUPPLIED LATER)***

**EVIDENTIARY AND ANALYTIC CONSIDERATIONS**

## ***PART THREE (TO BE SUPPLIED LATER)***

**COMPILATION OF MATERIALS PREPARED FOR  
AND BY THE TASK FORCE**

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

## **INTRODUCTION**

One of the hallmarks of Secretary James D. Watkins' tenure has been his on-going commitment to establish a new culture in the Department of Energy (DOE). Greater environmental vigilance, managerial accountability, and responsiveness to external oversight were important objectives of his effort to transform the Department. But his determination to alter the way DOE deals with the many sectors of the public probably represents the most fundamental and profound change that he has sought to achieve.

Recognizing that candid self-assessment is a prerequisite for serious reform and that institutionalizing those reforms is a continual challenge, the Secretary created this Task Force in April 1991. He asked the group then to recommend measures the Department might take to *strengthen public trust and confidence* in the civilian radioactive waste management program. (The Task Force's initial Terms of Reference are reproduced in Appendix A.) But from the start he understood that the trustworthiness of the Department was an issue that transcended any one particular activity. Thus in September 1991, the Secretary not only formally expanded the scope of the Task Force's work to include the environmental restoration and defense waste management program, but he also encouraged the group to develop its recommendations so that they would be broadly applicable within DOE. (The Secretary's instructions are found in Appendix B.)

The Task Force wishes to make clear how it has interpreted the Secretary's charge. He did not issue a mandate for an overall program review, let alone a "management audit" or a blueprint for redirecting organizational resources. Consequently the group has strictly concentrated on the narrow -- albeit quite important -- issue of public trust and confidence, and it has tried not to stray from that focus. Thus some potentially critical and even defining issues will simply not be addressed in the pages below unless they carry clear and direct implications for institutional trustworthiness.

Although the Task Force believes that there are still a number of areas where DOE will have to change how it conducts business if it is to regain a substantial level of public trust and confidence, the group would be remiss if it did not acknowledge at the start the unprecedented positive changes that the Secretary has initiated. His convening of this panel, his support for its efforts, and his commitment to listen seriously to what it has to say represent only a small portion of the mark he will leave on the Department.

## PERSPECTIVE

The Department of Energy is a conglomerate, having responsibilities that are as disparate as basic scientific research and nuclear weapons production. It is part of an Administration, yet it must take into account the diverse -- and often conflicting -- wishes of legislators. It operates in multiple, complex political environments populated by actors whose intensely-held interests are frequently at odds. It is, in short, like most other federal bureaucracies. And with those organizations (and many other institutions), it shares the persistent demand of finding ways to carry out its business while retaining and sustaining the trust and confidence of the public.

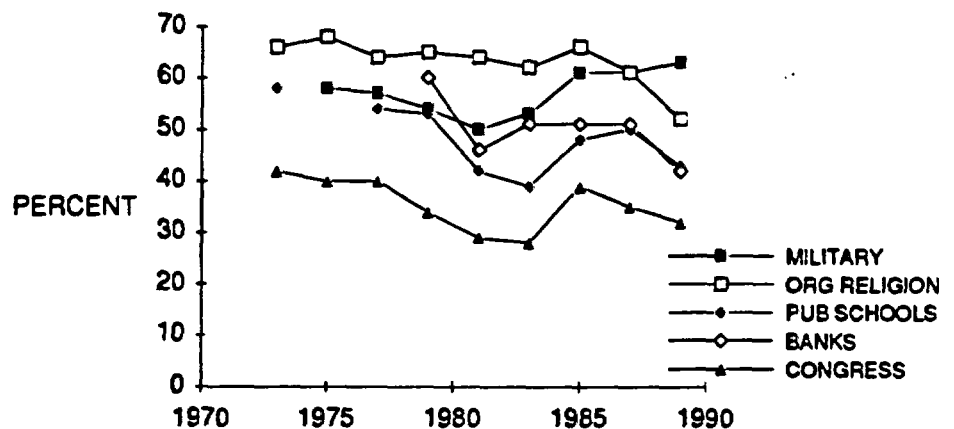
About efforts as dissimilar as designing equitable tax packages to certifying pesticide residues for fruits and vegetables to crafting new forms of regional compacts, a frequent and common refrain of distrust, suspicion, and alienation is heard. The roots of those complaints may be found in the Vietnam War's "credibility gap" or in the actions of individuals who betray their oaths of office. But regardless of their origin, their impact is cumulative; and their impact is being felt. It is no coincidence, for example, that last year the governors of the two largest states in the Midwest took as a theme of their inaugural addresses the need to restore public trust and confidence in government. Yet, as the data here suggest, sustaining it may be a constant struggle.<sup>1</sup>

Unlike issues such as the state of the economy or national security, there is neither a natural organizational focus nor a

clearly defined constituency for addressing questions of public trust and confidence. By default, responsibility falls to each institution to engage the matter as it sees fit. Some do nothing or simply pay lip-service. Their inaction rarely exacts a toll; for the public's concern about trustworthiness is like a background buzz that can be rendered indistinct and caused to fade away over time. Ironically, those organizations that try genuinely to struggle with the issue expose themselves to the greatest risks. Their established patterns of external support and internal process almost always are disrupted and must be recreated and reconstructed.

Yet ultimately what is at stake is not well reflected in the calculation of immediate rewards and

TRENDS IN CONFIDENCE IN US INSTITUTIONS



<sup>1</sup> Data based on published Gallup Polls.

sanctions. Public trust and confidence is more than just a shibboleth uttered by losers of policy controversies. Rather it is the foundation upon which the peculiarly American structure of governance rests. In the final analysis, it is the critical manifestation of the "consent" that lies at the heart of our declaration of independence. Although the relationship is by no means straight-forward or uncomplicated, a high level of trust and confidence buttresses the legitimacy of action in the public sphere. Conversely, a low level erodes that legitimacy and calls into fundamental question the bond between those who govern and those who are governed.

The Task Force is not oblivious to the imperatives and dictates arising from the calculation of immediate rewards and sanctions. Balancing strongly conflicting interests, maintaining coalitions that are only tenuously joined, and somehow weighing the requirements of one complex program or initiative against another can especially tax the skill and patience of those policy-makers who are sincerely committed to sustaining a high level of public trust and confidence. In presenting this report to the Secretary, the Task Force recognizes the far-reaching changes implied by its findings and recommendations, and it realizes that implementing them may only further tax the skill and patience of the Department's leaders. But as DOE makes a transition to a post-Cold War environment, the alternative to what the group suggests may be even less appealing.

## **RADIOACTIVE WASTE MANAGEMENT**

It is fitting that Secretary Watkins asked the Task Force to focus its attention on strengthening public trust and confidence in the Department's varied programs for managing radioactive waste. For these are the activities where the issue has become especially ripe; they are also the ones where the challenges for sustaining trustworthiness are the most compelling. A brief description of those activities and, more importantly, a distillation of what constitutes their programmatic cores is necessary to properly set the stage for what follows.

An extraordinarily varied range of efforts fall under the rubric of radioactive waste management within the Department of Energy. Examples include<sup>2</sup>

- Stabilizing uranium mill tailings piles
- Solidifying high-level waste from the Nuclear Fuels Services' reprocessing operations or from those carried out at the Hanford Reservation and the Savannah River Site
- Providing expanded storage facilities for commercial spent fuel

---

<sup>2</sup> Definitions of key terms can be found in Appendix C.

- Cleaning up the environmental damage caused by the production of nuclear weapons material
- Designing, building, permitting, and operating facilities for disposing of different types of wastes

This diversity, of course, creates a corresponding diversity of interests and constituencies. Some stakeholders are involved across the board; others concentrate on specific undertakings that are particularly salient to them.

DOE has traditionally organized its radioactive waste management activities on the basis of who owns the material. Efforts connected to waste created by commercial nuclear power plants are the responsibility of the Office of Civilian Radioactive Waste Management (OCRWM). Activities associated with waste generated in the course of producing, fabricating, and testing nuclear weapons are the responsibility of the Office of Environmental Restoration and Waste Management (EM).<sup>3</sup>

## COMMERCIAL RADIOACTIVE WASTE MANAGEMENT

In 1970, the Atomic Energy Commission (AEC) promulgated a rule apportioning responsibility for the back-end of the nuclear fuel cycle.<sup>4</sup> Private firms could own fuel reprocessing plants. But they had to solidify their high-level liquid waste within five years of its generation; no later than five years afterwards, they had to transfer the material for disposal to a repository. Over the objections of some small companies but with little formal supporting analysis, the Commission concluded that only the federal government could design, build, own, and operate the repository. Although excursions regularly have taken place through an alphabet of temporary storage initiatives, the core mission, in principle, of OCRWM and its predecessors has remained constant: *to site a repository and to demonstrate that the facility is capable of isolating from the environment specified fractions of the extremely toxic radionuclides for long periods of time.*

Strategies for selecting sites acknowledge either implicitly or explicitly that the location ultimately chosen has to pass *both* through a filter of technical acceptability and through a filter that takes into consideration non-technical factors. One interagency analysis noted nearly fifteen years ago that the order in which the filters are applied may not be critical. "In principle

---

<sup>3</sup> One important exception to this division of labor arises from a 1985 decision by President Reagan to "co-mingle" in a single geologic repository high-level waste from the defense program with high-level commercial waste. Consequently OCRWM will establish criteria for accepting EM's solidified material.

<sup>4</sup> 10 Code of Federal Regulations 50, Appendix F.

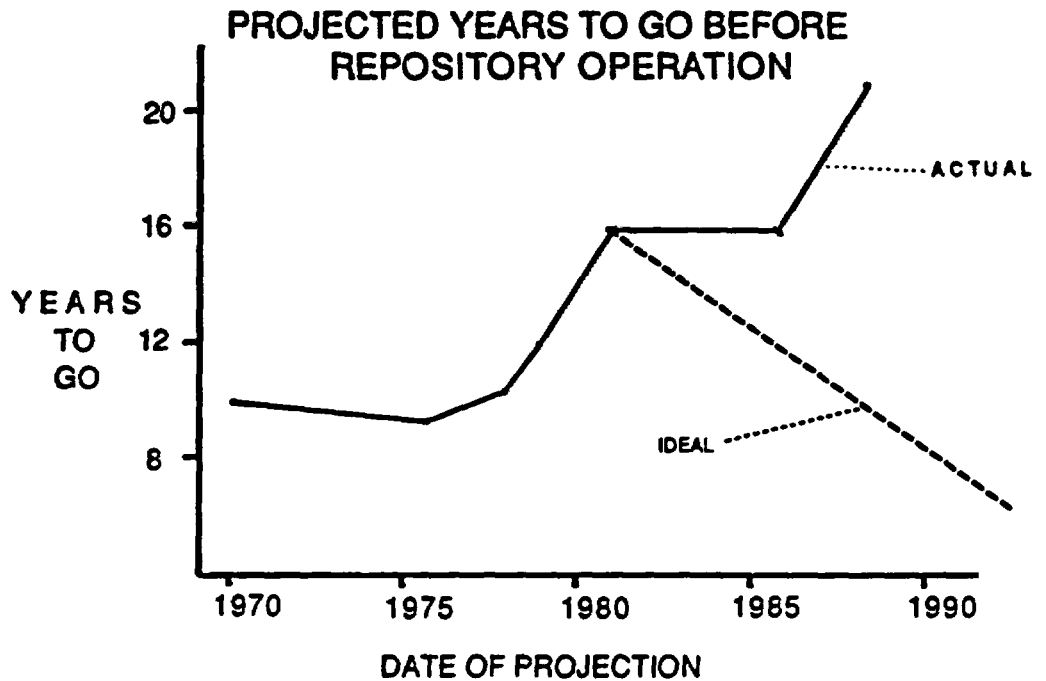
equally suitable sites should emerge from either approach."<sup>5</sup> Although the broad outline of that argument remains valid today, the specifics of how the filters are designed and how they are weighted relative to each other have continued over the years to make the siting process problematic. Indeed, the accompanying figure graphically illustrates just how difficult the task of readying a repository has proven to be.

In an attempt to expedite the program, legislation was enacted in 1987 that instructs the Department to characterize a site at Yucca Mountain in Nevada to determine its suitability for a repository.

OCRWM has developed in a "bottom-up" fashion a nine volume, 6000 page

blueprint for investigating that site. Extensive surface testing began last July, and subsurface exploration is likely to commence next spring. According to its current estimates, OCRWM will need to spend more than \$6 billion over the next eight to nine years to complete its scientific evaluation of the site.

If, based on the Department's recommendation, the President believes that site is suitable, and if the State of Nevada does not object or if its objections are overridden by Congress, DOE will then apply to the Nuclear Regulatory Commission (NRC) to construct a repository. That license will only be granted if there is "reasonable assurance" that the engineered and geologic barriers that comprise the repository system will meet or exceed the radionuclide release requirements set by the Environmental Protection Agency (EPA). The EPA standards, however,



- |                                   |  |
|-----------------------------------|--|
| 1970 --- SEABORG LETTER TO ANDRUS | 1982 --- NUCLEAR WASTE POLICY ACT      |
| 1976 --- FRI REPORT               | 1987 --- OCRWM MISSION PLAN AMENDMENT  |
| 1978 --- DEUTCH REPORT            | 1989 --- SECRETARY'S REPORT TO CONGRES |
| 1979 --- INTERAGENCY REVIEW GROUP |  |

<sup>5</sup> Interagency Review Group on Nuclear Waste Management, *Subgroup Report on Alternative Technological Strategies for the Isolation of Nuclear Wastes*, TID-28818 (Draft), 1978, p. 81.

have been in a state of flux since 1987 when key elements were overturned in court.<sup>6</sup> A provision of the 1992 National Energy Policy Act compels EPA to repromulgate promptly new standards consistent with the findings and guidance of a Congressionally-mandated National Academy of Sciences' study.<sup>7</sup>

## ENVIRONMENTAL RESTORATION AND DEFENSE WASTE MANAGEMENT

At the height of World War II, new towns sprang up virtually overnight in obscure locations such as Oak Ridge, Tennessee, Richland, Washington, and Los Alamos, New Mexico. Each made a unique and historic contribution to the design and development of the weapons dropped on Hiroshima and Nagasaki. From that small nucleus of communities blossomed a large and widely-scattered complex dedicated to manufacturing and maintaining the country's nuclear arsenal. Events of the past few years simply reinforce the general impression of how well those who manned and ran the complex actually performed the tasks assigned by a nation confronted with an external threat.

But the exigencies of war -- both hot and cold -- compounded by yesterday's understanding about the biological effects of radioactive material and yesterday's sensibility about the fragility of the environment meant success did not come without a stiff price. By-products from the production reactors sit in tanks and storage pools, their final disposition uncertain. And it is an inescapable fact that the weapons complex is profoundly polluted by myriad varieties of hazardous waste, mixed waste, and radioactive waste. Organized in early in Secretary Watkins' tenure, EM has relieved the complex' landlord, Defense Programs (DP), of the clean-up responsibility. In principle, the core mission the new unit assumed can be stated succinctly: *to reduce to socially acceptable levels the risks posed by the wastes and the contamination generated in the course of producing and fabricating nuclear weapons.*

The simplicity of this description by no means reflects the challenges that lie ahead, especially with respect to minimizing the gap between what it has been charged to do and what it ends up doing. Over the next few decades, EM will have to identify the extent of the damage inflicted upon the environment at DOE installations, develop new technologies for mitigating that damage, convert various waste streams to forms suitable for storage, treatment, and disposal, and site, construct, and operate numerous facilities. All of those efforts must be carried out as two broad, but intertwined, normative debates rage over the appropriate level of environmental restoration and the ability and willingness of the country to spend the resources needed to achieve that appropriate level.

---

<sup>6</sup> *Natural Resources Defense Council v. U.S. EPA*, 824 F.2nd 1258 (1st Cir. 1987).

<sup>7</sup> National Energy Policy Act of 1992, Section 801(a)(1).



The EM program has grown explosively to the point where it now spends over \$6 billion per year -- nearly one dollar out of every four appropriated to DOE. It has taken over the sprawling Hanford Reservation in Washington, where the nuclear age began, as well as the Feed Materials Production Center in Ohio, where uranium was fabricated into fuel rods that were irradiated in production reactors. Soon EM will likely "own" Rocky Flats, where the nuclear "pits" for weapons were forged. It has negotiated compliance agreements with cognizant regulatory authorities and agreements-in-principle to facilitate State oversight of EM activities.

Progress on environmental restoration in the field has been slow. EM has begun the lengthy and arduous process of assessing the level of contamination at the more than 3700 waste sites that fall within its domain. Several dozen remedial actions have been undertaken; approximately twenty have been completed. Expedited response action cleanup has commenced at three sites at Hanford. In some areas of defense waste management, the pace has quickened in recent months. Congress passed land withdrawal legislation that opens the way for testing at the Waste Isolation Pilot Plant (WIPP). In others, such as the construction and operation of solidification facilities at Savannah River and Hanford, EM still encounters substantial delays and technical difficulties.

## COMMON CHOICES AND TENSIONS

Although their activities differ considerably in the specifics, the OCRWM and EM programs are linked by common social choices that occasion common tensions. These are intrinsic to what are in principle the programs' core missions, existing independently of how they are organized or implemented.

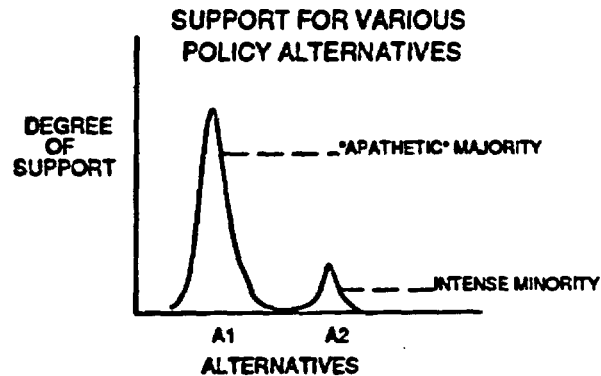
### VALIDATING ALTERNATIVES

Both waste management programs intend to design and deploy technological systems for carry out their core missions. Some portions of those systems are well-understood. Others represent "first-of-the-kind" undertakings, which by their very nature are subject to considerable uncertainty. Scientific investigations can reduce the degree of ambiguity, but it is unlikely that they can eliminate it entirely. Thus validating the consequences of technical alternatives will involve a social judgment on how much uncertainty can be tolerated and whether that level has in fact been reached.

### DETERMINING ACCEPTABLE TRADE-OFFS

Both waste management programs have to resolve difficult value trade-offs. These include, but are hardly limited to, the level of risk, geographical distribution of risk (as, for example, reflected in siting decisions), cost, schedule commitments, and the benefits derived from pursuing the enterprises that create the waste. Balancing those disparate factors would be an intimidating task under the best of circumstances. But what makes it even more daunting is the combi-

nation of how support is distributed for any given value and the strong correlation among them all. As a result, when two alternatives are being considered, public and group reaction likely will be bi-modal as the accompanying figure suggests.<sup>8</sup>



**PROBLEM-SOLVING STRATEGIES**

Problem-solving strategies vary depending on (1) how well established the connection is between actions and the outcomes they engender and (2) how much agreement there is on what the value trade-offs implicit in an outcome should be.<sup>9</sup> The table below illustrates four simplified combinations and indicates appropriate strategies corresponding to each.

Three are familiar; the fourth, which, in the Task Force's view, ought to attach to radioactive waste management, has no name. Various students of organization call it "heuristic", "inspirational", or "charismatic". This absence of a well-specified, over-arching problem-solving strategy is more than just an intellectual curiosity. It suggests that DOE managers will need to oscillate between a trial-and-error approach for managing uncertainty and a bargaining approach for obtaining agreement.

**PROBLEM-SOLVING STRATEGIES**  
DEGREE OF UNCERTAINTY OVER OUTCOMES  
LOW HIGH

		LOW	HIGH
AGREE		CALCULATION BRIDGE BUILDING	TRIAL AND ERROR EDUCATIONAL REFORM
VALUE			
TRADE-OFFS		BARGAINING FARM SUBSIDIES	? RADIOACTIVE WASTE MANAGEMENT
DISAGREE			

↑

←

To the extent that the two approaches produce inconsistent policies and outcomes, problem-solving in this domain will likely not be effective.

<sup>8</sup> Economists call such distributions "double-peaked" and have convincingly argued that, when they exist, it is impossible to find a socially acceptable, i.e., non-dictatorial, way of aggregated individual choices into a collective choice. See Kenneth Arrow, *Social Choice and Individual Values*, (New York: John Wiley, 1951). In the American political system, adoption of alternative A1, the one preferred by the majority, is by no means a foregone conclusion when an intense minority favors alternative A2. Robert Dahl, *A Preface to Democratic Theory*, (Chicago: University of Chicago Press, 1956).

<sup>9</sup> James D. Thompson and Arthur Tuden, "Strategies, Structures and Process of Organizational Decision," in James D. Thompson et al., (eds.), *Comparative Studies in Administration*, (Pittsburgh: University of Pittsburgh Press, 1959).

## PUBLIC TRUST AND CONFIDENCE

Public trust and confidence is one of those concepts -- like fairness or justice -- that is comprehended intuitively but often escapes crisp and concise definition. As a result, its value in policy discourses and debates has lately depreciated as it has been appropriated for rhetorical appeals and arguments. The discussion below indicates more precisely what the Task Force takes the concept to mean; for now, however, a brief consideration of the salience of public trust and confidence is in order.

### THE IMPORTANCE OF PUBLIC TRUST AND CONFIDENCE

In the opening pages of this report, the Task Force described the central contribution that trust and confidence makes to 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 public to participate, and that no segment finds itself permanently a "loser" in policy controversies.

On a more pragmatic level, trust and confidence is generally essential for effectively carrying out activities in the public sphere. The "genius" of American government is that it provides innumerable opportunities for opponents to delay, frustrate, and otherwise block what others call progress. A reservoir of trust and confidence is, of course, no guarantee that intense interests will accept unpalatable initiatives, but it does increase the likelihood that they will view matters in as favorable a light as possible. Moreover, a high level of trustworthiness provides a public organization with the "slack" it needs to operate. Lapses, if not forgiven, are understood. Actions are not constantly challenged. Complex arrangements and internal assumptions do not always have to be justified.

In the realm of radioactive waste management problem-solving, public trust and confidence is especially salient. In validating alternatives, there must be trust that uncertainties are resolved in an unbiased fashion. There must also be confidence that activities will be implemented in good faith. In determining acceptable trade-offs, there must be trust that the full range of values has been taken into consideration and that the interests of all have been recognized even if they are not accommodated.

The time horizon over which activities occur and the clarity of feedback about their success or failure significantly affects the requisite *level* of trustworthiness. Those that take place quickly require less than those that must be carried out over long periods. Yet even if all goes as planned, the first repository will be closed by our great- great- grandchildren.<sup>10</sup> And it is quite

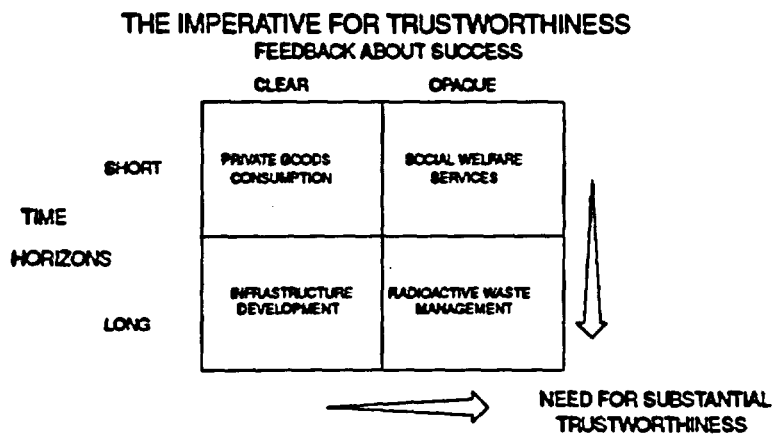
---

<sup>10</sup> Congress has just given the Secretary of Energy the responsibility to forever prevent human intrusion into a repository. National Energy Policy Act of 1992, Section 801(c).

conceivably that the defense complex clean-up will require the exclusion of the public from certain areas for an extended but yet undetermined time.

Similarly, activities that have clear feedback indicators demand less trust and confidence than those that possess only opaque ones. Yet whether a disposal facility is performing as anticipated may be hard to ascertain. Cataclysmic disruptions are likely to be discovered, but more subtle failure modes may very well escape

detection until the level of release becomes unacceptably evident. Thus, as the chart above suggests, both factors reinforce the escapable view that radioactive waste management cannot succeed absent a solid foundation of public trust and confidence.



This analysis is not novel; it simply reiterates once again a theme that has been articulated for nearly two decades. The first systematic Administration-wide study of radioactive waste management noted: "It is important to the development and implementation of any technology that public concerns be identified and addressed to the fullest extent possible."<sup>11</sup> A report by the Office of Technology Assessment made the point even more emphatically: "[D]istrust may, indeed, be the single most complicating factor in the effort to develop a waste disposal system that is acceptable technically, politically, and socially."<sup>12</sup> Independent scholars and analysts concur. Wrote one, "The struggle over nuclear waste policy has gone on so long that the mutual suspicions that divide the familiar players run deep and are likely to persist."<sup>13</sup>

<sup>11</sup> *Subgroup Report*, p. 48.

<sup>12</sup> Office of Technology Assessment, *Managing the Nation's Commercial High-Level Radioactive Waste*, OTA-O-171, (Washington: Government Printing Office, 1985), p. 95.

<sup>13</sup> Luther Carter, *Nuclear Imperative and Public Trust: Dealing with Radioactive Waste*, (Washington: Resources for the Future, 1987), p. 427.

## THE MEANING OF PUBLIC TRUST AND CONFIDENCE

Notwithstanding its frequent use, the term "public trust and confidence" has rarely been defined with any great precision. For some, the concept is taken to mean a belief in the competence and integrity of the object of one's faith. To be trustworthy, then, is to be reliable, reliable in doing what is "right", right in the sense of both technical competence and meeting normative expectations. Others rely on a fiduciary conception of trust; and still others see trust as the supplement to contracts that is the necessary condition for markets to operate efficiently or perhaps even to operate at all.<sup>14</sup>

Individuals who represent organizations that deal with the Department's radioactive waste management programs were asked in a survey to indicate in their own words what they understood the concept to mean.<sup>15</sup> What was striking was the fact that nearly one-third had a difficult time articulating an answer. Those who did, however, overwhelmingly focused on "honesty and believability". Other important attributes connected with trust and confidence included "acting in the public's best interests", "keeping commitments", and "technical competence".

A different perspective on the meaning of the concept can be obtained by examining how individuals' level of confidence in DOE is associated with various beliefs about the organization. There is remarkable consistency. As indicated in the table below, virtually the same attributes are strongly connected with the notion of institutional confidence, regardless of whether the entire sample is analyzed or whether subsamples of state and local officials or environmental/public interest group representatives are considered.<sup>16</sup>

---

<sup>14</sup> For a more complete discussion of these overlapping notions of trust and confidence, see Part Two of this Report. The reader should also consult the two papers written for the Task Force that are reprinted in Part Three of this Report: Jack Citrin, "Political Trust and Risky Policy" and Craig Thomas, "Public Trust in Organizations and Institutions: A Sociological Perspective".

<sup>15</sup> These surveys were commissioned by the Task Force and were administered by the Social and Economics Research Center at Washington State University. Details about the surveys can be found in Appendix D as well as in Parts Two and Three of this Report.

<sup>16</sup> The sample of industry representatives and labor unionists was too small to be analyzed reliably.

ATTRIBUTES OF CONFIDENCE						
ATTRIBUTE	FULL SAMPLE		STATE/LOCAL		ENVR/PUB INT	
	RANK	CORR	RANK	CORR	RANK	CORR
DOES THE RIGHT THING	1	0.74	2	0.62	1	0.68
MAKES IMPARTIAL DECISIONS	2	0.68	4	0.60	4	0.61
TELLS THE WHOLE TRUTH	3	0.68	1	0.63	2	0.64
GIVES EVEN-HANDED TREATMENT	4	0.65	3	0.60	---	---
DOES NOT DISTORT FACTS	5	0.64	---	---	3	0.63
KEEPS PROMISES	6	0.63	---	---	6	0.58
ACTIONS CONSISTENT W/ WORDS	7	0.61	5	0.59	7	0.55
PROVIDES INFORMATION	8	0.60	6	0.51	5	0.58

--- LESS THAN .50

Perhaps most intriguing are the attributes that are not associated with institutional confidence in the Department of Energy. For the entire sample and for the state and local officials and the environment and public interest representatives subsamples, there is *absolutely no* relationship between confidence and a belief that DOE waste management programs are "too influenced by politics." Nor among state and local officials is there much connection between confidence and their views about the quality of the Department's scientific work. For environmental/public interest group representatives, there is only a very modest association between confidence and a belief that DOE "rarely acknowledges the mistakes it makes" as well as with the attitude that it "listens to concerns raised by people like them."

Based on the popular and academic literature, the comments presented to the Task Force at its meetings, and the survey data, the group adopts the following terminology:

**PUBLIC:** This refers to the range of outside groups and associations, state and local governments, and individuals that have an interest in the Department of Energy's radioactive waste management programs. The term is used synonymously with "stakeholders".

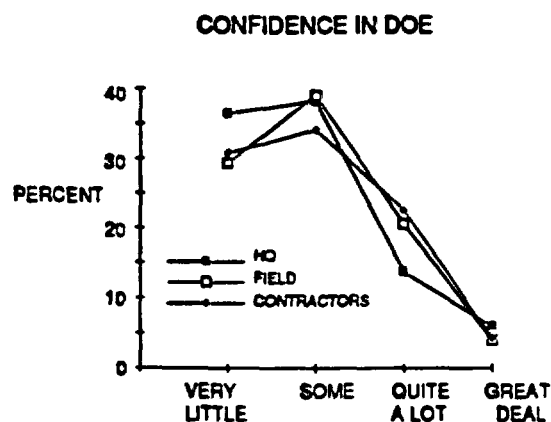
**TRUST:** The belief that those upon whom one depends will act in a manner that takes into account the interests of the relatively dependent partner, even in situations where that partner is not in a position to evaluate and/or thwart a potentially negative course of action.

**CONFIDENCE (in a partner):** Exists when the partner is able to empathize with your interest, is competent to act on that knowledge, and is willing to go to considerable lengths to interact in good faith and to keep its commitments.

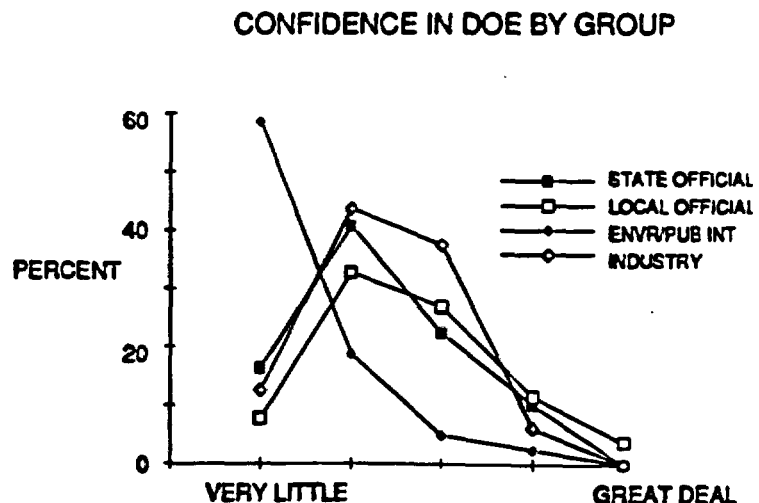
**TRUSTWORTHY:** Meriting both the trust and confidence of others.

## TRUST AND CONFIDENCE IN THE DEPARTMENT OF ENERGY'S RADIOACTIVE WASTE MANAGEMENT PROGRAMS

Individuals who represent organizations that deal with the DOE's radioactive waste management programs were also asked to respond to the standard Gallup institutional confidence question modified to include the Department's headquarters, its field offices, and its contractors. The results confirm the more impressionistic evidence that the Task Force has gathered. Although DOE contractors and field offices were viewed overall more positively than DOE headquarters, not only was that difference small but all three elements did quite poorly.

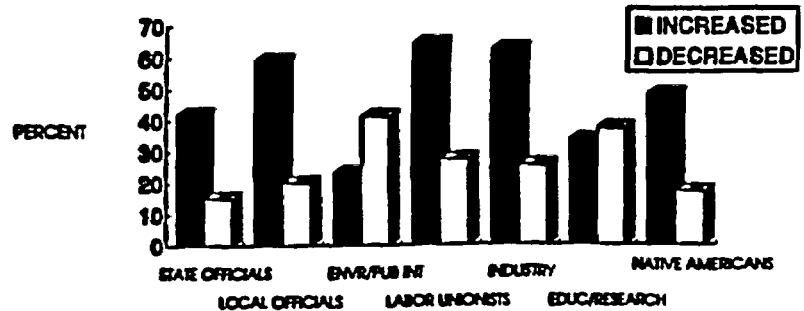


There are, however, some important differences among the major stakeholders. State and local officials do not see DOE as a partner that merits much confidence. The views held by representatives of industries that interact with the two waste management programs are somewhat surprising. Their lack of confidence is pronounced; they are no more supportive than the government officials interviewed. The environmental community and representatives of public interest groups, however, are by far the most critical of the Department, and the distribution of their views are the most skewed.



Although these numbers provide little solace for DOE policy-makers and senior managers, they are not quite as bleak as they appear on the surface. The data suggest that DOE has recently reversed what was generally recognized as a continuing and substantial decline in confidence. Nearly three-quarters of those questioned indicated that the Department waste management programs merit at least as much confidence as they did four years ago. Moreover, among state and local officials, labor unionists, representatives of business associations, and Native Americans, for every two individuals who accorded DOE greater trust now than in the past, fewer than one accorded it less. Once again, the environmental community and representatives of public interest groups markedly depart from the prevailing pattern demonstrating progress earning public trust and confidence.

CHANGE IN TRUST AMONG GROUPS OVER FOUR YEARS



## OBSERVATIONS AND FOUNDATIONS

Early in its deliberations, the Task Force sponsored two workshops. The first was organized by the National Academy of Sciences who brought together a number of scholars from disciplines such as sociology and administrative theory. They were asked to consider contributions the social sciences might make to thinking about the problem of strengthening institutional trustworthiness. The second was conducted by the National Academy of Public Administration who invited a dozen managers of organizations.<sup>17</sup> They identified from their experience "best practices" for sustaining public trust and confidence. Those conversations coupled with insights obtained from individuals who spoke at the Task Force's meetings helped to guide the group to the intellectual framework that follows. A discussion of "first principles," the elements that form the lens through which the Task Force viewed its charge, is an appropriate starting point.

<sup>17</sup> The proceedings of the two workshops along with the papers produced by participants are reprinted in Part Three of this Report.



## FIRST PRINCIPLES

A sense of responsibility to the Secretary and to those interested enough to read this forces the Task Force to state as explicitly as possible the logic and the evidence that led it to the Recommendations contained in this Report. These "first principles," however, are not subject to either analytic or empirical confirmation; rather they represent underlying beliefs that either were brought to the table or were crystallized at it. They are akin, therefore, to axioms in geometry; alter them and the conclusions may change radically.

- *Public trust and confidence is not a luxury. DOE not only has an obligation to merit it, but it also has a compelling need to do so.*
- *Public trust and confidence is not a one-way street. DOE must trust the public before it can expect the public to trust it. By the same token, the public and its representatives must be held to a standard of behavior that is itself trustworthy.*
- *Under almost all circumstances currently relevant to DOE's waste management programs, it is preferable to make decisions in an open, pluralistic forum than in a closed one that excludes actual or potential stakeholders.*

## CONDITIONS THAT PROMOTE INSTITUTIONAL TRUSTWORTHINESS

The Task Force adopted a design perspective as it considered how to strengthen institutional trustworthiness: that is, if one were interested in creating a trust-evoking organization, how would one seek to structure the interactions between organizational members and outsiders? Unfortunately there are no systematic studies that answer that question with the required degree of specificity. There are some hints, from a variety of sources, at some possible answers.

Based on deductions from the existing social scientific literature, inductions from its review of the OCRWM and EM programs, and ideas presented to it by interested groups and individuals, the Task Force recognizes that *process, partnership, empowerment, and empathy* play important roles in sustaining trustworthiness. It has translated those general notions into a set of six conditions that our hypothetical trust-evoking organization would have to satisfy:

- *The parties (organizational members and stakeholders) have a reasonably high respect/regard for each other based on general familiarity and a perceived high degree of mutual understanding and integrity (openness and honesty).*
- *The parties possess the competence to understand the technical and institutional problems others face and the solutions advance to address them.*
- *The parties have a reasonably equal part in defining the terms of the relationship.*

- *The parties maintain a positive history of relationship during which agreements have been kept, even in the face of apparently very demanding challenges.*
- *The parties are able to determine unambiguously the effects of their relationship on each other in a full and timely fashion.*
- *No party is compelled to work against the interests of any other party.*

To the extent that all these six conditions obtain, the organization will almost certainly be well positioned to produce and maintain trust. To the extent that any one of these conditions cannot be satisfied *or cannot in some other way be compensated for*, the organization's ability to evoke trust will diminish. These conditions should be kept in mind as the two radioactive waste management programs are set within their institutional context.

## INSTITUTIONAL CONTEXT OF RADIOACTIVE WASTE MANAGEMENT

Today's OCRWM and EM programs operate in an institutional context that has been shaped by past choices of their predecessor organizations, by their own past actions, by their legal mandates, by their interaction with stakeholders, and by their organizational cultures.<sup>18</sup> Despite the complexity, it is essential to distill the essence of their intensely political environments. It is that essence that directly affects the choices the Department makes and indirectly affects its capacity to strengthen public trust and confidence.

### CIVILIAN RADIOACTIVE WASTE MANAGEMENT PROGRAM

In less than a decade, civilian radioactive waste management moved from off stage to front stage. Emblematic of that transformation was the elevation of the effort from a single branch within the Atomic Energy Commission's Reactor Development Division to a major office within DOE headed by a Presidential appointee. Along the way, however, a trail of disappointing initiatives was left. Words and acronyms such as Lyons Kansas, RSSF, AFR still resonate in the minds of those of have followed the program's fortunes over the years.

In 1982, Congress acted to reconcile, at least for the moment, a series of unresolved issues and to place a greater stamp of authority on the program's efforts. The resulting legislation, the Nuclear Waste Policy Act (NWPA), can be understood as a blend of the intellectual framework

---

<sup>18</sup> The constraints and challenges that all those factors spawn are considered in some detail in Part Two of this Report.

advanced by President Jimmy Carter's Interagency Review Group and the Office of Technology Assessment along with measures that recognized and provided remedies for the widespread lack of trust in DOE.

That amalgam translated into four bargains. The "ethical bargain" committed the country to pursuing geologic disposal aggressively in the belief that the uncertainties associated with the technology could be managed and that the generation benefiting from nuclear power should have the responsibility to "solve" the problem of the wastes left behind. The "economic bargain" gave the industry a fixed schedule for opening a disposal facility and, more importantly, a fixed date for the government to accept title to the waste -- something that was seen as a prerequisite for the industry's future growth -- in return for a pass-through from rate payers to cover their full share of the costs of repository development and operation.

The "technical bargain" provided that a conservative program philosophy would be followed by investigating multiple sites in differing geologic environments. Yet for the first repository, only a small handful of locations could be considered. The "political bargain" called for a second repository, which was likely to be situated outside the region of the first. It also offered the host state the right to participate in a wide range of program decisions, oversight authority, and a veto over the final choice of site. But that objection could be overridden by a vote of both chambers of Congress.

Although concerns were raised at the time about potential conflicts between the bargains, the prevailing atmosphere upon passage was one of guarded optimism. Very few observers, however, would likely have predicted that, less than a decade later, the technical and political bargains would have collapsed altogether and that the ethical and economic ones are seriously threatened.

What largely remains from the NWPA is DOE's almost single-minded dedication to construct a repository as expeditiously as possible. That dedication reflects a commitment to implementing the NWPA and to preserving its economic bargain. It aligns the program's activities with the most visible and comprehensible indicator of success. And it is also a natural and expected consequence of being responsive to the views and the priorities of legislators and constituencies who are the most salient to the agency's policy-makers. Indeed one might well argue that to behave otherwise would be to breach the confidence of one vital sector of the "public," who can neither understand nor accept the Department's inability to maintain a schedule or to control costs. DOE's position is all the more understandable given the uncertain returns from behaving differently. But this determined pursuit of a repository has had ramifications in three interconnected areas: the Department's response to technical overseers, its defense of the technical integrity of its efforts, and its stance with regard to complying with regulatory standards. All of these areas are relevant to the Department's quest for public trust and confidence.

Law and tradition have placed four external bodies in a position to give independent advice on

the technical aspects of the program. The National Academy of Sciences' (NAS) Board of Radioactive Waste Management has been involved since 1955. The Nuclear Waste Technical Review Board (NWTRB), a group of Presidentially-appointed experts, was established by Congress in 1987. The host-state, Nevada, and the *situs* county, Nye, also have special rights under the NWPA as amended to review and comment on site characterization activities.

DOE has treated advice received from them all as just that, advice. As it has every legal right to do, the Department has sometimes accepted recommendations, and other times it has rejected them. For many stakeholders, including those who wish the Department to succeed in developing a geological disposal system and who even are open-minded by the suitability of the Yucca Mountain site, what is troubling is the *rationale* for acceptance or rejection. While no general pattern holds true in every instance, the best predictor of whether the recommendations are ignored seems not to be their intrinsic technical merits but whether they significantly alter the prevailing program philosophy or imply changes in approach that are perceived to cause serious delays in repository development.<sup>19</sup>

Fifteen years ago, the Department was cautioned that organizational and political commitments could so attach themselves to a particular site that "insufficient weight might be given to technical data developed on later. Because of the presence of this risk, a program...might lose some degree of public support. Care would have to be taken that technical adequacy remained a prerequisite for site selection, and *the public must be provided adequate assurance that this is so.* [emphasis added]"<sup>20</sup> OCRWM's leaders recognize well this concern, and they have offered two forms of assurance. First, they have stated unambiguously that if information is uncovered in the course of site characterization, they would recommend that work not continue and that the site be abandoned. Second, they have pointed to the elaborate layers of technical oversight, including independent external advisors and ultimately the licensing authority of the NRC.

As an atmosphere of distrust pervades the program, it is hardly surprising that OCRWM's declarations of intent have been greeted with some skepticism. And given the program's mixed record of responding to outside advice, technical adequacy cannot be guaranteed on this basis. Moreover, because the level of confidence accorded NRC does not appear to be appreciably higher than that bestowed on DOE, the licensing exercise may also not be sufficient. Indeed, many stakeholders find it difficult to imagine that NRC would reject an application after so much time and resources had been committed to exploring one piece of geology, especially since no other site would be available as a back-up.

OCRWM's determination to develop a repository as expeditiously as possible can subtly subvert its repeated public commitments to comply with all applicable health and environmental regulations. At the same time OCRWM was promising regulatory compliance in its *Draft*

---

<sup>19</sup> This seems especially the case with respect to recommendations from the NAS and the NWTRB.

<sup>20</sup> *Subgroup Report, p. 81.*

*Mission Plan Amendment*, the Department elevated into its National Energy Strategy a bill to preempt Nevada permitting authority. In recent months, OCRWM leaders have complained that EPA's high-level waste standard is ill-conceived and fails to justify with health benefits the substantially increased cost of development it seems to dictate. They have also hinted that NRC's regulations are overly burdensome. There are, of course, established administrative mechanisms for modifying promulgated or proposed regulations. These were not followed; once again the Department supported a legislative initiative to force a change. While these tactical choices are arguably reasonable, in the current contentious and distrustful political environment, they may simply serve to confirm the fears of those who believe that DOE will circumvent the regulatory process if necessary to get a repository at Yucca Mountain.

## ENVIRONMENTAL RESTORATION AND DEFENSE WASTE MANAGEMENT

DOE and its predecessor agencies have been managing radioactive waste from the defense program since 1944. As a practical matter, however, that management has just consisted of a series of interim measures and improvisations for storing (rather than disposing permanently) the by-products. Similarly AEC scientists and leaders, and their successors, were well aware that if radioactive materials were released or escaped, they could harm plants, animals, and people. Yet, for whatever reason, they failed to take the necessary steps to prevent widespread contamination and pollution.

On several occasions during the 1970's and early 1980's, State governments and environmental groups sought relief and remedies for a situation that showed no sign of improving. Those actions challenged a long-standing organizational imperative that was, if anything, even more dominant and supported by powerful interests than the organizational commitment to develop a repository expeditiously: the defense program could not permit itself to be subjected to external control and monitoring.<sup>21</sup> To be sure, that imperative flowed logically from legitimate concerns about national security. But it did send an emphatic message to interested parties, if there is a need to alter the way defense wastes are managed or the way weapons-related activities affect the environment, the agency shall be the sole judge of what should be done and how well it should do it.

The discovery in 1983 of numerous substandard hazardous waste disposal practices at the Y-12 Plant at Oak Ridge was the catalyst that forever changed the Department's world. The Legal Environmental Assistance Foundation (LEAF) and the Natural Resources Defense Council filed suit, accusing DOE of failing to comply with the requirements of the 1976 Resource Conservation and Recovery Act (RCRA)<sup>22</sup>. The Court firmly denied DOE's claims that it was

<sup>21</sup> The difference in the approach taken by Congress, at the strong urging of the Department, to licensing defense TRU-waste repository and the approach taken to licensing a civilian high-level waste repository is a striking example of this imperative.

<sup>22</sup> RCRA, as currently interpreted, details the management of hazardous wastes, including the hazardous

exempt from regulation under the Act<sup>23</sup>. Within a year, the states of Tennessee, Washington, Ohio, and South Carolina were asserting their jurisdiction over hazardous waste management on DOE reservations. In 1986, the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) was reauthorized with specific language that brought federal facilities within its reach.<sup>24</sup> Thus, in the space of two years, DOE's long-standing policy of preventing outside intervention in the defense complex had become severely eroded. The host-states and EPA could, in principle, decide how the Department should clean up its messes and how it should store, treat, and dispose of its hazardous radioactive waste.

Aware that the old order had passed, DOE began in 1986 to negotiate a series of facility compliance agreements, settlement agreements, consent orders, and agreements-in-principle with States and EPA. Those pacts set standards and schedules for compliance with environmental laws, committed the Department to undertake specific activities, set up the groundrules under which the State and Federal regulators would have access to the sites and to data, and, in some instances, obligated DOE to seek full funding to meet detailed clean-up and waste management milestones. By mid-1992, over eighty different agreements had been reached. Just as significantly, the Department had to initiate an extensive program of public involvement in order to satisfy its RCRA and CERCLA obligations. Not only were regulators literally allowed inside the gates for the first time, but members of the general public and representatives of interested groups were also figuratively admitted.

EM has so far *erected an elaborate structure* for carrying out its core mission. It recognizes, as do the various stakeholders, that the true test of the program's mettle still has not occurred. When it does, its ability to maintain trust and confidence may be sorely tried. There are at least six interrelated areas that will offer significant challenges over the next few years.

---

components of radioactive mixed waste, at currently operating facilities. It requires that DOE obtain permits for facilities that treat, store, or dispose of hazardous or radioactive mixed wastes, and it established standards for those facilities. The law also mandates the assessment and clean-up of all releases of hazardous waste and hazardous waste constituents; it provides as a condition of a permit the clean-up of all releases and for correction action orders. EPA possesses the original authority to administer RCRA, but the agency may delegate to States. The States, in turn, may choose to apply their own standards so long as they are at least as stringent as the ones EPA would apply.

<sup>23</sup> See *LEAF v. Hodel*, 586 F.Supp. 1163 (E.D. Tenn, 1984). After considerable internal debate, DOE concluded that at least some mixed waste was subject to RCRA and initiated rulemaking to determine what the fraction was. For an instructive discussion by one of the environmental attorneys in *LEAF* and the Department's reaction to it, see Barbara Finamore, "Regulating Hazardous and Mixed Waste at Department of Energy Nuclear Weapons Facilities: Reversing Decades of Environmental Neglect," *Harvard Environmental Law Review*, 9, (1985).

<sup>24</sup> CERCLA, popularly called the Superfund Act, provides for compensation, liability, cleanup and emergency response for hazardous substances released into the environment. It also provides a regulatory structure for cleaning up inactive hazardous waste sites. EPA was again given original to implement the law but delegated to DOE the authority to respond to releases or threats of releases at DOE facilities.

## RESOURCES

The total cost needed to implement the EM program has been conservatively estimated at \$200 billion over the next 25-30 years. It is by any measure a substantial sum and could increase as new information is gathered about the extent of the problems and what it will take to rectify them. To date, the Administration and Congress has been forthcoming and responsive to the Department's budgetary requests. Whether that will continue is inherently uncertain. Should support for the program decline, what is now essential a "win-win" situation among regions could be transformed into a "win-lose" one. Then DOE will have to make and justify tough decisions allocating scarce resources among competing activities and facilities. EM's past experience creating and defending a prioritization scheme indicate how difficult that task might be.

## REGULATORY REGIME

Although the basic foundation has been established for regulating DOE's environmental restoration and defense waste management activities, there are two issues that loom over the future. The first is the classic question of "how clean is clean". Experiments in land-use planning for the Hanford Reservation just began this year. But it is far too early to know how they and others at the remaining facilities will turn out. How much restricted use will communities be prepared to accept? Will the last community demand more stringent clean-up standards than the next-to-last, especially if it is not required to share the costs?

More fundamental is the relationship between *any* standard and the benefits it produces. It is widely acknowledged that the data from which are derived exposure and contamination standards is sufficiently uncertain that they might not be an adequate reflection of environmental and health risks. What can or should be the program's stance? Will, for example, a vigorous effort at risk communications help or will it merely be perceived as a facade that hides an uncaring attitude toward environmental and health hazards?

## SCHEDULES

Each of the agreements-in-principle with the States contains a detailed schedule for completing specific remedial actions and carrying out waste treatment, storage, and disposal operations. The agreements do provide for altering the schedule under certain pre-established conditions. And EM has already succeeded into getting State and EPA concurrence to change some dates. The program, however, is in its earliest stages. Since the milestones negotiated were often derived from estimates provided by DOE, there is likely to be a built-in reluctance on the part of the regulators to continually make adjustments because commitments cannot be met.

## TECHNOLOGY

Approximately ten percent of the EM budget is allocated to developing new technologies and

bringing them on-line in time to facilitate compliance with applicable laws, regulations, and agreements and to reduce the costs of doing so. There have been some accomplishments in areas such as horizontal well technologies and penetrometer electromagnetic mapping. It is too soon, however, to judge how many truly new technologies will be developed and how useful they, in fact, will prove to be. To the extent that the program does not succeed within its "window of opportunity", many of the pressures it now confronts will only be exacerbated.

## SITING

With the exception of WIPP, current program operations are being conducted on the defense complex sites. Future ones related to waste storage, treatment, and disposal will require the siting of numerous new facilities. One of the issues that the EM's Programmatic Environmental Impact Statement will address is where, in general, those operations shall be located. But ultimately specific sites shall have to be selected, and EM will have to forge a process for making those choices. As OCRWM can attest, devising a method for equitably and openly picking places is hardly a trivial task.

## FACILITY TRANSITION

As noted above, EM has taken "ownership" from DP of the Hanford Reservation and the Feed Materials Production Center, and it will likely become the landlord at Rocky Flats. At some time in the near future, it may become responsible for the Mound and Pinellas Plants. Those transitions, and the others that probably will follow as the weapons complex further shirks, will raise issues such as worker retention and retraining and the creation of planning mechanisms that will permit close collaboration with State and local governments

For facilities that remain under DP control but that still have a large EM presence, the situation may pose its own special dilemmas. If the two DOE units adopt differing philosophies or promote diverging organizational cultures, mixed messages could be sent to the interested and involved publics. In such a case, hard-fought efforts to sustain trustworthiness may be unwittingly damaged.

## COMPARISON OF THE TWO INSTITUTIONAL CONTEXTS

As one might expect of units within the same Department, the institutional contexts surrounding the OCRWM and EM programs possess some common characteristics. But they vary in a much larger number of respects that have implications for their capacity to maintain public trust and confidence over the periods of their anticipated existence. In the table below, the similarities and differences suggested in the analysis thus far are made explicit. *It would appear that OCRWM faces significantly more obstacles if it wants to restore trustworthiness than does EM.*



<b>SIMILARITIES AND DIFFERENCES IN THE INSTITUTIONAL CONTEXT</b>		
<b><u>CHARACTERISTIC</u></b>	<b><u>OCRWM</u></b>	<b><u>EM</u></b>
<b>CORE MISSION</b>		
Distribution of Benefits	Perceived as a zero-sum game	Possibility of many winners
Major Public Focus	Site Selection	Clean-up
Movement of Waste	Arriving	Staying and/or possibly leaving
Origin of the Waste	Civilian nuclear power plants	Weapons production
Programmatic Activity	Experimental	Commencing work
Locus of Activity	Concentrated	Dispersed
<b>GOVERNING REGIME</b>		
Legislation	Program specific	General environmental law
Type of Public Input Legislatively Mandated	"How to do job"	"Should the job be done" "What job to do" "How to do job"
Type of Power Sharing Mandated	Limited	Considerable
Affected Constituencies	Relatively few	Many
Regulatory Standards	Mostly understood	Incompletely understood
Dominant Mode of Politics	Closed	Open
<b>ORGANIZATIONAL CULTURE</b>		
Inherited Legacy	Poor	Poor
Budget	Stable/slightly growing, tenuous	Growing, reasonably secure
Response to Regulation	Tries to modify to ease challenge to program	Expects more stringent standards/plans accordingly
Attitude Toward Earning Public Trust and Confidence	No explicit acknowledgment of low level; approach to building is narrow	Acknowledges low level; approach to building is more broadly conceived

## FINDINGS

As noted above, the Task Force carefully considered information presented to it by nearly 100 individuals: DOE employees and contractors from Headquarters, Field Offices, and specific facilities, officials of State and local governments, and representatives of non-governmental organizations including the nuclear industry, labor unions, environmental and public interest groups, and academic institutions. It received reports from its staff who have spoken informally with approximately 40 other individuals. It and its staff conducted a number of case studies, workshops, and surveys. It relied on analyses produced by OCRWM. It reviewed a substantial portion of the literature relevant to the Department of Energy's quest for building trustworthiness. From all that information, it derived an empirical and conceptual framework that was also described on the preceding pages.

Based on that framework, then, the Task Force has arrived at its conclusions. The group realizes that there might be particular instances that run contrary to a given finding. Nonetheless, it believes that the conclusions set forth below do represent strong central tendencies. The findings are organized into three groups. The first is applicable to both radioactive waste management programs and, when noted, to the Department as a whole, the second to OCRWM, and the third to EM.

### GENERAL FINDINGS

#### ***I. THERE IS WIDESPREAD LACK OF PUBLIC TRUST AND CONFIDENCE IN THE DEPARTMENT OF ENERGY'S RADIOACTIVE WASTE MANAGEMENT ACTIVITIES.***

The Task Force has been struck by the intensity of views that it has received. By any conceivable indicator, the Department's rouses little trust and confidence from *any* sector of the public.<sup>25</sup> Even parties that generally agree with the agency's policy-choices express a deep concern about how reliable a partner it has been or will likely be. As one representative of an industry association put it: "DOE just does not have a good reputation for following through." State and local government officials, many of whom worked closely with the Department over the years, echo that view. DOE does especially poorly among representatives of environmental and public interest groups. It is not surprising, therefore, that many agency employees and contractors voiced without any prompting the opinion that the Department "has no friends, just temporary allies."

---

<sup>25</sup> Regression analysis on "DOETRUST" shows that three beliefs are all significant predictors and, in combination, "explain" over 52% of the variation in trust: DOE has significantly improved how it operates its nuclear facilities, it is "capable of learning from its mistakes," and it is not too closely tied to the nuclear industry.

**2. THERE HAS, HOWEVER, BEEN SOME PROGRESS MADE ACROSS THE BOARD AND AT INDIVIDUAL FACILITIES IN IMPROVING PUBLIC TRUST AND CONFIDENCE OVER THE LAST FOUR YEARS.**

The survey of stakeholders clearly indicates that confidence in the Department's radioactive waste management programs has increased among virtually all segments of the public. Except for environmental and public interest organizations, trust has increased among more representatives of particular stakeholder groups than it has decreased, usually by margins of greater than two-to-one. The Task Force also heard testimony that major strides have been made in earning the public's trust at Oak Ridge, Hanford, and Rocky Flats. Panel members or staff have paid extended visits to each of those sites. Although the Department still encounters many challenges at those places and undoubtedly will encounter many more in the future, there does seem to be evidence generally confirming claims of significant headway in strengthening public trust and confidence.

**3. THE LACK OF TRUST AND CONFIDENCE THAT DOES EXIST IS A DIRECT CONSEQUENCE OF VARIOUS PUBLICS' EXPERIENCE WITH THE DEPARTMENT IN THE PAST. IT IS NOT AN IRRATIONAL REACTION NOR CAN IT BE DISCOUNTED MERELY AS A MANIFESTATION OF THE "NIMBY SYNDROME".**

One of Secretary Watkins' first pronouncements after taking over stewardship at DOE was a candid "State of the Department" assessment. He acknowledged the numerous lapses in its past practices at the weapons' complex including inattention to the environmental implications of its activities, excessive secrecy about releasing health and safety data, and an inadequate record in consulting with many who were affected by policy choices. Those prior deficiencies stemmed largely from the fact that the Department played a major role in the national security arena. A "war" mentality naturally arose and served to justify actions that, in retrospect, appear unfortunate. It is easier, however, to understand why those actions occurred than to excuse them, especially when the threats that engendered them seem to have receded. Many portions of the public resent what was done and feel that they were betrayed by an agency that was supposed to be looking after their best interests.

Past activities were not quite as ill-conducted by those in charge of managing civilian radioactive wastes. But there too a series of misguided choices periodically soured even those who supported OCRWM's core mission of developing a geologic repository. Early attempts at selecting sites were heavy-handed. Later efforts were more sophisticated yet also put the Department in awkward positions. Suggesting, for instance, that a site located under Lake Sebago in Maine might be suitable for a repository may have been technically defensible, but it had to be seen as evidence that DOE functioned in a reality that was far different than most of the public's.

The past has not escaped notice; and that track-record informs and structures public reactions to

what the Department wishes to do today. To the degree that it evokes negative expectations, trust will likely not be coming, nor can the Department demur. Neither can it attribute the public's reaction purely to selfish NIMBY-ism. To be sure, few communities show much enthusiasm for inviting noxious facilities into their midst. But the task of persuading them is made considerably more difficult when they have grounds for believing that the invitee will later if not sooner exploit their hospitality.

**4. THE LACK OF PUBLIC TRUST AND CONFIDENCE IS NOT ONLY BEING RECOGNIZED BY STAKEHOLDERS AS A OBSTACLE TO PROGRAMMATIC PROGRESS, BUT IT IS ALSO BEING USED INCREASINGLY AS A REASON FOR OPPOSING INITIATIVES THAT ARE IMPORTANT TO PROGRAMMATIC PROGRESS.**

For officials of the State of Nevada, DOE's untrustworthiness is a *prime facie* reason for ceasing work immediately on characterizing the Yucca Mountain site. But they are not alone. A group of governors from every state that hosts major complex facilities but one wrote Secretary Watkins shortly after he took office: "The magnitude, history, and nature of the nuclear weapons waste problems make public confidence and acceptance crucial to cleanup success...To win public confidence, the decision-making and review process must be open..."<sup>26</sup> As he vetoed further exploration of whether a monitored retrievable storage facility for commercial radioactive waste should be located in his state, the Governor of Wyoming observed, "Let us not deceive ourselves -- we are being invited through continuing study to dance with a 900-pound gorilla...I am absolutely unpersuaded that Wyoming can rely on the assurances we receive from the federal government."<sup>27</sup>

**5. THE LEGACY OF DISTRUST CREATED BY THE DEPARTMENT'S HISTORY AND CULTURE WILL CONTINUE FOR A LONG TIME TO COLOR PUBLIC REACTION TO ITS RADIOACTIVE WASTE MANAGEMENT EFFORTS. ONLY A SUSTAINED COMMITMENT BY SUCCESSIVE SECRETARIES OF ENERGY CAN OVERCOME IT.**

The term "legacy" is used deliberately; distrust, like the albatross, passes to each new organizational leader and his or her administration. The only open question is whether the burden, passed in turn to the next leader, shall become heavier or lighter. Whereas distrust lingers and adheres, trust is always provisional and transitory. After DOE had done a poor job in explaining the consequences of a very small tritium leak, one senior manager at the Savannah River

<sup>26</sup> Letter to Secretary James D. Watkins, April 14, 1989.

<sup>27</sup> Letter to Fremont County Commissioners, August 21, 1992.

facility observed, "Decades of responsible interaction have gone by the board; the loss of trust is irreparable." Put starkly, the Department has little slack to draw upon; it cannot count on receiving the benefit of the doubt. These circumstances suggest not only that trust will not be earned overnight but also that policy-makers will have to continually keep its production "high on their screens."

**6. ACTIONS TAKEN BY ONE UNIT WITHIN DOE INFLUENCE THE LEVEL OF PUBLIC TRUST AND CONFIDENCE IN OTHER UNITS. THAT COUPLING IS STRONG WHEN THE EFFECT OF THE ACTION IS TO REDUCE TRUSTWORTHINESS; THE COUPLING IS QUITE WEAK WHEN THE EFFECT OF THE ACTION IS TO STRENGTHEN TRUSTWORTHINESS.**

The Task Force has listened to OCRWM managers tell how their efforts to build public trust and confidence have sometimes been compromised by actions taken by EM. EM leaders have related parallel stories. Both program managers are, of course, describing a fact of life: stakeholders rarely distinguish among units within DOE. It is not OCRWM or EM *per se* that has a credibility problem, it is the agency as a whole. Nor, in the Task Force's view, should the public have to make fine distinctions. It is at the Departmental level of leadership where responsibility for sustaining confidence lies.

One reason for that is the asymmetrical coupling among actions taken. Critics of the WIPP project point to events at Yucca Mountain to support the assertion that DOE cannot be trusted to assess objectively the performance of a repository. Or they recall how the Department managed the tank farms at Hanford to underscore their lack of confidence in the agency to move radioactive waste from Rocky Flats to Idaho. Because those claims have a surface plausibility, they appear to have a real impact. Conversely no one, not even DOE officials, cites successes at Oak Ridge or elsewhere as evidence that the Department might in fact be worthy of public trust in managing commercial radioactive waste. It is not out of modesty that such arguments are not made. Rather it is because everyone seems to realize they are not likely to be very compelling.

**7. EFFORTS TO RESTORE AND SUSTAIN PUBLIC TRUST AND CONFIDENCE CANNOT SIMPLY BE APPENDED TO ON-GOING ACTIVITIES. THERE MUST BE A RECOGNITION AMONG SENIOR POLICY-MAKERS AND MANAGERS THAT MOST CHOICES HAVE CONSEQUENCES FOR INSTITUTIONAL TRUSTWORTHINESS.**

Whether DOE comes to merit public trust and confidence will ultimately not depend on mechanics but on a sustained commitment to promoting trust and confidence. In many respects, therefore, its challenge to maintain public trust and confidence is analogous to its challenge to demonstrate sensitivity to the environment. Just as few would assert that writing of an impact statement is anything more than a *necessary* step in fulfilling the Department's environmental

obligations, simply increasing the opportunities or improving the process for stakeholder involvement is not *sufficient* to increase trustworthiness.

It is widely recognized that the priorities of agency policy-makers are reflected in all of their choices. Importantly, even ostensibly technical questions, such as the diameter of the shafts used to explore Yucca Mountain or the design of casks for transporting TRU waste from Colorado to New Mexico, have ramifications for public trust and confidence. Are those consequences explicitly evaluated? Do they become part of the deliberations that occur inside the agency? Are its leaders prepared to forego something of value in exchange for additional institutional trustworthiness? Unless those things happen, perhaps not always but at least frequently enough so as to be visible, the Department's professions of wanting to strengthen confidence will not ring true.

**8. IF DOE IS TO RESTORE PUBLIC TRUST AND CONFIDENCE, IT WILL HAVE TO TAKE STEPS THAT MIGHT BE CONSIDERED UNNECESSARY FOR AN ORGANIZATION THAT HAS MAINTAINED PUBLIC TRUST AND CONFIDENCE OVER LONG PERIODS OF TIME.**

Organizations that have earned public trust and confidence have greater policy-making flexibility than those that have not. Because that consideration had previously been well integrated into the former organization's choices, it can better afford, on occasion, to adopt measures that will reduce trustworthiness in the future. The Department of Energy does not have that luxury. For the agency is precariously balanced on a steep slope that corresponds to the trajectory needed to build trust and confidence. It requires substantial efforts to make even a modicum of progress; one slip leads to an accelerated decline.

This means that Departmental leaders will have to make choices that consistently and unambiguously demonstrate an interest in strengthening trustworthiness. Those choices may not appear "cost-effective" in a conventional sense. Moreover, they may disrupt some internal routines as well as some long-standing external relationships. But it is the strong view of the Task Force that DOE stands little chance of strengthening public trust and confidence unless it recognizes that its decision-making behavior will have to fundamentally change.

**FINDINGS WITH RESPECT TO OCRWM**

**1. OCRWM IS CAUGHT UP IN A SERIES OF INTERLOCKING VICIOUS CYCLES THAT CROSS-PRESSURE IT AND SERIOUSLY REDUCE ITS DISCRETION.**

The institutional context within which OCRWM operates has evolved to where it is today because of deliberate choices made by DOE and because of responses by stakeholders who felt that the agency could not be trusted to make and implement its choices properly. As a result of

the relatively poor track record of the Department's predecessor organizations, it has lost over the last ten years a very large portion of its autonomy. Congress adopted legislation that contained quite detailed and prescriptive requirements; EPA and NRC issued standards and regulations specifically designed to limit DOE's discretion in selecting sites; the nuclear industry entered into contracts to protect its interests.

More fundamentally, the ethical, technical, political, and economic bargains discussed above have proven to be contradictory and almost irreconcilable. Conducting sound exploratory studies may set back schedules. Expediting schedules may require less stringent regulations. Exploding costs may foreclose the possibility of addressing concerns about equity. Ignoring equity considerations may increase political opposition. Failing to resolve significant uncertainties may cast doubts on the technology of geologic disposal. Lacking a core mission may increase pressures to temporize and to postpone finding a solution until later generations. And so it goes.

OCRWM has not been able to surmount these interlocking vicious circles. When it has tried to break out of one, it usually got caught up in another. And in the process it discovered a harsh reality: Winning the trust of one segment of the public often involves losing the trust of some other.

## **2. ALTHOUGH OCRWM HAS RECENTLY PLACED MORE EMPHASIS ON BUILDING PUBLIC TRUST AND CONFIDENCE, THE PROGRAM HAS A RELATIVELY CONSTRICTED VIEW OF WHAT IS REQUIRED TO RESTORE IT.**

Over the last two decades, the managers of civilian radioactive waste have shifted from the language of "public acceptance" to the language of "public trust and confidence." In the 1991 *Draft Mission Plan Amendment*, for example, OCRWM leaders go so far as to state, "In making management, technical, and institutional decisions for the program, we must recognize the importance of public concerns and address the implications for building and maintaining public trust and confidence."<sup>28</sup> In many respects, that statement seems to mark a clear and positive departure from the past, especially when taken with a declaration about the importance of "substantive and early [public] involvement in decision-making."<sup>29</sup> But if one inquires about what specifically the program intends to do differently, the departure is less striking and far-reaching than it appears at first glance. In particular, the overwhelming focus remains on communicating better with interested parties. While OCRWM is certainly correct in believing that effective two-way communication must occur if trust is to be restored, it fails to appreciate how much more will have to be done.

---

<sup>28</sup> Office of Civilian Radioactive Waste Management, *Draft Mission Plan Amendment*, RW-0316P, (Washington: US Department of Energy, 1991), p. 8.

<sup>29</sup> *Draft Mission Plan*, p. 124.

**3. NOTWITHSTANDING ITS PUBLIC STATEMENTS, OCRWM HAS NOT IMPLEMENTED ANY CONSISTENT APPROACH TO BUILDING PUBLIC TRUST AND CONFIDENCE.**

The *Draft Mission Plan* did contain an initiative to establish and convene a Director's Forum for predecisional participation by stakeholders. The Forum met once. But based on informal comments from many who attended, it appears that expectations were largely unsatisfied, and no further meetings are scheduled. Nor has there been other opportunities for predecisional public input. Since the *Plan's* publication, the program has grappled with such critical issues as strategies for site characterization and philosophies for repository development. To those deliberations very few outsiders were called. As a practical matter then, it is hard to detect anything beyond marginal changes in how OCRWM now interacts with broad segments of the public.

**4. MANY CRITICAL DECISIONS ABOUT SITING, POLICY, AND TECHNICAL DESIGN HAVE BEEN MADE IN AN ARENA OPEN TO FEW STAKEHOLDERS. THE BROADER PUBLIC PARTICIPATED IN THOSE CHOICES ONLY FORMALLY AND WITH LITTLE IMPACT.**

DOE and OCRWM, of course, still retain some autonomy over important choices. That discretion was exercised, for example, in picking for intensive characterization three sites out of five candidates, in deciding how much emphasis should be placed on robust engineered waste packages, and in selecting a strategy to develop a repository. In all those instances as well as others that could have been cited, the choice was made by program managers and policy-makers who consulted closely with few, if any, interested parties. To be sure, public comments were requested in each case. But as a practical matter, the comments received had little effect. The underlying structure of the choice was rarely changed.

**5. IN MAKING DECISIONS, THE IMPLICATIONS OF A PROGRAM ACTION FOR PUBLIC TRUST AND CONFIDENCE HAVE GENERALLY NOT BEEN CONSIDERED EXPLICITLY.**

As noted in the previous section, the choices OCRWM makes have a wide range of impacts. Its actions can, for example, affect the economic health of the nuclear industry, the ease in which a license can be obtained from the NRC, or the performance of a repository. Those same actions can also affect the level of trust and confidence various groups accord the program. Whereas the first three impacts are routinely and systematically analyzed before a decision is made, the fourth is not. That difference likely stems from a combination of factors including OCRWM's narrow conception of what is required to build public trust and confidence and the low priority that objective has traditionally been assigned. But whatever the reason, if program leaders



have, at best, only an intuitive understanding, they are not likely to recognize the cumulative effect of their choices on institutional trustworthiness. Nor are they likely to know early on how to compensate should the level begin to fall.

## **FINDINGS WITH RESPECT TO EM**

### **1. THE INSTITUTIONAL CONTEXT SURROUNDING THE EM PROGRAM PROMOTES EFFORTS TO BUILD PUBLIC TRUST AND CONFIDENCE.**

Whether by accident or design, the Task Force believes that EM is operating in a political environment that facilitates rather than hinders efforts to sustain public trust and confidence. Power is distributed to States who tend to be responsive to a broader range of constituencies than are federal agencies. A relatively open and pluralistic process for making decisions has been mandated by law. And, for the moment at least, program managers are not so caught up in vicious cycles that their actions generate or reinforce the impression that a zero-sum game is being played.

Partly because of those favorable circumstances, EM does not appear to be organizationally defensive. It tries to transform challenges into opportunities. It presumes, for instance, that the regulations it will have to satisfy will become more stringent, and it makes plans accordingly. That operational philosophy can create the flexibility necessary to expand options and permit programmatic adjustments. Without that flexibility, measures essential to building institutional trustworthiness might either be foreclosed or not be viable.

### **2. WITH SOME VISIBLE EXCEPTIONS, THE EM PROGRAM HAS BEEN SENSITIVE TO THE PUBLIC TRUST AND CONFIDENCE IMPLICATIONS OF ITS ACTIONS.**

Given the institutional context within which it operates, EM really has no alternative but to strive to maintain public trust and confidence. Based on informal discussions with managers at headquarters and in the field, there appears to be widespread recognition of that reality. More significantly, those individuals also seem to appreciate that programmatic choices have a profound effect on institutional trustworthiness. They mentioned a number of instances where modifications were made to proposed actions so as to improve their credibility.

This does not mean EM will inevitably pick the option that best safeguards its stock of trust and confidence; other considerations can take precedence. One example was the Department's unilateral decision to miss a milestone connected with Hanford's waste vitrification plant. Although both the State Department of Ecology and the regional EPA eventually agreed to substance of what DOE proposed, they were upset that the Department failed to use the agreed-upon process for altering schedules. Representatives of both organizations contended that DOE

eroded its standing with precisely those parts of the public who had been encouraged by the Department's willingness to negotiate an agreement.

**3. EM HAS ESTABLISHED A NUMBER OF ACCESS POINTS THAT ARE DESIGNED TO INCREASE PUBLIC INVOLVEMENT IN ITS DECISION-MAKING PROCESS. IT IS TOO EARLY TO PREDICT WHETHER THOSE MECHANISMS WILL END UP STRENGTHENING OR WEAKING TRUST AND CONFIDENCE.**

Since its formation, EM has acknowledged that members of the public ought to have input into its deliberations. Thus it has convened a Stakeholders' Forum and the State and Tribal Government Working Group to review a number of program documents, especially its rolling *Five Year Plan*. It chartered an advisory committee to review the scope and implementation of the Programmatic Environmental Impact Statement (PEIS). Finally EM just published a policy on public participation. Taken together these efforts represent a serious commitment to consult with affected parties.

EM has also laid out an ambitious and quite comprehensive set of objectives it hopes to achieve as a result of its public involvement activities. Indeed, it appears to be willing to use stakeholder input in ways that go beyond what is required by law. It is asking the many publics to raise issues, question assumptions, and, in effect, to become partners in making the program succeed.

Concerns have been raised that the promise of public involvement has not matched the reality. Examples often mentioned include the way managers responded to criticisms expressed at the Stakeholders' Forum. In addition, at the first meeting of the EM Advisory Committee, the group unanimously requested that a representative from one influential environmental organization be invited to join the panel; that request was not granted. Finally, some have wondered whether the program really was listening to public comments about the Implementation Plan for the PEIS. It appeared that a number of views advanced were dismissed without reason or explanation. Whether EM's good intentions translate into a meaningful process that strengthens institutional trustworthiness remains a question for which no answer is yet available.

**4. EM STILL HAS TO DEMONSTRATE THAT IT CAN SUSTAIN PUBLIC TRUST AND CONFIDENCE WHEN IT GRAPPLES WITH HIGHLY CONTENTIOUS ISSUES.**

The environmental restoration and defense waste management program is carrying out work in over 100 jurisdictions. Thousands of discrete sites are being assessed; remedial actions are being undertaken; disparate waste streams are being treated and converted into forms suitable for storage and disposal; research is being supported to invent the technologies of the future. In all this activity, EM has not yet to encounter issues that strongly polarize the affected parties.

Two issues in particular are likely arouse considerable controversy: assigning priorities for allocating scarce resources and developing a process for siting new treatment or disposal installations. Each community is predisposed to believe that money spent attending to its problems is money well spent and that it has already borne its fair share of the burden for hosting a noxious facility. By most accounts, DOE historically has not been able to resolve such contentious issues without experiencing a loss of public trust and confidence. Should EM succeed, it would be a signal accomplishment.

**5. THE PROGRAM INCREASINGLY WILL BE AT RISK OF BEING TRAPPED IN VICIOUS CYCLES THAT REDUCE ITS ABILITY TO MAINTAIN INSTITUTIONAL TRUSTWORTHINESS.**

Up until now EM has enjoyed a strong consensus on the need to address a serious national problem and a natural willingness to credit a new undertaking. Those conditions are not likely to last indefinitely. EM may find itself, like many other federal bureaucracies, plagued by insufficient resources, slipped schedules, and overly optimistic projections of technological advances. Pressures may build to find solutions as inexpensively and expeditiously as possible. At that point, the potential increases for vicious cycles to take over.

It was not hard for the Task Force to construct a hypothetical scenario in which legislation passes that constrains State regulatory authority. Extensive use of exclusion zones could be mandated as well. National clean-up standards could become the "ceiling" rather than the "floor" for what was required. At the same time, competing program priorities, both inside or outside the Department, might drain resources and force DOE policy-makers into making choices that transform a "win-win" situation to a zero-sum game. Then EM would find itself operating within a hostile institutional context. Under that hypothetical scenario, maintaining trust would be quite difficult.

## RECOMMENDATIONS

The Task Force recognizes that the progress has been made over the last four years in strengthening public trust and confidence. That is a tribute to the diligent efforts of many DOE employees and, above all, to the leadership provided by Secretary Watkins. That the trend is up and that the efforts of many appear to be rewarded is, however, no cause for complacency. As the panel has observed, trustworthiness is easier to lose than to sustain. It is in that spirit, then, that the group turns to its recommendations.

The Task Force has constantly asked those who have appeared before it what measures they felt should be taken to strengthen public trust and confidence in the Department of Energy's radioactive waste management programs. A list of those suggestions fills nearly 22 pages.

With many of them, the Task Force concurred. For some, however, the link between the action and its putative effect on increasing trust was not immediately apparent. Thus the panel was forced to pose for itself a prior question before it endorsed anything: *on what grounds* does it believe *any* given recommendation will have its expected impact on institutional trustworthiness? It concluded that its advice would have to

- Be consistent with the "first principles" that its members brought to the table or that crystallized at it;
- Clearly and positively affect at least one of the conditions that appear to promote institutional trustworthiness;
- Be appropriate for the peculiar institutional context within which the radioactive waste management programs function; and
- Reflect the programs' current status as laid out in the Task Force's Findings.

Recommendations that passed all four of those "tests" are presented below. They are organized initially into two sets: those that address how DOE should interact with external parties and those that pertain to how the Department should conduct its internal operations. Within each set, the suggestions are sorted on the basis of whether they are applicable to both waste management programs and by extension to the Department as a whole and those that are directed solely towards the OCRWM program. General design premises or guidelines are introduced first, followed by more specific steps that the Department's policy-makers might want to embrace. The panel has not exhaustively evaluated the pros and cons of those specific steps, in part because their utility probably varies depending on the particular circumstances surrounding their implementation. It does strongly believe that in most instances the benefits of adopting them far outweigh the disadvantages. Once that discussion is completed, the Task Force considers whether or not DOE can reform itself or whether more fundamental and basic changes are required.

One last observation. The Task Force readily acknowledges that some of its recommendations will have already been adopted and implemented by some unit at some time or some place. It believes, however, that its advice has not been consistently and widely accepted throughout the relevant programs. Only then can the potential effectiveness of the recommendations begin to be realized and assessed.

## INTERACTIONS WITH EXTERNAL PARTIES

### DESIGN PREMISE

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 should strive to give all groups of citizens and their representatives a sense of involvement and fairness in negotiating the terms of their immediate relationship. In general, the agency should commit itself to:

- Early and continuous involvement with State and/or local advisory groups. That involvement would be characterized by frequent contact, complete candor, rapid and full response to questions, and assistance in increasing the technical and oversight skills of the community.
- Active, periodic presence of very high level agency leaders making them 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.
- Assuring the availability of negotiated benefits for the community along with the resources that might be needed to detect and respond to unexpected costs.
- 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.

### SPECIFIC MEASURES AND POLICIES THAT MIGHT BE ADOPTED ACROSS THE DEPARTMENT

#### 1. *To provide information fully and rapidly, the Department should*

- Rely on the "pre-decisional" Freedom of Information Act exemption only under exceptional circumstances, which are candidly explained.
- Release *any* DOE-generated material that has been shared, even informally, with any other non-governmental organization.
- Disseminate without exception information about past practices that may pose potential health, safety, and environmental risks.

**2. To ensure that programs speaks consistently to stakeholders, they should**

- Publish on a regular basis, perhaps every six months, a summary of major positions that represent program policy.
- Indicate how activities carried out since the last report have been either consistent or inconsistent with those positions.
- Identify, to the maximum extent possible, positions that the program is planning to alter either unilaterally or with the concurrence of other parties. Any changes that affect negotiated milestones should be included (whether or not the relevant State and EPA has already been notified) as well as any efforts to modify applicable regulatory standards.

**3. To improve the quality of its interaction with all public stakeholders, the Department should**

- Make training in public involvement processes a requirement for managers, supervisors, and technical personnel who might interact with stakeholders.
- Consult broadly about the design and implementation of such training.
- Include, at a minimum in that training, consideration of the importance of candor, the implications of choosing various mechanisms, and differences between "one" and "two" - way communications.
- Appoint a senior advisor who would have an oversight and an assessment role in the training programs.
- Make career advancement and promotion dependent on successful demonstration of the capability to interact positively with a wide range of sectors in the public.
- Establish mechanisms to solicit and incorporate feedback from various sectors on the training program's effectiveness.
- Require DOE contractors to conduct equivalent training for their employees. Their performance evaluations and awards would be structured to include contributions to the overall public involvement effort.

**4. To make public involvement a means for creating partnerships, the Department should**

- Develop initiatives to broaden its reach and its depth.

- Place greater emphasis on periodic informal consultations to supplement more formal public meetings, hearings, and updates.
- When formal processes are used, devise agendas and formats jointly with representatives of stakeholders.
- Create and rigorously enforce procedures that produce thoughtful and specific responses to public comments.
- Obtain advice from stakeholders about what policy alternatives should be analyzed and evaluated.

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

- Expand its peer review network to always include experts from other countries.
- Jointly design and conduct experiments and share data at the earliest possible time with teams from host States and communities.
- 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 analyses.
- Clarify carefully and publicly the reasons why advice from technical overseers such as the National Academy of Sciences and the Nuclear Waste Technical Review Board is not accepted.

**6. *To empower host States, communities, and citizen groups, the Department should***

- Work with affected parties to create vehicles, such as trust funds, revolving accounts, etc., that will ensure the provision of adequate resources to oversee waste management programs.
- Organize Safety Review Boards with the power to shut down temporarily a facility for a pre-established set of reasons.
- Offer pre-decisional involvement that includes review of methodology, data validity, and premises underlying analyses.

- **Scrupulously comply with all State regulations that are administered even-handedly.**

### **SPECIFIC MEASURES AND POLICIES THAT MIGHT BE ADOPTED BY OCRWM**

**1. *To make the program a stakeholder in the community that hosts a repository or a potential repository site, OCRWM should***

- **Locate its Director therein.**
- **Require full-time residence for all employee, contractor personnel, and National Laboratory scientists.**
- **Favor local industries and firms as sources for supplying goods and services to the program.**
- **Obligate the vendors of hardware such as casks to manufacture them as near as possible to any site ultimately chosen for a repository.**

**2. *To further become a good citizen in the area where it is characterizing a repository site or actually developing a facility, OCRWM should***

- **Make good faith efforts to keep all commitments made even if that might cause some delay in schedule.**
- **Provide incentives to all those working for the program to involve themselves in service to the community by enriching local schools or by increasing the technical skills of local businesses.**

**3. *To empower host States, communities, and citizen groups, the Department should***

- **Give the Safety Review Board the power to decide when a repository should be sealed and when retrievability of the waste is no longer essential.**
- **Permit State and local authorities to have a voice in determining the pace at which waste will be shipped to a repository for disposal.**

## **INTERNAL OPERATIONS AND PROGRAMMATIC CHOICES**

### **DESIGN PREMISES**

**When the various segments of the public gain access to programs, they should discover**

**WORKING DRAFT ONLY — DOES NOT NECESSARILY REPRESENT VIEWS OF TASK FORCE**



internally activities taking place 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:

- Maintaining a high level of professional and managerial competence, continually honed by rigorous training.
- Establishing tough internal processes of reviewing and discovering actual operating activity that include stakeholders.
- Rewards for 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.
- Institutionalizing responsibility for promoting and protecting the internal viability of efforts to sustain public trust and confidence through, for example, an ombudsman.

#### **SPECIFIC MEASURES AND POLICIES THAT MIGHT BE ADOPTED ACROSS THE DEPARTMENT**

*1. To build on the efforts already in place to promote a "new culture" within the Department, it should*

- Undertaken an assessment to determine to what degree the current incentive structure actually rewards those whose behavior is consistent with the objectives of the emerging culture.
- Develop measures by which improvements or decrements can be objectively charted.
- Consider the deployment of "trust and confidence" tiger teams that would regularly evaluate how different units performed.
- Disseminate on a systematic basis experientially-derived "best practices" for building, sustaining, or recovering public trust and confidence.
- Re-assess on an annual basis and modify if necessary the protections provided to agency "whistle blowers".

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

- Order that any analysis of policy options presented to him or to Program 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.

**3. To ensure that organizational dysfunctions are not responsible for 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.
- Increase organizational redundancy on safety critical activities.
- Institute overlapping self-regulatory processes whereby the discovery of error is rewarded.
- Maintain sufficient employee technical and managerial capacity to oversee at a rather fine level contractor activities.

**4. To ensure that central and crucial technical issues are well ventilated, the Department should**

- Create competing teams of technical and scientific experts to peer review each others' work.
- Make their critiques public.
- Provide incentives (resources, prestige, etc.) if they persuade the broader expert community of the soundness of their arguments.

## **SPECIFIC MEASURES AND POLICIES THAT MIGHT BE ADOPTED BY OCRWM**

### **1. *To demonstrate its commitment to taking into account the interests of the citizens of Nevada, OCRWM should***

- **Undertake public and private initiatives to initiate a dialog with State officials.**
- **Be quite forthcoming with respect to what it offers, but seek as part of the bargain appropriate conduct from the State in the relationship.**
- **DOE should not condition its offer on the State dropping its opposition to characterizing the Yucca Mountain site.**
- **Offer the same terms and conditions to the *situs* County, Nye, whether or not the State enters into a relationship.**

### **2. *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.**
- **Look favorably on 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 program is in anything other than an experimental mode.**
- **Foster a culture that will resolve uncertainties in a manner that places the highest priority on protecting health, safety, and the environment.**

### **3. *To acknowledge the symbolic and real barriers to trust and confidence that arose when the bargains contained in the NWPA either collapsed or have moved to the verge of collapse, OCRWM should***

- **Use the opportunity provided by a recently mandated report to Congress to revisit the dual issues of multiple sites and multiple repositories.**
- **Emphasize that the primary driving force behind this program is the need to solve a**

serious national problem and only secondarily is it to promote the expansion of the nuclear power option.

- Explore with nuclear utilities ways of responding to concerns that derive from the Department's inability to construct either central storage facilities or a geologic repository on a timely basis.

## NECESSITY AND SUFFICIENCY

One of the questions that the Task Force has grappled with almost from the start of its deliberations has been: Can any list of recommendations do more than posit *necessary* conditions for strengthening public trust and confidence? Are there any guarantees that if all of them were adopted and implemented in good faith that institutional trustworthiness would increase?

Senior managers from OCRWM in their formal appearances before the panel and in informal conversations with Task Force members and staff were not hesitant to express skepticism that the second question had an affirmative answer. They point to a State that appears implacably opposed to even studying Yucca Mountain, to an inherent programmatic tension that seems to promise only increased distrust from one group in exchange for increased trust from another, and the intervention of outside parties, most notably Congress passing the NWPA Amendments Act, who have created an institutional context that almost seems purposely designed to stimulate distrust. Those claims cannot be dismissed easily.

The group, however, believes that those vicious cycles that now confront OCRWM were at least in part brought about because of choices the Department consciously made. Indeed, for some, the Amendments Act can be seen not as a climax, but rather as a *denouement* whose climax occurred eighteen months earlier when then Secretary of Energy Harrington decided not to pursue a site for a second repository. (If so, that case may offer important lessons for EM today.)

But, even so, the Task Force is not prepared to say that its suggestions are *sufficient for increasing institutional trustworthiness*. It puts them forward for another reason. They probably are a sufficient basis for DOE to show that it is *worthy of trust*. For some stakeholders that is of little consequence. For others, it may be too little value bought at too high a price.

## FUNDAMENTAL STRUCTURAL REFORM

The panel has left to last a question that it could not reach complete agreement upon: should the civilian radioactive waste management program be removed from the Department? If so,

where should it go?<sup>30</sup> One of our members wrote fifteen years ago about a DOE predecessor agency, "The existing organization for radioactive waste management is likely to be unworkable if left unchanged.<sup>31</sup> He proposed a federally chartered public corporation as a replacement. Seven years later, in a study ordered by Congress, the Advisory Panel on Alternative Means of Financing and Managing Radioactive Waste Facilities ("AM-FM") told Energy Secretary Hodel essentially the same thing.<sup>32</sup> A report by the Office of Technology Assessment several months shortly thereafter reiterated the advise.<sup>33</sup> Significantly the reasons given for supporting reorganization were all associated with the claim that the Department lacks credibility. They included its legacy of mismanaging defense waste and the civilian waste program, its inability to hire talented professionals, the conflicting pressures it is subjected to because of its many responsibilities, and its exposure to the capriciousness of the political system. Perhaps the most proffered rationale over the years was simply that things could be any worse.

Why wasn't at least part of the Task Force persuaded by what many stakeholders accept as the conventional wisdom? There is no single reason. A few felt that being exposed to the "capriciousness" of politics was positive not negative. Others observed that to disentangle the programs was likely to have unpredictable consequences, some of which might be worse than the *status quo*. Still others noted that if the political system was willing to make such a fundamental change, it might be willing to reconstitute OCRWM's institutional environment thereby removing some of the vicious circles that inhibit its ability to build trust and confidence. Finally, some members believed that, while important, trustworthiness ought to be weighed against other considerations such as the financial ramifications of reorganization.

In the hope of resolving some of the disagreement, the Task Force commissioned two studies: the first looked at what is known about the effects of federal bureaucratic reorganizations; the second analyzed the underlying causal logic of the AM-FM Report and asked whether that logic had any empirical support.<sup>34</sup> The assessments concluded, in order, that reorganization is largely a hit-and-miss affair and that the assertions and "empirical" foundations of the AM-FM effort were plausible but hardly compelling.

If there was disagreement on whether OCRWM's functions should be removed from DOE, there

---

<sup>30</sup> There was virtually no sentiment for taking EM out of DOE.

<sup>31</sup> Mason Willrich and Richard Lester, *Radioactive Waste: Management and Regulation*, (New York: The Free Press, 1977), p. 117.

<sup>32</sup> Advisory Panel, *Managing Nuclear Waste -- A Better Idea*, (1984).

<sup>33</sup> Office of Technology Assessment, pp. 162-164.

<sup>34</sup> See Craig Thomas, "Reorganizing Public Organizations: Alternatives, Objectives, and Evidence," and Craig Thomas, "AM-FM's Corporate Solution for Radioactive Waste Management: Appealing But Inappropriate?" The papers are included in Part Three of this Report.

was some agreement on other points. No one supports a reorganization in the next two or three years. And there is considerable support for the following set of ideas and proposals.

- The Task Force believes that it has explored the question of DOE strengthening public trust and confidence at a level of detail that has not occurred in the past.
- It has presented a number of recommendations that it unanimously believes are necessary for building institutional trustworthiness and that are probably sufficient for demonstrating that the organization is worthy of trust.
- Over the next three or so years, DOE managers and policy-makers will have the opportunity to implement those suggestions. How they do so shall be one important indicator of the willingness, capacity, and capability of the organization to make progress re-forming itself.
- Interested parties shall observe the experiment and make judgments about its efficacy.
- Early next year, the Department shall contract with an organization such as the National Academy of Public Administration to prepare an in-depth study of the operational, legal, and financial implications of removing OCRWM's functions from DOE.
- By January 1995, the Secretary shall appoint another panel, based on recommendations from a group that might include the Governor of Nevada, the Chairman of the NWTRB, a representative of the National Conference of State Legislators, or the National Association of Utility Regulatory Commissioners.
- By January 1996, based on information developed from the study, on the progress DOE has made in making itself worthy of trust, and on the views of affected parties, that panel will submit its report and conclusions on the question of reorganization, accompanied by comments from the Secretary, to Congress to be disposed of as it chooses.