KSD ✓

DCL.21 (305)

OFFICE OF THE
EXECUTIVE DIRECTOR
FOR OPERATIONS

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555

June 18, 1992

NOTE TO: D. Martin, OCM/IS
L. Van Cise, OCM/KR
K. Dragonette, OCM/JC ✓
R. Boyle, OCM/FR
K. Whitfield, OCM/deP

FROM: Jim Blaha, AO/OEDO

SUBJECT: TRANSMITTAL OF BRIEFING PACKAGE FOR THE 6/24/92 DOE/OCRWM BRIEFING OF THE COMMISSION

Attached for the information and use of the Commission is a briefing package prepared by the Office of Nuclear Material Safety and Safeguards that contains material pertinent to the June 24, 1992 briefing of the Commission by Dr. John Bartlett, Director, DOE/OCRWM.

Jim Blaha, AO/OEDO

Attachment:
As stated

cc: (w/o encl.)
J. Taylor, EDO
J. Sniezek, DEDR
H. Thompson, DEDS
J. Blaha, AO/OEDO
SECY
K. Stablein, OEDO

Department of Energy
Washington, DC 20585

Mr. Samuel J. Chilk
Secretary
Nuclear Regulatory Commission
Washington, DC 20555

Dear Mr. Chilk:

Enclosed please find 20 copies of a statement for the record and viewgraphs which will be used in conjunction with a presentation by Dr. John Bartlett, Director of the Office of Civilian Radioactive Waste Management, to the Nuclear Regulatory Commission on June 24, 1992.

If you have any questions, please feel free to contact me on (202) 586-9896 or Linda Desell of my staff on (202) 586-1462.

Sincerely,

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

Enclosures (20)
Twenty copies of Statement for the Record, John W. Bartlett
Twenty copies of viewgraphs

cc:
J. Linehan, NRC
J. Holonich, NRC
C. Gertz, YMPO (w/enclosures)
R. Loux, State of Nevada
M. Baughman, Lincoln County, NV
J. Bingham, Clark County, NV
B. Raper, Nye County, NV
P. Niedzielski-Eichner, Nye County, NV
G. Derby, Lander County, NV
P. Goicoechea, Eureka, NV
C. Schank, Churchill County, NV
F. Mariani, White Pine County, NV
V. Poe, Mineral County, NV
E. Wright, Lincoln County, NV
J. Pitts, Lincoln County, NV
R. Williams, Lander County, NV
J. Hayes, Esmeralda County, NV
M. Hayes, Esmeralda County, NV
B. Mettam, Inyo County, NV

STATEMENT FOR THE RECORD

PRESENTATION TO THE U.S. NUCLEAR REGULATORY COMMISSION

STATUS: IMPLEMENTATION OF THE ANNOTATED OUTLINE
AND
ISSUE RESOLUTION INITIATIVES

BY

JOHN W. BARTLETT, DIRECTOR
OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT
U.S. DEPARTMENT OF ENERGY

JUNE 24, 1992

INTRODUCTION:

I greatly appreciate this opportunity to discuss with the Commission the status of our implementation of the Annotated Outline and Issue Resolution Initiatives. When I met with you last December to discuss the status of our program, our dialog touched on the development of the Annotated Outline, which was then just beginning. I am pleased today to report to you evidence of considerable progress on this subject. I want to inform you of our accomplishments and obtain your guidance for our future work.

Before describing our work on the Annotated Outline and Issue Resolution, I would like to briefly report on the progress of our program since last December. Six months ago, I reported that we were planning to expand the site evaluation work which we started last July. I am pleased to say that we have indeed done this principally through extension of our drilling and trenching activities. During May, we put our LM-300 drilling rig into operation for the first time at the Yucca Mountain site. This is the advanced technology rig which enables us to dry-drill to depths below the prospective repository horizon while simultaneously obtaining core samples. Use of this rig represents a major advance in our capability to obtain geologic and hydrologic data.

Last December I also reported that we expected in the spring to issue for public comment and review the so-called Early Site Suitability Evaluation report. This contractor report, which also received independent peer review, provides a snapshot-in-time assessment of available data in terms of our site evaluation criteria. The report was issued for comment as planned and was the subject of our first Director's Forum, held early in May, during which representatives of interested and affected parties had an opportunity to comment on the report and to discuss it with DOE personnel. After receipt and consideration of comments,

the Department will use the report as a basis for planning and prioritizing our future site characterization activities.

In April, the National Academy of Sciences Panel on Coupled Hydrologic/Tectonic/Hydrothermal Systems at Yucca Mountain issued its report on the origins of the calcite -silica deposits discovered at the Yucca Mountain site in Trench 14, under the title "Ground Water at Yucca Mountain: How High Can It Rise?" The technical issue represented by the deposits was the potential for ground water to rise into and through the repository, a phenomenon which, if it occurred in the past and could occur in the future, could render the site unsuitable as a location for a repository. The Panel reported unanimously and unequivocally that the deposits were not the result of groundwater upwelling.

The progress in site characterization, the Early Site Suitability Evaluation report, and the Panel's report obviously have direct bearing on our efforts regarding issue resolution and the annotated outline, and they demonstrate that effort in these areas is both timely and essential. I would like, therefore, to turn now to detailed consideration of these efforts, with the observation that our interactions with the Commission staff on these matters have been highly beneficial and effective to date. We look forward to continuing effectiveness of interactions and progress, of which this meeting today is a part.

BACKGROUND:

NRC first promulgated its requirements for DISPOSAL OF HIGH-LEVEL RADIOACTIVE WASTES IN GEOLOGIC REPOSITORIES, 10 CFR PART 60, in 1983. It issued guidance on the acceptable format and content for a license application in November 1990 when the Draft Regulatory Guide DG-3003, FORMAT AND CONTENT FOR THE LICENSE APPLICATION FOR THE HIGH-LEVEL WASTE REPOSITORY (FCRG), was distributed for comment. Because NRC would be applying the controlling regulations in a repository license proceeding for the first time and DOE would be a license applicant for the first time, the NRC staff (staff) realized that a truly useful guide would benefit from and therefore should be based on actual experience. In the spring of 1991, the staff suggested that DOE use the draft guide to prepare an annotated outline for a license application that would be submitted to the staff for guidance and comment. Changes in the draft FCRG would then be based on the staff's evaluation of DOE's views of its experience in using the guide, the staff's consideration of the annotated outlines submitted by DOE in the context of what it thought the FCRG called for, and subsequent DOE and staff discussions of the implications of this experience. We accepted the staff's suggestion in September and met with the staff in November to discuss regulatory strategy in general, issue resolution and the use of the annotated outline in the development of the FCRG and potential license applications in particular, and the schedule on

which we planned to pursue these initiatives. In response to a staff question, we advised that we would be submitting annotated outlines for potential repository and monitored retrievable storage facility (MRS) license applications at a rate of twice a year. We planned to do this and are implementing this plan.

THE RATIONALE FOR ANNOTATED OUTLINES AND ISSUE RESOLUTION:

DOE is involved in characterizing and determining the suitability of the Yucca Mountain site and in developing an MRS. We're obviously a long way away from having to submit applications for licenses authorizing construction of either a repository or an MRS. Why then are we involved in preparing annotated outlines for potential license applications and in issue resolution?

The statutory process for obtaining authorization from NRC to construct a repository includes site characterization, the Secretary's recommendation that the President approve the site, the President's recommendation of site approval to the Congress, and approval of that recommendation by the Congress. These activities, illustrated in Figure 1, precede the submittal of the license application. NRC's role in this process is to observe, review, and comment on DOE's site characterization activities pursuant to the preapplication review provisions of 10 CFR Part 60. Such activities, as set forth in 10 CFR Part 60.18(l), constitute informal conference between a prospective applicant and the staff and are not part of a proceeding under the Atomic Energy Act of 1954, as amended. NRC's statutory role also includes providing preliminary comments concerning the extent to which at-depth site characterization analysis and the waste form proposal for the site seem to be sufficient for inclusion in any application for licensing of a site as a repository. These comments are required in accordance with the provisions of Section 114(a) of the Nuclear Waste Policy Act (NWPA) as part of the basis for the Secretary's recommendation of site approval to the President.

To comply with the provisions of Section 114(b) of the NWPA, DOE will have to complete and submit an application for a license within 90 days of the date on which the recommendation of the site designation becomes effective. This schedule requires that the license application be substantially complete when the Secretary recommends approval of the site and it therefore makes sense for us to develop an annotated outline in parallel with site characterization. We are doing this and are also preparing an annotated outline for a license application for an MRS so that we can meet MRS schedules that are just as tight.

The license application itself will be the end product of progressively more complete annotated outlines, each submitted to the staff for guidance and comment. Its development will be an

iterative process we call the Annotated Outline Initiative in which, as a result of the staff's consideration of each submittal, questions may be raised by the staff and points of disagreement may be identified. These questions and points of disagreement, issues, will have to be addressed and eventually resolved through a process that we call the Issue Resolution Initiative. The intent of issue resolution is to clarify the meaning of regulations being applied for the first time and to resolve licensing issues with the NRC staff to the extent that this is practicable at this stage of the licensing process. The Annotated Outline and Issue Resolution Initiatives are complementary. They are both integral parts of the process, illustrated in Figure 2, that will eventually lead to the completion of the FCRG and the license applications we will submit to the Commission for formal review.

These initiatives are the heart of the Office of Civilian Radioactive Waste Management's (OCRWM) aggressive efforts to move our program forward. They will lead to much more than the final FCRG and timely submittal of license applications. They will be vital management tools used to integrate the program, validate plans for characterizing the Yucca Mountain site, and maintain continuity of site characterization, design, and licensing activities over the very long periods of time that will be required. And, of at least equal importance, they will facilitate the NRC staff's review of the license applications we will submit once suitable sites are found.

THE ANNOTATED OUTLINE INITIATIVE:

The Annotated Outline Initiative is based on our own experience and the experience of the nuclear utility industry. Since 1985, annotated outlines have been used in planning three major licensing documents, all of which were completed on schedule. Most recently, an annotated outline was used to develop the license application for the Louisiana Energy Services Uranium Enrichment Plant which has been under review by the Commission since January 1991. A similar process is being used to prepare the Environmental Assessment (EA) for the MRS.

The Annotated Outline (AO) for the potential repository consists of chapters and sections that correspond to those in the FCRG. It will be developed from the bottom up, section-by-section, by a team of technical experts and writer/coordinators. The technical experts will be the lead authors who will scope and prepare designated sections of the AO. The writer/coordinators will integrate and coordinate the efforts of the lead authors, scope and prepare those AO sections that can be readily developed by authors lacking extensive technical expertise, and prepare

preliminary drafts of material for sections for which technical expert/lead authors have yet to be designated.

The AO will be developed carefully in stages - from planning packages to skeleton text that will become less and less skeletal with each draft and eventually will evolve into a complete application. The development process is illustrated in Figure 3.

The planning packages are the keys to the successful development of the AO. As indicated in Figure 4, they include plans to develop text, figures, tables, and the references that are likely to be cited; forms for requesting information, figures, tables, and text that the lead author will need from others; information response forms; and information request tracking log forms.

We transmitted the second drafts of the planning packages for the repository and MRS AOs to the staff in December 1991 and began the process of expanding the AOs into a format we call "skeleton text," i.e., text with holes. It is this text, formatted in the same way the license application will be formatted, that corresponds roughly to what Chairman Selin referred to as a "bracketed application" last December.

In drafting the text, each time the lead author reaches a point where information is not available, he or she will leave a blank space into which the missing information will eventually be inserted. At that time, the lead author will prepare an information request form. This request, a written notice of the need for information, will then be forwarded to the individual who is the proper supplier of the information required. That person can then enter into a dialogue with the lead author and refine the request to the extent required. The request should also alert the information supplier of the potential need to obtain and allocate any additional resources required to develop the response to the request. The requested information will be provided on the information response forms and information request tracking log forms will be used to track the status of requests.

The planning package is attached to the skeleton text. It is designed so that it can be updated when this is required to reflect the evolution of plans for preparing the figures, tables, references, and other information needs as the skeleton text is fleshed out.

We transmitted the DOE Mined Geologic Disposal System (MGDS) Annotated Outline (AO) Skeleton Text for the Preparation of a License Application, dated April 17, 1992, to the staff on April 24, 1992, and the comparable MRS document on March 31, 1992. In so doing, we advised that the staff's comments and guidance would be most useful if provided by the end of May 1992, thereby

providing sufficient time for us to take this advice into account in the updated AOs we will provide in September.

On June 3, 1992, we participated in a technical exchange with the staff on the FCRG and the AO. We reviewed our experience to date in using the draft guide, discussed the staff's plans for the further development of this document, and were informed of and discussed the staff's preliminary comments on the annotated outlines. We believe the suggestions we've made and will be making for improving the FCRG are constructive, substantive, and fully consistent with the staff's goal of developing a user-friendly, experienced-based guide. We're well into the process of interacting with your staff on this document. The Annotated Outline Initiative is already helping us - DOE and the NRC staff - identify the issues we need to address. That is the kind of progress we've been looking for and will continue to make.

THE ISSUE RESOLUTION INITIATIVE:

One of the objectives of our site characterization program and the Annotated Outline Initiative is the early identification and resolution of licensing issues to the extent that this is practicable prior to the formal submittal and subsequent review of license applications. The Edison Electric Institute had suggested quite some time ago that such efforts would help move the program forward and we took this suggestion to heart. We are now actively involved in these activities. We refer to them as the Issue Resolution Initiative.

At our meeting with the staff last November, we discussed our approach to issue resolution and defined a licensing issue as:

> "Any regulatory concern with technical and/or programmatic impacts that must be resolved through research, position development, and presentation to the staff, to allow the licensing process to move forward for the MRS or MGDS"

This definition is broad enough to encompass all of the open items, questions, and high visibility concerns previously raised such as volcanism and the origin of the calcite-silica deposits, and other matters that may be identified during the course of staff oversight and consideration of annotated outlines or our ongoing site characterization activities.

As I've already indicated and as Commissioner Rogers noted in his remarks at the International High-Level Radioactive Waste

Management Conference last April, staff guidance and comment site characterization and related activities, for example on annotated outlines and our efforts to resolve issues, are considered informal conference between a prospective applicant and the staff. We realize that unless an issue is resolved by a rulemaking, it is not closed. Resolution of issues through guidance documents or meetings constitutes "resolution" only at the NRC staff level and does not foreclose any party from raising the issue at an eventual license proceeding. Nevertheless, because the regulations are being employed for the first time and because DOE is a first-time applicant, we believe that intensive efforts to resolve issues, e.g., to clarify and converge with the staff on the meaning of the regulations, are fully consistent with our objective of moving the program forward. We are convinced that these efforts will facilitate your review of the formal license applications we will eventually submit once suitable sites are found.

The techniques of issue resolution are not new. They have been developed and refined over the past 30 years by the Commission and the nuclear industry. They include technical meetings and exchanges; site visits; the preparation and review of staff technical positions, NUREGS, and regulatory guides, and annotated outlines and topical reports prepared by applicants; and rulemaking. Together, we are and will be involved in all of these activities over the life of our program.

At our meeting with the staff in November, we also discussed the organization we created to manage our issue resolution activities, the important issues we had thus far identified that we planned to pursue over the short and longer term, our views on the role topical reports should play in the issue resolution process, and some key milestones for short-term issues. Since then, we've made a great deal of progress.

Our Issue Resolution Steering Group, staffed with DOE Headquarters, Yucca Mountain Project, and M&O personnel, is actively involved in managing our efforts. The Issue Resolution Steering Group established Issue Resolution Working Groups staffed with experienced M&O technical and licensing personnel and project participants to develop and implement plans to resolve both short- and long-term issues (Figure 5). These include:

- Short-Term Issues
  - Evidence of Extreme Erosion
  - Origin of Calcite-Silica Deposits
- Longer-Term Issues
  - Boundary of the Engineered Barrier System

- Boundary of the Disturbed Zone
- Substantially Complete Containment
- Pre-Waste Emplacement Groundwater Travel Time
- Seismic Design Criteria
- Volcanism

The work we are doing is and will be concerned either with documenting our efforts to demonstrate compliance with applicable NRC requirements, with developing the understanding of the meaning of regulatory terminology that is basic to our efforts to comply with NRC requirements, or with reaching agreement on the adequacy of the methodology we will use to demonstrate compliance.

We met with the staff in May to discuss our progress on the Extreme Erosion issue and will submit a topical report on this subject in October. We will meet with the staff again in July to discuss the calcite-silica issue and our approach to resolving this issue. These meetings and submittals are being carried out on a schedule consistent with the schedule we discussed with the staff at our meeting in November. Our work on the other issues we have identified thus far will extend through and perhaps beyond 1993. These efforts will certainly involve technical meetings and exchanges with the staff, they may lead the NRC staff to prepare technical positions, regulatory guides, or safety evaluation reports, and, in the case of the Seismic Design Criteria issue, they may very well lead to rulemaking. In any event, we hope our efforts will lead to the development of shared understanding and the resolution of these issues and others identified during the NRC staff's oversight of our site characterization and the annotated outlines.

SUMMARY:

With our Annotated Outline and Issue Resolution Initiatives, we have set in motion a process that will promote the convergence of all of our efforts to determine whether the Yucca Mountain site is suitable and prepare the key documents required for site approval and licensing. I've illustrated this process in Figure 6.

Our site characterization activities provide the basis for design and performance assessment activities which feed into the MGDS Annotated Outline and Issue Resolution. With each iteration of the annotated outline, new issues will undoubtedly be identified as a result of our interactions with the NRC staff. These will have to be addressed. That may require that we obtain additional data and, perhaps, some redirection of our site characterization activities at Yucca Mountain. If we do our job properly, the number of new issues to be resolved should decrease with each iteration and with each iteration we will fill in the holes in the skeleton text and flesh out our "bracketed

application." This process will provide us with the information we need to determine whether the site is suitable and prepare and complete the site recommendation report, environmental impact statement, and license application. We are using the same basic process to develop the license application for the MRS.

I want to state for the record that the Commission and its staff have given us good advice. We've acted on it and are beginning to make the cost-effective progress we need to make as I've outlined in Figure 7. In the last six months, on Annotated Outline and Issue Resolution Initiative-related matters alone, we have

- submitted planning packages for the MRS and MGDS annotated outlines;
- submitted the first iterations of the annotated outline skeleton texts for preparing the MRS and MGDS license applications;
- participated with the staff in a a very useful and informative technical exchange on the FCRG and the annotated outline;
- organized and initiated efforts to resolve significant licensing issues; and
- participated with the staff in a technical exchange on the extreme erosion issue.

In July, we will participate with the staff in a scheduled technical exchange on the issue of the origin of the calcite-silica deposits. And, in September, we will submit the second iterations of the annotated outline skeleton texts for preparing the MRS and MGDS license applications to the staff for guidance and comment. We've done and are doing all of this on the schedule we've previously provided to you.

The Commission has been extremely helpful. I'm here today to thank you, on behalf of DOE, for the advice and support you have provided thus far. The important work we're doing is consistent with that advice and support. We're building up momentum. We need your continued advice and support to increase that momentum and move this program forward.

ATTACHMENT

ANNOTATED OUTLINE
PLANNING PACKAGE

1. Section No. & Title: **ANNOTATED OUTLINE FOR A SAFETY ANALYSIS SECTION 2.3 - METEOROLOGY**

2. Lead Author & Phone No. Nick Seagle (704) 382-0176

3. First Phase Planning Package Due to DOE: 06/28/91

   Second Phase Planning Package Due to DOE: 09/30/91

   First Phase Skeleton Draft Due to DOE: 12/31/91

   Second Phase Skeleton Draft Due to DOE: 03/31/92

4. Plan Approved: R.G. Morgan 09/30/91
   (MRS Licensing Manager)

5. Section Summary (Approximately 100 Words):

   This section provides a meteorological description of the site and its surrounding area. Meteorological conditions that influence the design and operation of the MRS are identified. The bases for all meteorological parameters that are used as a design bases for the various facility structures are described.

6. Opening Statement:

   This section provides a meteorological description of the site and its surrounding area. Meteorological conditions that influence the design and operation of the MRS are identified. The bases for all meteorological parameters that are used as a design bases for the various facility structures are described.

7. Main Body Outline:

2.3 METEOROLOGY

2.3.1 Regional Climatology

2.3.1.1 Data Sources
2.3.1.2 General Climate
2.3.1.3 Severe Weather

A. Maximum and minimum temperatures
B. Extreme winds
C. Tornadoes
D. Hurricanes and tropical storms

E. Precipitation extremes
F. Thunderstorms and lightning strikes
G. Snow Storms
H. Hail and ice storms
I. Other conditions used in design consideration (i.e., blowing dust, stagnant air, solar insolation, etc.)

2.3.2 Local Meteorology

2.3.2.1 Data Sources
2.3.2.2 Topography

2.3.3 On-site Meteorological Measurements Program

2.3.4 Diffusion Estimates

2.3.4.1 Basis
2.3.4.2 Calculations

8. Conclusion:

9. Support Authors & Their Assignments:

Section No. & Title: **ANNOTATED OUTLINE FOR A SAFETY ANALYSIS SECTION 2.3 - METEOROLOGY**

Lead Author & Phone No. Nick Seagle (704) 382-0176

A. Figure **2.3-A**

Caption: **Topography Within 5 Miles**

Content:

A map showing the detailed topographic features (as modified by the facility) on a large scale within a 5-mile radius of the site. (NLS-44) (Sections 2.3.1.2, 2.3.2.2)

B. Figure **2.3-B**

Caption: **Topography Within 10 Miles**

Content:

A small scale map showing the topography of the installation and a plot of maximum elevation vs. distance from the center of the installation in each of the sixteen, 22 ½ degree compass point sectors radiating from the facility to a distance of 10 miles. [This may have to cover 50 miles instead of only 10 miles based upon NRC comments to a recent LA submittal.] (NLS-45) (Section 2.3.2.2)

C. Figure **2.3-C**

Caption: **Relative Positions of Meteorological Instruments**

Content:

A plot plan indicating the relative positions of the meteorological instruments with respect to main structures of the facility. (NLS-46)

Section No. & Title: **ANNOTATED OUTLINE FOR A SAFETY ANALYSIS SECTION 2.3 - METEOROLOGY**

Lead Author & Phone No. Nick Seagle (704) 382-0176

Instructions: List all books, articles, or other references that you expect to use for your section. Indicate whether references are draft or final and whether they are publicly available (i.e., published). Refer to the Writer's Guide, Appendix D of the Annotated Outline Management Plan, for guidance on formatting reference information.

1. Slade, D.H, "Meteorology and Atomic Energy", National Technical Information Service, TID-24190, Springfield, VA, 1968.

2. U. S. Nuclear Regulatory Commission, Design Basis Tornado for Nuclear Power Plants, Regulatory Guide 1.76, Revision 0, April 1974.

3. U. S. Nuclear Regulatory Commission, Flood Protection for Nuclear Power Plants, Regulatory Guide 1.102, Revision 1, September 1976.

4. U. S. Nuclear Regulatory Commission, On-Site Meteorological Programs. Regulatory Guide 1.23, Revision 0, February 1972.

5. U. S. Nuclear Regulatory Commission, Regional Climatology, NUREG-0800, Standard Review Plan 2.3.1, Revision 2, July 1981.

6. U. S. Nuclear Regulatory Commission, Tornado Design Classification, Regulatory Guide 1.117, Revision 1, April 1978.

7. U. S. Nuclear Regulatory Commission, Atmospheric Dispersion Models for Potential Accident Consequence Assessments at Nuclear Power Plants, Regulatory Guide 1.145, Revision 1, November 1982.

8.

9.

10.

Annotated Outline Information Need Form
Form A: Information Request

1. Section No. & Title: **ANNOTATED OUTLINE FOR A SAFETY ANALYSIS SECTION 2.3 - METEOROLOGY**

2. Lead Author & Phone No.: Nick Seagle (704) 382-0176

3. Work Location: MRS Design, Charlotte, NC

Instructions: Sections 1-8 are completed by the lead author. This form is used during the development of the Annotated Outline when a lead author has identified the need for information which must be supplied by another group. More than one request for information may be placed on one form, but only if the information is to be supplied by the same group. The group responding to the request for information may use section 9 and 10 to respond, or use Form B: Information Response. Attach additional sheets if more space is needed.

4. Type of information needed:

Meteorological Data Gathering information:

- A: Source of regional climate data
- B: Area name hosting MRS facility such as county name
- C: Source of meteorological observations
- D: Dates of Meteorological observations
- E: Any other data sources
- F: Name of region of major storm track
- G: Amount of precipitation (high, low, moderate, etc.) in the same region
- H: Relative location of the same region
- I: Description of pressure fluctuation that would influence regional climate
- J: Season name (Fall, Winter, Spring, Summer) when effluents dilution rates would be most significantly changed
- K: Type of weather condition associated with the same season that would significantly effect effluent rates
- L: Indicate if winds significantly change in this season

5. What is the information needed for? (e.g., Safety Analysis Section 3.2):

SAR Section 2.3.1.1, Data Sources, 2.3.1.2, General Climate.

6. What group is the probable information supplier?

MRS Siting.

7. When is the information needed?

After site selection

8. What kind of related information is already available in references, etc.? (List any known, related information sources):

9. Response by: Date:

10. Response (Include information source and date of source document):

Annotated Outline Information Need Form
Form B: Information Response

Log No.:
Revision:
Date:

Page __ of __

1. Section No. & Title: _____

2. Person Supplying Information: _____

3. Phone No.: _____

4. Lead Author (Requester): _____

Instructions: Information suppliers may use this form to communicate information which has been requested by lead authors via Information Request Forms. The Log No. on this form should be identical to the Log No. of the Information Request Form.

5. Response by Information Supplier (Include information source and date of source document):

Note: Attach Additional sheets if necessary.

Revised: 11/27/91

Annotated Outline Information Need Form Page ___ of ___

Form C: Information Request Tracking Log

Note: This is a recommended format for a manual tracking system. Other tracking methods such as a simple computer database are also acceptable.

Lead Author: _____

Log No.	Section	Date Issued	Date Response Received

Log No.	Section	Type of Information Requested
NLS-010	SAR2.6	Table showing a list of earthquakes in the region (date, intensity, location of epicenter) with an intensity of V or greater.
NLS-011	SAR2.6	Geology within five miles of the site.
NLS-012	SAR2.5	A water table contour map showing surface water bodies, recharge and discharge points, and the location of any monitoring wells(F2.5-A).
NLS-013	SAR2.5	Tabulated chemical constituents in surface water (ppm) (T2.5-B).
NLS-014	SAR2.5	Test results from soil samples used in determining field permeability values and sodium absorption ratio (T2.5-C).
NLS-015	SAR2.5	Table showing soil permeability values in ft/yr (T2.5-A).
NLS-016	SAR2.5	Figure showing the general groundwater environment surrounding the plant area (F2.5-B).
NLS-017	SAR2.4	Design flow flood information for adjacent water bodies (T2.4-A).

2.3 METEOROLOGY

2.3.1 Regional Climatology

2.3.1.1 Data Sources

NLS-95-A was used to find the regional climate around the area of NLS-95-B. Observations were taken from NLS-95-C between the dates of NLS-95-D and NLS-95-D. Nearby existing weather stations are being used to gather meteorological data. Other data sources are NLS-95E.

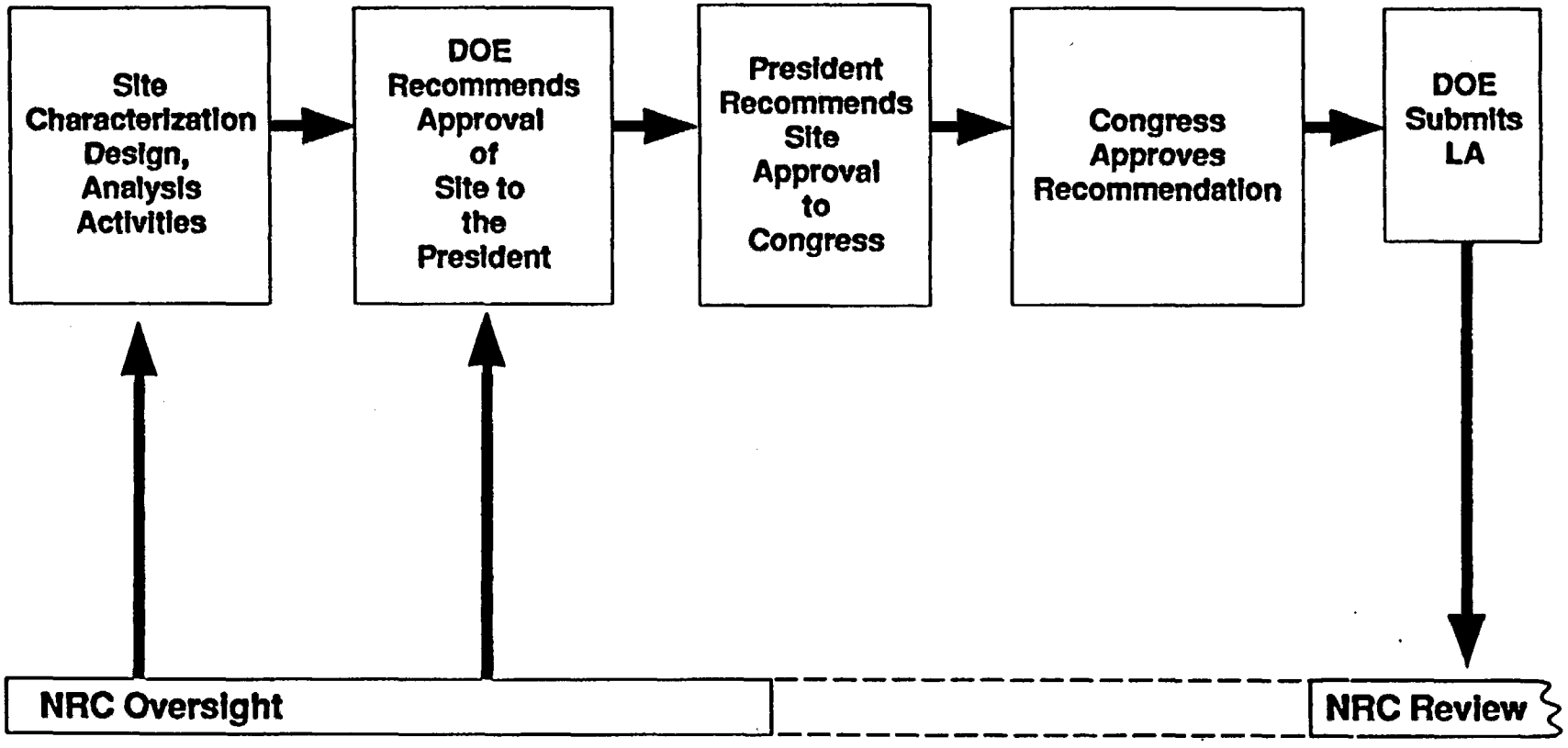
2.3.1.2 General Climate

The region of NLS-95-F is NLS-95-F of major storm tracks. It experiences NLS-95-G precipitation amounts due to its location in the NLS-95-H. A NLS-95-I of NLS-95-I pressure usually influences the regional climate. During the (NLS-95-J) season, the area has a high probability of experiencing NLS-95-K during which the dilution rate for effluents is NLS-95-L due to NLS-95-L wind speeds.

The MRS facility site is situated on NLS-96-A. The topography in the vicinity of the site is NLS-96-B (Figure 2.3-A) and the local air flow is NLS-96-C. The prevailing winds are divided between the NLS-96-D and NLS-96-D quadrants due to the NLS-96-E and NLS-96-E pressure effects.

FIGURES

Figure 1. Generic Authorization Process for a Suitable and Approved Site



T.290

Figure 2. DOE's Annotated Outline and Issue Resolution Initiatives

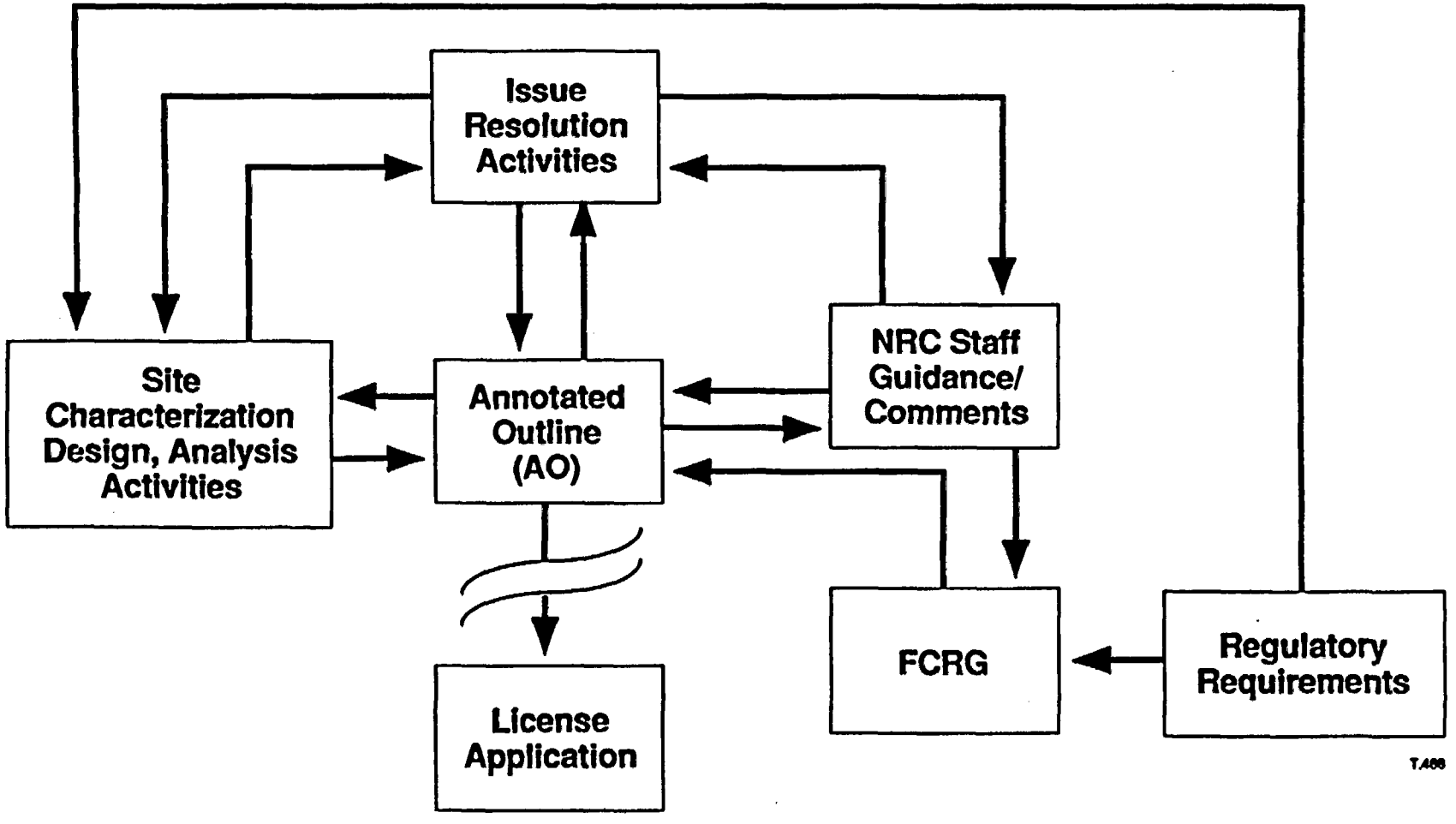


Figure 3. Annotated Outline Development Process

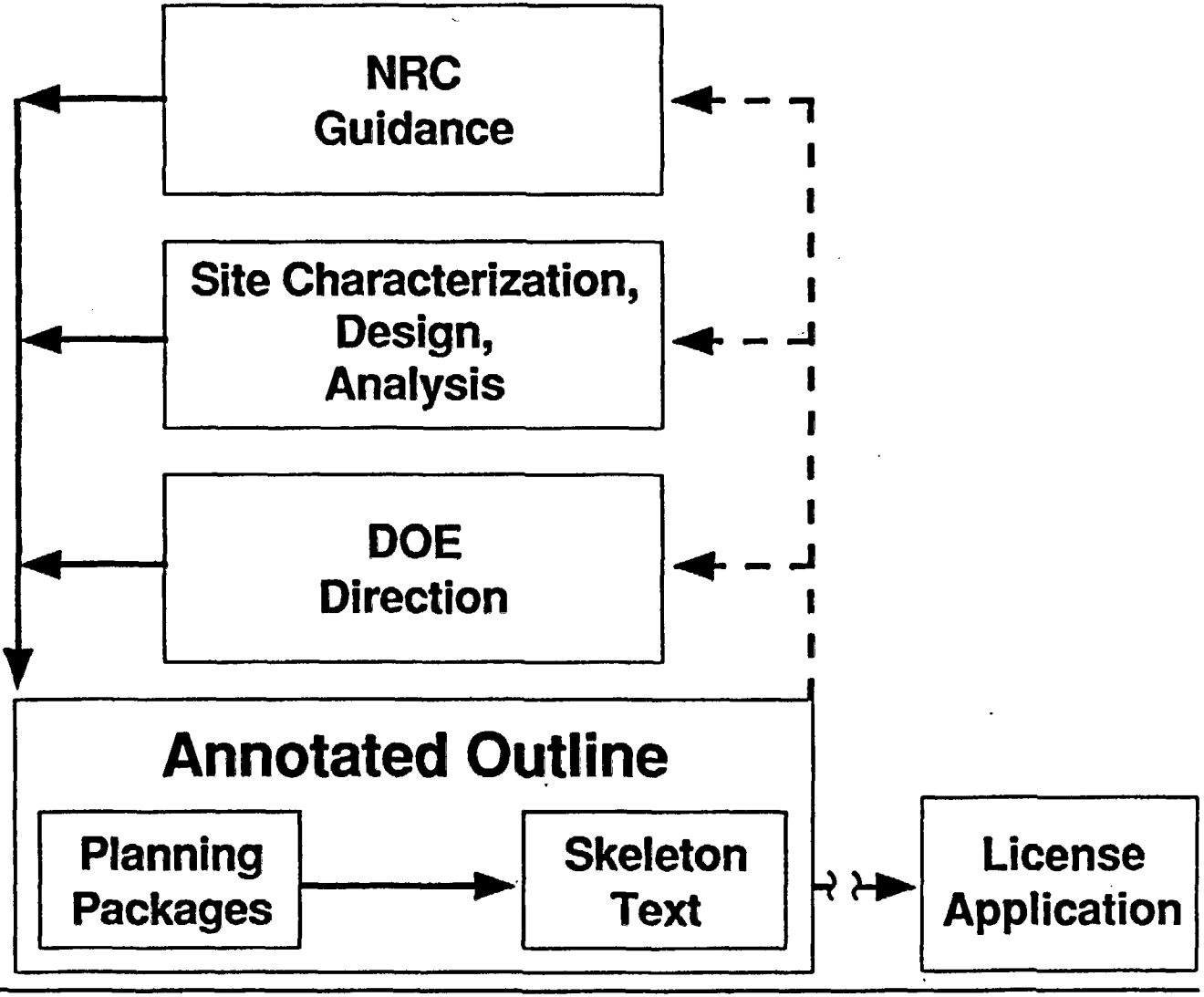


Figure 4. The Annotated Outline Planning Package

Plans for:

- Text
- Figures and Tables
- References

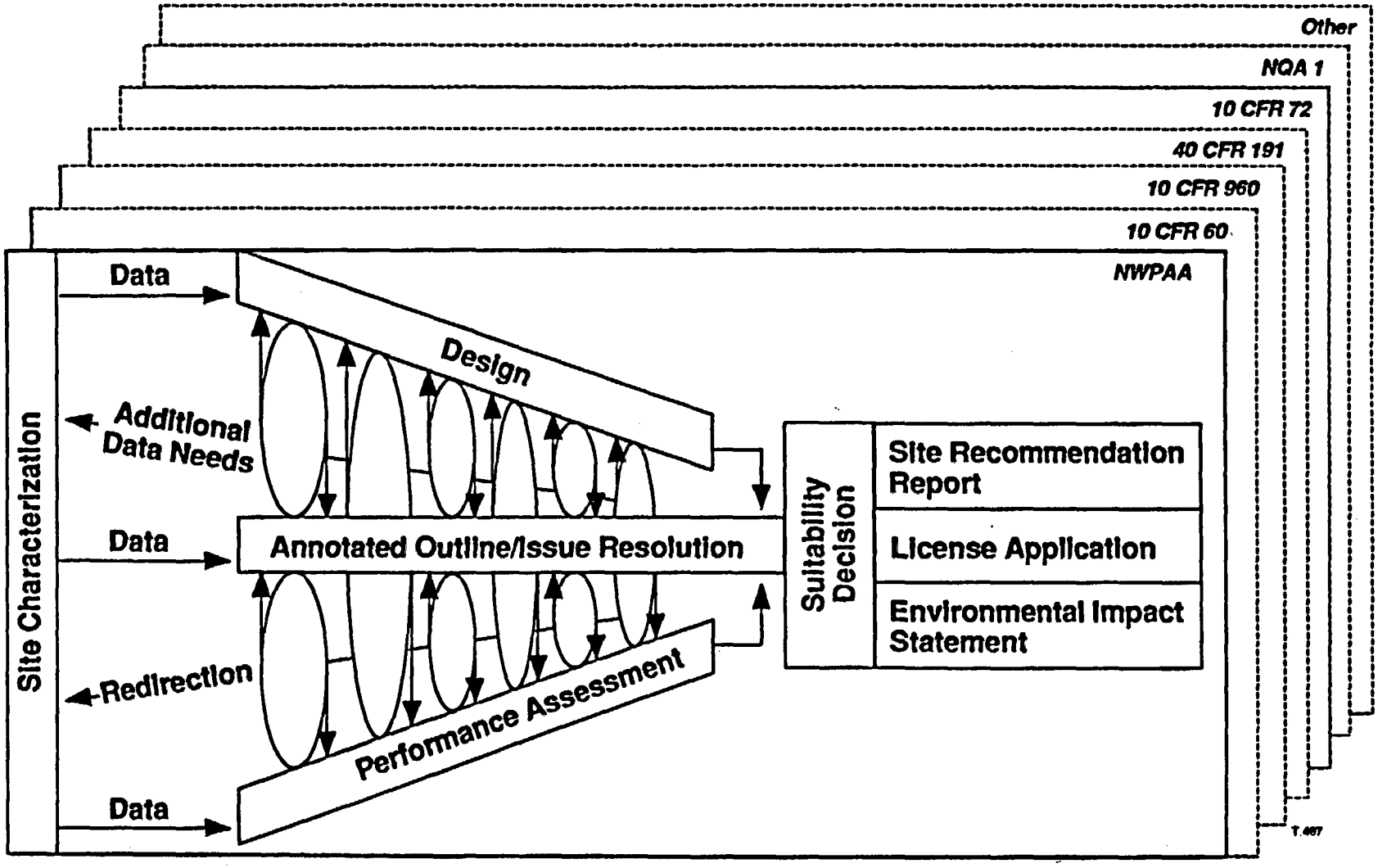
Forms for:

- Information Requests
- Responses
- Tracking

Figure 5. Issue Resolution Scope

- ***Short-Term*** **Issues**
- ***Long-Term*** **Issues**

Figure 6. Site Characterization Conference Process



STATEMENT OF

JOHN W. BARTLETT, DIRECTOR
OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT
U.S. DEPARTMENT OF ENERGY

BEFORE THE

COMMITTEE ON ENERGY AND
NATURAL RESOURCES
U.S. SENATE

MARCH 31, 1992

Mr. Chairman and Members of the Committee:

I am pleased to have the opportunity to appear before you today to discuss the program of the Office of Civilian Radioactive Waste Management (OCRWM). This past year was a year of significant achievement for our program--a year when recent hard work of refocusing and redefining has brought us progress in a number of areas as we will discuss below. Major activities are continuing, and we anticipate that this year will again be a year of significant progress. I want to emphasize the importance of moving forward expeditiously with the Civilian Radioactive Waste Management Program. It is crucial to the welfare of the Nation that we achieve progress and results in implementing safe permanent disposal of the current and projected buildup of spent fuel now stored at reactor sites across the country. In addition, demonstration of waste management capability is a key factor in the future of nuclear power and the promise it holds as a continuing source of clean, economic, reliable, and domestically-generated power. These factors doubly underscore our resolve to move forward aggressively to continue the progress we have made. Today I will describe our recent accomplishments and our commitment to future progress.

ACCOMPLISHMENTS DURING THE PAST YEAR

First Repository

In July, we started new site investigation work at the Yucca Mountain candidate site for the first time since 1986. This new work was the culmination of many activities, including issuance of necessary permits by the State of Nevada in response to court decisions. The new investigations are obtaining new information that our scientists will use to determine, as soon as possible, answers to some of our most pressing current technical questions--the origin of the calcite-silica deposits in Trench 14; the ages and periodicity of volcanic eruptions near the Yucca Mountain site; and the subsurface seismic characteristics in Midway Valley, where many of the surface facilities for the repository may be located.

We have completed development of a number of prototype processes, technologies, instruments and pieces of equipment. One of the foremost is the LM-300, a prototype drill rig and dry drilling and coring system that was delivered to the Department last December. The LM-300 is currently onsite and will be used in drilling operations this spring.

The program also continued crucial planning and design efforts which are essential to our ability to carry out our

responsibility. Following completion and review of the Exploratory Studies Facility Alternatives Study, we selected a modified design concept for the Exploratory Studies Facility (ESF). The modified design incorporates recommendations from the Nuclear Waste Technical Review Board, the Nuclear Regulatory Commission (NRC), and others. The design includes ramp access to geologic formations at and below the potential repository horizon, mechanical excavation rather than conventional drill and blast methods, and construction of 10 additional miles of drifts.

Another milestone occurred when the Secretary's Energy Systems Acquisition Advisory Board (ESAAB) fully approved the design of the ESF and authorized commencement of advanced design, pending funding approval.

Work continued on the Early Site Suitability Evaluation, which will guide the prioritization of site investigation activities so that issues that are most crucial to early determinations of the suitability of the site are considered early in the process. In addition, we initiated a baseline evaluation of site suitability using available data, as well as a preliminary performance assessment of a potential repository at the site. Both the site suitability evaluation and the preliminary performance assessment were conducted in compliance with the program's stringent, newly emplaced Quality Assurance program. The results of these efforts will guide OCRWM in

further focusing the set of priority site characterization activities that will enable early determination of site suitability.

Regarding the important issue of Quality Assurance, we responded to all of the remaining concerns that the NRC raised concerning our entire quality assurance program in August 1991, and on March 2, 1992, received official acceptance of our entire program-wide Quality Assurance program.

Throughout the past year we made significant progress in implementing improvements in our management operations. The Department signed a contract with the new Management and Operations (M&O) contractor who will have responsibility for program integration and technical direction. The M&O contractor will phase into full assumption of responsibilities over approximately the next two years. In addition, we are utilizing the Management Systems Improvement Strategy (MSIS), which is a functional analysis system approach for streamlining the Document Hierarchy and updating the Program Baselines.

One area in which we have not recently made progress as planned is our schedule for start of construction of the Exploratory Studies Facility (ESF). The schedule for start of ESF construction was delayed by one year, from November 1992 to

November 1993, as a result of a FY 1992 appropriation that was $30 million less than the $305 million requested.

The impacts of the $30 million shortfall were first absorbed as much as possible in program activities other than the ESF, including the Monitored Retrievable Storage (MRS) program, because we, like the Congress and the Nuclear Waste Technical Review Board, recognize the significance of the ESF as a key factor in overall progress at Yucca Mountain. Other activities could not, however, absorb the entire budget shortfall without loss of capability to begin receipt of spent fuel in 1998, loss of capability for compliance with regulatory requirements, and loss of ability to sustain baseline technical capabilities.

The one-year delay in the start of ESF construction was the minimum possible under the budget shortfall because of the restrictions on our ability to cut back on other activities and because of the costs for the package of ESF-related activities which must proceed together. At this stage of the program, three concomitant ESF-related activities are necessary: design; design control, which involves extensive interaction with NRC staff concerning relationships between ESF design, repository design, and assurance of waste isolation; and acquisition of site data which serves as a basis for ESF design. These activities could not proceed interactively as necessary, on the schedule

originally planned, with the budget reduction that had to be applied.

The one-year delay in start of ESF construction does not imply a corresponding one-year delay in overall schedule for the Yucca Mountain project. Three management actions we have taken should help to compensate for this delay. First, the new design for the ESF, which uses ramps instead of vertical shafts, will enable us to begin to obtain useful data sooner than would have been possible under the vertical shaft design concept. Second, our strategy to evaluate whether or not the site is suitable as soon as possible, through prioritization of site characterization activities, enables us to plan the use of the ESF to get critical results as effectively as possible. Third, our effort to produce the baseline site suitability evaluation report has given us information which is being used to select the most schedule-effective excavation strategy.

I, therefore, do not expect the one-year delay in start of ESF construction to have a significant impact on the rate of progress and achievement of objective at Yucca Mountain. Our ability to determine whether or not the site is suitable for a repository is expected to be controlled by the complexity of site features and our ability to translate the data into supportable findings concerning site suitability. We have established a site

evaluation strategy to make the process of data acquisition and interpretation as efficient as possible.

External Communications

We took major steps to open avenues of communication with the public and interested and affected parties, and to ensure that high quality technical information and educational opportunities are available to anyone wishing to become informed about our program. I have spoken before of my belief that for our program and its responsibilities, public trust and confidence are crucially important requirements for our success. Again, I believe we have made significant progress. We conducted a series of four strategic principles workshops which were held across the Nation to obtain input for the Mission Plan Amendment, which will be released in April. We continued to meet and work with counties granted affected party status, which now total ten, including nine counties in Nevada, and one in California. We began offering public tours of the Yucca Mountain site--an offer which has met with resounding success, with approximately 4,000 people touring Yucca Mountain since March of last year. We participated in the second International High-Level Radioactive Waste Management Conference and participated with 12 other countries in an international education workshop sponsored by the Nuclear Energy Agency of the Organization for Economic Cooperation and Development.

Education

The subject of education is a very important one, clearly underscored by the President. I believe, as does the Secretary of Energy, that a key to greater public confidence is through long-term education programs that contribute both to greater science literacy and overall program understanding. This is consistent with the education goals contained in the National Education Strategy -- that by the Year 2000, every adult American will be literate and will possess the knowledge and skills necessary to compete in a global economy and exercise the rights and responsibilities of citizenship. Certainly in the high-tech society in which we live, at least a basic understanding of the sciences is required for individuals to make societal choices and decisions in the 1990s and beyond -- whether those decisions are related to energy, nuclear waste management or any other national issue.

The problem of radioactive waste management presents a particular challenge for education because it is both scientifically complex and deeply emotional. Managing our Nation's nuclear waste will span many decades, many generations, and even many centuries. Education is a precursor to public understanding and confidence and prepares society to make waste management decisions that will benefit the Nation's well-being. In addition, it is the education system upon which we must rely to provide the future work force for nuclear waste management.

The Department of Energy as a whole and the Civilian Radioactive Waste Management Program have numerous programs to help develop future scientists and engineers and to increase science literacy. These include various formal education and training programs, as well as public education and outreach programs. Our own activities and initiatives, which are well underway, are in five major areas: skills for teachers, curriculum development, student opportunities, international education projects, and outreach.

We have developed educational programs aimed at improving science literacy of students from precollege through post-graduate levels, enhancing the skills of teachers, encouraging careers in science and engineering, and developing a keener awareness of science issues among the general population. Activities include interaction with educators in the development of curricula material; cooperative agreements and projects with universities; exhibit showings at professional and technical meetings and at national and regional teacher/education conferences; teacher research associated programs; graduate fellowship programs at some 20 universities around the country; support for Historically Black Colleges and Universities; international cooperative activities; and public information and outreach activities. We have just completed field-testing a new 30-unit secondary curriculum on high-level waste management.

This curriculum will be available to secondary schools across the Nation by September 1992. As a special highlight, may I note that this curriculum has just received the endorsement of the prestigious Science and Society Committee of the National Council for the Social Studies.

Monitored Retrievable Storage

As a result of efforts by the Nuclear Waste Negotiator, we have received 12 phase 1 grants for MRS feasibility assessment applications, including three from counties and nine from Indian Tribes. The Department has funded seven applications, and additional applications are expected. Such grant funds are to be used by the applicant for a short term study of the feasibility of their hosting an MRS. The phase 1 grants are short-term grants leading to a conclusion, in a relatively short time, as to whether the grantee is willing to proceed toward negotiations over an agreement for the voluntary siting of an MRS with the Nuclear Waste Negotiator.

We also received, on March 13, 1992, an application from the Mescalero Apache Tribe for a Phase II MRS feasibility study. This study, if funded by the Department, would allow the Tribe to extend their feasibility evaluations and to move toward a negotiated agreement if they choose to do so. The phase 2 grants are longer-term and provide for negotiations leading to an

agreement for submission to the Congress and for the conduct of detailed environmental and impact analyses.

COMMITMENT TO FUTURE PROGRESS

The Department's commitment to future progress is represented by our commitment to the program's overall schedule goals. These schedule goals were established by the Secretary, in November 1989, in his "Report to Congress on Reassessment of the Civilian Radioactive Waste Management Program". The goals are to begin spent fuel receipt from reactors in 1998 and to begin waste disposal in 2010. Programmatically, these goals are of equal rank and will continue to drive program priorities and resource allocations.

The program has a rich history of concern that storage will become de facto disposal if there is no progress with disposal. At the same time, progress with disposal is a key factor in the future of nuclear power. Progress toward both goals therefore is necessary.

Why We Have Schedule Goals

The program's overall schedule goals have been established and provide the basis for commitment for several reasons:

- As already noted, progress and achievement in high-level waste management is a key factor in enabling the future of nuclear power. This is an important component in the President's National Energy Strategy, as endorsed by the Senate Energy Bill.

- The NWPA set various schedule goals. The schedule goal for disposal has been revised, but the need for overall schedule goals to fulfill the Congressional mission remains.

- The NWPA also established a fee-for-services-rendered relationship between the OCRWM program and the ratepayers which must be implemented as effectively as possible. Failure to meet our goals could result in litigation for failure to meet contract obligations.

- We have an obligation to future generations as well as to current ratepayers. We must help assure their energy supply security with availability of nuclear power, and we must not ask them to manage our wastes.

- Having specific goals enables us to plan the program and to establish the resources needed to get the job done. We use this information in actions such as the budget process.

- Perhaps most important, and embracing all of the above: having goals and pressing to meet them helps to keep this Nation focused on the difficult issues such as waste management and disposal. To procrastinate wastes money, and transfers to the future not only the responsibility for results but also the responsibility to resolve the issues. This is unacceptable. We must set demanding goals and face the problems they create. Without goals, and without the resolve to surmount the problems, we abdicate our responsibility.

Meeting Our Program Goals

At present, we believe we are in principle capable of meeting the goals established by Congress and the Secretary. However, our view of the future must take into account an array of facilitators and potential inhibitors that affect schedule confidence.

Facilitators That Affect Schedule Confidence

Facilitators include the things that have been done to focus and prioritize the program, and to make its operation efficient. Key facilitators include:

- Actions to focus, prioritize, and integrate program activities toward both goals. As we move forward, the Management and Operations (M&O) contractor that we have

brought on board, the TRW Environmental Safety Systems organization, will play a key role. Their job is to help make the technical management of the program efficient, to integrate its many and complex activities, and to help us secure the all important licenses that we need.

- Actions to focus staff and contractor attitudes on meeting the goals. We are emphasizing issue closure and progress.

- Actions to baseline our activities so we know where we stand and what it will take to meet the goals. A key item of this type includes recent approval of the Yucca Mountain Project plan by the Energy Systems Acquisition Advisory Board. This Board is an independent, high-level board within DOE. It provides the Secretary with an independent assessment of proposals for significant DOE commitments. Another important baseline is the early Site Suitability Evaluation Report recently released for public comment. This report compiles the information gathered to date on site suitability, makes assessments of what we know and don't know, identifies opportunities to close issues, and will help set priorities for future site characterization activities.

- Actions to emphasize communication with our constituencies. In the early days of the program, we didn't go far enough in

listening to our constituencies. With this in mind, we held a series of Strategic Principles Workshops that took place in late 1990 and early 1991. These workshops were attended by representatives from State and local governments, utilities, and various special interest groups. They helped us develop a set of guiding principles, and they provided significant inputs to our Mission Plan Amendment. Our of these workshops came another initiative: formation of a "Director's Forum" to foster early involvement of external parties before we make decisions. Current plans call for the parties to meet for the first time this spring to discuss our Site Suitability Evaluation Report mentioned previously.

- Taking advantage of help from others is another way to facilitate the program. For example, the Nuclear Waste Negotiator, Mr. David Leroy, was given the authority by Congress to negotiate with States and Indian Tribes interested in hosting a Monitored Retrievable Storage (MRS) or disposal facility. It is our policy to support the Nuclear Waste Negotiator, and he has been highly successful in identifying potential candidate sites for an MRS.

The Nuclear Waste Technical Review Board has been especially helpful to the program in technical areas. They provide guidance and independent review which helps assure that our

technical work is properly focused and of the highest possible quality.

- To facilitate the licensing process, we have been working with the Nuclear Regulatory Commission in a pre-licensing dialogue in order to avoid or reduce last-minute surprises and contention. To do this, we are seeking to resolve issues as soon as possible, and we are developing an annotated outline for the license application. We are, and will continue to be, proactive in our role in the licensing process.

Through these and similar facilitative actions we are doing everything possible within our control to meet the schedule goals established by Admiral Watkins.

Potential Inhibitors that Affect Schedule Confidence

The opposite of our program facilitators are potential inhibitors. There are four basic potential inhibitors to our ability to meet our schedule goals. Each of these is beyond our direct control, but we can take and are taking some action to mitigate, or even reverse, their potential impacts. The four potential inhibitors are:

- The State of Nevada. The litigious nature of the program is well known to this Committee, and I need not take the

Committee's valuable time to expound on the specifics of the various cases. Suffice it to say that we were able to resume our scientific investigations at Yucca Mountain last summer as a result of the State's having issued the necessary permits.

More recently, the State of Nevada issued the third of three major permits which are required to characterize the candidate site. It appears that the professional approach taken by officials in reviewing and then issuing the water permit may be a harbinger of an improved relationship between the Department and the State in the important matter of processing permit requests. Should Nevada be willing to certify, in a communication to the Secretary, that future processing of permits will be handled in a fair and expeditious fashion, the Secretary, in turn, will reconsider certifying to Congress good faith efforts to cooperate on the part of the State of Nevada.

- MRS siting delays. As a result of the Negotiator's efforts, we have received nine MRS feasibility grant applications, and we expect more. We cannot control progress with the negotiations, but we can and do support the Negotiator as effectively as possible. This includes funding for feasibility study grants to help the potential hosts determine whether they are interested in proceeding.

- Out-year Funding. As previously noted, we have baselined the resources needed to meet schedule goals. At Yucca Mountain, we are engaged in a project which has an estimated cost of $6.3 billion to meet the scheduled objective of submitting a License Application for a repository in 2001 if the Yucca Mountain site is found suitable. If out-year funding resources are not provided at the rate needed to meet the 2001 objective, the schedule will slip.

- Technical uncertainties at Yucca Mountain. We do not know what we will find as we proceed with site investigation activities. For this reason, we cannot and have not set a specific schedule with regard to evaluating whether or not the site is a suitable location for disposal. What we have done is prioritize the activities to first attack the issues that are most pivotal and most difficult to resolve. We have also established a strategy to resolve technical issues as individually and expeditiously as possible. One of the most important issues to be addressed is whether or not pathways exist for rapid transport of water and nuclides to the environment.

Mitigation of Potential Inhibitors

The Department is taking aggressive action to mitigate the potential inhibitors of achieving our overall schedule goals. Our management improvements provide operational efficiency now

and in the future. Our resource requirement evaluations for program activities give us a sound basis for funding requests. Our support of the Negotiator will facilitate progress in MRS siting. Our request for legislation will, if the legislation is enacted, assure that permitting authority cannot be used to delay progress in Yucca Mountain. Our prioritization of Yucca Mountain site characterization activities and our strategy for site evaluation will minimize the effect of technical uncertainties on resource requirements and schedule. And our Fiscal Year 1993 appropriation request of $392 million, a 42% increase over the FY 1992 request, will enable us to move forward at a rate consistent with our schedule goals.

Conclusion

In summary, our program goals to begin spent fuel receipt in 1998 and disposal in 2010 are appropriate and serve as a beacon for commitment of national resolve and responsibility. Several factors could act to prevent us from meeting our scheduled goals, but most of them can be controlled or eliminated if commitment is exercised and maintained. The Department is exercising commitment on all fronts to help assure that the overall program goals can be met. We have an opportunity to demonstrate our Nation's capability to act responsibly and effectively on a difficult issue, which intersects many aspects of our society's well being, and we look forward to working with the Congress to achieve our mutual goals.

INFORM AND ENGAGE -- THE ROAD TO UNDERSTANDING

John W. Bartlett, Director
Office of Civilian Radioactive Waste Management
U.S. Department of Energy

High-Level Radioactive Waste Management Conference
Las Vegas, Nevada
April 13, 1992

INTRODUCTION

The Office of Civilian Radioactive Waste Management (OCRWM), within the Department of Energy, is responsible for disposing of high-level radioactive waste in the United States. A review of the Conference program shows at a glance the technical complexity of this undertaking. At the same time, the Conference theme, "Promoting Understanding Through Education and Communication", recognizes that while we can proceed technically in carrying out our program, one of the key problems is, how can the program proceed in the context of our society? In other words, how do we establish the social framework which allows the technical decisions to be made and implemented? The theme selected by the Conference has its finger on the pulse of this issue, and my remarks will address it.

AN OVERVIEW OF THE SITING PROBLEM

This is an International Conference, and we all share a common problem in the siting of high-level radioactive waste facilities. When an announcement is made that such a facility is being considered for a particular location, the first public and political reaction invariably is visceral and negative. The reaction of fear and concern for safety is both prevalent and predictable. Unless this initial reaction can be overcome, it is not possible to consider the positive aspects of the proposed action, such as jobs and other economic benefits that can flow from having a large industrial enterprise located near a community.

In a democratic society the only way to overcome fear and concern for public safety is to inform and educate, while respecting and addressing the concerns of the involved parties in the process. While this is a rational proposition, it is fraught with difficulties and the conflicting agendas of the numerous parties involved. How events proceed is often determined politically, and controlled by political leaders and their staffs at each level of government whether it be local, State or National. This means, at a minimum, that these decision makers must be open to being informed and then deliberating, or if not, become open through feedback from their constituencies who want to know the facts about an important development in their lives.

DEALING WITH THE SITING PROBLEM

Let me begin my discussion of the siting problem with a statement of how not to deal with it. For a number of years OCRWM operated largely in a mode that can be described as "Decide-Announce-Defend" or D-A-D. As the name suggests, this approach often consisted of an agency policy determination, followed by distribution of voluminous information justifying that decision. When required, public hearings would be held. At the time, it seemed that this was a straightforward, proper, even customary approach. But these efforts to defend a completed action were inadequate, and we did not persuade many of the involved parties that their views actually counted for much.

The Inform and Engage Process (I-A-E)

We have learned from these mistakes, and are working to replace D-A-D with a more effective process that I call Inform-And-Engage, or I-A-E. The I-A-E process involves creating a forum where involved parties can receive information, interact with one another, and decide on how to proceed. We seek to engage and empower the affected parties. To inform is part of the engagement. We recognize that the I-A-E process takes time and other resources that we have only in limited supply. But, through this process, we hope to foster earlier and more substantive public and political participation in predecisional deliberations. If nothing else, working through the I-A-E process serves to clearly define and clarify the realities in which issues are rooted.

The current effort of the Nuclear Waste Negotiator, Mr. David Leroy, is an example of I-A-E that is working well. Mr. Leroy was given the authority by Congress to negotiate with States and Indian Tribes interested in hosting a monitored retrievable storage (MRS) or disposal facility. After a year of education and information dissemination, a process is underway to establish a basis for informed decision making.

Nineteen community requests have been received for grants to study the feasibility of siting an MRS facility for the temporary storage of commercial spent nuclear fuel. Seven grants have been issued to date to enable the interested communities to gain an understanding of the Nation's waste management system, to determine whether they have an interest in proceeding further, and, if so, how. At the present time, one of the grantees has requested a so-called second phase grant, which has the potential for the party to enter into substantive discussions with the Negotiator that could lead to an agreement. The important thing to remember is that any grantee may opt out of the process at any time.

An interesting and instructive example of I-A-E is the voluntary siting of a hazardous waste facility that took place in the Canadian province of Alberta. In the early 1980s, the government of Alberta began to work with the public to show the need for a hazardous waste facility and to develop siting criteria. Some 52 regional jurisdictions asked to be included in the siting program, recognizing that they could leave the process should they choose to do so. Site characterization was not initiated unless requested formally by the community. In other words, the political process came before the technical process. When one community, Swan Hill, was selected, a disappointed rival asked the government to reconsider, claiming that it was a more technically suitable site.

OCRWM Activities to Promote I-A-E

To implement I-A-E, we must, of course, first look to ourselves. By our actions, we seek to demonstrate that we view our numerous publics as valuable resources from whom we can learn to strengthen our decision making processes. Also, we encourage the sharing of information freely and promptly. By so doing, we try to identify emerging issues and facilitate participation that is appropriate to each issue at its particular stage of development.

We have translated these principles into actions through a variety of initiatives. The first of these was a series of Strategic Principles Workshops held in December 1990, and January and March 1991. The purpose of these Workshops was to develop and refine a set of technical, institutional, and management strategic principles. The strategic principles developed in the course of the Workshops were incorporated into OCRWM's top-level policy document, the Mission Plan Amendment, that will be released soon.

Out of the Workshops came another major initiative: formation of a "Director's Forum" to foster early involvement of external parties in formulating and evaluating policy alternatives before decisions are made. Both the Strategic Principles Workshop and the Director's Forum represent the first phase of I-A-E to provide a forum where affected and involved parties can assemble for discussion.

Providing information is the second phase of the I-A-E process. The first Director's Forum is scheduled to meet this spring to review the general method to be used in early evaluations of the suitability of the Yucca Mountain candidate site. Evaluations of suitability of the Yucca Mountain candidate site are technically very complex. For this reason, we are doing a great deal of work to make the information more comprehensible to attendees with varying professional background and interests who are attending the Forum. In this way, they can formulate their own views on the management and policy issues resulting from the site

suitability report, and provide useful inputs for decision making. I wish to point out that providing information is a two-way street, and we receive valuable technical information from interested parties at frequent meetings that are open to all.

When the Forum convenes, the third phase of engagement in the I-A-E process will occur when OCRWM senior managers and Forum participants work to address the issues themselves. When these issues have been clarified, examined and discussed, the results of the Forum's efforts will be coordinated with other OCRWM activities.

OCRWM's efforts in the I-A-E process are not limited to the formal interactions described above. We try to provide information to the general public as well. To deal directly with members of the public many initiatives have been undertaken. For example, here in Nevada, our Yucca Mountain Project Office has:

- Invited the public to monthly and special tours of the Yucca Mountain site. After the initial surge of more than 1,200 visitors early last year, we have had more than 500 people per month as visitors.

- Conducted public "Project Update Meetings" twice a year around the State. Over 20 such meetings have been held. Also, Project Office staff gave more than 200 presentations to civic, business, and professional groups since 1990.

- Established public information offices in Las Vegas, Beatty and Parhump, Nevada to serve as resource offices for information about the Project and the rest of the U.S. program. More than 10,000 people have visited the public information office in Las Vegas since it opened last year.

Beyond our activities in Nevada, OCRWM uses a full range of nationwide activities. For example,

- Last September, we established, in Washington D.C., an OCRWM Information Center with a nationwide toll-free phone number to make information and materials about our program and activities readily available. This system has resulted in an enormous response from educators, industry, professionals, as well as the general public. In February 1992 the Information Center System, including the toll-free information number, and our publicly accessible information database, INFOLINK, distributed more than 22,000 documents.

- The Center has distributed more than 1,000 videotapes.

- We have an active exhibits program with more than 50 showings across the nation at professional conferences, about 60 percent of which are education oriented.

ESTABLISHING THE EDUCATIONAL BASE FOR HIGH-LEVEL WASTE MANAGEMENT

OCRWM Education Activities

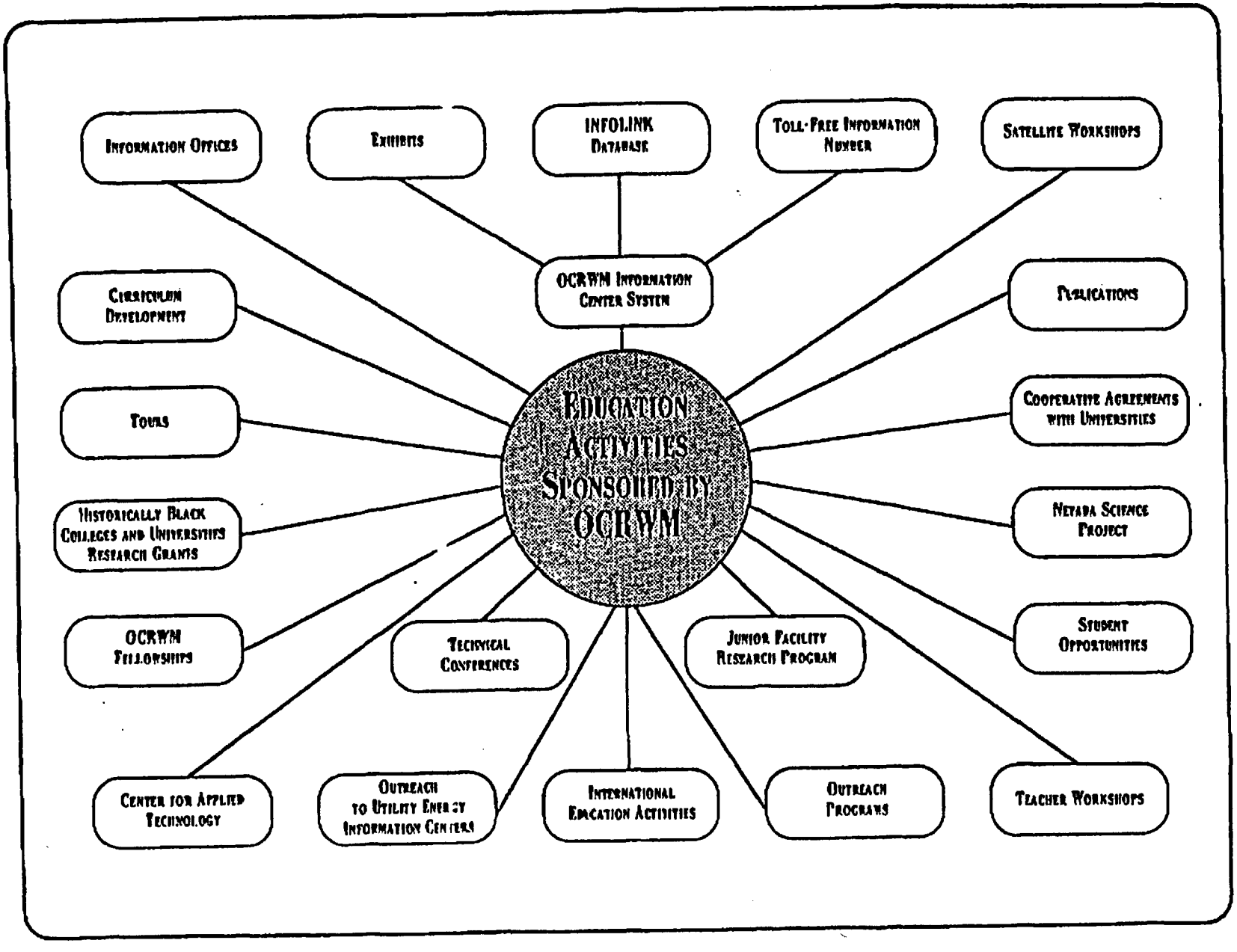
Previously, I referred to the apprehension that the public may have when it comes to issues relating to radioactivity. While the persistence of these negative images is understandable, in the last analysis, these images are unrealistic and not applicable to our program because of the controls that have been placed on high-level radioactive waste management.

There are few, if any, programs that are scrutinized and monitored as closely as the OCRWM program. The Nuclear Regulatory Commission and the Nuclear Waste Technical Review Board have statutory oversight responsibilities that we respond to regularly. Oversight by the State of Nevada and affected counties is Federally funded, and we seek the reviews of numerous professional panels as well as the National Academy of Sciences.

Belief must be made consistent with reality in a mature society, and the only way that can be done is to provide the educational tools and information that we have developed in recent years. I want to emphasize that education is not some form of indoctrination. Rather it is the creation of a capability to ask important questions and to seek solutions to important problems, and, above all, it is the building of the ability to make informed judgments when there is dissent on matters where societal issues and scientific knowledge are at stake.

To accomplish this, and address the significant requirements for trained scientists, engineers, and technicians, OCRWM sponsors many educational activities as shown in the accompanying figure. Our activities and initiatives are well underway, and are in five major areas: skills for teachers, curriculum development, student opportunities, international education projects and educational outreach. The importance of this educational initiative is illustrated in the next figure, which reminds us that 10-year old students now in primary school, and 17-year old students now in high school will be entering the work force and will be needed at the time when the OCRWM program is scheduled to begin licensing interactions with the Nuclear Regulatory Commission.

Obviously, these are long-term undertakings that will span many decades. However, I believe that a key to greater public confidence is through education programs that contribute to greater science literacy and to overall program understanding. In the high-tech society in which we live, at least a basic understanding of the sciences is required for all citizens. With this information they will be in a better position to make societal choices and decisions in the 1990s and beyond, whether those decisions are related to energy, waste management or any other environmental issues.



DEMAND FOR SKILLED YOUNG PEOPLE

Schedule Milestones	1991 - 2001 ←Site→ Characterization	2001 - 2004 Licensing Interactions with NRC	2004 Begin Repository Construction	2010 Begin Repository Operation	⟶ ~40 Years
High School Age	17 27	30		36	(76)
Primary School Age	10 20	23		29	(69)

Informed Judgements by Political Representatives

Science and technology are an integral part of many public policy issues. We need non-scientists who can make informed judgements on public issues involving science and technology. This is especially true for the limited number of people who have the political responsibility to make decisions for their constituencies whether they be at the local, State or National levels of decision making.

At the county level, DOE is working to build productive working relationships with the ten counties that have been designated as affected by the OCRWM program. As designated counties, they receive funds to oversee DOE's activities at the Yucca Mountain study site, and are eligible to receive financial assistance to mitigate impacts of the scientific investigative activities or potential development of the repository.

Last year, we negotiated a framework for interactions and two protocols with Nye County, the county in which the Yucca Mountain study site is located. As appropriate, we are open to entering into similar agreements with other affected counties.

At the State level, we have, as is well known, been engaged for several years in legal tests by Nevada of the Department's mission to evaluate the Yucca Mountain site, as assigned by the Nuclear Waste Policy Amendments Act of 1987. This now is behind us, and we are hoping for a new era of mutually beneficial interaction with the State. I have invited the Governor's scientific and professional staff to attend my first Director's Forum where we will discuss our contractor's early site suitability evaluation report. The Forum will provide a near-term opportunity for information exchange and engagement between DOE and the State, and other representatives, which can exemplify this new era of beneficial interaction.

At the National level, the President's National Energy Strategy articulates the importance of the nuclear energy option. OCRWM's statutory mission is critical to that option. Through our testimony before the Congress, and interactions with Congressional members and staff, we are working toward informed decision making to achieve our statutory and program objectives.

DOING THE RIGHT THING

While OCRWM has made much progress to accomplish its goals in improving public understanding as a basis for informed decision making, there is much that remains to be done. Recognizing that fact, we will:

- Continue to reach out across the spectrum of citizen and political decision making. We will listen, learn, encourage dialogue, and deal with any citizen or group of citizens openly and honestly.

- Develop information and resources to help translate the arcane science and technology of high-level waste management to those who now make community decisions now and to those who will do so in the future.

- Invite all political leaders to engage themselves in the process of interaction and understanding that is common to all hazardous waste issues. In the current climate of public opinion we respect the courageous political initiatives that are required, and we will respond in kind to such initiatives.

CONCLUSIONS

Although we are making some progress as a society, it is obvious that the dominant public and political reaction to necessary but unpopular facilities is negative and resistant to change. As a society, we are stuck in second gear. We have moved from an era of abuse of the environment and public health to our present era of irrational over-reaction to perceived threats, without any idea of how to do the calculus of balance, and apparently without any broad-based desire to achieve balance.

We must move into high gear. We must move into a new era of social and political maturity wherein we can and do make consistent, balanced decisions on issues concerning the environment and public health and safety. The only way I know to do this is to inform and engage. We need to inform and engage the public, the policy makers, the decision makers and the political leaders for the purpose of achieving a new era of reasoned balance. And we need to be just as intense in our efforts for education and balance as the various parties are who have us locked in second gear, and are exploiting it.

I encourage scientists and engineers, such as those in this audience, to join us in our efforts to inform and engage, and to help in the enterprise of communicating and educating our fellow citizens so that they can become effective constituencies.

I congratulate the planners of this Conference for selecting their theme of understanding through education and communication. I think they have hit on the absolute and ultimate fundamental for social progress -- the needed progress -- with issues such as high-level waste management. Let's all do our part.

< TRANSACTION REPORT >

06-05-1992(FRI) 09:46

[RECEIVE]

NO.	DATE	TIME	DESTINATION STATION	PG.	DURATION	MODE	RESULT
414	6-05	09:39		10	0°06'29"	NORM.E	OK
				10	0°06'29"		

A NEW ERA OF PROGRESS FOR YUCCA MOUNTAIN

REMARKS BY

JOHN W. BARTLETT, DIRECTOR
OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT
U.S. DEPARTMENT OF ENERGY

TO THE

18TH NUCLEAR POWER ASSEMBLY

MAY 6, 1992

WASHINGTON, D.C.

I'M VERY PLEASED TO HAVE THIS OPPORTUNITY TO TALK TO YOU ABOUT THE DOE AGENDA FOR YUCCA MOUNTAIN. THE FACT THAT YOU'VE GIVEN SO MUCH OF YOUR CONFERENCE AGENDA TO THE SUBJECT OF YUCCA MOUNTAIN TELLS ME THAT YOU BELIEVE PROGRESS AT THE SITE IS CRITICAL TO THE FUTURE OF NUCLEAR POWER, AND I SHARE THAT VIEW. WE'RE RECENTLY ENTERED WHAT I BELIEVE IS A NEW ERA OF PROGRESS FOR YUCCA MOUNTAIN, AND I'D LIKE TO TELL YOU ABOUT IT.

THE DOE AGENDA FOR YUCCA MOUNTAIN CAN BE STATED VERY SIMPLY: TO MAKE PROGRESS AS EFFICIENTLY AS POSSIBLE. WE'RE MADE CONSIDERABLE PROGRESS DURING THE PAST YEAR, AND WE EXPECT TO START UNDERGROUND A LITTLE OVER A YEAR FROM NOW. WE'RE POINTING TOWARD DETERMINING WHETHER OR NOT THE SITE IS SUITABLE AS SOON AS POSSIBLE, AND, IF IT IS FOUND SUITABLE, WE EXPECT TO SUBMIT OUR LICENSE APPLICATION IN 2001. WE'RE STILL FOLLOWING THE SECRETARY'S GOAL TO BEGIN DISPOSAL IN 2010.

MANY THINGS HAVE HAPPENED DURING THE PAST YEAR TO MOVE US SIGNIFICANTLY TOWARD SITE EVALUATION. SINCE LAST JULY WE HAVE DONE EXTENSIVE DRILLING AND TRENCHING TO CHARACTERIZE FAULTS AND HYDROLOGY AND TO GET DATA NEEDED FOR DESIGN OF THE UNDERGROUND FACILITY. A MAJOR STEP FORWARD IN SITE CHARACTERIZATION WORK WILL OCCUR IN ABOUT TWO WEEKS WHEN WE PUT INTO OPERATION, FOR THE FIRST TIME, THE DRILL RIG THAT WAS SPECIALLY DESIGNED FOR THE PROJECT TO ENABLE US TO DRILL DEEP, DRILL DRY, AND OBTAIN CORE AT THE SAME TIME. THIS RIG WILL ALLOW US TO GET SOME OF THE DATA WE NEED FOR SITE EVALUATION WITH HIGH EFFICIENCY.

THREE OTHER EVENTS HAVE OCCURRED RECENTLY WHICH HELP MOVE US SIGNIFICANTLY TOWARD RESOLUTION OF SOME OF THE TECHNICAL ISSUES ASSOCIATED WITH SITE EVALUATION. IN JANUARY, WE RECEIVED FROM OUR CONTRACTORS WHAT WE CALL THE EARLY SITE SUITABILITY EVALUATION REPORT. THIS REPORT DESCRIBES EVALUATION OF ALL THE DATA WE HAVE TO DATE IN TERMS OF OUR SITE SUITABILITY CRITERIA. THIS WORK, WHICH INCLUDED AN INDEPENDENT PEER REVIEW BY A PANEL OF EXPERTS, FOUND NO EVIDENCE THAT DISQUALIFIERS ARE PRESENT AND FOUND THAT ALL 24 QUALIFYING CONDITIONS ARE PRESENT OR LIKELY TO BE PRESENT. WE WILL SUBJECT THIS REPORT TO PUBLIC REVIEW AND COMMENT TOMORROW IN OUR FIRST DIRECTOR'S FORUM, AFTER WHICH WE WILL USE IT TO PRIORITIZE AND FOCUS OUR FUTURE SITE WORK.

MORE RECENTLY, A PANEL OF THE NATIONAL ACADEMY OF SCIENCES ISSUED THE REPORT OF ITS FINDINGS CONCERNING THE ORIGIN OF CHEMICAL DEPOSITS IN TRENCH 14 AT THE SITE. THE DEPOSITS HAVE BEEN HIGHLY CONTROVERSIAL BECAUSE OF JERRY SZYMANSKI'S THEORY THAT THEY WERE CAUSED BY UPWELLING OF GROUNDWATER, AND SUCH UPWELLING IN THE FUTURE COULD FLOOD A REPOSITORY AT THE SITE.

THE PANEL FOUND UNANIMOUSLY THAT THE DEPOSITS WERE THE RESULT OF RAINFALL RATHER THAN UPWELLING, AND WE WILL USE THIS FINDING TO MOVE FORWARD WITH OUR ISSUE RESOLUTION WORK.

ALSO RECENTLY, WE HAVE SENT TO THE NUCLEAR REGULATORY COMMISSION THE FIRST VERSION OF OUR ANNOTATED OUTLINE FOR A LICENSE APPLICATION. THE ANNOTATED OUTLINE PROVIDES THE ROAD MAP FOR ISSUE RESOLUTION, AND IT TELLS THE NRC HOW WE EXPECT TO PROCEED WITH GETTING AND USING INFORMATION. I'M DELIGHTED TO REPORT THAT THE NRC IS STARTING TO COMPLAIN ABOUT THE AMOUNT OF WORK WE'RE SENDING THEM. IT'S OUR INTENT TO TAKE THE INITIATIVE ON ALL MATTERS OF INTERACTION WITH THE NRC STAFF.

LOOKING AHEAD, I WOULD LIKE TO TAKE THIS OPPORTUNITY TO TELL YOU THAT WE ARE LOOKING AT ALTERNATIVE STRATEGIES FOR FUTURE PROGRESS. OUR ACTIVITIES FOR THE NEXT TWO YEARS ARE FOCUSED ON GETTING STARTED WITH UNDERGROUND EXCAVATION AND ESSENTIAL SURFACE-BASED WORK, AND THIS WORK WILL BE NEEDED NO MATTER WHAT STRATEGY WE PURSUE. BEYOND THAT, HOWEVER, THERE ARE ALTERNATIVE PATHS WE MIGHT FOLLOW. BASICALLY, WHAT WE'RE LOOKING FOR ARE POTENTIAL MEANS TO CUT COSTS AND GET RESULTS SOONER WITHOUT SACRIFICING ESSENTIALS SUCH AS SAFETY ASSURANCE.

BACK IN JANUARY, A VERY SIGNIFICANT INTERNAL EVENT FOR THE PROGRAM OCCURRED. WHAT HAPPENED WAS THAT THE YUCCA MOUNTAIN PROJECT PLAN WAS APPROVED BY THE ENERGY SECRETARY'S ACQUISITION ADVISORY BOARD, WHICH ADVISES THE SECRETARY ON THE SOUNDNESS OF PLANS AND COST ESTIMATES FOR MAJOR PROJECTS SUCH AS YUCCA MOUNTAIN. THIS APPROVAL GAVE US OUR FIRST COMPLETE AND INDEPENDENTLY ENDORSED PROGRAM PLAN.

THE PLAN APPROVED BY THE BOARD IS SOUND, CONSERVATIVE, COMPREHENSIVE, COSTLY, AND DESIGNED TO SUCCEED WITH LOW RISK. IT ANTICIPATES A TOTAL COST OF $6.3 BILLION TO GET TO SUBMISSION OF THE LICENSE APPLICATION IN 2001, ASSUMING THE SITE IS FOUND SUITABLE. THAT COST ESTIMATE INCLUDES SOMEWHAT MORE THAN $1 BILLION ALREADY SPENT AND NEARLY $1 BILLION TO BE SPENT IN NEVADA FOR TECHNICAL OVERSIGHT AND IMPACT ASSISTANCE.

ALTHOUGH OUR PLAN WAS APPROVED, I HAD SEVERAL CONCERNS. I WAS CONCERNED THAT THE COST WAS HIGH AND HAD HIGH POTENTIAL TO ESCALATE BECAUSE THE RULES FOR DEMONSTRATING COMPLIANCE WITH REGULATORY REQUIREMENTS HAVE NOT BEEN ESTABLISHED. I WAS CONCERNED THAT THE PROGRAM IS FRONT-END LOADED WITH COSTS AND BACK-END LOADED WITH RESULTS BECAUSE, WITH OUR ONE-STOP LICENSING, NO TECHNICAL ISSUES CAN BE FULLY RESOLVED UNTIL AFTER THE LICENSE APPLICATION IS SUBMITTED AND WE DO NOT GET TO DEMONSTRATE DISPOSAL UNTIL NEARLY 20 YEARS FROM NOW AT THE

EARLIEST. IN ADDITION, I WAS CONCERNED THAT EXECUTION OF THE PROGRAM INVOLVED MANAGEMENT OF WORK FUNCTIONS AND INTERACTIONS THAT HAVE NEVER BEEN DONE BEFORE.

WE STARTED WORKING ON THESE CONCERNS SEVERAL MONTHS AGO, AND FOUND THEM ECHOED IN A HEARING BEFORE THE SENATE ENERGY AND NATURAL RESOURCES COMMITTEE AT THE END OF MARCH. WE'VE THEREFORE MADE EVALUATION OF STRATEGIC OPTIONS FOR YUCCA MOUNTAIN A PRIORITY ACTION, BECAUSE IT CAN AFFECT OUR APPROPRIATION REQUESTS AND MAY REQUIRE LEGISLATION. IT'S TOO EARLY IN THE PROCESS TO BE SPECIFIC, BUT I CAN OUTLINE FOR YOU SOME OF THE THINGS WE'RE CONSIDERING.

ONE OF THE CONCERNS I MENTIONED IS THE FACT THAT SITE EVALUATION AND PREPARATION OF A LICENSE APPLICATION FOR A REPOSITORY HAVE NEVER BEEN DONE BEFORE. WE MUST BRING TOGETHER SITE WORK, DATA INTERPRETATION, DESIGN, PERFORMANCE ASSESSMENT, ISSUE RESOLUTION, AND MANAGEMENT DECISIONS, AND MAKE THEM ALL CONVERGE TO SITE EVALUATION DECISIONS AND LICENSE APPLICATION PREPARATION. TO MAKE SURE THIS ITERATIVE PROCESS IS MANAGED WELL, I ESTABLISHED THE "ENGINE OF EVOLUTION" CONCEPT TO DEFINE THE MANAGEMENT ACTIONS AND INTERACTIONS THAT HAVE TO OCCUR TO GET THE CONVERGENCE AND RESULTS WE NEED. WE HAD A WORKSHOP ON THIS SUBJECT IN FEBRUARY, AND TASK FORCES ARE NOW WORKING TO PUT THE CONCEPT INTO ACTION. WE WILL NEED THIS MANAGEMENT PROCESS NO MATTER WHAT STRATEGY WE PURSUE.

ANOTHER MAJOR CONCERN IS COST. AT THE SENATE ENERGY HEARING THERE WAS STRONG CONCERN EXPRESSED THAT COSTS ARE TOO HIGH AND OUT OF CONTROL. WE ALL SHARE THIS CONCERN, AND EVEN THOUGH THE ACQUISITION ADVISORY BOARD FOUND THAT OUR COST ESTIMATES ARE SOUND FOR THE PROGRAM AS PLANNED, WE WANT TO SEE IF WE CAN DO BETTER. ONE WAY TO DO IT IS SIMPLY TO DO LESS SITE CHARACTERIZATION WORK. THIS COULD SAVE A LOT OF MONEY IN THE SITE EVALUATION PHASE, BUT IT RUNS THE RISK THAT WE DON'T HAVE ENOUGH DATA TO DEFEND OUR LICENSE APPLICATION ADEQUATELY. WE'RE IN THE PROCESS OF EVALUATING THE POTENTIAL BENEFITS AND RISKS OF THIS APPROACH.

THE OTHER MAJOR CONCERN IS THE FACT THAT THE PROGRAM DOESN'T GET KEY RESULTS FOR A LONG TIME UNDER THE PRESENT STRATEGY. IN THE NEAR TERM, OUR START OF UNDERGROUND EXCAVATION WILL BE AN IMPORTANT PROGRESS MILESTONE, BUT AFTER THAT, MAJOR PROGRESS MILESTONES ARE A LONG TIME IN COMING. OUR SITE SUITABILITY EVALUATION, AND SUBMITTAL OF THE LICENSE APPLICATION IF THE SITE IS FOUND SUITABLE, WILL OCCUR AROUND THE TURN OF THE CENTURY. WE WON'T DEFINITELY CLOSE TECHNICAL ISSUES UNTIL AFTER LICENSING REVIEWS BEGIN, AND WE DON'T GET TO EMPLACE WASTE FOR DISPOSAL UNTIL NEARLY 20 YEARS FROM NOW.

ALL OF THIS IS THE RESULT OF OUR ONE-STOP LICENSING PROCEEDINGS AS PRESENTLY PLANNED. WE ARE LOOKING AT WHETHER THERE ARE ALTERNATIVE STRATEGIES THAT MIGHT GIVE US A SERIES OF NRC SAFETY REVIEW ACTIONS, PERHAPS INCLUDING LICENSED EARLIER EMPLACEMENT OF SPENT FUEL IN ORDER TO TEST DISPOSAL SAFETY FOR AS LONG AS POSSIBLE. THERE ARE MANY THINGS ABOUT THIS CONCEPT THAT WOULD HAVE TO BE EVALUATED, INCLUDING POTENTIAL LEGISLATION REQUIREMENTS, POTENTIAL COST IMPACTS, AND SPECIFIC PROCEDURES WHICH WOULD MAINTAIN SAFETY ASSURANCE. IN CONTRAST TO AN OPTION TO CUT BACK ON SITE CHARACTERIZATION WORK, WHICH WE CAN UNDERTAKE, SUCH OPTIONS ARE NOT UNDER DOE'S DIRECT CONTROL AND WOULD REQUIRE ACTION BY OTHERS SUCH AS CONGRESS OR THE NRC. WE EXPECT TO COMPLETE OUR ASSESSMENT OF THESE OPTIONS IN THE NEXT FEW WEEKS.

IN SUMMARY, LET ME STATE AGAIN WHAT I SAID AT THE OUTSET: THE DOE AGENDA FOR YUCCA MOUNTAIN IS TO MAKE PROGRESS AS EFFICIENTLY AS POSSIBLE. WE'VE MADE SIGNIFICANT PROGRESS RECENTLY, WE EXPECT STRONG PROGRESS IN THE NEAR FUTURE, AND WE'RE LOOKING AT OPTIONS TO IMPROVE OUR PROGRESS PATH IN THE LONG TERM. IN SHORT, WE ARE ACTIVELY DOING EVERYTHING WE CAN TO HELP THE FUTURE OF NUCLEAR POWER, AND WITH YOUR SUPPORT I KNOW WE'LL SUCCEED.

< TRANSACTION REPORT >

06-04-1992(THU) 14:51

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NO.	DATE	TIME	DESTINATION STATION	PG.	DURATION	MODE	RESULT
393	6-04	14:47	2025869608	6	0°03'56"	NORM.E	OK
				6	0°03'56"		

MAY 22 1992

Mr. John P. Roberts, Acting Associate Director
for Systems and Compliance
Office of Civilian Radioactive Waste Management
U.S. Department of Energy
1000 Independence Ave, SW
Washington, DC 20585

Dear Mr. Roberts:

SUBJECT: ANNOTATED OUTLINE FOR THE REPOSITORY LICENSE APPLICATION

This letter is in response to your April 24, 1992, letter transmitting the "Mined Geologic Disposal System Annotated Outline Skeleton Text for the Preparation of a License Application" (AO). While the staff of the Nuclear Regulatory Commission will be as responsive as possible to the Department of Energy's (DOE's) requests for review and guidance, the staff believes that there are several significant concerns related to the purpose of the AO and the relationship of the AO to the Site Characterization Plan (SCP), study plans, SCP progress reports, and the Early Site Suitability Evaluation (ESSE).

Your letter states that DOE views the AO "...as the key to providing NRC with DOE's understanding and interpretation of the regulatory requirements, and the implementation of these requirements in [DOE's] systems engineering and site characterization activities." This appears to be a different view from the one expressed by DOE representatives at the February 6, 1992, meeting where the AO was described as primarily a DOE management tool. Your letter further states that the AO is viewed by DOE as "...a mechanism to facilitate active exchanges, both internal and external, for the identification, clarification, and resolution of issues in a timely manner...." This appears to add a new dimension to issue resolution, as discussed at the February 6, 1992, meeting. At that meeting the DOE representatives stated that the AO and associated topical reports would not change the existing issue resolution process and mechanism, previously agreed to by the NRC staff and DOE, and implemented in the SCP and the SCP progress reports.

Also at the February 6, 1992, meeting, the DOE representatives agreed to provide a brief statement on AO development. The NRC staff believes that it would be helpful to have that statement before undertaking future AO reviews. It will be particularly difficult for the NRC staff to determine the appropriate review of the AO iterations until it has a clearer understanding of the purpose of the AO and how DOE proposes to incorporate the AO into the existing program framework. For example, DOE has not yet provided a clear description of how the AO fits together with other program documents such as the ESSE or the SCP progress reports. The staff would find it useful to understand how each of these documents relates to the issue hierarchy, performance allocation, and issue resolution processes contained in the SCP and to be discussed in the SCP progress reports. I hope that this information can be provided to the staff at the June 3, 1992, technical exchange. NRC does not have resources available to review an increasing number of documents. Without a clear understanding of how DOE intends to proceed with the development and presentation of site characterization and licensing data and

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information, the NRC staff is unable to make informed decisions relative to the expenditure of resources on the review of various documents submitted by DOE.

Based on the statements of the DOE representatives at the February 6, 1992, meeting that future versions of the AO would be sent to NRC for the staff's information and to facilitate NRC's guidance to DOE, but not for review and comment, resources for an extensive review of the April 17, 1992, version of the AO were not planned. Therefore, the NRC staff cannot meet the May 1992, deadline for comments suggested in your letter. However, we are prepared to discuss any concerns on the AO at the June 3, 1992, technical exchange. This will provide DOE with insight into any specific issues that the NRC staff may have. It is anticipated that the staff could provide its formal comments by the end of June 1992.

Mark Delligatti, of my staff, is the project manager with responsibility for NRC activities related to the AO. Mr. Delligatti can be reached at (301) 504-2430.

Sincerely,

/S/

Joseph J. Holonich, Director
Repository Licensing and Quality
Assurance Project Directorate
Division of High-Level Waste Management
Office of Nuclear Material Safety
and Safeguards

cc: R. Loux, State of Nevada
T. J. Hickey, Nevada Legislative
Committee
C. Gertz, DOE/NV
S. Bradhurst, Nye County, NV
M. Baughman, Lincoln County, NV
D. Bechtel, Clark County, NV
D. Weigel, GAO
P. Niedzielski-Eichner, Nye County, NV
C. Thistlethwaite, Inyo County, CA
V. Poe, Mineral County, NV
F. Sperry, White Pine County, NV
R. Williams, Lander County, NV
P. Goicoechea, Eureka County, NV
L. Vaughan II, Esmeralda County, NV
C. Shank, Churchill County, NV

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

CHAIRMAN

April 2, 1992

Mr. Robert R. Loux
Executive Director
Agency for Nuclear Projects
Nuclear Waste Project Office
Capitol Complex
Carson City, Nevada 89710

Dear Mr. Loux;

I read your letter to me of March 23, 1992 with great interest. The Commission is determined to have an open and formal pre-licensing relationship with the U. S. Department of Energy, which is meticulously proper and in no way prejudges the final outcome of the licensing process for the high-level waste repository.

It is encouraging to know that you believe we have taken positive steps to address your concerns. We will continue those efforts, and look forward to an ongoing constructive dialogue with the State of Nevada.

Sincerely,

Ivan Selin

9205040136

BOB MILLER
Governor

STATE OF NEVADA

ROBERT R. LOUX
Executive Director

AGENCY FOR NUCLEAR PROJECTS
NUCLEAR WASTE PROJECT OFFICE
Capitol Complex
Carson City, Nevada 89710
Telephone: (702) 687-3744
Fax: (702) 687-5277

March 23, 1992

Ivan Selin
Chairman
United States Nuclear Regulatory
Commission
Washington, D.C. 20555

Dear Mr. Chairman:

I am writing in response to your invitation to expand on a conservation you had with Carl Johnson and Steve Frishman, of my staff, during a January 13, 1992, visit to the Yucca Mountain potential high-level nuclear waste repository site. As you recall, the discussion centered on matters regarding the NRC/DOE staff relationship during the pre-license application period, and the meaning and significance intended by the various parties in their references to "closure" of items or issues. I was pleased to hear of your firm view at the time that no issues will be considered "closed" prior to a license proceeding.

I have not written sooner because in the period following that discussion there have been some events that had direct bearing on the subject at hand. The most important, I believe was the February 6, 1992, NRC/DOE staff management meeting which is summarized and discussed in the attached letter to John Linehan of your staff.

As I noted in that letter, a process now has been set in motion to arrive at mutual understandings of the matters about which our concern was expressed to you. I view this as a useful and constructive step, and look forward to the State's continued participation in establishing understandings among all parties within existing statutory and regulatory requirements during the pre-license application period.

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I appreciate your interest in the matters which you discussed with my staff, and will keep you notified of our views of progress as the process continues to develop.

Sincerely,

Robert R. Loux
Executive Director

RRL:cs

STAFF ISSUES

TAB 1. DOE has not been timely in providing the semiannual progress reports required by the Nuclear Waste Policy Act. At the same time, DOE is placing priority on nonstatutory documents such as the Annotated Outline and Early Site Suitability Evaluation, and it is unclear how these documents relate to the semiannual progress reports.

TAB 2. At recent meetings and in formal submittals, DOE often appears to take a position on issue resolution that is different from that agreed on at the February 6, 1992, meeting among NRC, DOE, State of Nevada, and Nye County. (Note: Bartlett's prepared presentation for the Commission appears consistent with the February 6, 1992, agreements)

TAB 3. DOE has recently discussed "early emplacement of waste" as a option to move the program forward. It is not clear whether DOE is talking about phased licensing or actual emplacement of waste prior to issuance of construction authorization.

TAB 4. In discussing early emplacement of waste DOE has indicated that a test and evaluation facility may be an option. If DOE chooses this option, it is imperative that DOE coordinates with NRC early because of NRC's responsibilities under the Nuclear Waste Policy Act.

TAB 5. During site characterization the staff is concerned that DOE might rely upon expert judgement instead of obtaining reasonably available data and analyses.

BACKUP INFORMATION FOR STAFF ISSUES

1. DOE has not been timely in providing the semiannual progress reports required by the Nuclear Waste Policy Act. At the same time, DOE is placing priority on nonstatutory documents such as the Annotated Outline and Early Site Suitability Evaluation, and it is unclear how these documents relate to the semiannual progress reports.

Backup Information

The U.S. Department of Energy (DOE) has prepared and submitted to the U.S. Nuclear Regulatory Commission staff its Site Characterization Plan (SCP). It is also preparing a number of program documents that it will provide to the NRC for comment or review. In general, the documents are: (1) the SCP semiannual progress reports; (2) the License Application Annotated Outline (AO); and (3) the Early Site Suitability Evaluation (ESSE). Although DOE only intends to issue one ESSE, it does plan to issue subsequent interim site suitability evaluations (SSE) prior to its final SSE. At a recent meeting of the staff and DOE, the Department provided insight into how it saw the relationship of these documents to one another.

At that meeting, DOE explained that the two controlling documents for the program were the AO and ESSE/SSE. Overall, DOE views the AO and ESSE/SSE as sister documents focused on two different program objectives. The ESSE/SSE is intended to focus on site suitability, and will be used by DOE to help provide feedback on the adequacy of the site characterization program to address site suitability issues. The SCP supports the ESSE/SSE in that it contains the site characterization activities DOE will undertake to gain the necessary data to make a suitability finding. As the ESSE/SSE indicates that site suitability issues require more data or changes in its program, DOE will determine if the changes should be made. If this is the case, DOE will then revise either study plans or the SCP, both of which are licensing documents. In either case, DOE has indicated that it would provide a discussion of any changes to its site characterization program through updates in the SCP semiannual progress report.

On the other hand, the AO focuses on licensing issues and the licensability of the site. The site characterization activities contained in the SCP are intended to collect data that support licensing. Therefore, the SCP supports the AO by ensuring that the necessary data are collected to support licensing of the site. As DOE prepares revisions to the AO and receives comments from the staff and other program participants, it will evaluate the AO to determine if there are indications that changes need to be made to its site characterization program. This is basically the same approach that DOE is applying to the ESSE/SSE, but the focus of the review, licensability versus site suitability is different. As with the ESSE/SSE, DOE will then determine what changes need to made to the program, make any appropriate changes, and report them in the SCP semiannual progress reports.

A concern raised by the staff with DOE is the fact that DOE has not been timely in providing the required semiannual progress reports. These were intended to be real time documents that would give the staff an opportunity to provide comments, similar to the process used to review the SCP, as DOE changed its baseline program described in the SCP. However, DOE continues to make or propose changes to its program without the staff having an opportunity to comment on those changes through the SCP progress reports. Although the staff does not have a problem with DOE submitting documents, such as the ESSE and AO, it is concerned that DOE is not placing the same emphasis on documents required by statute.

2. At recent meetings and in formal submittals, DOE often appears to take a position on issue resolution that is different from that agreed on at the February 6, 1992, meeting among NRC, DOE, State of Nevada, and Nye County. (Note: Bartlett's prepared presentation for the Commission appears consistent with the February 6, 1992, agreements)

Backup Information

At the February 6, 1992, meeting, the staff, the Office of the General Counsel, and DOE agreed on what constituted issue resolution. Basically, it was agreed that issues could be resolved in the pre-licensing stage at the staff level. However, final resolution could only be obtained in the licensing proceeding, or for appropriate generic issues, possibly by rulemaking, after public notice and comment. In this pre-licensing stage, there was agreement that the staff would not focus its review on whether it was able to make a determination of acceptable compliance with respect to site performance or design. Rather, the staff would focus on providing feedback on the sufficiency of programs, plans, assumptions, interpretations, data, or particular methodologies. A March 23, 1992, letter from the State of Nevada's Nuclear Waste Project Office indicated Nevada's general support for the strategy discussed at the meeting.

Since that meeting, the staff has held a number of interactions with DOE to discuss ongoing issues in the program. At these meeting and in formal submittals by DOE, the Department often appears to take a position different than that agreed upon at the February 6, 1992, meeting. For example, DOE submitted an annotated outline of its first topical report on the subject of extreme erosion in May 1992. In that report, DOE proposed that the conclusion section contain the following types of information ". . . draw conclusions with respect to compliance with regulatory requirements and resolves the issue from an NRC and license application perspective." This statement is inconsistent with the agreements reached at the February 6, 1992, meeting, but is indicative of how DOE continues to change or stretch the agreements. Through the use of such words, DOE continues to attempt to get the staff on record with an agreement to an issue resolution strategy that is inconsistent with the one discussed at the February 6, 1992, meeting.

2. At recent meetings and in formal submittals, DOE often appears to take a position on issue resolution that is different from that agreed on at the February 6, 1992, meeting among NRC, DOE, State of Nevada, and Nye County. (Note: Bartlett's prepared presentation for the Commission appears consistent with the February 6, 1992, agreements)

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3. DOE has recently discussed "early emplacement of waste" as a option to move the program forward. It is not clear whether DOE is talking about phased licensing or actual emplacement of waste prior to issuance of construction authorization.

Backup Information

It is not clear what DOE means when it discusses the use of phased licensing or early emplacement of waste for the repository nor is the staff sure that DOE's use of the term phased licensing is consistent with its interpretation. Although 10 CFR Part 60 does allow for testing with radioactive material during the site characterization phase, it does not allow for the large scale emplacement of waste in the repository. It is the staff's position that in order for DOE to be able to achieve early emplacement of waste, it must first submit a license application under 10 CFR Part 60, receive a construction authorization from NRC for the whole repository, complete construction of substantial parts of the repository, and then demonstrate that it is ready to place waste in those portions of the repository only. In the staff's opinion, this would require construction of (1) the surface and interconnecting structures, systems, and components, and (2) any underground space required for initial operation. This would allow for the early emplacement of waste before the construction of the entire repository is completed assuming DOE had obtained a license from the Commission under 10 CFR Part 60. However, in statements made by DOE the staff believes that DOE's position is that early emplacement of waste could occur before receipt of a construction authorization.

The Act does not expressly provide for phased construction authorization, and the licensing path for the repository must be consistent with the Act's requirement of a final Commission decision within three years after submission of an application unless extended by the Commission under the Act by not more than 12 months.

5. During site characterization the staff is concerned that DOE might rely upon expert judgement instead of obtaining reasonably available data and analyses.

Backup Information

Several preliminary performance assessments have been conducted for the Yucca Mountain repository site, both by DOE and by others, and many more will be carried out during the process of site characterization. These performance assessments will help DOE to identify the most important site parameters to be studied during site characterization. In fact, in DOE's March 31 presentation to a Senate Energy and Natural Resources Committee hearing, DOE management indicated that they are using a performance assessment model to evaluate whether the scope of the Site Characterization Plan could be reduced to cut program costs without increasing uncertainties when site characterization results are adequate to support a license application.

To date, performance assessments have relied heavily on expert judgment. This is appropriate during the early stages of site characterization, when few objective data are available. However, the NRC staff is concerned that data must have been gathered such that the judgments which preclude the collection of information potentially important to compliance demonstrations are soundly supported. Expert judgment should not be substituted for reasonably obtainable data or analyses that could more objectively support a license application. For example, even though expert judgment now indicates that the infiltration rate of precipitation at Yucca Mountain is quite low, the NRC staff strongly recommends that the actual infiltration rate be experimentally determined to the extent practical.

More generally, the NRC staff recommends that DOE: (1) ensure that decisions to limit the collection of data potentially important to compliance determination do not rest largely on expert judgment, (2) explicitly adopt a policy of developing all reasonably obtainable experimental data and analyses so that reliance on expert judgment can be minimized, and (3) describe in future updates to DOE's Site Characterization Plan the means to be used by DOE to implement this policy.

The Secretary of Energy
Washington, DC 20585

May 29, 1992

Mr. James J. Howard
Chairman and Chief Executive Officer
Northern States Power Company
414 Nicollet Mall
Minneapolis, Minnesota 55401-1993

Dear Mr. Howard:

Thank you for your letter of April 15, 1992, concerning an Administrative Law Judge's (ALJ) recommendation that the Minnesota State Public Utilities Commission (PUC) deny or defer to the State legislature Northern States Power Company (NSP) request to build a dry cask storage facility for spent nuclear fuel. The Department is very concerned that this ALJ decision, if adopted by the PUC, could force NSP to derate and possibly even shut down a safe, reliable, and economical nuclear power plant.

We fundamentally disagree with the conclusions reached by the ALJ with respect to whether the Department will succeed in siting and developing a permanent nuclear waste repository. I recognize that there are those who question the Department's ability to develop a monitored retrievable storage (MRS) facility and a permanent waste repository in a timely manner. Let me make very clear, however, that the Department is committed to fulfill the mandates imposed by the Nuclear Waste Policy Act.

Recent developments suggest that, contrary to the ALJ's decision, the Department will develop a permanent nuclear waste repository in a timely fashion. First, the schedule delays caused by litigation with the State of Nevada are largely behind us. Nevada has now issued the three permits that were the subject of litigation. We began new Yucca Mountain site characterization work last year and are making good progress. Second, we have accomplished specific milestones in our site suitability evaluation. These include completion of a baseline plan for the characterization work, completion of an interim evaluation of site suitability, and redesign of the underground Exploratory Studies Facility. Further, a panel of the National Academy of Sciences has provided a compelling basis for favorable resolution of one of the key-site suitability issues.

I am also heartened by the action taken by the House of Representatives on May 21, 1992, to include in H.R. 776 authority

to enable us to proceed with further site studies at Yucca Mountain without procedural delays by Nevada. This clearly demonstrates Congressional resolve not to permit spent nuclear fuel to permanently remain at reactor sites.

Our current schedule calls for having an MRS facility operating by 1998. The permanent repository will commence operation within 6 years of completion of the Nuclear Regulatory Commission reviews of the repository license application. We expect to start accepting spent fuel at the repository in 2010.

The MRS schedule assumes that the Nuclear Waste Negotiator will begin development of a negotiated agreement with the candidate MRS host in the first half of 1993. Because this is a voluntary process being carried out with a number of parties, it is not possible to establish a more precise date at this time. However, the Negotiator has identified a number of jurisdictions that are candidates for future negotiations leading to hosting an MRS facility. Applications for 20 Phase I grants have been received from jurisdictions interested in investigating the feasibility of hosting an MRS facility. The first part of a Phase II grant was recently awarded to a potential host jurisdiction to study siting an MRS within its jurisdiction in greater detail. We anticipate additional Phase II applications and grant awards.

This effort is necessary prior to formal negotiations between the potential host and the Negotiator over the siting of an MRS. Once the Negotiator finalizes an agreement with a potential host, and the proposed agreement is enacted into law by Congress, construction of an MRS could proceed promptly.

To meet our schedules, we have established specific interim milestones to impose discipline and accountability. Top-level milestones are listed on the enclosure to this letter. Several occur during the next 2 to 3 years and will provide a means for readily measuring our progress. As part of this measurement process, we are continually assessing the MRS and repository programs to ensure that we are taking whatever action is necessary to meet our goals. The results of our latest assessment will be submitted as part of the fiscal year 1994 budget to be presented to the Congress in January 1993.

In sum, the Department has sound, integrated program plans that should enable us to begin spent fuel receipt at an MRS facility in 1998 and to begin accepting spent fuel at the repository in 2010. However, should it become clear that our currently-planned actions and progress towards the milestones listed in the enclosure will not ensure that the Department can accept spent nuclear fuel by 1998, we will take whatever actions are necessary and in

accordance with the law to meet our obligations under the Nuclear Waste Policy Act. Further, we would seek additional legislative authority if appropriate.

Under the Department's 10 CFR Part 961 regulations, the Department and NSP have a contract which commits the Department to accept title to, transport, and dispose of the spent fuel from Prairie Island. From our review of the shipment schedule for Prairie Island, combined with our commitment to accept spent nuclear fuel in 1998, we conclude that the spent fuel proposed to be stored in dry cask storage at Prairie Island will be shipped to an MRS facility within the 25-year time limit envisioned by the ALJ's recommendation.

I recognize that resolution of the waste disposal problem is critical to NSP and to the entire nuclear industry. It is a problem, therefore, which must have a satisfactory conclusion. The Department will continue to work to ensure that an MRS facility and a permanent repository are constructed expeditiously.

If the Department can provide more details for your use with the Minnesota PUC, we would be pleased to do so.

Sincerely,

James D. Watkins
Admiral, USN (Retired)

Enclosure

cc:
The Honorable Krista Sanda
Commissioner of the Minnesota
Department of Public Service

Enclosure

Key MRS Program Milestones

Complete Environmental Assessment of Potential Sites	June 1993
Submit Siting Recommendation to Congress	June 1993
Congress Complete Review of Siting Decision	September 1993
Complete Design in Support of Safety Analysis Report	September 1994
Issue Environmental Impact Statement (EIS)	August 1995
Submit License Application	September 1995
Start Construction of MRS Facility	September 1996
First Production of Transport Casks	January 1997
Start Receipt of Spent Fuel at MRS	January 1998

Key Yucca Mountain Milestones

Start Exploratory Studies Facility (ESF) Collar/portal Construction	November 1993
Start ESF In-situ Test Phase	September 1995
Start Repository License Application Design	June 1996
Issue Repository EIS Notice of Intent	May 1997
Start EIS Preparation	February 1998
Site Recommendation to the President	April 2001
Submit License Application to NRC	October 2001
NRC Complete Licensing Reviews	October 2004
Start Repository Construction	December 2004
Start Accepting Spent Fuel at a Repository	January 2010

The Secretary of Energy
Washington, DC 20585

May 27, 1992

Mr. Allen J. Keesler, Jr.
Chairman, American Committee
on Radwaste Disposal
Florida Power Corporation
P.O. Box 14042
St. Petersburg, Florida 33733

Dear Mr. Keesler:

Thank you for your letter of April 13, 1992, on behalf of the American Committee on Radwaste Disposal (ACORD), urging the Department of Energy (DOE) to review its position on DOE obligation to begin receipt of spent nuclear fuel (SNF) on January 31, 1998.

The Nuclear Waste Policy Act (NWPA) states that Congressional policy is to provide for the disposal of SNF in the near term, rather than leaving that problem to future generations. Congress viewed the disposal of SNF as a national problem and charged the DOE with responsibility for developing and implementing a Federal nuclear waste management system.

I take that responsibility most seriously. The DOE schedule to develop a nuclear waste management system, which was established in my November 1989 "Report to Congress on Reassessment of the Civilian Radioactive Waste Management Program," is to begin SNF acceptance from reactors in 1998 for storage in a Monitored Retrievable Storage (MRS) facility and to begin accepting spent fuel at a repository in 2010.

We have confidence that we will be able to meet our schedule despite the uncertainties inherent in a program of this magnitude. As you note in your letter, we have made significant progress over the last several months in the MRS program.

The efforts of the Nuclear Waste Negotiator have been rewarded by 20 requests for Phase I grants from jurisdictions interested in exploring the feasibility of hosting an MRS facility. Several of these applicants have strong prospects to enter into negotiated agreements. Based on this progress, the Negotiator expects that one or more MRS facility hosts can be identified by early next year. This would enable us to begin spent fuel receipt in 1998.

If, contrary to our current expectations, we are not able to begin spent fuel receipt at an MRS facility by January 31, 1998, the Department has determined that it is not legally obligated to accept SNF. We understand ACORD desire for certainty regarding the management of SNF, but nothing in the NWPA, or in the implementing contracts, requires DOE to take spent fuel if, despite our best efforts, we have no operating MRS facility in which to put it.

However, should it become clear to me that our currently-planned actions will not ensure that the Department can accept SNF by 1998, we will take whatever actions are necessary and in accordance with the law to meet our obligations under the Nuclear Waste Policy Act. Further, we would seek additional legislative authority if appropriate.

In summary, the DOE remains firmly committed to living up to our responsibilities under the NWPA, including our programmatic schedule goals. We are making good progress toward that end and welcome ACORD interest and support.

Sincerely,

James D. Watkins
Admiral, U.S. Navy (Retired)

Department of Energy
Washington, DC 20585

February 14, 1992

The Honorable Krista L. Sanda
Commissioner
Minnesota Department of Public Service
790 American Center
150 East Kellogg Boulevard
St. Paul, Minnesota 55101-1496

Dear Ms. Sanda:

This is in response to your September 30, 1991, petition to Secretary Watkins that requested that the Department of Energy (Department) amend the Standard Contract for Disposal of Spent Nuclear Fuel and/or High-Level Radioactive Waste (10 CFR Part 961). The proposed amendment would provide credits to owners of spent nuclear fuel (SNF) for the costs of on-site storage after January 31, 1998. Your petition further requests that it be published in the Federal Register.

Your petition was carefully reviewed in light of the Nuclear Waste Policy Act of 1982 (NWPA), as amended, the Standard Contract, and the legislative history concerning the Department's obligation to accept SNF. The Department has concluded that, while your petition addresses issues of serious concern to electricity consumers in Minnesota, as well as other electricity consumers Nationwide, it would be premature and inappropriate to initiate a rulemaking to provide credits to owners of SNF for the costs of on-site storage after January 31, 1998.

Your petition contends that under Section 302(a) of the NWPA, the Department is required to begin accepting waste not later than January 31, 1998. Your petition further reasons that in view of the present status of the Department's efforts to construct either a repository or a Monitored Retrievable Storage (MRS) facility, the Department will not be able to begin waste acceptance by that date.

Neither the NWPA nor the Standard Contract imposes an unconditional obligation on the Department to accept SNF by January 31, 1998. The NWPA and the Standard Contract condition waste acceptance by the Department upon the commencement of operation of a repository or an MRS facility. In this connection, Section 302(a)(5)(B) of the NWPA directs that contracts entered into in accordance with Section 302(a) of the NWPA are to provide that the Department will take title to SNF following commencement of operation of a repository.

In response to this statutory requirement, the Standard Contract provides in Article II that "[t]he services to be provided by DOE under this contract shall begin, after commencement of facility operations, not later than January 31, 1998." Of further importance is Section 142 of the NWPA that authorizes the Department to accept SNF for temporary storage at an MRS

facility prior to disposal in a repository. By these provisions, the triggering event for the Department's waste acceptance obligation is the commencement of either repository or MRS operations on or after January 31, 1998.

The Department intends to initiate the waste acceptance process, consistent with its obligation under both the NWPA and the Standard Contract, as soon as a facility commences operation. The Department fully expects this process to begin at an MRS by January 31, 1998. Until the SNF is accepted by the Department, Section 111(a)(5) of the NWPA assigns the waste owners the primary responsibility to provide for, and pay the costs of, interim storage.

Regarding your general request for publication of your petition in the Federal Register, neither the Administrative Procedure Act nor the DOE Organization Act requires publication in the Federal Register of all petitions for rulemaking. In this instance, where the Department has neither a statutory nor a regulatory obligation to promulgate new regulatory provisions, the Department is under no obligation to publish the petition. In processing a request, such as yours, to initiate discretionary rulemaking actions in the Federal Register, the Department follows a practice of review on a case-by-case basis.

In view of the fact that 1) the Department is obligated to accept SNF only after commencement of facility operations, 2) the NWPA assigns responsibility to the owners of SNF for storage until a facility commences operation, and 3) the Department believes it will be able to meet the January 31, 1998, date for acceptance of SNF at an MRS, the Department has decided not to initiate a rulemaking on the issue of credits for the cost of on-site storage of SNF after January 31, 1998, and not to publish your petition in the Federal Register.

I understand your concern about the Department's ability to accept SNF from utilities on a timely basis. It is important to recognize, however, that significant progress has been made recently toward obtaining a host site for an MRS facility, which is a prerequisite for initiation of the waste acceptance process in 1998. For example, the Department has awarded four grants to jurisdictions who are studying the feasibility of hosting an MRS facility. Several other grant applications have also been received and are being processed by the Department. I remain confident that waste acceptance can begin in 1998 at an MRS facility.

Sincerely,

John W. Bartlett

John W. Bartlett, Director
Office of Civilian Radioactive
Waste Management

MINNESOTA
Department of
Public Service

790 American Center
150 East Kellogg Boulevard
St. Paul, Minnesota 55101-1496
(612) 296-7107
FAX (612) 297-1959

September 30, 1991

Admiral James D. Watkins
Secretary of Energy
U.S. Department of Energy
1000 Independence Avenue, S.W.
Washington, D.C. 20585

RE: Petition to Grant Credit on the Nuclear Waste Fund Fee

Dear Admiral Watkins:

On August 2, 1991, I met with your Undersecretary John Tuck and other DOE staff members to discuss my concerns regarding the Department of Energy's implementation of the Civilian Nuclear Waste Disposal Program. I have studied this issue in depth. My staff has conducted an extensive investigation. Based on that study, I conclude that it is highly probable that your department will experience significant delay in meeting its obligation to begin taking high-level radioactive waste in 1998. Therefore, I have directed my legal counsel to prepare a Petition for Relief.

Through the attached Petition, Minnesota seeks from the DOE a credit on the amount it charges for the Nuclear Waste Disposal Program. We are being forced to plan for the fact that your department will delay, or perhaps even fail, to live up to its congressionally mandated obligation to dispose of high-level radioactive waste. At a minimum, you should take prompt action to ensure that we are not charged for your delay.

Our future depends on your implementation of the Nuclear Waste Disposal Program. We want you to be successful in meeting your obligations under the Nuclear Waste Policy Act. Nonetheless, as the state official charged to represent Minnesota in federal energy matters, I must initate this action to protect our interests.

Sincerely,

Krista L. Sanda

KRISTA L. SANDA
COMMISSIONER

c: Dr. John W. Bartlett
Office of Civilian Radioactive Waste Management

9101234

STATUS OF THE HIGH-LEVEL WASTE PROGRAM

ACTIVITIES RELATED TO SITE ACCESS

DOE has received permits necessary to conduct site activities. These include an air-quality permit, granted June 1991; underground-water injection control permits, granted July 1991 and May 1992; and a water-use permit, granted March 1992.

SITE CHARACTERIZATION ACTIVITIES

New/Recent Activities:

Trenching in the area of the proposed surface facilities

Purpose: To determine the presence of absence of Quaternary faults beneath site of surface facilities

Trench to be 1000 feet in length, when complete

Trench mapping to begin mid-June

Preliminary work was conducted in test pits in area before trenching began

Trench 14 deepening

Purpose: To gather further information on calcite/silica veining in trench 14 to determine whether or not material was deposited by upwelling water

Trench exposes Bow Ridge fault; proposed waste handling ramp from the surface facilities to the repository will cross fault.

Trench was deepened in response to recommendation from independent peer review convened by DOE

LM-300 drilling

Purpose: Dry drilling technology to obtain core and cuttings without disturbing the in situ conditions of Yucca Mountain.

Drilling began May 27; hole is now approximately 55 feet deep and has entered bedrock

Hole is proposed to be approximately 1600 feet deep and will penetrate the saturated zone

Life of borehole is approximately 100 years (could survive as monitoring hole)

PRE-APPLICATION REVIEW AND ANALYSIS OF DOE SUBMITTALS

"Report of Early Site Suitability Evaluation of the Potential Repository Site at Yucca Mountain, Nevada"

The NRC staff has recently completed a review of the "Report of Early Site Suitability Evaluation of the Potential Repository Site at Yucca Mountain, Nevada" (ESSE). The ESSE is a DOE contractor report that presents an evaluation of the technical suitability of Yucca Mountain against the siting guidelines of 10 CFR Part 960.

The staff presented the results of its review to the Advisory Committee on Nuclear Waste on June 17, 1992, and received favorable comments. Following receipt of the ACNW's letter on the staff's review, the staff plans to incorporate ACNW comments and transmit its review to DOE by July 15, 1992.

Study Plans

To date DOE has transmitted 36 site characterization study plans to the NRC. NRC has provided reviews of 27 of those study plans to DOE. The staff has not reviewed eight of the 36 study plans as they were incomplete when submitted or are related to Exploratory Studies facility construction-phase testing. One study plan is currently under review by the staff.

Site Characterization Plan Concerns

In its Site Characterization Analysis (letter of July 31, 1989), NRC staff identified 198 concerns (2 Objections, 133 Comments, and 63 Questions) related to the DOE Site Characterization Plan. Based on responses from DOE, the staff closed (letter of July 31, 1991) 59 concerns (38 of the 133 comments and 21 of the 63 questions).

On March 2, 1992, NRC staff lifted the quality assurance Objection to the SCA after determining that all DOE organizations participating in site characterization activities have developed and are implementing a QA program that meets NRC requirements. The staff will continue to monitor implementation of DOE's QA program through audits and surveillances.

On March 3, 1992, DOE completed submittal of information to close Site Characterization Analysis Objection 1 related to the Exploratory Studies Facility. The staff has reviewed the DOE information and anticipates taking a formal position on DOE's request to lift the objection in July.