

MAY 27 1994.

MEMORANDUM FOR: James L. Blaha, Assistant for Operations  
Office of the Executive Director for Operations

FROM: Robert M. Bernero, Director  
Office of Nuclear Material Safety and Safeguards

SUBJECT: BACKGROUND FOR FORTHCOMING U.S. DEPARTMENT OF ENERGY/OFFICE  
OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT (DOE/OCRWM)  
DIRECTOR'S BRIEFING TO THE COMMISSIONERS

The following enclosures are provided as background information for the Commission in anticipation of the forthcoming subject meeting, currently scheduled June 6, 1994. Enclosure 1 is six copies of an NRC staff summary of a recent meeting between the staff and DOE on it's "Proposed Program Approach" for the geologic repository program at Yucca Mountain, Nevada. Also included in Enclosure 1 are several issues identified by the staff on DOE's proposed approach.

As additional background on this subject, you will also find six copies of the staff's earlier comments on the "Proposed Alternative Strategy for DOE's OCRWM Program" (see Enclosure 2) that provided the basis for the "Proposed Program Approach." The staff understands that the "Proposed Alternative Strategy for DOE's OCRWM Program" has not been formally adopted by DOE at this time.

If you have any questions or desire additional information on this subject, please contact Mr. Joseph J. Holonich. He can be reached in Room T7E-47 or at 415-6643.

Original signed by  
Robert M. Bernero  
Robert M. Bernero, Director  
Office of Nuclear Material Safety  
and Safeguards

*\* See Previous*

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DATE	5/27/94						

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and Safeguards

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DATE	5/19/94		5/19/94	5/17/94	1/19/94
OFC	NMSS				
NAME	RBernero				
DATE	1/19/94				

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**U.S. Nuclear Regulatory Commission  
Staff Meeting Summary on  
U.S. Department of Energy Proposed Program Approach**

**Background**

The U.S. Department of Energy (DOE) is contemplating a change to its plans for its high-level waste (HLW) program, as described in the 1988 *Site Characterization Plan* (SCP). DOE believes changes to its HLW program plan and schedules are needed because past and existing funding levels have proven to be insufficient to implement the program as first described in the SCP. Moreover, DOE believes that some restructuring of the HLW program is warranted based on what has been learned about the Yucca Mountain site to date as a result of site characterization as well as the 1990 National Academy of Sciences recommendations on how the national HLW program should be re-directed.

**Summary**

On May 19, 1994, DOE briefed the Division of Waste Management staff on its plans for restructuring its HLW program. The briefing provided some background on how and why DOE arrived at this particular approach as well as the governing factors and considerations affecting its decision (see attached viewgraphs).

In summary, DOE's Proposed Program Approach (PPA) for geologic repository activities can be described by the following progression of major milestones that reflect key decisions for the continuation of the program:

- Make formal site suitability findings, in a stepwise manner, per 10 CFR Part 960, leading to the Site Recommendation Report to the President, in accordance with the Nuclear Waste Policy Act of 1982, as amended.
- Initiate the National Environmental Policy Act process prior to the submittal of a potential license application through the preparation of Environmental Impact Statements.
- Collect sufficient information to submit a license application for a construction authorization in accordance with 10 CFR Part 60.

As part of its PPA, DOE intends to involve stakeholders and the public prior to making decisions relative to each of these major milestones.

DOE has shown the schedular impact of the PPA in one of the attached viewgraphs, "Comparative Schedules." This viewgraph shows three alternative schedules for the DOE program.

- The first schedule, "100% Revenue Funding," is for comparison purposes only. It shows the schedule that DOE could meet if DOE retains its current program plan and, beginning in FY95, receives substantially increased funding, so that by 2001, DOE has received all of the money it anticipated for the program when it was established in 1989. This schedule shows that the license application would be submitted to the NRC in 2005.
- The second schedule, the "Proposed Program Approach," shows that DOE would submit the license application in 2001.
- The third schedule, "Level Funding Outlook," shows the impact of continuing the present DOE program plan, funded at amounts consistent with what Congress has provided for the past several years. In this schedule, DOE will be unable to complete the license application in the foreseeable future.

Because of funding short-falls in the past, DOE noted that it cannot make-up for lost time in the overall repository schedule. Also, because of Congressional expectations to show demonstrable progress in the program at reduced cost, DOE expects that any repository program in the future will be resource-constrained. Thus, the NRC staff understands that a key consideration in the development of the PPA will be how efficiently DOE uses existing data and on-going data-collection activities to make decisions about the suitability of the Yucca Mountain site.<sup>1</sup>

DOE noted that overall, based on the results of site characterization activities to date, it now believes that for some aspects of the repository site and design it can rely more on bounding analyses to address 10 CFR Part 60's license application requirements. Thus, DOE believes that it will not have to fully implement the 1988 SCP to support a potential license application. Therefore, DOE noted that its PPA would call for a less resource-intensive scope-of-work during the site characterization phase than that which was first envisioned in the 1988 SCP.

DOE also noted that it plans to rely more on the results of its 10 CFR Part 960 site

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<sup>1</sup> DOE also noted that once it proceeds with the fabrication of the multi-purpose canister system, the geologic repository program can probably experience some significant funding reductions due to limitations in the overall OCRWM budget ceiling.

provide the results of its 10 CFR Part 960 site suitability studies to the staff for its review and comment.

Based on these considerations, DOE noted that it intends to rely more on engineering measures (more robust designs, increased safety margins, etc.) to address site suitability issues at the time of a potential license application submittal. Should any site suitability issues persist at the time of a construction authorization decision, DOE proposes that they could be evaluated during the period of performance confirmation.

#### **Preliminary DWM Staff Analysis of Proposal**

In light of the DOE proposal, the staff has the following comments:

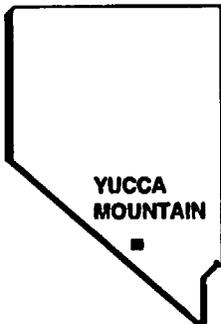
1. Concerning a potential construction decision by NRC, DOE believes the Commission could reach this determination, with "reasonable assurance," based on the "bounding analyses" envisioned by the PPA. As noted above, DOE proposes that any potential siting, design, or performance concerns that are not fully characterized at the time of a construction authorization decision could be addressed as part of the 10 CFR Part 60 performance confirmation program, prior to the license application amendment to receive waste, or remediated through more robust engineering measures or a longer waste retrieval period (e.g., 100 years). It is not clear if this particular interpretation of "reasonable assurance" is consistent with what was originally envisioned when NRC's geologic disposal regulation was promulgated.

The staff's interpretation of "reasonable assurance" (10 CFR 60.31(a)) has been one of having sufficient data to say with confidence, at the time of the construction authorization, that the geologic repository site and design would meet 10 CFR Part 60's performance objectives. The period of performance confirmation (10 CFR 60.140-143) would continue to verify site conditions, design parameters, and compliance with the performance objectives, as described in the construction authorization application, during both the construction and operation of the geologic repository. Thus, in the staff's view, the period of performance confirmation is not intended as a mechanism to achieve further "reasonable assurance," but rather is intended to continue to confirm the "reasonable assurance" demonstrated at the time of the license application.

2. One of the PPA planning assumptions was in the area of waste retrievability. DOE is now proposing to maintain the waste retrieval option for up to 100 years after the commencement of waste emplacement operations. NRC's rule (10 CFR 60.111(b)) requires that the waste retrieval option be preserved for a minimum of 50 years after the commencement of waste emplacement. DOE expects that the extended waste retrievability period will help to facilitate the collection of additional data confirming the acceptability of the site and the design.
3. DOE noted the PPA is generally consistent with the SCP and that no changes to the *Mission Plan* are envisioned at this time. DOE also indicated that it will use future *SCP Progress Reports* to advise the NRC staff on the specific details of the PPA when adopted. However, the NRC staff is concerned that DOE's PPA has implications that extend beyond site characterization itself and that higher level of documentation, such as an amendment to the *Mission Plan*, might be needed.

U.S. DEPARTMENT OF ENERGY

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M**



**YUCCA MOUNTAIN**

**SITE CHARACTERIZATION**

**PROJECT**

# **PROPOSED PROGRAM APPROACH**

**PRESENTED TO**

**NUCLEAR REGULATORY COMMISSION**

**PRESENTED BY**

**STEPHAN J. BROCOUM**

**ASSISTANT MANAGER**

**SUITABILITY AND LICENSING**



**MAY 19, 1994**

# Current Program Situation

- **The current program, as described in the SCP and implemented in the ESAAB approved baseline for Yucca Mountain, cannot be accomplished with projected funding level**
- **Congressional expectations: streamline program to show demonstrable progress at reduced cost**

# Alternative Program Strategies

- **Two alternatives were evaluated:**
  - **A program restructured for management efficiency operating within existing legislative and regulatory framework (assumes availability of increased funding)**
  - **A resource-constrained program operating within existing legislative and regulatory framework (assumes level funding outlook)**
- **DOE is moving forward with further evaluation of restructured program within existing legislative and regulatory framework (Proposed Program Approach)**



# **Basis for Proposed Program Approach**

- **Responds to Congressional expectations to show demonstrable progress at reduced cost**
- **Consistent with original intent of NWPA and 10 CFR 60 regarding sequencing of DOE and NRC decisions**
- **Reflects some of the recommendations of the NAS Report, "Rethinking High Level Waste"**
- **Responds to suggestions from NWTRB and others regarding the need for effective management of a well focused technical program**

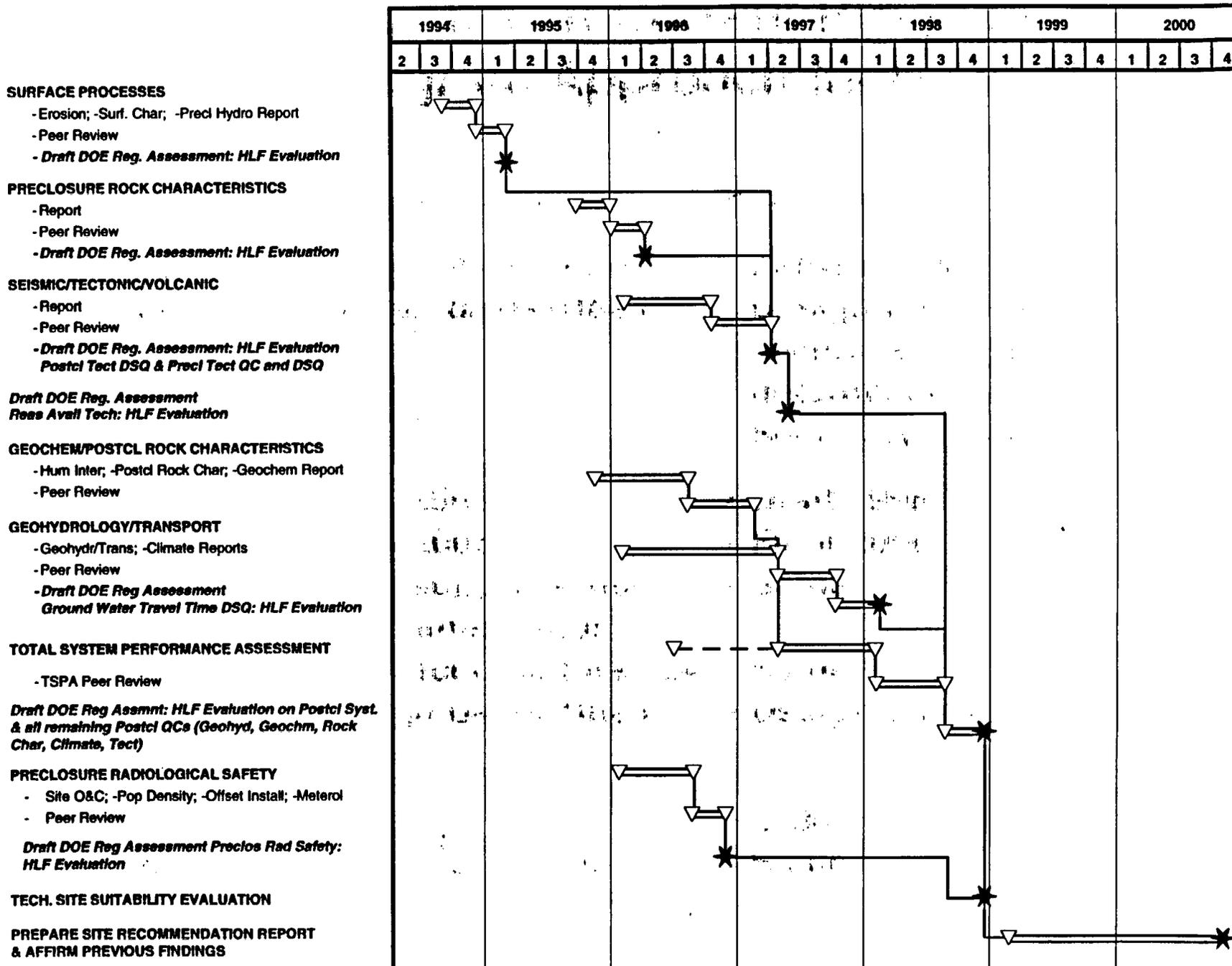
# Planning Assumptions

- **No changes to legislative and regulatory framework - make use of inherent flexibility**
- **Increased funding in FY95 and assured funding in out-years**
- **Waste acceptance and near-term storage issues addressed by delivery of MPCs to utilities starting in 1998**
- **Restructure site characterization program based on available information to focus on most significant issues for suitability and licensing**
- **Retrievability maintained for up to 100 years**

# **Summary of Proposed Top-Level Strategy for Repository**

- **Make formal suitability findings in a stepwise manner**
- **Initiate the NEPA process as soon as possible**
- **Provide sufficient information in LA to support NRC's reasonable assurance finding**
  - **Ensure safety of repository operations**
  - **High confidence in waste package containment for at least 1,000 years**
  - **Bounding/conservative analyses relevant to radionuclide releases and total system performance for 10,000 years**
  - **Testing programs to focus on supporting design (construction, operations, waste package performance) and bounding/conservative analyses**
  - **Additional information to confirm basis for assessment of long-term performance provided under post-LA performance confirmation program**
- **Involve stakeholders and public prior to making key decisions**

# Preliminary Site Suitability Decision Schedule

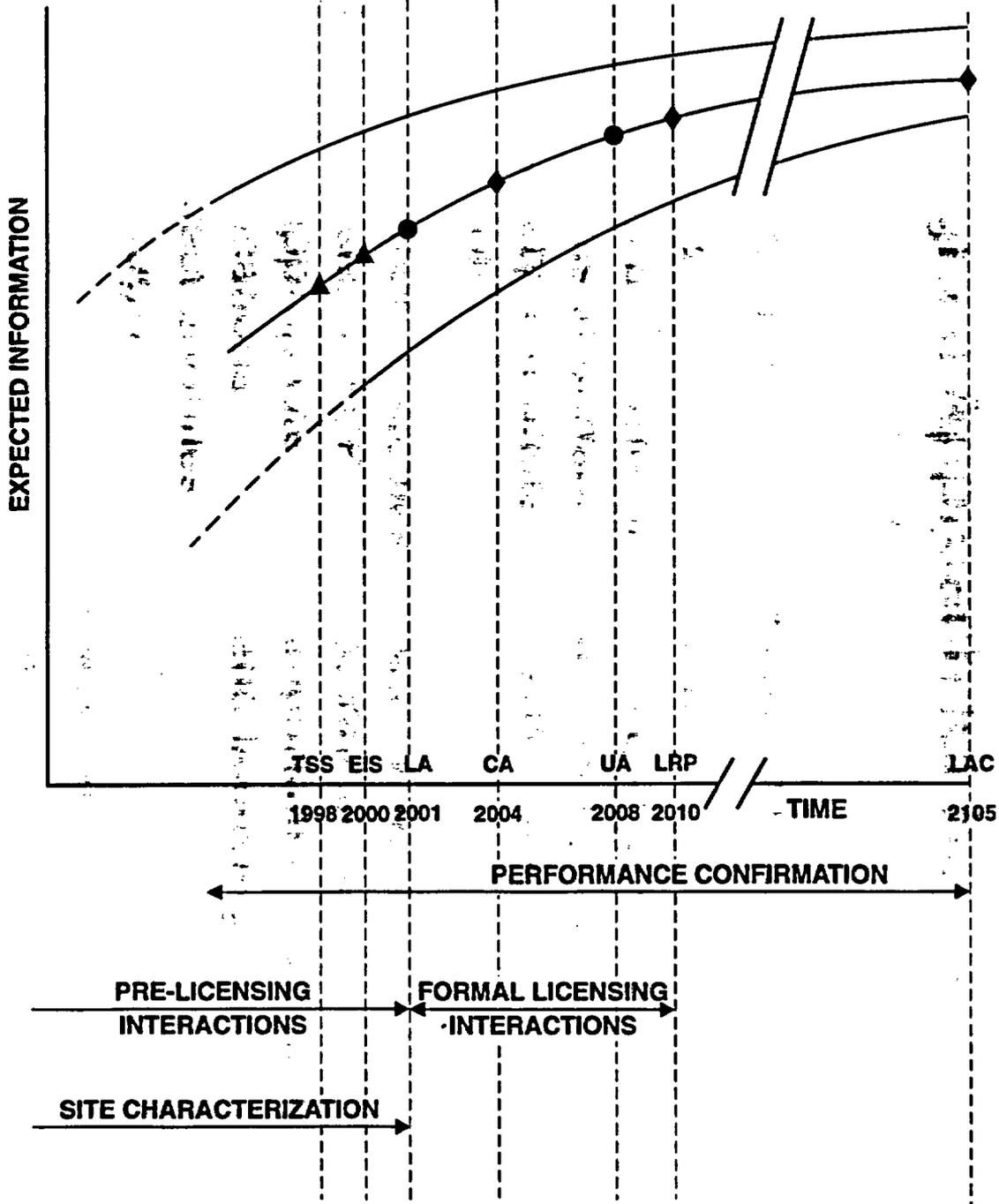


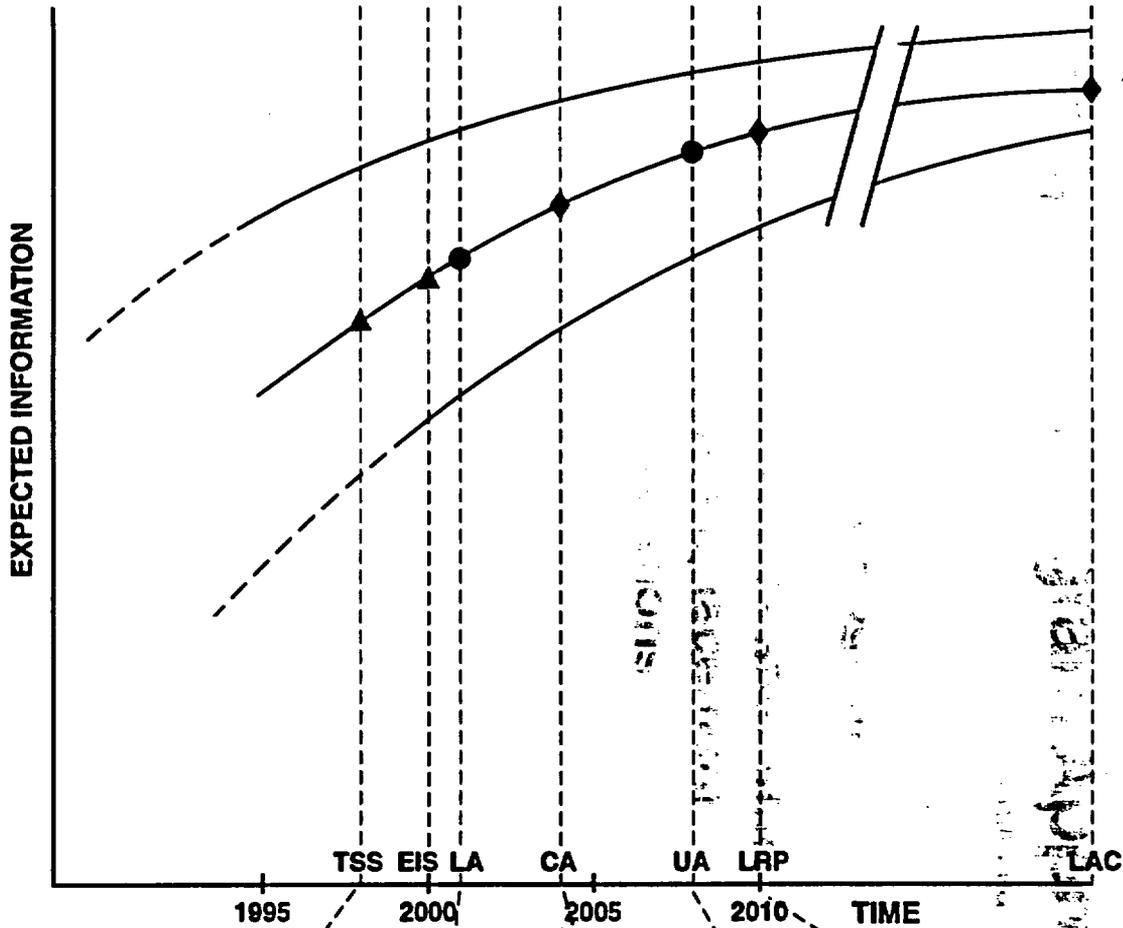
**60.24(a)**

"... as complete as possible in the light of information that is reasonably available at time of docketing..."

**60.101(b)**

"... demonstration of compliance may take uncertainties and gaps in knowledge into account..."  
(reasonable assurance)





	TSS/DEIS - 1998	LA/CA - 2001	CA, 2004	UA/R&P - 2008	LR&P - 2010	Perf. Confirm.
<b>NAT.BAR.EVAL</b>						
GWTT	Bounded	Sub. Finished		Final		
Scenarios	Bounded	Bounded		Sub. Finished		Final
Subsystem Analyses	Bounded	Sub. Finished		Final		Updated
TSPA Source Term	Bounded Model	Bounded Model		Complete		Confirmed
Post Cl. TSPA	Bounded	Bounded		Sub Finished		Final
<b>REPOSITORY DESIGN</b>	ACD	Title I	Title II	Title III	Title III	Title III
Backfill/Seals		Title I (Flex)		Demonstrated		Decision
Materials Inter'n	Bounded	Bounded	Mat's Sel.			
Retrievability		Title I	Proof of Princ.	Demonstrated		
Ar. Pwr. Den.	Bounded	Bounded		APD Decision		Final APD
Emplacement Mode		Title I		Decision		
Precl. PA	Bounded	Sub. Finished		Final		
Lag Storage	ACD	Title I	Title II	Title III		
Rail Spur	CD		Title I/II	Title II/III	Title III	
<b>WASTE PKG. DESIGN</b>	ACD/Title I	Title II (P'type)	Full Scale	P'type Tested	Title III	Oper'n's Conf.
Sub Cmp. Con.		Complete		Updated		
Criticality Con.		Complete		Updated		
Contr. Rel.	Bounded	Conserv. Calcs		Complete		
Materials	Concepts	Determined		Test Complete		Model Confirmed
Waste Form		Src Term Bnd'd		Final Src Term		
EBS Thermal	Concepts	Bounded				

# Information Levels Supporting Key Milestones

	TSS/DEIS - 1998	LA/CA - 2001	CA - 2004	ULA/R&P - 2008	L/R&P - 2010	Perf. Confirm. *
<b>NAT.BAR.EVAL.</b>						
GWTT	Bounded	Sub. Finished		Final		
Scenarios	Bounded	Bounded		Sub. Finished		Final
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TSPA Source Term	Bounded Model	Bounded Model		Complete		Confirmed
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<b>REPOSITORY DESIGN</b>	ACD	Title I	Title II	Title III	Title III	Title III
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Materials Inter'n	Bounded	Bounded	Mat'l's Sel.			
Retrievability		Title I	Proof of Princ.	Demonstrated		
Ar. Pwr. Den.	Bounded	Bounded		APD Decision		Final APD
Emplace. Mode		Title I		Decision		
Precl. P.A.	Bounded	Sub. Finished		Final		
Lag Storage	ACD	Title I	Title II	Title III		
Rail Spur	CD		Title I/II	Title II/III	Title III	
<b>WASTE PKG. DESIGN</b>	ACD/Title I	Title II (P'type)	Full Scale	P'type Tested/Title III	Title III	Oper'ns Conf.
Sub Cmp Con		Complete		Updated		
Criticality Con.		Complete		Updated		
Contr. Rel.	Bounded	Conserv. Calcs		Complete		
Materials	Concepts	Determined		Test Complete		Model Confirmed
Waste Form		Src'e Term Bnd'd		Final Src'e Term		
EBS Thermal	Concepts	Bounded				

\* Performance confirmation program is required to start during site characterization and continue until permanent closure (10 CFR 60.140 (b))



# Differences Between Current Program and Proposed Program Approach for Repository

<u>Key Elements</u>	<u>Current Program</u>	<u>Proposed Program Approach</u>
<b>Site suitability evaluation</b>	<ul style="list-style-type: none"> <li>• Interim evaluations</li> <li>• Design basis-Title I</li> </ul>	<ul style="list-style-type: none"> <li>• Individual interim findings</li> <li>• Design basis - ACD</li> <li>• Technical site suitability determination by Secretary - 1998</li> </ul>
<b>EIS</b>	<ul style="list-style-type: none"> <li>• Draft 2003</li> <li>• Final 2005</li> <li>• Final supports site recommendation</li> <li>• Final accompanies LA</li> <li>• Design basis-Title I</li> </ul>	<ul style="list-style-type: none"> <li>• Draft 1998</li> <li>• Final 2000</li> <li>• Same</li> <li>• Same</li> <li>• Design basis - ACD</li> </ul>
<b>Site Recommendation</b>	<ul style="list-style-type: none"> <li>• 2005</li> <li>• Design Basis-Title I</li> </ul>	<ul style="list-style-type: none"> <li>• 2000</li> <li>• Same</li> </ul>

# Differences Between Current Program and Proposed Program Approach for Repository

(Continued)

<u>Key Elements</u>	<u>Current Program</u>	<u>Proposed Program Approach</u>
<b>Licensing</b>	<ul style="list-style-type: none"><li>• 2005 LA</li><li>• Design basis-Title II for items important to safety and waste isolation</li></ul>	<ul style="list-style-type: none"><li>• 2001 LA</li><li>• Design basis - Title I for repository, Title II for waste package</li></ul>
<b>Technical and Scientific Studies</b>	<ul style="list-style-type: none"><li>• Full scope of studies proposed in SCP, with appropriate modifications, to reflect priorities and budget</li></ul>	<ul style="list-style-type: none"><li>• Narrow the focus to technical issues most important to suitability and licensing</li><li>• Make effective use of required performance confirmation program</li></ul>

# Differences Between Current Program and Proposed Program Approach for Repository

(Continued)

<u>Key Elements</u>	<u>Current Program</u>	<u>Proposed Program Approach</u>
<b>Retrievability</b>	<ul style="list-style-type: none"><li>• 50 years after start of emplacement operations</li></ul>	<ul style="list-style-type: none"><li>• 100 years after start of emplacement operations or when results from performance confirmation provide adequate confidence to proceed with closure application</li></ul>

## **Interactions With NRC**

- **June 6, 1994: OCRWM Director's briefing to Commissioners**
- **July 1994: Site Characterization Progress Report 10**
  - **Upper-level description of Proposed Program Approach**
- **January 1995: Site Characterization Progress Report 11**
  - **Description of detailed changes to program**
- **Revised project documentation will be provided to NRC, as appropriate**

## Next Steps

- **Identify testing, design, and performance assessment activities needed to support each step in the DOE and NRC decision process**
- **Allocate budgets and determine schedules**
- **Revise appropriate project documentation**

SEP 14 1993

Mr. Christopher A. Kouts, Acting Director  
Strategic Planning and International Programs  
Office of Civilian Radioactive Waste Management  
U.S. Department of Energy  
1000 Independence Avenue, SW  
Mailstop RW-4  
Washington, D.C. 20585

Dear Mr. Kouts:

**SUBJECT: COMMENTS ON THE REPORT OF THE TASK FORCE ON AN ALTERNATIVE PROGRAM STRATEGY**

I am responding to the U.S. Department of Energy (DOE) letter dated July 15, 1993, inviting comments on the "Proposed Alternative Strategy for the Department of Energy's Civilian Radioactive Waste Management Program." DOE noted in that letter that the report represented the views of the Task Force on an Alternative Program Strategy, and not necessarily those of DOE or the Office of Civilian Radioactive Waste Management. As requested, the U.S. Nuclear Regulatory Commission staff has reviewed the report. Its review focused only on the policy issues raised by the report, not on the technical assumptions which appear to underlie the proposed alternative strategy.

Based on its understanding of the information presented in the report, the staff believes that many aspects of the task force proposals are being implemented, and that some others can be accommodated. However, in some cases, it does not appear that the task force recognized ongoing activities or existing documents. In addition, the meaning of some of the steps contained in the elements is unclear. For example, many of the steps identified in Element 1 are similar to the performance allocation process contained in the Site Characterization Plan (SCP). Because of the ambiguous nature of the steps in Element 1, the staff is unable to determine if there are any differences between them and the performance allocation process discussed in the SCP. A second example of this is that the staff is presently having interactions with DOE covering many activities, in Element 3, concerning early pre-licensing interactions. But, it is not clear what differences exist between Element 3 and the established issue resolution process. Without a clearer presentation of the information in the report, the staff is unable to determine how it relates to established program activities, and how the program would change if these recommendations were adopted.

In addition, the task force stated that in developing the alternatives, it attempted to develop a strategy that required little or no change in the law or regulations beyond any already underway. However, there are three areas where the staff believes the report recommendations may be inconsistent with 10 CFR Part 60 or the Nuclear Waste Policy Act. These are: 1) the issuance by the staff of a formal report similar to that done under 10 CFR Part 50, Appendix Q (Element 2); 2) the desire to obtain a construction authorization and license at the same time (Element 5); and 3) the issuance of a limited

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ENCLOSURE 2

work authorization before a construction authorization (Element 6). The specific staff comments on these individual elements and the other elements are provided in the enclosure.

I trust that this reply responds to your request. Thank you for the opportunity to comment on the proposed alternative strategy. We would appreciate it if you would keep us informed of the progress of this and any similar reviews of DOE's high-level waste program.

Sincerely,

151

Robert M. Bernero, Director  
Office of Nuclear Material Safety  
and Safeguards

Enclosure:  
NRC Detailed Comments on "A Proposed  
Alternative Strategy for DOE's Civilian  
Radioactive Waste Management Program"

- cc: D. Shelor, DOE/HQ
- R. Loux, State of Nevada
- T. J. Hickey, Nevada Legislative Committee
- C. Gertz, DOE/NV
- M. Murphy, Nye County, NV
- M. Baughman, Lincoln County, NV
- D. Bechtel, Clark County, NV
- D. Weigel, GAO
- P. Niedzielski-Eichner, Nye County, NV
- B. Mettam, Inyo County, CA
- V. Poe, Mineral County, NV
- F. Sperry, White Pine County, NV
- R. Williams, Lander County, NV
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CKammerer, OSP	RVollmer, OPP		<i>no legal objection</i>

OFC	HLPD	HLPD*	HLWM*	HLWM*	OGC
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DATE	09/13/93	09/13/93	09/13/93	09/13/93	09/14/93
OFC	NMSS	NMSS			
NAME	GArlotto	RBernero			
DATE	09/ /93	09/14/93			

**U.S. Nuclear Regulatory Commission Detailed Comments on  
"A Proposed Alternative Strategy for the  
Department of Energy's Civilian Radioactive  
Waste Management Program"**

In its review of the above named document, the U.S. Nuclear Regulatory Commission staff has identified a number of comments on the eight elements contained in the proposed strategy. These comments are discussed below, and should be considered with the broad comments provided in the transmittal letter.

**ELEMENT 1:**

In Element 1 the task force recommends that the U.S. Department of Energy (DOE) develop and review a "Robust Repository Safety Concept" early in the implementation of its strategy. In this element, the report stated that there were three things the program has not done well. These included: 1) decide precisely the combination of natural and engineering barriers it will rely on to demonstrate safety; 2) clearly describe the combination of reliance on the individual barriers; and 3) subject that description to broad external review. The task force further goes on to identify the steps it believes DOE should take to frame a robust safety concept. The steps the task force outlined would: 1) use multiple barriers; 2) focus on those features most desirable; 3) define a conservative engineering system design; 4) select the best combination of natural and engineering features; and 5) rely on natural analogs. The report also suggested that DOE could reduce site testing needs, where appropriate.

Although the staff does not have a problem with this approach, it should be noted that DOE has described, in its Site Characterization Plan (SCP), a performance allocation process to deal with the question of sufficiency of data. This process resulted in a baseline program for site characterization that DOE documented in its SCP and that the NRC staff found generally adequate. For the staff to more fully understand how the proposal would affect this agreed upon SCP process, additional information is needed on how the steps in Element 1 relate to the performance allocation process described in the SCP and what, if any, changes it would propose. If any aspects of this element were adopted by DOE, the staff assumes it would advise NRC (as a minimum, in its required semiannual progress reports) of any changes in the scope of the performance allocation process or its planned site characterization activities. NRC would, in turn, comment in the light of its evaluation of the specific changes that are proposed.

Besides needing to better understand the relationship of Element 1 to the performance allocation process, the staff is concerned that the task force makes statements in Step (2) of Element 1 that the staff believes could be interpreted to limit site characterization to only those favorable conditions present at the site and that support DOE's conceptual model of the site. It needs to recognize that there are adverse as well as favorable conditions that must be investigated. In addition, it is important that any such proposals not be construed to preclude site characterization investigations addressing the validity of other conceptual models of the site.

ENCLOSURE

Finally, the Advisory Committee for Nuclear Waste (ACNW) is suggested by the task force, as an external reviewing body, along with other organizations, to which DOE could subject its concept for review. The sole function of the ACNW is to advise the Commission on nuclear waste disposal matters, and should not be the direct point of contact for the NRC review of any DOE repository activities.

#### ELEMENT 2:

Element 2 recommends reissuing the siting guidelines, and beginning a process to allow for periodic site suitability findings during site characterization. This would include external peer review and would lead to the submission of a report, to NRC, for formal review and a preliminary finding along the lines of the "pre-application site suitability review of site suitability issues," under 10 CFR Part 50, Appendix Q.

The NRC staff believes that the present NRC/DOE interfaces are accomplishing this to a great extent through the agreed on issue resolution process. This process, which has been well documented by NRC and discussed at length with all the repository program participants, states that issue resolution means the staff has completed its review of site characterization documents, and where appropriate, agrees that it has no more questions or comments. Except for very specific cases in which an issue is resolved through rulemaking, no issue can be finally resolved during the prelicensing consultation period. The staff will still need to conduct a review of the subject, in the license application evaluation, to ensure that DOE has acceptably demonstrated, in the staff's opinion, compliance with 10 CFR Part 60. This position has its regulatory basis in 10 CFR 60.18(1).

With respect to the task force proposal that DOE submit a report to NRC for formal review and findings similar to those contained in 10 CFR Part 50, Appendix Q, it is unclear exactly what type of process is envisioned. As noted above, there is in-place an issue resolution process that the staff believes is sufficient for the pre-licensing phase of the program. For all of the significant issues, DOE will need to evaluate their combined effect on meeting the performance objectives. Therefore, the staff believes that, even if consideration were given to promulgating a similar process to 10 CFR Part 50, Appendix Q for 10 CFR Part 60, the performance based requirements of 10 CFR Part 60 would preclude making any findings on significant issues. In fact, even if the 10 CFR Part 50, Appendix Q procedures were in place, early review in this instance might well be found not to be "in the public interest" when the degree of likelihood that findings would retain their validity in license reviews, as well as potential objections of cognizant state or local government agencies, were considered.

#### ELEMENT 3:

In Element 3 the task force suggests that there is a need for early formal pre-licensing interactions with, and preliminary findings by, the NRC staff. As discussed above, in relation to Element 2, the staff's current interactions with DOE are consistent with the agreed on issue resolution process, which the staff believes responds to this element. Without a better definition of what is meant by "formal" and "preliminary findings," the staff could not comment further on what is described in the element.

**ELEMENT 4:**

Element 4 describes the concept of a waste package research and development facility constructed early in the site characterization program. This facility would conduct nonradioactive or "cold" tests on initial versions of a multiple purpose container. Later, after receiving a construction authorization, tests would be conducted using spent fuel or high-level waste. The staff has two concerns with the proposal in this element. First, the report is unclear whether the facility would be on or off site. In addition, the report appears to suggest emplacing waste in the repository after receipt of a construction authorization, but before a license has been issued. The only waste emplacement permitted prior to the issuance of a license to receive and possess is for site characterization purposes as provided in 10 CFR 60.18(e).

**ELEMENT 5:**

Element 5 describes the plan for the phased development of a full-scale repository. This plan recommends that development occur only after the construction permit and license to receive and possess has been issued. It further suggests that DOE seek the construction authorization for a full-scale repository, not for a small or partial repository. However, it would undertake small-scale disposal with a conservative design. Later, the plan would have DOE file for one or more license amendments, to allow emplacement of larger amounts of waste.

The staff believes that the concept of phased emplacement is permitted under 10 CFR Part 60. However, the task force envisions that DOE would be able to obtain a construction authorization and license to receive and possess at the same time. Before NRC could issue a license to possess, DOE would need to obtain a construction authorization, as required by 10 CFR 60.3, and the construction of the repository would need to be substantially complete, as required by 10 CFR 60.41(a). Substantially complete as defined in 10 CFR 60.41(a) is as follows:

Construction may be deemed to be substantially complete for the purposes of this paragraph if the construction of (1) surface and interconnecting structures, systems, and components, and (2) any underground storage space required for initial operation are substantially complete.

In addition, to implement the approach outlined in the proposal, DOE would still have to present the analysis in its license application for the full capacity of the repository.

**ELEMENT 6:**

In Element 6 the task force separates the acceptance of waste by the DOE from the emplacement of the waste in a repository. Under this element, waste would be accepted and stored at the site and on the surface. This available storage could be used to complement storage at other Federal facilities. Such an action might be construed as establishing a Monitored Retrievable Storage (MRS) facility. The location of the MRS and repository at the same site is not permitted under the Nuclear Waste Policy Act (NWPA). Therefore,

clarification is needed on how DOE would achieve the proposal outlined in this element.

The staff also interprets some of the actions proposed in this element as allowing DOE to begin construction under a limited work authorization, before a construction authorization was issued. Such actions are not permitted in 10 CFR Part 60. Specifically, 10 CFR 60.3 requires that a construction authorization be issued before construction of the repository starts.

**ELEMENTS 7 and 8:**

Element 7 provides for the management and institutional initiatives needed to ensure that the new strategy is carried out efficiently and inclusively. Element 8 provides for the extensive public review that will be needed to develop the broadest possible consensus. The only NRC organization named to participate in the review is the ACNW. As stated in Element 1, the ACNW advises the Commission, and should not be the direct point of contact for the NRC review of any DOE repository activities.