IN RESPONSE, PLEASE
REFER TO: M911217

January 14, 1992

MEMORANDUM FOR: James M. Taylor
Executive Director for Operations

FROM: Samuel J. Chilk, Secretary /S/

SUBJECT: STAFF REQUIREMENTS - BRIEFING BY DOE ON STATUS OF CIVILIAN HIGH LEVEL WASTE PROGRAM, 10:00 A.M., TUESDAY, DECEMBER 17, 1991, COMMISSIONERS' CONFERENCE ROOM, ONE WHITE FLINT NORTH, ROCKVILLE, MARYLAND (OPEN TO PUBLIC ATTENDANCE)

The Commission was briefed by DOE on the status of civilian high level waste program. DOE was represented by:

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

Mr. Frank Peters, Deputy Director
Office of Civilian Radioactive Waste Management

Mr. John Roberts, Acting Associate Director
Office of Systems and Compliance

Mr. Samuel Rousso, Associate Director
Office of Program and Resources Management

Mr. Carl Gertz, Associate Director
Office of Geologic Disposal

Mr. Ronald A. Milner, Acting Associate Director
Office of Storage and Transportation

The Commission suggested that representatives of the Office of Civilian Radioactive Waste Management meet with the Commission to discuss plans DOE has for data collection and database design and distribution. The Commission would also like to discuss the approach to documentation and the document control system including the LSS.

The Commission also requested a subsequent briefing from DOE which would focus on the MRS and should include the issue of taking title, the interim plans, the backup plans and the licensing demands on NRC.

The NRC requested that DOE also continue to provide feedback with respect to the resources and projected resource needs that the NRC is applying to licensing activities in the high-level waste area.

The NRC staff should work with the Department of Energy to determine the best method for resolving issues that involve "management of benefit at the margin". This activity should primarily be focused toward those technical matters where large uncertainties exist. The NRC staff should keep the Commission informed of progress in this area.
(EDO) (SECY Suspense: 4/24/92)

cc: The Chairman
Commissioner Rogers
Commissioner Curtiss
Commissioner Remick
Commissioner de Planque
OGC
OCAA
OIG
ACRS
PDR - Advance
DCS - P1-24

STATEMENT FOR THE RECORD

PRESENTATION TO THE U.S. NUCLEAR REGULATORY COMMISSION

STATUS OF THE CIVILIAN RADIOACTIVE WASTE MANAGEMENT PROGRAM

BY

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

DECEMBER 17, 1991

INTRODUCTION

I greatly appreciate this opportunity to discuss with the Commission the status of the Civilian Radioactive Waste Management Program. These annual meetings are an important forum for productive interaction on activities and issues of mutual interest. I want to be sure that we keep you fully informed and I welcome your insights and perspectives as aids to the fulfillment of our mission.

I will discuss our recent progress, our plans for the future, and key program issues. To provide the basis for my remarks on these topics, I will begin by briefly highlighting the framework which shapes our program.

PROGRAM FRAMEWORK

Our mission, established by the Nuclear Waste Policy Act of 1982, is to receive, transport, store, and dispose of spent nuclear fuel and high-level waste. The Nuclear Waste Policy Amendments Act of 1987 (NWPAA) directed the Department to focus the disposal portion of the program on the evaluation of whether or not the Yucca Mountain site in Nevada is a suitable location for a waste repository. The NWPAA also authorized a Monitored Retrievable Storage (MRS) facility for interim storage of spent fuel prior to disposal and established the Office of the Nuclear Waste Negotiator. The Negotiator is authorized to enter into negotiations with prospective state and Indian tribe hosts of MRS or disposal facilities.

The MRS and disposal facilities are to be licensed by the Commission. Safe disposal is to be assured by the Environmental Protection Agency's environmental radiation protection standards in 40 CFR Part 191 and the Commission's disposal requirements in 10 CFR Part 60. Collectively the program must ultimately comply with more than 2500 specific regulatory requirements, DOE orders, and other requirements.

In his November 1989 program reassessment report to the Congress, Secretary Watkins established two principal performance goals for the program being carried out by the Office of Civilian Radioactive Waste Management (OCRWM): to begin receiving spent fuel from reactors in 1998, and to begin waste disposal in 2010. Our program activities and plans are being developed to meet these goals. In addition, key elements of management policy have been established as follows:

- To evaluate the suitability of the Yucca Mountain site for disposal as soon as possible through prioritization and focus of site interrogation activities;

- To integrate and execute program activities concerning the receipt of spent fuel, transportation, and storage in order to begin receiving spent fuel in 1998 in accordance with the Secretary's goal and the Department's contracts with utilities;

- To give the Negotiator lead responsibility for MRS siting, with the Department providing support as requested;

- To operate with openness in communications with constituencies, with dedication to excellence in the performance of all work, and with respect for, and use of, responsible scientific dissent principles to resolve technical issues;

- To participate actively and appropriately in activities to develop the regulatory framework for the program; and

- To establish and apply an appropriate balance between investments of time and money to develop the information base for management findings and decisions, and the exercise of management judgment to achieve program progress.

With the above highlights of the framework of our program as background, I will now summarize our recent progress.

PROGRESS DURING THE PAST YEAR

I believe the program made significant progress during 1991. The major accomplishments I would cite are the following:

- In July, new site interrogation work was started for the first time since 1986. This was made possible by the issuance of the necessary permits by the State of

Nevada in response to court decisions. To date, this work consists of surface-based activities such as drilling and trenching.

- A new design for the Exploratory Studies Facility (ESF), which will be the means for the acquisition of underground data, was selected and detail design work for site preparation was started. The design uses ramp access to geologic formations at and below the potential repository horizon, and was selected on the basis of recommendations from the Commission, the Nuclear Waste Technical Review Board, and others.

- A baseline evaluation of site suitability using available data was started, and a preliminary performance assessment of a potential repository at the site was started. A draft report on the baseline site suitability evaluation was prepared by a contractor and is currently in external peer review before submission to OCRWM.

- In accordance with the Secretary's 1989 program reassessment, a draft Mission Plan Amendment reflecting the NWPAA, the Secretary's plan, and the program's management strategy was prepared. The process to develop the draft used a series of workshops with representatives of affected and interested constituencies to obtain their pre-decisional input to the Mission Plan Amendment.

- As a result of efforts by the Nuclear Waste Negotiator, applications for grants for MRS siting feasibility evaluations were received from the Mescalero Apache Tribe in New Mexico and from Grant County, North Dakota. These applications were funded by the Department, and additional applications are expected.

- In February of 1991, a contract was signed 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. I would also note that throughout the past year we made significant progress in implementing our own improvements in management operations. A principal effort of this type is the implementation of the Management Systems Improvement Strategy (MSIS), which provides the framework and the structure that relate the physical functions the waste management system must perform to programmatic functions that must be accomplished.

- Throughout the year, we have had excellent and beneficial interactions with the Commission staff. One especially important event was a technical exchange with your staff in September which addressed the ESF Design Control Process. This exchange made significant progress in the resolution of Objection 1 in the Commission's Site Characterization Analysis for the Yucca Mountain Site.

- In August of 1991, a letter was sent to the Commission requesting closure of Objection 2 in the Commission's Site Characterization Analysis for the Yucca Mountain Site. The request was based on satisfactory closure of all open issues concerning the QA program of OCRWM and its participants.

We expect to build on these 1991 accomplishments in the coming year and in future years. A brief summary of our plans and objectives for the future follows.

PLANS AND OBJECTIVES FOR THE FUTURE

Our goals in 1992 include:

- Issuance of the Final Mission Plan Amendment

- Issuance of the baseline site suitability evaluation report and the preliminary repository system performance assessment report for public review and comment

- Issuance of a Request for Proposal for procurement of spent fuel transport casks

- Expansion of surface-based site interrogation activities at Yucca Mountain principally by bringing more drill rigs into operation

- Identification of a specific site for an MRS facility. The objectives of the prospective MRS hosts are consistent with this objective. OCRWM plans call for siting of the MRS facility in 1992 in order to begin receiving spent fuel in 1998.

In addition to these major milestone objectives for 1992, we will, of course, be continuing ongoing activities such as ESF design, the transition of contractor responsibilities to the M&O contractor, interactions with oversight groups, and interactions with the Commission staff on matters such as technical issues, design control, and development of an Annotated Outline for the repository license application. We will also be continuing to pursue the enactment of pending legislation which would remove

the potential for use of the permitting process as an instrument to obstruct progress in site characterization.

Looking ahead, we plan to use the findings of the baseline site suitability evaluation and the preliminary performance assessment for two basic purposes: to begin efforts to close site suitability issues that can be closed using available information, and to help further focus and prioritize our site interrogation activities to obtain the data needed to resolve the open site suitability issues and to develop the license application.

With respect to spent fuel receipt, transport, and storage, our plans are, as previously indicated, integrated to enable spent fuel receipt to begin in 1998. The pacing portion of these activities is at present expected to be MRS siting, design, licensing, and construction activities. We are interacting with the Commission staff as appropriate concerning these activities. We are also receiving excellent and greatly appreciated assistance from the Commission staff in interactions with the prospective MRS hosts concerning safety. As you might anticipate, assurance of safety is their principal concern.

In addition to our mainline activities, we are also continually engaged in contingency and tradeoff evaluations. Some of these tradeoff evaluations, which will provide a basis for major program decisions, are of significance to our interactions with the Commission. These include the evaluation of the use of highly-robust canisters for disposal; the evaluation of alternative repository temperatures, ranging from "cold," achieved through long-term storage of spent fuel before disposal, to "hot," which potentially extends to attempting to maintain the temperature of the rock in the vicinity of the repository above 100 C for as long as possible; and the evaluation of the potential for the use of a single container for storage at the MRS, transport from the MRS to a repository site, and disposal. As we proceed with these evaluations, we will continue to interact with the Commission staff as appropriate.

Program activities such as those mentioned above take place in a framework of policy, requirements, and resources which - like the program itself - is evolving. The framework has significant impact on program content and progress, and the entire evolutionary process has associated with it some important issues concerned with the exercise of professional and management judgment. I discuss below two of these issues which I have selected because of their significance to interactions between the OCRWM program and the Commission.

KEY ISSUES IN PROGRAM PROGRESS

In my opinion, the overarching issue of mutual concern to the OCRWM program and the Commission involves what I term "management of benefit at the margin." In simpler words, it concerns "how much is enough." How much data is needed to determine if Yucca Mountain is a suitable location for the development of a repository? How much data, peer review, and expert judgment is needed to produce defensible performance assessment results? What is the acceptable margin between regulatory safety performance standards and probabilistic performance assessment results? These are the types of questions that are of concern. The issue itself is the fact that the "rules of the game" for answering these questions need to be established.

From my point of view as Director of OCRWM, the issue concerns the investment required to produce program decisions and results. Good managers can evaluate and implement the investment required to achieve a specific result; our challenge at present is to manage effectively while the rules of the game are being established for this first-of-a-kind enterprise. Moreover, as responsible stewards of our resources, we need to help assure that the investments made do not go beyond what is needed.

The task for OCRWM - as we proceed in the evaluation of the Yucca Mountain site - is to sustain a benefit for additions to the data bank which provides the basis for the suitability decision. In other words, OCRWM should do no more site interrogation work than is necessary for the decision. The task for the Commission as it proceeds to develop the regulatory framework for our program is to develop a workable system of safety requirements and rules for demonstrating compliance with the requirements. In short, the Commission should make the safety requirements no more stringent than necessary to protect public health and safety. These tasks provide both challenges and opportunities for success.

We plan to be proactive and highly interactive with the Commission in the effort to develop the safety and licensing framework for our program. We expect also to be highly interactive with the Commission staff as we proceed with site evaluation, especially on issues such as the relation between ESF design and repository design if the site is found suitable. I would like to take this opportunity to request that the Commission make development of the safety and licensing framework a priority action. I anticipate that this will be a challenging and time-consuming task.

I can summarize my remarks on this subject by stating my belief that the need to address benefits at the margin is the most pervasive issue associated with the program. It is an issue and an opportunity in many facets of the program because the program is at the frontier in most, if not all, of its activities. We should take advantage of the opportunities.

The other issue I wish to address is the allocation of scarce resources. All managers face this problem, of course, but the OCRWM program has some unique features.

As you know, our program has many constituencies. At last count, we easily identified more than 200. As was amply demonstrated at the workshops we held in conjunction with the development of the draft Mission Plan Amendment, these constituencies have widely differing views of the program. Consequently, they also have widely differing views of how program resources should be allocated.

In our environment of intense and diverse program oversight by external interested and affected parties, it is clear that we must have management policies and principles for resource allocation which focus on serving the best interests of the program. What, then, are "...the best interests of the program?" I answer that question as follows.

It is in the best interests of the program to focus on fulfilling the mission from Congress and the Secretary's goals, and to provide clear evidence of progress. It is in our best interest to interact extensively with our constituencies; we learn from them and we inform them.

It is essential that we comply with all regulatory requirements and, at the same time, help assure that the requirements appropriately serve our society. It is in our best interest to achieve and demonstrate cost-effective operations.

All of the above statements of "best interests" are among the strategic principles set forth in the draft Mission Plan Amendment. When those principles are applied to resource allocation decisions such as MRS versus site characterization funding and the funding of surface-based site characterization activities versus underground characterization activities, two funding allocation principles become evident, given the overarching objective of seeking to meet the Secretary's goals. Funding to service regulatory requirements is essential and such funding requirements become more significant and decision-controlling the more scarce the resources become. The circumstances are analogous to the need to fund Federal Government entitlement programs and thereby to reduce discretionary spending in other programs.

There is, therefore, a very strong link between the work needed for compliance with regulatory requirements and the prioritization and funding of other activities in the program. Our goal, like yours, is "safety first," and we will meet or exceed regulatory requirements. Since many of the critical requirements are yet to be established and there is high potential for excessively stringent requirements, I would like to take this opportunity to again suggest that the Department and the Commission work consciously and effectively to assure an appropriate regulatory framework for the program.

I would also like to take this opportunity to suggest a specific action toward regulatory effectiveness and program progress. As you know, our expected schedule for start of construction of the ESF has been slipped one year from November 1992 to November 1993 because of budget constraints imposed by Congress for the current fiscal year. We do not know, of course, what funding we will have in the future. There may, however, be an opportunity to take advantage of the current delay.

The Nuclear Waste Technical Review Board strongly believes, and we agree, that construction of the ESF and penetration of the Calico Hills formation in order to determine the potential for fracture flow within it will be one of the most important actions toward determining whether or not Yucca Mountain is a suitable site for a repository. However, we do not yet have a basis for interpreting what we find. What frequency or size of fractures is acceptable? What findings would indicate opportunities to limit excavation of the Calico Hills formation? Such questions need to be answered. Calico Hills formation

As a step in our proactive approach to interactions with the Commission, we will develop and discuss with the Commission staff descriptions of potential findings in the Calico Hills formation and interpretations of their significance with respect to the evaluation of site suitability. Through such actions, we will minimize the adverse impacts of scarce resources and will improve our effectiveness in moving the program toward meeting its goals.

SUMMARY

I believe the program has made significant progress during the past year and has a good foundation for future progress. Effort that is consciously dedicated to developing an appropriate regulatory framework for the OCRWM program is needed. OCRWM will work proactively to make best use of its resources under management principles which assure that regulatory requirements are served on a priority basis and resources are allocated as effectively as possible for progress toward goals.