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Program Status and Outlook

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Introduction

Thank you for the opportunity to speak to the Board again about the status of the program and the outlook. You will be hearing from several members of our staff on topics you have asked us to address at this meeting. Since my last meeting with you in October, there have been some important policy developments. I will use my time to address them.

Current Status

I appreciated the Board's letter to Congress last month highlighting our progress at Yucca Mountain. We are continuing to make progress despite the draconian budget cuts in the fiscal year 1996 appropriation.

The tunnel boring machine continues to operate well ahead of schedule. As of January 8, 1996, it has excavated 12,154.8 feet (3674.3 meters) into Yucca Mountain, more than 4692 feet (1430

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meters) ahead of schedule. Ground conditions at the repository level have been good in recent months. Our hypothesis that little or no water is moving at the proposed repository horizon has been strengthened. Direct observations at the repository horizon have not revealed any potential disqualifying conditions. We have reached the planned location of the access point for the underground thermal test alcove and preparations are being made to commence the tests later this year. The thermal testing alcove design and the planned tests will be discussed later today.

Later this month, we anticipate that the tunnel boring machine will also reach the first planned access point to the Ghost Dance Fault. I expect important results from the exploration of the fault at repository depths.

Program Outlook

When I spoke to you in October, we were operating under a continuing resolution that limited the program to \$400 million. We had taken action in September 1995 in anticipation of reduced funding, to eliminate approximately 875 contractor positions, primarily at the Yucca Mountain Project. These reductions affected the program's management and operating contractor and its teammates, the US Geological Survey and other program participants.

Shortly after your October meeting, the Conference committee adopted the Senate's recommendation that \$400 million be made available to the program in fiscal year 1996.

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However, the Conference committee inserted language in the Appropriations Bill that stated that \$85 million of the funds appropriated shall be available only for an interim storage facility and only upon the enactment of specific statutory authority. This language effectively left the program with \$315 million to conduct program activities in fiscal year 1996.

In managing this additional 20 percent cut, we have tried to avoid further impacts on the Yucca Mountain Project. An additional 200 positions in the areas of quality assurance, program integration, program management and waste acceptance were eliminated. We terminated most of our waste acceptance, canister development, and transportation work. We will stop work on the multi-purpose canister system after the design phase is completed in the spring of 1996.

Development and certification of legal-weight truck casks for transportation of spent fuel will cease. Our cooperative agreements will be funded at substantially reduced levels.

The Conference Report directed that the repository program be reduced to focus on the core scientific activities and recognized that preparation and submittal of a license application would be deferred. As a result, of the reduced funding, our program target dates for constructing the repository and emplacing waste also have been indefinitely deferred.

As Congress directed, and as I proposed at your October meeting, we will concentrate our work on the unanswered technical questions regarding the conceptual design of the repository and its expected performance. The objectives will be to conclude whether the technologies are in hand to

construct a repository at the Yucca Mountain site and to evaluate its probable performance based upon the wealth of data we already have, or will have by 1998.

We have defined a new milestone for the Yucca Mountain Project in the form of specific work products that will contribute to a "viability assessment," which will be completed in 1998. As I described to you last October, the specific work products are:

- First, more specific design work on the critical elements of the repository and the waste package. Our plan for fiscal year 1996 is to document the current conceptual level of detail for the repository and waste package design. For the viability assessment, only those aspects of the repository and waste package design that are critical to performance, cost, and technical feasibility will be advanced beyond the conceptual stage.
- Second, a total system performance assessment, based upon this design concept and the characterization data available to us, which will describe the probable behavior of the repository.
- Third, a plan and cost estimate for the remaining work required to complete a license application.
- And finally, an estimate of the costs to construct and operate the repository.

This viability assessment is not the same as the technical site suitability evaluation contemplated in the previous Program Approach. The viability assessment is intended to clarify the most uncertain aspects of geologic disposal at Yucca Mountain. The components of the assessment will make important contributions toward the development of a Secretarial recommendation to the President and preparation of a license application to the Nuclear Regulatory Commission; but they will not be sufficient for either of these formal actions.

Although repository licensing activities are indefinitely deferred because of the 1996 appropriation, the long-range goal of submitting a successful license application to the Nuclear Regulatory Commission remains central to the Program's mission. We believe that the program should include a plan and target date for the submittal of a license application. It is apparent from recent developments, however, that any such plan that depends upon funding levels beyond reasonable expectations would constitute a *de facto* decision to abandon the repository initiative prior to the license application.

Prospects for Licensing

As you may recall, the new Program Approach we adopted in fiscal year 1995 reduced the projected cost of licensing the Yucca Mountain Project by about one billion dollars. The program plan we were pursuing in fiscal year 1995, however, still contemplated the expenditure of an additional \$3.2 billion on Yucca Mountain from fiscal year 1996 through the license application in

2001. We are now expecting to spend about \$1 billion through fiscal year 1998, which will contribute to the work needed for an application.

The implication of these numbers is that, based upon the 1995 program approach, the completion of a license application would entail an additional \$2.5 billion of expenditures after 1998, if the cost of extending the schedule is considered. It is clear to me that the Congress will be reluctant to provide those resources, even if the outlook from the viability assessment is promising.

Several years ago Chairman Cantlon noted to the Nuclear Regulatory Commission that the repository program's premature focus on demonstrating compliance with the details of the regulations contributed to the program's excessive cost and schedule. This is one aspect of the problem. It should be possible to move directly and efficiently from the viability assessment to a license application, if we find that a repository at Yucca Mountain is indeed viable. The objective should be to design a repository that is compatible with the geologic setting and to develop a safety case to support a proposal to construct that repository. The licensing process should then focus on examining the safety case to determine if public health and safety and the environment are adequately protected.

I believe that it is both possible and necessary to revisit the regulatory basis that has given rise to our earlier work plans. Most of the scientific factors central to those work plans have, or will have, been addressed by 1998. Testing related to long term performance can be done through the

performance confirmation program during construction and operations prior to closure of the repository. Much of the subsequent cost is associated with the documentation and presentation and defense of the results. In my view, that cost can be significantly reduced if the focus of the presentation and the licensing review is on the predictive performance of the repository and on the safety case made for a specific repository design, rather than on a comprehensive discourse on site characterization.

In the former case, those factors that are critical to the waste isolation strategy and to the other vital engineering, safety, and environmental considerations, such as criticality, will be thoroughly presented and supported. Those factors that prove to be less relevant can be bounded and put in perspective with still rigorous but much less elegant trappings for documentation and review.

If this approach retains the essential requirements of a licensing process that concentrates on the adequacy of a specific proposed facility, I believe that we can aspire to reestablish a target date for a license application soon after the year 2000 at a sustainable level of funding. I believe this is the only way the program can command the resources needed to retain geologic disposal as a national strategy.

We intend to explore this approach and we are considering the revisions to our regulations that would be needed to clarify our intentions. We intend to keep the Nuclear Regulatory

Commission, the Environmental Protection Agency, our other regulators, the Congress, and stakeholders, and, of course, the Board advised of our evaluation.

Beyond Fiscal Year 1996

The Administration remains committed to geologic disposal. The new targets for a repository that are practicable will depend upon the policy and regulatory framework within which the program will operate and upon our expectations for future funding. In planning this program, however, given the current environment, I am reluctant to assume that we will receive future funding levels that are very much greater than the current fiscal year.

Meanwhile, the Congress is still considering bills that would initiate an immediate start on interim storage and potentially free the \$85 million frozen by the fiscal year 1996 Appropriation Act. The House has not yet brought H.R. 1020, a comprehensive authorization bill, to the floor. S. 1271, a comparable bill, has been introduced in the Senate and a hearing was held in December.

Testifying at that hearing, Secretary O'Leary expressed the Administration's opposition to the Senate measure. The Administration is concerned that an immediate interim storage initiative, in the face of probable budgetary constraints, would place the repository program in jeopardy and reduce the policy commitment to the long term strategy of geologic disposal. The President has also expressed his opposition to the preemptory designation of Nevada as a site for an interim

storage facility. The Secretary proposed that the following principles guide consideration of legislation:

- First, we must maintain the momentum which has been attained in the repository investigation. This can be done by funding the program at a level that is adequate to resolve the major remaining technical uncertainties to support a viability assessment by 1998. Such funding will allow us to make an assessment of the viability of licensing and constructing a repository at the Yucca Mountain site. If Yucca Mountain is a viable site for a repository, we would expect to prepare the environmental impact statement, a formal recommendation to the President, and license application.
- Second, we must revise the regulatory structure that guides the licensing of the repository. Such revisions should reflect the experience of the past decade, the policy changes already adopted, and the realities of budgetary constraints while maintaining necessary health and safety constraints.
- Third, the selection of a site for interim storage should be based upon objective criteria. The consideration of Nevada as a candidate site, or the determination of the need to consider other candidate sites should await the results of the 1998 viability assessment of the Yucca Mountain repository.

- Fourth, the program should be authorized and directed to initiate generic interim storage activities using the \$85 million already appropriated and reserved for that purpose. This would include requests for proposals to develop the nationwide transportation effort needed to transfer spent nuclear fuel from reactors to an interim storage facility, wherever it is located. The generic activities could also include non-site-specific engineering work that would assist in beginning the licensing process.
- And most importantly, we must maintain standards and procedures that will assure that the health and safety of the public and workers and the environment will be protected.

Closing

Certainly the past year has been an eventful one for this program. As I have often found to be the situation, a great deal of policy has already been made by indirection, without the enactment of a policy measure by the Congress and a Presidential approval. The FY 1996 budget cycle and the debate in the Congress has already set some new constraints on the Program. The responses we have already made will shape its future.

If we receive even modest future funding, I am confident that the direction we are now taking will, by 1998, answer the important outstanding technical questions regarding the feasibility of building the repository. If there is an aspect of the geologic setting that seriously contradicts our

hypotheses and that will require substantial additional data collection, analyses, and modeling, we are likely to discover it by 1998. If there are shortcomings in the available technologies or in our engineering ability to implement the design concepts they will have become evident.

As the results of that work, society's ability to evaluate the feasibility of geologic disposal should become much less philosophical and much more practical. It will become very clear how the geologic disposal option compares to alternatives. That result is worth the resources needed and the only responsible course of action.

Thank you for your attention, and we look forward to a productive meeting with the Board.