

1995 Program Outlook

**Lake Barrett
Deputy Director
Office of Civilian Radioactive Waste Management
to the
Nuclear Waste Technical Review Board**

at
**1995 Winter Full Board Meeting
Beatty, Nevada, January 10, 1995**



Chairman Cantlon and members of the Board, thank you for the opportunity to update you on the progress the Program has made since Dr. Dreyfus spoke to you last October and to discuss the new program approach for the Civilian Radioactive Waste Management Program.

Our office is committed to providing you with comprehensive, accurate, and timely information about our Program. As Dr. Dreyfus described, we have been restructuring the Civilian Radioactive Waste Management Program to ensure that measurable progress is made in achieving the critical components of our mission over the next several years.

We have just completed an important document, the *Civilian Radioactive Waste Management Program Plan*. The purpose of this document is to describe our revised program which is being used for the planning and conduct of our activities. Copies of the *Program Plan* are available in the back of the room.

The *Program Plan* was prepared to provide the Program's constituents with an overview of the revised approach that is being implemented. The Plan consists of three volumes. The first volume provides an overview of the entire Program Plan, background on the situation that led to the decision to implement a new approach, and the key features of the approach that is being implemented. Volumes II and III describe, in detail, the goals, activities, schedule milestones, and funding requirements for the Program's two business centers--the Yucca Mountain Site Characterization Project and the Waste Acceptance, Storage and

Transportation Project--for the current fiscal year (1995) and for the subsequent five-year planning period (1996-2000). As you read these plans, you will notice that they reflect many of the recommendations made by this Board.

As the Program moves forward, we will continue to evaluate our progress, solicit the views of our stakeholders, revise our plans as necessary, and implement our mission to dispose of the Nation's spent nuclear fuel and high-level radioactive waste. The *Program Plan* is intended to be a living document. It will be revised periodically to reflect results of the scientific investigations and engineering analyses and to respond to external advice and comments. This is not a pre-planned detail recipe; it is a reference benchmark that will change as the program develops or is modified by the external regulatory or political environment. It is the best program we can describe with currently available information, within existing constraints.

The input of this Board helped shape elements of our new approach, and our plans for implementing it. Your continued guidance is critical as we further define its details. In particular, we appreciate your letter of December 6, that provided the Board's comments, recommendations, and conclusions on the Program Approach. I am hopeful that we can begin to address some of your concerns at this meeting.

I'm here today to review our progress in 1994 and to discuss with you the details of our planned activities for 1995 and beyond. These plans are ambitious, and with effective management we believe that they are also achievable. We are aware of the concerns that the

Board and other groups have expressed that our new approach is over-simplified and too schedule-driven. We believe that the schedules we have set are essential tools for effective, goal-oriented management of program. We do realize, however, that we may have to adjust our schedule as our data requirements for evaluating site suitability, preparing a license application, and complying with NEPA are more clearly defined. But revising our schedules at this point, before we have solid evidence that changes are needed, would be premature.

I'll briefly discuss our funding profile and accomplishments for 1994. I'll then go into a bit more detail on our planned activities in our site characterization program at Yucca Mountain, and update you on our waste acceptance and storage efforts. I'll close with a look at some of the issues that are likely to be addressed by Congress this year, as part of the continuing public policy debate on the future direction of the program.

Probably our most significant 1994 accomplishment was to establish a consensus within the Administration and with Congress on program funding levels that will enable us, for the first time, to bring stakeholder expectations for progress, program performance schedules, and budgets into realistic alignment. **[Slide 1-Planned Funding Levels]** I've put up a slide showing our planned funding levels for 1995 and beyond. Congress, responding to our commitment that we will achieve and demonstrate significant program progress, agreed to a forty percent increase in program funding for FY 95. This is a notable accomplishment considering the severe, government-wide budgetary restrictions that have been imposed. Most of the additional funding we received for FY 95 has been allocated to Yucca Mountain site

characterization activity. We are hopeful that by continuing to demonstrate progress towards our near- and longer-term objectives, the increasing future year funding profile that we outlined in our FY 95 budget proposal can be realized in the face of the even more restrictive agency- and government-wide deficit controls that will be applied in the years ahead.

At Yucca Mountain, the tunnel boring machine is in place and proceeding down the North Ramp. We have resolved a succession of testing and start-up problems and have commenced limited production operation, and we are working hard to substantially improve productivity. On the waste acceptance and storage front, we are evaluating the responses to our request for proposals for the design of the multi-purpose canister system. We also initiated scoping on the Environmental Impact Statement that will support our decision on the fabrication and deployment of an MPC-based system.

The new program approach for the Yucca Mountain site characterization program is consistent with the funding levels we can reasonably expect to achieve. It provides the targets for efficiently directing and coordinating our scientific activities to produce timely results, and it provides the means for measuring annual cost and progress. Our plans distinguish between tests that provide information for evaluating the suitability of the site; tests required to support licensing and repository and waste package design; and tests required to confirm the safety of the repository before closure. It is important to understand, however, that a single, integrated testing program supports all regulated activities. Therefore, in many cases individual tests support multiple regulatory documents. My colleagues from the Yucca

Mountain Site Characterization Office will later discuss how the planned testing is linked to the waste isolation strategy and how it addresses the key technical uncertainties we face.

Our approach focuses the near-term site characterization activities on the requirements for evaluating the suitability of the Yucca Mountain site. The Board's letter of December 6, 1994, asked for a clearer definition of Technical Site Suitability. We will address this in our formal response, which should be provided next month. In the meantime, let me briefly address some of the concerns expressed about this new milestone. The Technical Site Suitability Milestone, which we expect to reach in 1998, includes milestones associated with the individual higher-level findings leading. These decisions and their technical bases, will enable the Director to respond more substantively at an early date to questions about the probable adequacy of the site from a technical point of view. In addition, the milestones provide us with a management tool to facilitate program planning, to focus the various elements of the scientific program on timely coordinated progress, and to help us establish priorities and allocate resources. Technical Site Suitability is neither a Secretarial action nor a final agency action. It does not preempt or replace the regulatory determinations required under the Nuclear Waste Policy Act, as amended.

We intend to give full consideration to the Board's concerns regarding the sequence of activities and societal decisions related to siting the repository. However, we believe those concerns must be addressed primarily in the context of the Site Recommendation, which is a Secretarial and Final Agency Action with all the attendant requirements, rather than the

interim Technical Site Suitability Milestone.

[Slide 2-YMSCO Major Milestones] I've put up on the screen major milestones for our site characterization activities at Yucca Mountain. Following the Technical Site Suitability Milestone in 1998, site characterization activities will support the preparation of the Repository Environmental Impact Statement which we intent to complete in the year 2000 and for which we will begin scoping activities this year. Site characterization will also provide input to the License Application in 2001 and to an updated License Application in 2008. Tests to confirm the performance of the repository will continue until closure.

The plans described above for obtaining data to support the regulatory decisions embody a waste isolation strategy that identifies the key barriers and features of the site. This strategy is based on the concept of defense-in-depth and is a maturation of the strategy described in the Department's 1988 Site Characterization Plan. The strategy relies on the favorable features of the natural barrier such as a low aqueous flux to provide long-term waste isolation. The strategy also relies on engineered barriers to provide containment and to limit the release of radionuclides. The latest iteration of this strategy reflects multi-purpose canister development, as well as the increased understanding of the site environment derived from our scientific work since 1988. The details of this strategy will be discussed tomorrow by Drs. Brocoum and Younker.

The waste disposal concept calls for the in-drift emplacement of large, multi-barrier waste packages that will provide substantial containment of the waste for periods well in excess of 1000 years. The concept preserves flexibility so that firm technical bases can be developed and validated prior to the final selection of a repository thermal loading. Consistent with this strategy, the evaluations associated with findings leading towards our Technical Site Suitability Milestone, and our initial License Application, should the site prove suitable, will be based on a design consistent with a low-range thermal loading. We intend to continue long-term *in-situ* heater tests to develop additional data that may support proposals for higher thermal loadings that provide improved performance.

Our repository strategy is closely coupled to our strategies for waste acceptance, storage, and transportation and, in particular, the development activities for the multi-purpose canister. Let me briefly describe our plans and recent activities in these areas.

On waste acceptance, we received more than 1,000 responses to the Notice of Inquiry we issued last May on waste acceptance issues, and we are in the process of evaluating these comments. They will assist us in recommending to the Administration a position on near-term waste management.

In the storage area, we will concentrate on the design of the multi-purpose canister subsystem and on compliance with the requirements of NEPA. In November and December of last year, we conducted three scoping meetings in advance of preparing an Environmental Impact

Statement for the decision to fabricate and deploy an MPC-based system. Jerry Parker will be discussing this activity later this morning.

The multi-purpose canister design specifications incorporate provisions for satisfying transportation and storage requirements and for compatibility with disposal requirements. We intend to integrate the design of the multi-purpose canister with the maturing repository and waste disposal package designs and have deliberately scheduled the completion of the Title I waste package design in 1997, prior to any commitment to fabricate and deploy multi-purpose canisters.

We are evaluating the technical and cost proposals for the contracts for MPC design and certification that we requested in June of last year. In April, we expect to complete our evaluation of the proposals received and award one or more contracts for the design of the MPC subsystem.

In May, we plan to submit to the Nuclear Regulatory Commission a topical report that will provide the basis for their consideration of our use of "partial" burn-up credit for storage and transportation and special cask loading procedures that may be required for later proposals for full burn-up credit and other repository considerations.

[Slide 3-OWAST Major Milestones] Some of the major MPC development milestones we plan to meet are shown on this next slide:

- We have the 1995 award date for the MPC design, certification, and optional fabrication contract.

- In 1996, we plan to: (1) complete the MPC environmental impact statement and record of decision; (2) complete the MPC subsystem design and submit the safety analysis reports to the Nuclear Regulatory Commission; and (3) complete MPC scale-model testing.

- We have been planning to begin deployment of MPCs for at-reactor storage in 1998. A recent letter from the NRC indicated that their review process may take longer than initially planned. We will continue communications with the NRC regarding their ability to support our goals.

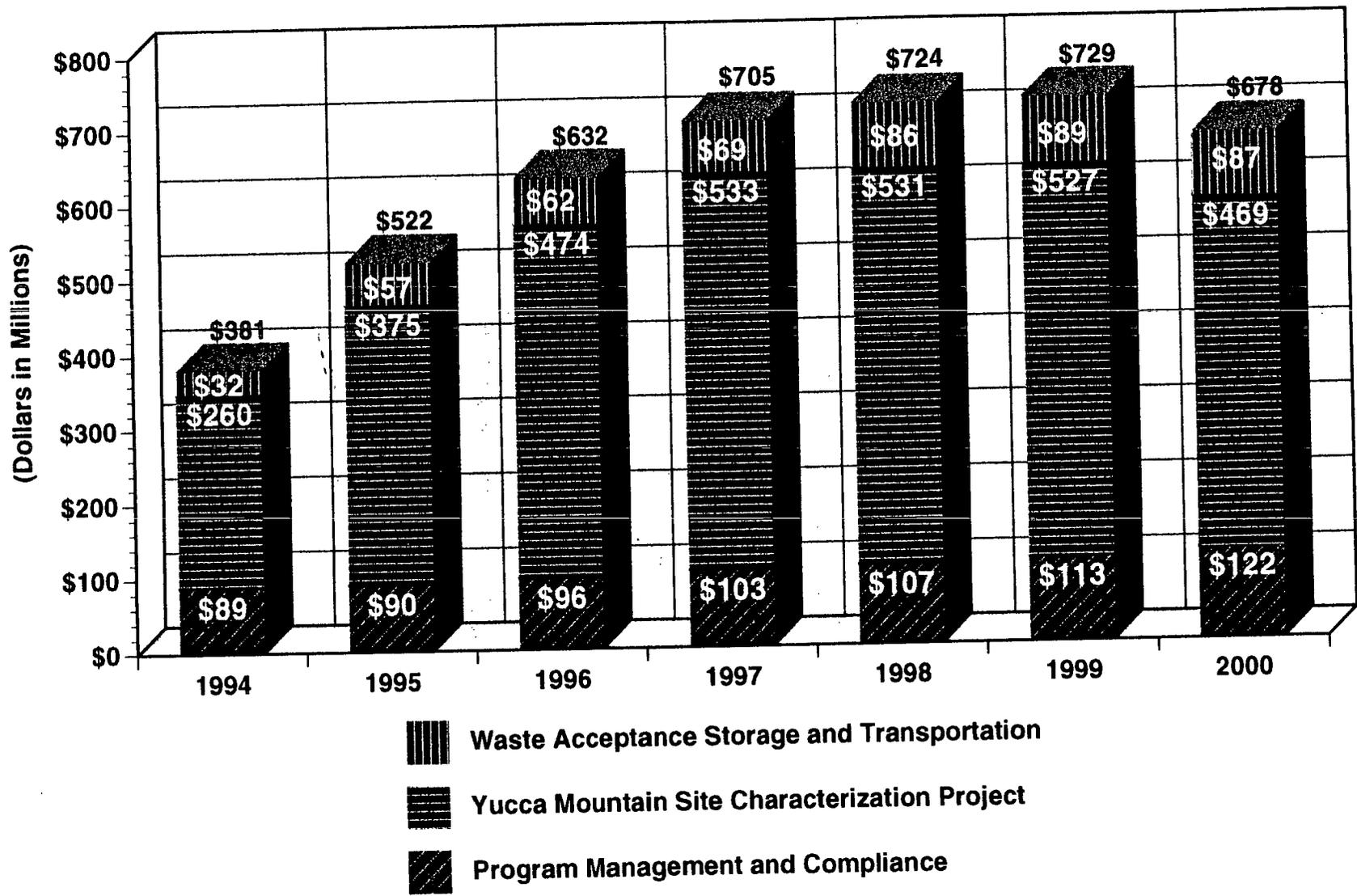
Finally, regarding transportation of spent fuel, I will just briefly say that our current schedule under the Program Plan is paced to match repository availability in 2010 and to maintain readiness for earlier transportation, should a site for Federal interim storage become available sooner than that. We are continuing with development of advanced technology truck casks.

This summer, we submitted the Safety Analysis Reports for packaging for both the GA-4 and

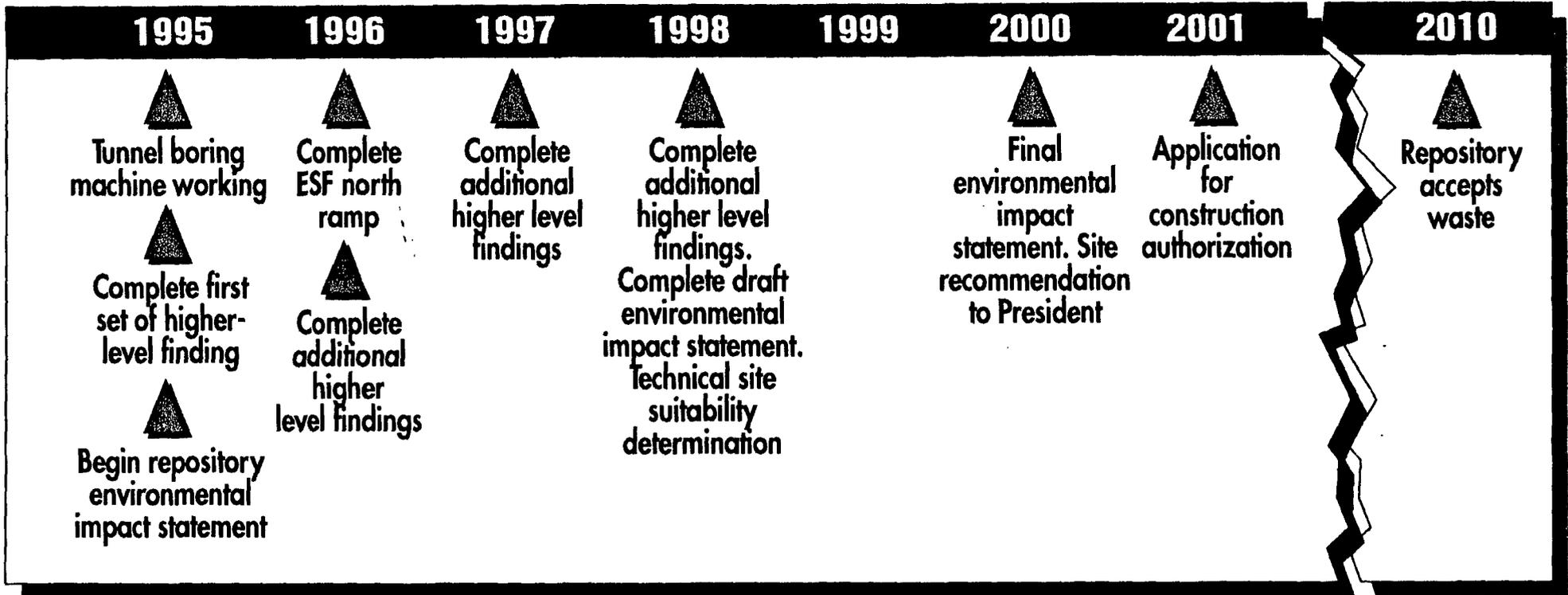
GA-9 truck cask designs to the NRC, and we hope to receive certificates of compliance on the designs in 1996. We plan to have these casks available for operations in 1998.

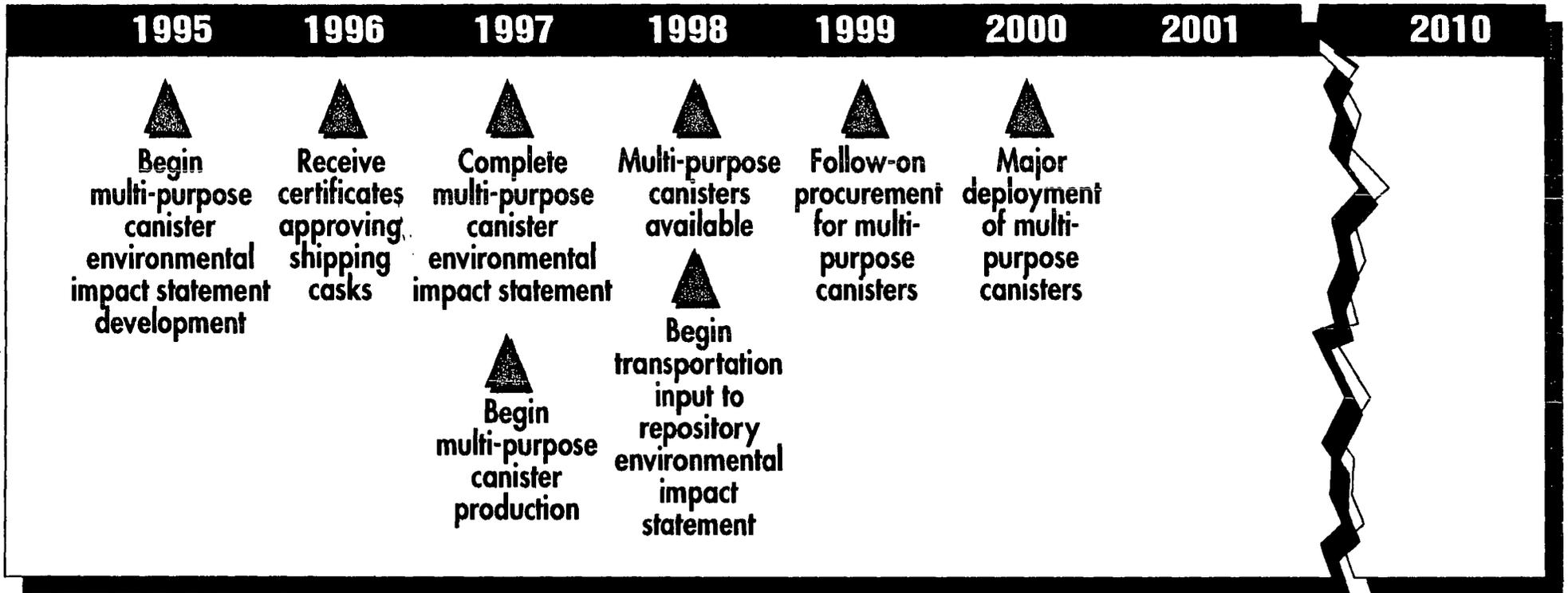
In the coming year we will be concerned not only with the effective implementation of our Program Approach, but also with important policy issues. These are likely to include the near-term management of spent fuel, the removal of the Federal Deficit reduction constraints imposed upon the use of the Nuclear Waste Fund, and the need for a contingency plan should the Yucca Mountain site prove to be unacceptable for a repository. We are prepared to make a substantive contribution to this debate, especially by providing our assessments of the desirability and feasibility of proposed legislation to amend the Nuclear Waste Policy Act. I know the Board is prepared to contribute as well, and we look forward to your participation.

Thank you Mr. Chairman, and I'm happy to answer whatever questions you may have.



Data Source: Estimates from FY96 OMB Budget Request (October 12, 1994 Table)







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