

A REGULATOR'S PERSPECTIVE ON THE MORE SIGNIFICANT  
ACCOMPLISHMENTS OF THE PAST YEAR IN THE REPOSITORY PROGRAM

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ABSTRACT

I see three major successes during the past year; first, the appointment of a permanent Director for the Department of Energy's Office of Civilian Radioactive Waste Management; second, general agreement on a set of repository site selection guidelines; and third, the U.S. Nuclear Regulatory Commission agreement with the U.S. Environmental Protection Agency on an approach to resolving our differences on EPA's proposed high-level waste disposal standard. I think the Commission made a serious error in deciding not to review DOE's site selection and site comparison methodology. DOE has to learn to work more closely with the affected public and states. Anticipating and resolving problem areas early on is the best way to assure continued success in the program.

It is a great pleasure to be here today to participate in this Waste Management '85 Symposium. I want to give you a regulator's perspective on what I see as some of the more significant accomplishments of the past year in the repository program, and on the more difficult problem areas that lie ahead.

Turning first to the accomplishments, I see three major successes during the past year. The first of these was the appointment and confirmation of a permanent Director for DOE's Office of Civilian Radioactive Waste Management. Although the previous Acting Directors were capable people, they lacked the authority and ability to make significant commitments on behalf of the Department, and the repository program was suffering from this. Now, whether or not we agree with individual decisions, there is a permanent Director who can provide direction to the program and who can make commitments to the states, the Congress and the regulators.

The second major accomplishment, in my view, was the agreement on a set of repository site selection guidelines. I recognize that the final set of guidelines did not satisfy all of the concerns of everyone who commented on them. But I believe that they provide a reasonable framework for making site selection decisions and, if properly implemented, can lead to the choice of good potential sites for repository development. A key feature of the guidelines, in my judgement, was the agreement that the preliminary determination of site suitability for the candidate sites required by section 114 (f) of the Nuclear Waste Policy Act would be made after the completion of site characterization for the initial set of candidate sites. This should provide a strong incentive for DOE to select good potential sites for characterization.

I have to say that I am greatly disturbed by the recent indications, including Bill Percell's comments this morning, that DOE is reconsidering its commitment on the timing of the preliminary determination of site suitability. I can only speak for myself, but this commitment was a key element in my vote to concur in the site selection guidelines. I viewed the timing of the preliminary determination as an important compensating factor for the general nature of the site selection guidelines and for the flexible approach

taken in defining the types and amount of information needed to determine whether specific guidelines were met. Therefore, I would view changing the timing of the preliminary determination as a significant change in the guidelines requiring Commission concurrence.

The third major accomplishment was our agreement with EPA on an approach to resolving our differences on EPA's proposed high-level waste disposal standard. This agreement over how to handle the EPA's proposed assurance and procedural requirements should clear the way for issuance of the final EPA standard in the near future. I think that all three of these items are significant accomplishments, which move the overall repository program forward.

Clearly, however, the greatest challenges to a successful conclusion for the repository program still lie ahead of us. I want to turn to those challenges, and what we can do to provide additional assurance that this program will be successful. To appreciate some of these problems, one must understand the basic features of the repository licensing process. So I will start with a few brief comments on the broader features of that process.

The first of these broad characteristics is that the repository licensing process will be very similar to the present licensing process for nuclear power plants in this country. Thus, we envision a two-stage licensing process, with the first stage preceding an authorization to construct the repository, and the second stage preceding repository operation. We also expect that this licensing process would employ on-the-record adjudications similar to the formal licensing hearings used in the reactor licensing process. Under this approach, DOE will bear the burden of demonstrating that its application meets the applicable legal requirements, including the Commission's regulations; that its proposed site is adequate; that it has adequately considered alternate sites, and that the repository can function safely and effectively for the long periods of time contemplated by the Commission's technical regulations. Given the long periods of time that a repository must function effectively, the many technical uncertainties and unknowns in *this area*, and the first-of-a-kind nature of the repository, this is not an insignificant burden. DOE's key judgements, and the technical basis for those judgements, will be exposed

to careful scrutiny, and the opinions of its scientific experts will be tested by cross-examination.

As we have emphasized repeatedly in the past few years, the outcome of the formal licensing proceeding will depend heavily upon the quality of DOE's license application, including especially the data and experimental results supporting the application. Assuming a complete, high quality and well supported license application from DOE, we anticipate that the license proceeding leading to the issuance of a construction authorization could be completed in three years. On the other hand, a flawed and poorly supported application could lead to a much more extended licensing proceeding, and could eventually lead to rejection of the application. I should also note one difference between the repository licensing process and our current licensing process for nuclear power plants. Unlike the reactor process, our procedural regulations for repository licensing do not contemplate the use of a limited work authorization. Thus, construction of the repository could not begin until the successful conclusion of the construction authorization hearing.

The second basic characteristic of the repository licensing process which I want to mention, is the timing of the formal license proceeding. The Commission has divided the licensing process into two separate, but related parts. The formal proceeding will not begin until DOE submits its application for a construction authorization. Under the current schedule, we anticipate that this would be about 1991. Prior to this formal phase of the licensing process, the Commission has intentionally left the process very informal. During this informal phase, we will monitor, review and comment on the work being done by DOE in preparing its application. It is worth noting that during this informal phase, DOE will be doing most of the work, including site selection and characterization, choice of waste form and packaging, and technical research, which will ultimately determine the success or failure of its license application.

This early, informal portion of the process is really a two-edged sword. On the one hand, it provides the broadest possible opportunity for the free exchange of comments, concerns and suggestions by our staff, DOE and interested parties such as the affected states, Indian tribes and members of the public. If vigorously pursued, this informal approach can work effectively to identify most, if not all, of the key technical concerns which must be decided in the formal licensing phase. This can lead to a more complete, high quality application which anticipates and addresses the issues of greatest concern. On the other hand, the more informal approach limits our ability to require DOE to address the issues of real concern early on. If DOE fails to heed the early warnings, the consequences may not be readily apparent until it is too late.

With that introduction, I want to turn to a discussion of the potential pitfalls which face us in the repository licensing process. I see four potential pitfalls which could have a significant impact on the timing and outcome of the licensing proceeding for the repository. Not surprisingly, the first and foremost of these in my mind is the possibility that DOE will not submit an essentially complete, high quality application for a good site, which is supported by the information needed to address the key technical issues in the licensing hearing. I have already described the potential consequences should this occur, and I won't belabor the point.

Suffice it to say that I view this as the single most important element in determining the success or failure of the repository program.

The second pitfall I see is the failure to resolve differences among the various federal agencies with responsibilities for the repository program. The most obvious example here is the complimentary, and to some extent overlapping responsibilities of NRC and EPA. EPA is already behind in meeting its responsibility to promulgate its environmental standard for high-level waste disposal, and if this situation continues for much longer, this could become a disruptive force in the program. Until EPA issues its final standard, we cannot complete our technical and procedural regulations which will serve as the basis for repository licensing.

The third pitfall I see is the possibility that there will be sharp divisions within the scientific community on the key technical issues in the repository licensing proceeding. Such divisions will make it very difficult to reach a timely licensing decision, and will very likely lead to a protracted hearing.

The final pitfall I see is the emergence of strong and concerted opposition to DOE's application by the affected state and the public. Even if the site proposed by DOE survives the congressional review procedures established by the Nuclear Waste Policy Act, concerted state and public opposition to the project in the licensing process could well lead to a protracted and difficult hearing.

What can be done to avoid these pitfalls, or at least to minimize their potential impact on the repository licensing process? In my view, several things can and should be done now to address these potential problem areas. With respect to completing action on the EPA standards, we must move promptly to resolve our remaining differences with EPA. As I mentioned earlier, the basis for an agreement which satisfies EPA's interests as well as our concerns has been identified for some time, and we need to settle this matter as soon as possible. We also need to look out for other potential trouble spots where the jurisdiction of two or more agencies may overlap.

As for reducing the potential for concerted state or public opposition during the license hearing, DOE simply has to learn to work more closely with the affected states. I was troubled by the fact that DOE was unwilling or unable to do more to address the concerns of the potential host states on the repository site selection guidelines last year, at least prior to the Commission's involvement. And I see problems in the reactions of the affected states to DOE's draft environmental assessments for the five sites that are to be nominated and selected for site characterization for the first repository. What is disturbing is DOE's apparent inability to address at least some of the state concerns about the adequacy of DOE's site selection process and criteria, and the adequacy of the information on which those decisions were made. I view these concerns on the part of the states as being of a quite different character than the more general view that "we don't want it here". DOE must find a formula for at least considering, and hopefully addressing, these more technical and programmatic concerns by the affected states.

One approach that DOE should consider is the use of more informal meetings to keep the states informed of what is going on and to solicit their views. Recently, our staff invited the affected states to meet to discuss our proposed comments on DOE's draft environmental assessments for the nine potential