

**U.S. Nuclear Regulatory Commission
Testimony - One Page Summary
June 23, 2000**

Mr. Chairman, members of the Subcommittee, the staff of the Nuclear Regulatory Commission (NRC) is pleased to testify about our regulatory oversight of the management and disposal of high-level radioactive waste and spent nuclear fuel. The Commission continues to believe that a permanent geologic repository is the appropriate mechanism for the United States to ultimately manage spent fuel and other high-level radioactive waste.

The NRC's High-level Waste (HLW) regulatory program remains on course, consistent with our responsibilities under the Nuclear Waste Policy Act of 1982, as amended, and the Energy Policy Act of 1992. The NRC staff is in the midst of an important transition – from the prelicensing, consultative role defined for NRC in statute, which has been our emphasis to date, to the role as regulator and licensing authority, as we prepare for a possible submittal of a DOE license application.

On February 22 of last year, the Commission published proposed regulations at 10 CFR Part 63 for public comment. As soon as we proposed our regulations, the NRC staff embarked on a series of public meetings to encourage involvement by members of the public most affected by the decisions we face in publishing final regulations for Yucca Mountain. From these meetings, together with written submittals, we received more than 900 comments on our proposed criteria. The NRC staff has carefully considered, and analyzed these comments, and has incorporated many of them in a draft final rule that the Commissioners now have before them.

Later last year, after the comment period for NRC's proposed regulations closed, the EPA proposed standards at 40 CFR 197, for Yucca Mountain. The NRC has provided extensive comments on the EPA proposal. The NRC has identified serious concerns with the proposed standards that, if unchanged in the final standards, will increase significantly the complexity of the NRC's licensing process without commensurate increase in the protection of public health and safety and the environment. That being said, however, we made clear in our proposed rule, that once final EPA standards for Yucca Mountain are in place, the NRC will amend its regulations, as needed, to conform to the final standards, as required by law.

If DOE makes a recommendation on the Yucca Mountain site, and if the President and the Congress affirm that recommendation, the DOE will then apply to the NRC for a license to construct a repository. The NRC has three years to determine whether to approve or deny the application, except that the Commission may extend the deadline by not more than one year. Through early NRC staff identification and clarification of key safety issues, we are optimistic that we will be prepared to complete this demanding and first-of-a-kind review in the time allotted.

It is important to stress that the DOE bears the responsibility for demonstrating that licensing and certification requirements are met to protect public health and safety and the environment. The Commission independently must assess and find that such a demonstration has been made before we can issue a license for any geologic repository. Among other things, completion of NRC's review of a potential license application depends upon: the timely establishment of scientifically-sound standards and regulations; the receipt of a high-quality license application from the DOE; and sufficient resources for the NRC to maintain its independent technical review capability.

Statement Submitted
by the
United States Nuclear Regulatory Commission

to the
Subcommittee on Energy and Power
Committee on Commerce
United States House of Representatives

Concerning

High-Level Waste Management

Presented By

Carl J. Paperiello

**Deputy Executive Director for Materials,
Research, and State Programs**

Submitted: June 23, 2000

U.S. Nuclear Regulatory Commission

High-Level Waste Testimony

Overview

Mr. Chairman, members of the Subcommittee, the staff of the Nuclear Regulatory Commission (NRC) is pleased to testify about our regulatory oversight of the management and disposal of high-level radioactive waste and spent nuclear fuel. Among the subjects I will discuss today are the status of our review of the Department of Energy's (DOE's) program to characterize the Yucca Mountain Site as a potential geological repository and our progress in establishing site-specific licensing requirements for the proposed repository.

The Commission continues to believe that a permanent geologic repository is the appropriate mechanism for the United States to ultimately manage spent fuel and other high-level radioactive waste. We believe the public health and safety, the environment, and the common defense and security will be protected best by the development of a comprehensive system for the management and disposal of high-level radioactive waste, that includes storage, transportation and deep underground disposal. In our view, a deep geologic repository is a sound and technically feasible solution to the problem of final disposition of spent nuclear fuel and other high-level radioactive wastes.

Status of NRC's HLW Regulatory Program

The NRC's High-level Waste (HLW) regulatory program remains on course, consistent with our responsibilities under the Nuclear Waste Policy Act of 1982, as amended, and the Energy Policy Act of 1992. This legislation specifies an integrated approach and a long-range plan for storage, transport, and disposal of spent nuclear fuel and HLW. It prescribes the respective roles and responsibilities of the NRC, the DOE and the U.S. Environmental Protection Agency (EPA) in the nation's HLW program. The Congress assigned NRC extensive prelicensing responsibilities and the regulatory authority to issue a license, if appropriate, only after deciding whether a DOE license application for a geologic repository at Yucca Mountain, Nevada, complies with applicable standards and regulations.

The NRC staff is in the midst of an important transition – from the prelicensing, consultative role defined for NRC in statute, which has been our emphasis to date, to the role as regulator and licensing authority, as we prepare for a possible submittal of a DOE license application. In my testimony today, I will highlight a number of the important milestones and activities that comprise our program during this important transition. Among these are: (1) establishment of a regulatory framework; (2) comment on the DOE's draft Environmental Impact Statement (EIS) for a proposed repository at Yucca Mountain; (3) review and, if appropriate, concur in the revised DOE siting guidelines; (4) comment on a DOE site recommendation, should the DOE elect to pursue development of a repository at Yucca Mountain; and (5) if a license application is received, preparation for making a licensing determination in the time allotted by statute. In addition, I would like to say a few words about NRC's oversight of the DOE's quality assurance activities and provide a brief update of our transportation safety activities.

Establishment of a Regulatory Framework

We take seriously our obligations to provide a regulatory framework for the possible licensing of a geologic repository at Yucca Mountain; and to consult with the DOE and other stakeholders, including the Nevada public, in advance of any license application should one be received. We plan to have risk-informed regulations specific for Yucca Mountain in place by the end of this year. Under the Energy Policy Act of 1992, the Commission must modify, if needed, its regulations to be consistent with final EPA standards within a year of their issuance.

Because in 1998 we expected only a very short period in which to issue final implementing regulations after final EPA standards are issued, the Commission initiated its own rulemaking in parallel with that of the EPA in formulating its standards. The NRC was concerned about its responsibility to make public, as soon as possible, how we plan to implement the health-based standards called for by the Congress. In our view, prompt, public access to our regulatory intentions was necessary, not only to enable the DOE to begin preparing a possible license application but, just as importantly, to allow for timely and meaningful public involvement in the development of our implementing regulations. After EPA issues final standards, we will act promptly to prepare needed conforming revisions, if any.

On February 22 of last year, the Commission published proposed regulations at 10 CFR Part 63 for public comment. As soon as we proposed our regulations, the NRC staff embarked on a series of public meetings to encourage involvement by members of the public most affected by the decisions we face in publishing final regulations for Yucca Mountain. From these meetings, together with written submittals, we received more than 900 comments on our proposed criteria. The NRC staff has carefully considered, and analyzed these comments, and

has incorporated many of them in a draft final rule that the Commissioners now have before them.

Later last year, after the comment period for NRC's proposed regulations closed, the EPA proposed standards at 40 CFR 197 for Yucca Mountain. The NRC has provided extensive comments on the EPA proposal. The NRC has identified serious concerns with the proposed standards that, if unchanged in the final standards, will increase significantly the complexity of the NRC's licensing process without commensurate increase in the protection of public health and safety and the environment. That being said, however, we made clear in our proposed rule, that after final EPA standards for Yucca Mountain are in place, the NRC will amend its regulations, as needed, to conform to the final standards, as required by law.

NRC Reviews of DOE's Draft EIS, Siting Guidelines and Site Recommendation

In July of last year, the DOE published, for public comment, its draft Environmental Impact Statement (DEIS) for a proposed Yucca Mountain repository. The NRC provided detailed comments on the DEIS in February 2000. The NRC comments identified several broad issues and a number of specific topical areas that the DOE should address to make the final EIS complete. The DOE is now completing its final EIS which must, eventually, accompany DOE's license application to construct a HLW repository. The NRC is required, by law, to adopt, to the extent practicable, the final DOE EIS.

On May 4, 2000, the DOE forwarded its revised siting guidelines at 10 CFR Part 963 for NRC review and concurrence. The DOE proposes to use the revised guidelines to review and

evaluate Yucca Mountain for recommendation as a potential repository site. We expect that the Commission will reach a concurrence finding on DOE's draft final guidelines later this year.

If the DOE elects to pursue development of Yucca Mountain as a repository, we expect the DOE will prepare to issue a site recommendation in July of 2001. Before then, the NRC expects to review a proposed DOE recommendation and provide comments, as required by statute, on the sufficiency of DOE's site characterization and waste form proposal. The NRC expects that it will take six months to complete the necessary review of any site recommendation, and provide comments.

Preparation for Making a Licensing Decision

As part of our overall prelicensing strategy, we continue to focus our review on the nine key technical issues that are most important to repository safety and, therefore, to licensing. Since we redirected and streamlined our program several years ago, the NRC staff has completed a number of significant reports on the status of resolution, at the staff level, of each of the nine key issues. Now, we are applying the experience gained in preparing these reports to the development of a Yucca Mountain review plan that will eventually guide our review of a license application. As this development progresses, we also continue to conduct public technical exchanges between members of the NRC and DOE technical staffs and with NRC's Advisory Committee on Nuclear Waste.

If DOE makes a recommendation on the Yucca Mountain site, and if the President and Congress affirm that recommendation, the DOE will then apply to the NRC for a license to construct a repository. The NRC has three years to determine whether to approve or deny the

application, except that the Commission may extend the deadline by not more than one year. Through early NRC staff identification and clarification of key safety issues, we are optimistic that we will be prepared to complete this demanding and first-of-a-kind review in the time allotted. Consistent with this objective, we have completed a rulemaking to establish a Licensing Support Network, using web-based technology to promote access to supporting documents and, thereby, hasten review of the license application. A further rulemaking with regard to the Licensing Support Network is now in preparation.

Quality Assurance

I would now like to turn to the subject of the DOE quality assurance activities involving Yucca Mountain. DOE has experienced problems in carrying out its quality assurance program. In general, the DOE has done an acceptable job in uncovering its own quality assurance problems. However, it has been less successful in taking prompt corrective actions and preventing recurring problems. I am pleased to be able to say that recent DOE actions have improved the picture considerably in this area. However, the task is not complete and, reflecting the need for continued vigilance, we have strengthened our oversight of DOE's quality assurance activities.

Safety of Packages for Spent Fuel and HLW Transport

In addition to our oversight responsibilities for any potential geologic repository, the NRC is charged with certifying the safety of the packages used to transport spent nuclear fuel and high level waste. NRC continues to support the requirement that waste shippers use NRC-certified packages for transport of spent fuel and high-level waste. In the past year, NRC has reviewed and approved three dual-purpose cask systems for storage and transport. We are also reviewing four more dual-purpose cask system designs.

The shipment of spent nuclear fuel in NRC-approved transportation containers continues to have an unparalleled record of success from a safety perspective. To date, there has not been a release of radioactive material from an accident involving an NRC-approved spent fuel transportation container. In March 2000, NRC completed a safety study on spent fuel shipment risks. This study found the risks associated with transport of spent nuclear fuel by truck or train are even lower than earlier risk estimates. NRC held a series of meetings in 1999 to interact with interested stakeholders in a public forum to discuss the issues related to spent fuel transport. The NRC has more meetings planned for later this year.

Conclusion

It is important to stress that the DOE bears the responsibility for demonstrating that licensing and certification requirements are met to protect public health and safety and the environment. The Commission independently must assess and find that such a demonstration has been made before we can issue a license for any geologic repository. Among other things,

completion of NRC's review of a potential license application depends upon: the timely establishment of scientifically-sound standards and regulations; the receipt of a high-quality license application from the DOE; and sufficient resources for the NRC to maintain its independent technical review capability. I want to thank you for the opportunity to review the status of NRC's HLW regulatory program, and will gladly answer any questions you may have.