

**WRITTEN STATEMENT  
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UNITED STATES NUCLEAR REGULATORY COMMISSION  
TO THE  
HOUSE COMMITTEE ON ENERGY AND COMMERCE  
SUBCOMMITTEE ON ENVIRONMENT AND THE ECONOMY  
MAY 15, 2015**

Good morning, Chairman Shimkus, Ranking Member Tonko and distinguished Members of the Subcommittee. I am Josephine Piccone, Director of the Nuclear Regulatory Commission's Yucca Mountain Directorate, which is responsible for leading the current review activities associated with the Yucca Mountain construction authorization application. I appreciate the opportunity to appear before you today to discuss the NRC staff's completion of the Yucca Mountain Safety Evaluation Report.

The NRC is an independent Federal agency established to license and regulate the Nation's civilian use of radioactive materials to ensure adequate protection of public health and safety, promote the common defense and security, and protect the environment. As Congress outlined in the Nuclear Waste Policy Act of 1982, as amended, a role of the NRC is to promulgate requirements, and make licensing decisions on the design, construction, operation, and eventual decommissioning and closure of a geologic repository for permanent disposal of high-level waste at Yucca Mountain, Nevada.

The Department of Energy (DOE) submitted an application to the NRC in June 2008 seeking authorization to construct a geologic repository at Yucca Mountain. The NRC docketed the application for review in September 2008 and commenced its detailed technical review. In 2010, the DOE decided to shut down the Yucca Mountain Program and filed a motion to the NRC to withdraw the application. This motion was denied by the NRC's Atomic Safety and Licensing Board (ASLB), and in September 2011 the Commission announced it was evenly divided on whether to overturn or uphold this decision. The Commission, in recognition of

budgetary limitations, directed the ASLB to complete all necessary and appropriate case management activities. In September 2011, the ASLB issued an order suspending the adjudicatory proceeding, and at that time the NRC staff's technical review was closed. At that time, the NRC staff had completed and published Volume 1 of what would eventually be a five volume Safety Evaluation Report.

On August 13, 2013, a panel of the U.S. Court of Appeals for the District of Columbia Circuit issued its decision in the case *In re Aiken County*, directing the NRC to "promptly continue with the legally mandated licensing process" for DOE's application to construct a geologic repository for high-level waste at Yucca Mountain. The NRC promptly began taking steps to comply with the court's direction. On November 18, 2013, the Commission approved a memorandum and order setting a course of action for the Yucca Mountain licensing process consistent with the Appeals Court decision and the resources available from previous unexpended appropriations to the NRC from the Nuclear Waste Fund. This course of action included the Commission directing the NRC staff to complete the Safety Evaluation Report. The Commission continues to provide further direction to the NRC staff as needed.

The NRC staff completed the Safety Evaluation Report this past January within the cost estimate. I would like to acknowledge our talented review team of more than forty agency experts in technical fields such as health physics, geology, seismology, hydrogeology, material sciences, structural engineering, and criticality safety, to name a few. We also had an excellent legal team providing valuable support, and assistance from the NRC's federally funded research and development center, the Center for Nuclear Waste Regulatory Analyses in San Antonio, Texas.

The Safety Evaluation Report documents the results of the NRC staff's technical review of DOE's application. The NRC staff produced the report in five volumes, which are:

Volume 1: General Information, which was published in August 2010.

Volume 2: Repository Safety Before Permanent Closure (or "preclosure"), published in January 2015,

Volume 3: Repository Safety After Permanent Closure ("post-closure"), published in October 2014,

Volume 4: Administrative and Programmatic Information, published in December 2014, and

Volume 5: Proposed Conditions on the Construction Authorization and Probable Subjects of License Specifications, published in January 2015.

Volume 5 includes a brief summary of the findings in all the volumes. A short synopsis of the contents and findings of the SER, and NRC staff's overall recommendation for construction authorization follows.

## **NRC STAFF FINDINGS**

The NRC staff finds that DOE has met most, but not all, of the applicable regulatory requirements. Notably, in the Safety Evaluation Report, the NRC staff finds, with reasonable assurance and expectation, that DOE's design and analysis of the proposed repository complies with the performance objectives and requirements both before and after the repository is closed. These performance objectives and requirements, which are protective of public health and safety, include the requirement that the repository be composed of multiple barriers; requirements for the repository to meet certain radiation limits for individual protection and human intrusion; and separate standards for protection of groundwater. The NRC staff also

finds that DOE has addressed most of the general information, administrative and programmatic requirements.

There are two specific requirements that DOE has not met. They concern ownership of land and water rights. They are discussed in detail in Volume 4, and I will explain them briefly in a moment. In addition, a supplement to DOE's environmental impact statement addressing groundwater issues has not been completed. Therefore, the NRC staff is not recommending issuance of a construction authorization at this time.

As discussed in detail in Volume 4 of the SER, the Geologic Repository Operations Area, which is part of the repository, must be located on lands that are either acquired and under the jurisdiction and control of DOE, or permanently withdrawn and reserved for its use. The land on which the repository operations area will be located must also be free and clear of significant encumbrances such as mining rights, deeds, rights-of-way or other legal rights. In its application, DOE explained that it submitted land withdrawal legislation to Congress in 2007. Congress did not enact this bill, and DOE has not completed any other land acquisition process. Therefore, the NRC staff concludes that DOE has not acquired lands needed for the repository operations area, nor have necessary lands been permanently withdrawn and reserved for DOE's use. In addition, because DOE has not completed a land withdrawal or other acquisition process, DOE has not demonstrated that such land would be free and clear of significant encumbrances.

DOE must also obtain rights to water needed to construct and operate the repository. In its application, DOE stated that it filed a water appropriations request with the Nevada State Engineer for the permanent rights to water from five wells within the proposed preclosure

controlled area. DOE stated that the Nevada State Engineer denied the request and that the U.S. Department of Justice, on behalf of DOE, appealed that decision. Litigation on this matter is currently stayed. Therefore, the NRC staff concludes that DOE has not obtained water rights that DOE determined may be needed to construct and operate the repository.

In addition to a summary of the NRC staff's findings in previous volumes and the NRC staff's conclusion that it would not recommend issuing a construction authorization at this time, Volume 5 identifies conditions the NRC staff proposes be included if the Commission authorizes construction. These include restrictions on some canisters and waste to be accepted at the repository; confirmation that flight restrictions credited by DOE in its analysis are in place; and the statutory emplacement limit of 70,000 metric tons for the repository. Should the applicant provide additional information, the NRC staff may remove or revise a condition, or could add one or more conditions, based on its review of that information.

## **NEXT STEPS**

Publication of the Safety Evaluation Report is only one of several steps that need to occur before a decision can be made on the construction authorization application. A decision on whether to authorize construction can be made only after:

- (1) a supplement to DOE's environmental impact statement has been prepared,
- (2) a hearing has been conducted, and
- (3) the Commission has completed its review of contested and uncontested issues.

With regard to the first step, the Commission has directed the NRC staff to develop a supplement to DOE's EIS covering certain groundwater issues. The NRC staff expects to complete the supplement using resources remaining from NRC's previous appropriations from the Nuclear Waste Fund. NRC will follow its usual National Environmental Policy Act process

for completing this document. The NRC staff published a notice in the Federal Register on March 12 of this year that it will develop a draft supplement to be issued for public comment in late summer of this year. The NRC staff expects to have public meetings on the draft supplement at NRC headquarters and in Nevada during the comment period. The final supplement will consider public comments and should be completed early in 2016.

The largest and most significant of the remaining steps to be completed before the Commission can reach a decision on whether to grant the construction authorization is the adjudicatory hearing, including consideration of approximately 300 pending contentions and any new or amended contentions involving matters of fact or law. This hearing would require several years to complete and would likely use multiple licensing boards. The NRC does not currently have sufficient remaining resources from the Nuclear Waste Fund to complete this hearing. Recently, the Commission informed the Congress that it estimated that approximately \$330 million would be needed for the NRC to complete the construction authorization proceeding.

## **CLOSING**

Chairman Shimkus, Ranking Member Tonko, and distinguished Members of the Subcommittee, this concludes my formal testimony on the NRC's Safety Evaluation Report. I thank you for the opportunity to appear before you. I look forward to continuing to work with you to advance the NRC's important safety and security missions. I would be pleased to respond to any questions you may have. Thank you.