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U.S. Department of Energy
Before the
Subcommittee on Energy and Air Quality
U.S. House of Representatives

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Mr. Chairman and members of the Subcommittee, it is a pleasure to be here today to provide an update on the Department of Energy's Yucca Mountain Project.

For more than 50 years, our Nation has benefited greatly from nuclear energy and the power of the atom, but we have been left with a legacy marked by the generation and accumulation of more than 50,000 metric tons of commercial and defense generated spent nuclear fuel and high level waste. Today, I will address the following topics in my opening statement:

- First, the importance of Yucca Mountain for the Nation
- Second, an explanation of the clean-canistered approach
- Third, the selection of Sandia National Laboratories as the Project's lead laboratory
- Fourth, a discussion of the proposed Environmental Protection Agency (EPA) Radiation Protection Standards
- Fifth, the development of a baseline and schedule for the Project

- Sixth, an update on potential Yucca Mountain legislation

The Importance of Yucca Mountain to the Nation

There has been a lot of speculation whether or not we still need Yucca Mountain in light of the announcement of the Global Nuclear Energy Partnership (GNEP) or the possibility of longer term on-site storage of waste at reactor sites.

The clear answer is, yes, we still need Yucca Mountain. In fact, we need Yucca Mountain today more than ever. This Administration and the Department of Energy are committed to aggressively moving forward with Yucca Mountain.

Yucca Mountain is consistent with the global consensus that the best and safest long-term option for dealing with high-level waste is geologic isolation. The National Academy of Sciences has spoken on this topic and has endorsed geologic disposal since 1957.

Yucca Mountain is the key to reducing our dependence on foreign and fossil sources of energy, as nuclear power is the only technology that is mature and capable enough today to handle a significant increase in base load and is also reliable, clean, safe, and emissions-free. Nuclear power offers this country a tremendous resource and a means towards energy security—*if* we are able to deal with the waste issue.

Today spent nuclear fuel and high level waste is being temporarily stored at 122 sites in 39 States across our Nation. In 2002, Congress approved President George W. Bush's recommendation for development of Yucca Mountain. That recommendation was based on more than 20 years of scientific research indicating that Yucca Mountain provides a safer and more secure location for the Nation's nuclear waste than the current temporary surface storage facilities, many of which are located near lakes, rivers, and waterways.

Yucca Mountain is needed even if the technologies of GNEP exceed its initial expectations, and Yucca will be needed under any fuel cycle scenario. As successful as we may be with GNEP, there will always be a waste bi-product that needs disposal as part of the recycling activities.

Moreover, we need Yucca Mountain as soon as possible so we can start fulfilling our obligation to consolidate and dispose of the 50,000 metric tons of spent fuel already generated, as well as the 2,000 additional tons being generated annually. Simply put, we must move forward with Yucca Mountain.

The Clean-Canistered Approach

In mid-2005 Secretary Bodman directed a thorough review of the Department's overall approach to design, licensing, and operation of the Project to determine if there were better ways to run the repository.

Late last year the Department announced a redirection to a predominantly clean-canistered approach on spent fuel operations. Under this new approach, a single canister would be used to transport, age, and dispose of the waste without ever needing to re-open the spent fuel package. We believe that this approach will be a simpler, safer, and more reliable operation.

The clean-canistered approach will significantly reduce the risks of radiation exposure and contamination from spent fuel handling operations at the repository. With this plan, the spent nuclear fuel primarily will be packaged for disposal by the utilities that generated the waste. This approach offers the advantage of having those who know most about the waste - the generators - be responsible for placement in canisters and packaging. We would thus take advantage of commercial reactor sites with existing capability and skills. The Department will not need to build new equipment and train operators for a capability that already exists in the private sector. We are working with industry to develop the specifications for a canister that can contain commercial spent nuclear fuel after it is discharged from the reactors and cooled. In addition to requiring fewer, cleaner, and simpler surface facilities, the new facility approach should be easier to design, license, build, and operate.

While this approach will have significant short-term and long-term benefits, it will require additional time to redevelop and revise portions of the license application. Later this summer the Department expects to have a new conceptual design for the surface facilities at Yucca Mountain that support this approach.

Sandia Lead Laboratory

The Department also announced that Sandia National Laboratory will act as the lead laboratory to coordinate and organize all scientific work on the Project. Since this Project represents one of the major scientific and technical challenges of our time, we want to ensure that we take full advantage of the great resources in our national laboratories. Additionally, to ensure that we keep a critical eye on our work, we are continuing efforts to instill a “trust but verify” culture. Part of this effort will lead to the formation of a University-based consortium to independently review key aspects of the Project to ensure objectivity and impartiality.

Proposed EPA Radiation Protection Standards

On August 22, 2005, the Environmental Protection Agency (EPA) proposed a revised “Public Health and Environmental Radiation Protection Standards for Yucca Mountain” in response to a decision by the U.S. Court of Appeals for the District of Columbia Circuit which vacated portions of the existing EPA standards. Specifically, EPA proposed a radiological exposure limit for the time of peak dose to the general public during one million years following the disposal of radiological material at the Yucca Mountain site.

The proposed rule retains the existing 10,000-year individual protection standard of 15 mRem/year to the reasonably maximally exposed individual, and supplements it with an

additional standard applicable at the time of peak dose. This proposed rule includes two compliance periods and recognizes the limitations of bounding analyses, the greater uncertainties at the time of peak risk, and the increased uncertainty in calculated results as time and uncertainties increase. Retaining the existing 15 mRem/year standard for the initial 10,000-year period ensures that the repository design will include all prudent steps, including the use of engineered and natural barriers, to minimize offsite doses during the first 10,000 years after disposal. These natural barriers, and to some extent the engineered barriers, will continue to operate throughout the million-year period, keeping exposure levels low. In fact, this level of exposure reflects a risk that society already lives with today - the maximum peak dose at Yucca Mountain would be no greater than the level currently received by residents of Denver, Colorado due to the city's higher levels of naturally occurring background radiation.

Development of a Baseline and Schedule

Although the Yucca Mountain Program had intended to submit a license application to the Nuclear Regulatory Commission (NRC) in December 2004, a number of issues arose that prevented this, including development of the amended draft EPA radiation protection standards as discussed earlier, redesign of the surface facilities to handle primarily canistered waste, and other matters that need to be addressed before we are ready to submit a license application. We believe that submission of our license application should not be driven by artificial dates. We are committed to developing a realistic schedule that will result in the submission of a strong license application to the NRC. We

expect to receive and review our new design this spring and, after its approval by the Secretary, incorporate it into our baseline. Later this summer, we anticipate we will publish our schedule for submittal of the license application to the NRC.

Proposed Yucca Mountain Legislation

To complement the current approach and assure confidence in moving forward with Yucca Mountain, the President's 2007 Budget stated that the Administration will send to Congress proposed legislation that would facilitate the licensing, construction and operation of a repository at Yucca Mountain.

The proposal is still in the interagency review process. We can expect it to address the permanent withdrawal of land around Yucca Mountain as well as needed funding reform. This potential legislation, coupled with the potential of GNEP for waste minimization, could postpone indefinitely the need for the U.S. to begin a second repository siting and development effort. As the committee may recall, there are more than two-dozen States where we would look to site a second repository.

Enactment of this important proposal will help demonstrate that the Nation can dispose of nuclear materials in a safe, reliable, and efficient manner, and will help advance the Nation's energy security, and national security objectives.

Conclusion

In conclusion, there is a clear National need for Yucca Mountain, even if we could reduce our National electricity consumption by 20% and were able to shut down every commercial reactor and nuclear project in the country today. We are taking steps to ensure that we develop and construct the safest, simplest repository that we possibly can, based on sound science and quality work. I believe that our license application will provide the necessary assurances that we can operate Yucca Mountain in compliance with the performance requirements of the Environmental Protection Agency and the Nuclear Regulatory Commission. We will also demonstrate that our approach to operations will be carefully planned, logical, and methodical.