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NRC ISSUES REPORT ON QUALITY OF TECHNICAL INFORMATION UNDER DEVELOPMENT BY DOE FOR YUCCA MOUNTAIN APPLICATION

The Nuclear Regulatory Commission's Office of Nuclear Material Safety and Safeguards has issued a report on its recent team evaluation of the quality of certain technical information in three documents that the Department of Energy is preparing to support its expected application for a license to build and operate a high-level radioactive waste repository at Yucca Mountain, Nevada.

The report finds that, if DOE continues to use their existing policies, procedures, methods, and practices at the same level of implementation and rigor, the license application may not contain information sufficient to support the technical positions in the application. This could result in the NRC issuing a large volume of requests for additional information in some areas, which could extend NRC staff's time for review and could prevent the NRC from making a decision regarding a construction authorization to DOE within the three years required by law (with a possible extension to four years).

The NRC has made no determination on the technical adequacy of the documents evaluated. This would be done during the review of the license application. Conclusions drawn from the results of this evaluation indicate neither NRC acceptance nor rejection of any DOE documents.

The team found that the Department and its contractor, Bechtel SAIC Company, had used several good practices and found the technical information was much improved over what was presented in the DOE's Total System Performance Assessment for Site Recommendation in 2001. The team also found that the information was up to date, more comprehensive and contained more data.

However, the team identified some concerns with both the clarity of the technical bases and the sufficiency of technical information used to support DOE's explanation of the technical bases. DOE could reasonably have identified and corrected these problems during the information checking and review process. The team also had concerns with the effectiveness of DOE's corrective actions. The number and similar pattern of concerns found in the three documents that NRC reviewed suggests that other DOE documents may have similar limitations.

To review DOE's potential license application, the NRC will need to understand DOE's explanation of its technical bases and find that DOE has supplied sufficient technical information to justify that explanation.

The three DOE documents evaluated, known as Analysis Model Reports, were selected because NRC believes their subjects are of high or medium significance to repository performance. These documents are on (1) general and localized corrosion of the waste package outer barrier, (2) commercial spent nuclear fuel waste form degradation model and (3) drift (i.e., tunnel) degradation analysis. The team, which conducted week-long audits during the months of November, December and January at the DOE and contractor facility in Las Vegas, evaluated DOE's processes for developing and controlling the three documents and corrective actions.

Copies of the report, "U.S. Nuclear Regulatory Commission Staff Evaluation of U.S. Department of Energy Analysis Model Reports, Process Controls, and Corrective Actions," will be available on the NRC web site at <http://www.nrc.gov/waste/hlw-disposal/reg-initiatives/resolve-key-tech-issues.html> .

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