Regulatory Guide Periodic Review

Regulatory Guide Number:	**3.73, Revision 0**
Title:	**Site Evaluations and Design Earthquake Ground Motion for Dry Cask Independent Spent Fuel Storage and Monitored Retrievable storage Installations**
Office/Division/Branch:	**NMSS/DSFM/CSTB**
Technical Lead:	**Bhasker (Bob) Tripathi, P. E.**
Recommended Staff Action:	**Reviewed with issues identified for future consideration**

1. What are the known technical or regulatory issues with the current version of the Regulatory Guide (RG)?

RG 3.73 was published in October, 2003, in order to comply with 10 CFR Part 72, "Licensing Requirements for the Independent Storage of Spent Nuclear Fuel, High-Level Radioactive Waste, and Reactor-Related Greater Than Class C Waste."

The purpose of the guide is to provide general guidance on procedures acceptable to the NRC staff for: (1) conducting a detailed evaluation of site area geology and foundation stability; (2) conducting 3.73-2 investigations to identify and characterize uncertainty in seismic sources in the site region important for the probabilistic seismic hazard analysis (PSHA); (3) evaluating and characterizing uncertainty in the parameters of seismic sources; (4) conducting PSHA for the site; and (5) determining the DE to satisfy the requirements of 10 CFR Part 72.

There are outdated references listed in the RG but they do not result in any technical deficiencies. For example, American Society of Testing and Materials, (ASTM) "Standard Test Method for Load-Controlled Cyclic Triaxial Strength of Soil," ASTM D5311, 1996 has been revised ASTM D5311/D5311M, 2013. The RG also endorses ASTM D4015 2000, "Standard Test Methods for Modulus and Damping of Soils by the Resonant-Column Method," that was revised in 2015, and ASTM D3999, 1991, "Standard Test Method for the Determination of the Modulus and Damping Properties of Soils Using the Cyclic Triaxial Apparatus," that was revised in 2011.

2. What is the impact on internal and external stakeholders of not updating the RG for the known issues, in terms of anticipated numbers of licensing and inspection activities over the next several years?

The staff is not expecting any new applications for the next 2-3 years where this RG could be used and therefore, the identified issues do not affect any licensing

and inspection activities. However, during the next review the staff would review the most current technology and standards available that could be endorsed in the revised guide.

3. **What is an estimate of the level of effort needed to address identified issues in terms of full-time equivalent (FTE) and contractor resources?**

   An estimate of the effort needed to correct the identified issues is between 0.10 full-time equivalent (FTE) and 0.20 FTE.

4. **Based on the answers to the questions above, what is the staff action for this RG (Reviewed with no issues identified, Reviewed with issues identified for future consideration, Revise, or Withdraw)?**

   Reviewed with issues identified for future consideration.

5. **Provide a conceptual plan and timeframe to address the issues identified during the review.**

   As discussed in Management Directive (MD) 6.6, “Regulatory Guides,” the NRC staff periodically reviews RGs to ensure that these guides continue to provide useful guidance. The staff will consider the regulatory issues and any other technical information like updated standards that may need to be incorporated in the RG during the next periodic review of the guide.

NOTE: This review was conducted in September 2016 and reflects the staff’s plans as of that date. These plans are tentative and subject to change.