



**UNITED STATES
NUCLEAR REGULATORY COMMISSION
ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
WASHINGTON, DC 20555 - 0001**

May 17, 2010

Mr. R.W. Borchardt
Executive Director for Operations
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

SUBJECT: REVISED STANDARD REVIEW PLAN FOR SPENT FUEL DRY STORAGE SYSTEMS (NUREG-1536)

Dear Mr. Borchardt:

During the 572nd meeting of the Advisory Committee on Reactor Safeguards, May 6-8, 2010, we reviewed Revision 1C to NUREG-1536, "Standard Review Plan (SRP) for Spent Fuel Dry Storage Systems at a General License Facility." Our Subcommittee on Radiation Protection & Nuclear Materials also reviewed this matter during meetings on February 17 and April 21, 2010. During these meetings we had the benefit of discussions with representatives of the NRC staff. We also had the benefit of the documents referenced.

RECOMMENDATIONS

1. The staff should remove the discussion of burnup credit from NUREG-1536 and refer to Spent Fuel Project Office Interim Staff Guidance (ISG) - 8, Revision 2, "Burnup Credit in the Criticality Safety Analyses of PWR Spent Fuel in Transport and Storage Casks."
2. The revised version of NUREG-1536 should be issued after recommendation 1 above is implemented.
3. Guidance in ISG-8, Revision 2, for supplementary measurements to verify and adjust plant burnup records prior to granting burnup credit should be reconsidered.

BACKGROUND

The SRP for a dry storage system (DSS) provides guidance to the staff for reviewing applications for a Certificate of Compliance for a DSS for use at a general license facility. This SRP promotes a consistent regulatory review of an application for a DSS. It provides a framework that identifies acceptable review approaches to meeting regulatory requirements and identifies a system to prioritize risk significant issues in reviewing a DSS. This framework covers all issues significant to the design including a new chapter which provides insights regarding material performance of components important to the safety of a DSS.

DISCUSSION

NUREG-1536 provides the framework for evaluating proposed spent fuel storage cask design and use. It also provides guidance needed to make a determination, with reasonable

assurance, regarding the safety of the design and construction of a spent fuel storage cask. The staff has developed and used a prioritization process to assure that each chapter in a DSS application receives a level of review commensurate with its safety significance.

In the course of our review, the granting of burnup credit was found to be governed primarily by the staff's concern with potential misidentification and misloading of spent fuel assemblies. The SRP indicates that supplementary poolside measurements are expected to be made to verify and adjust plant records of assembly burnup prior to the granting of burnup credit. Acceptable measurement methods are not described, but the staff indicated that poolside gamma scans could be used. The Committee inquired whether supplementary measurements to verify and adjust plant burnup records would be needed if the fuel assemblies could be unambiguously identified, and recommended that the matter be reconsidered.

The staff reported that after considering the Subcommittee Members' comments, they decided to remove the discussion of burnup credit from NUREG-1536 and refer to Revision 2 of ISG-8. Also, the staff reported that they will consider the Committee's recommendation regarding the criteria for supplementary measurements in the revision to ISG-8 that is underway.

Sincerely,

/RA/

Said Abdel-Khalik
Chairman

References:

1. Memorandum to Edwin M. Hackett, Standard Review Plan for Spent Fuel Dry Storage Systems at a General License Facility, NUREG-1536, Revision 1C, 03/18/2010 (ML100770008)
2. Memorandum to E. William Brach, Approval of Interim Staff Guidance Memorandum No. 8, Burnup Credit in the Criticality Safety Analyses of PWR Spent Fuel in Transport and Storage Casks, Revision 2, 09/27/2002 (ML022700555)

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