



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

ACRSR-2151

September 22, 2005

The Honorable Nils. J. Diaz  
Chairman  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555-0001

SUBJECT: DRAFT FINAL REVISIONS TO GENERIC LICENSE RENEWAL  
GUIDANCE DOCUMENTS

Dear Chairman Diaz:

During the 525<sup>th</sup> meeting of the Advisory Committee on Reactor Safeguards, September 8-10, 2005, we reviewed the draft final revisions to NUREG-1800, "Standard Review Plan for Review of License Renewal Applications for Nuclear Power Plants," NUREG-1801, "Generic Aging Lessons Learned (GALL) Report," and Regulatory Guide 1.188, "Standard Format and Content for Applications to Renew Nuclear Power Plant Operating Licenses," as well as NEI 95-10, Rev.6, "Industry Guideline for Implementing the Requirements of 10 CFR Part 54 — The License Renewal Rule," which is endorsed by Regulatory Guide 1.188. These documents provide guidance for preparing and reviewing license renewal applications (LRAs). During our review, we had the benefit of discussions with representatives of the NRC staff and the Nuclear Energy Institute (NEI). We also had the benefit of the documents referenced.

## CONCLUSIONS AND RECOMMENDATIONS

1. The draft final revisions to the generic license renewal guidance documents should be approved for issuance.
2. The staff should continue to evaluate the need for revisions to the guidance documents in order to maintain them current.

## DISCUSSION

The generic license renewal guidance documents were first issued in 2001. Since then, many license renewal applications have been reviewed and approved by the staff. The guidance documents have proven effective in guiding and simplifying preparation and review of the industry applications. However, in preparing and reviewing individual applications, the applicants and the staff have identified numerous opportunities for improvements. The current revisions incorporate such improvements.

Some of the improvements stem from eliminating excessive specificity and prescriptiveness in the guidance that resulted in unnecessary exceptions to the GALL Report. Components with similar materials, environments, and aging management programs (AMPs) were "rolled up" into a single line item in the aging management review (AMR) tables. Technical criteria such as temperature and fluence thresholds for aging effects were added to permit screening out components in relatively benign environments. The use of more practical component groupings, material nomenclature, and more detailed environmental definitions should make it simpler for applicants to demonstrate consistency with the GALL Report. Chapter IX was added to the GALL Report to standardize and define the terminology used in the document.

Another, more technical category of changes and additions incorporated into the guidance documents are some of the NRC positions established in the final Safety Evaluation Reports (SERs) (approved precedent). Final SERs and staff comments for improving the license renewal process identified over 400 items that were evaluated for inclusion in the guidance documents. Approved interim staff guidance was also incorporated in the guidance documents.

NEI proposed additional AMR line items for new material, environment, aging effect, and aging management program (MEAP) combinations that are common to most LRAs.

The staff reviewed domestic and foreign operating experience to identify potential new AMR line items. The review of foreign experience did not lead to any changes. The review of domestic experience resulted in changes to one AMR and the addition of a new AMR. An AMR was modified to emphasize the need to manage stress corrosion cracking in nozzle safe end welds. An AMR was added to manage primary water stress corrosion cracking in pressurizer steam space nozzles.

During our review of the Dresden and Quad Cities LRA, we recommended that steam dryers be included in the scope of license renewal. We also recommended that the staff require that, prior to entering the period of extended operation, the applicant conduct an evaluation to ensure that operating experience at extended power uprate (EPU) levels is properly addressed in aging management programs and that the staff review and approve this evaluation. The staff added a new line item to the GALL Report that calls for plant-specific AMPs to manage the effects of flow-induced vibration on steam dryers. Section 3.0.2 of the Standard Review Plan states that applicants with recently approved EPUs are to commit to perform an operating experience review at the EPU level prior to entering the period of extended operation.

The current revisions to the guidance documents have been a major undertaking. The changes to the guidance documents are comprehensive and appropriate. They will facilitate the demonstration of the consistency of applications with the GALL Report and staff reviews, and will reduce the number of requests for additional information that are required to support the staff's review. We have previously commented on the value and significance of the GALL Report as a source of information that is critical to managing aging. The current revisions are major improvements of this important document as well as the other guidance documents and should be approved. The staff should continue to evaluate the need for revisions to the guidance documents in order to maintain them current. The contributions of the staff, the industry, and the public to these revisions should be recognized.

Drs. William Shack and George Apostolakis did not participate in the Committee's deliberations regarding this matter.

Sincerely,

/RA/

Graham B. Wallis  
Chairman

References:

3. U.S. Nuclear Regulatory Commission, NUREG-1801, Revision 1, Volume 1, "Generic Aging Lessons Learned (GALL) Report Summary," August 2005
4. U.S. Nuclear Regulatory Commission, NUREG-1801, Revision 1, Volume 2, "Generic Aging Lessons Learned (GALL) Report Tabulation of Results," August 2005
5. U.S. Nuclear Regulatory Commission, NUREG-1800, Revision 1, "Standard Review Plan for Review of License Renewal Applications for Nuclear Power Plants," August 2005
6. U.S. Nuclear Regulatory Commission Regulatory Guide 1.188, Revision 1, "Standard Format and Content for Applications to Renew Nuclear Power Plant Operating Licenses," August 2005
7. U.S. Nuclear Regulatory Commission, draft NUREG-1832, "Analysis of Public Comments on the Revised License Renewal Guidance Documents," August 2005
8. U.S. Nuclear Regulatory Commission, draft NUREG-1833, "Technical Bases for Revision to the License Renewal Guidance Documents," August 2005
9. Nuclear Energy Institute, "Industry Guideline for Implementing the Requirements of 10 CFR Part 54 - The License Renewal Rule," NEI 95-10, Revision 6, June 2005

NEI proposed additional AMR line items for new material, environment, aging effect, and aging management program (MEAP) combinations that are common to most LRAs.

The staff reviewed domestic and foreign operating experience to identify potential new AMR line items. The review of foreign experience did not lead to any changes. The review of domestic experience resulted in changes to one AMR and the addition of a new AMR. An AMR was modified to emphasize the need to manage stress corrosion cracking in nozzle safe end welds. An AMR was added to manage primary water stress corrosion cracking in pressurizer steam space nozzles.

During our review of the Dresden and Quad Cities LRA, we recommended that steam dryers be included in the scope of license renewal. We also recommended that the staff require that, prior to entering the period of extended operation, the applicant conduct an evaluation to ensure that operating experience at extended power uprate (EPU) levels is properly addressed in aging management programs and that the staff review and approve this evaluation. The staff added a new line item to the GALL Report that calls for plant-specific AMPs to manage the effects of flow-induced vibration on steam dryers. Section 3.0.2 of the Standard Review Plan states that applicants with recently approved EPUs are to commit to perform an operating experience review at the EPU level prior to entering the period of extended operation.

The current revisions to the guidance documents have been a major undertaking. The changes to the guidance documents are comprehensive and appropriate. They will facilitate the demonstration of the consistency of applications with the GALL Report and staff reviews, and will reduce the number of requests for additional information that are required to support the staff's review. We have previously commented on the value and significance of the GALL Report as a source of information that is critical to managing aging. The current revisions are major improvements of this important document as well as the other guidance documents and should be approved. The staff should continue to evaluate the need for revisions to the guidance documents in order to maintain them current. The contributions of the staff, the industry, and the public to these revisions should be recognized.

Drs. William Shack and George Apostolakis did not participate in the Committee's deliberations regarding this matter.

Sincerely,

Graham B. Wallis  
Chairman

References:

10. U.S. Nuclear Regulatory Commission, NUREG-1801, Revision 1, Volume 1, "Generic Aging Lessons Learned (GALL) Report Summary," August 2005
11. U.S. Nuclear Regulatory Commission, NUREG-1801, Revision 1, Volume 2, "Generic Aging Lessons Learned (GALL) Report Tabulation of Results," August 2005
12. U.S. Nuclear Regulatory Commission, NUREG-1800, Revision 1, "Standard Review Plan for Review of License Renewal Applications for Nuclear Power Plants," August 2005
13. U.S. Nuclear Regulatory Commission Regulatory Guide 1.188, Revision 1, "Standard Format and Content for Applications to Renew Nuclear Power Plant Operating Licenses," August 2005
14. U.S. Nuclear Regulatory Commission, draft NUREG-1832, "Analysis of Public Comments on the Revised License Renewal Guidance Documents," August 2005
15. U.S. Nuclear Regulatory Commission, draft NUREG-1833, "Technical Bases for Revision to the License Renewal Guidance Documents," August 2005
16. Nuclear Energy Institute, "Industry Guideline for Implementing the Requirements of 10 CFR Part 54 - The License Renewal Rule," NEI 95-10, Revision 6, June 2005

DOCUMENT NAME: E:\Filenet\ML052650460.wpd

To receive a copy of this document, indicate in the box: "C" = Copy without attachment/enclosure "E" = Copy with attachment/enclosure "N" = No copy

Accession #: ML052650460

OFFICE	ACRS/ACNW	Y	ACRS/ACNW	Y	ACRS/ACNW	Y	ACRS/ACNW	Y	ACRS/ACNW	Y	ACRS	Y
NAME	CSantos		MSnodderly		MScott		AThadani		JLarkins		GWallis	
DATE	09/22/05*		09/22/05*		09/22/05*		/ /05		09/22/05*		/ /05	

OFFICIAL RECORD COPY