

November 15, 2000

The Honorable Richard A. Meserve
Chairman
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001

SUBJECT: LICENSE RENEWAL GUIDANCE DOCUMENTS

Dear Chairman Meserve:

During the 477th meeting of the Advisory Committee on Reactor Safeguards, November 2-4, 2000, we completed our review of the draft Standard Review Plan (SRP), Generic Aging Lessons Learned (GALL) report, Draft Regulatory Guide DG-1104, and NEI 95-10, Revision 2 that provide guidance for preparing and reviewing license renewal applications. Our Subcommittee on Plant License Renewal met on October 19-20, 2000, to review these documents. During our reviews, we had the benefit of discussions with representatives of the staff and the Nuclear Energy Institute (NEI). We also had the benefit of the documents referenced.

Conclusions and Recommendations

1. The draft guidance documents developed by the staff and the industry provide a consistent and understandable process to support the preparation and review of license renewal applications. The staff and the industry have made a commendable effort to effectively integrate these guidance documents.
2. The staff should update the GALL report as lessons are learned from reviewing future license renewal applications and as new editions of codes and standards are approved by the staff.
3. The staff should validate that the artificially aged cables used in the studies conducted to address GSI-168 issues are representative of 30-40 year old cables.
4. The staff and the industry should provide consistent guidance on the use of emergency operating procedures and severe accident management guidelines as possible information sources to verify that equipment important to safety has not been inadvertently left out by the license renewal rule scoping process.

Discussion

The staff and NEI have developed a set of draft guidance documents to establish consistency and stability in the license renewal application process. The Draft Regulatory Guide endorses NEI 95-10 that provides guidance on developing license renewal applications. The SRP provides guidance for reviewing the scoping and screening processes implemented by licensees to identify long-lived passive structures and components. The SRP also provides guidance on how to use the GALL report to identify applicable aging effects and acceptable aging management programs. The SRP and supporting documents have properly considered the issues and concerns raised by stakeholders, and have incorporated the resolutions of the generic license renewal issues. The staff and the industry have made a commendable effort to effectively integrate these guidance documents. This interaction of the staff with the industry has significantly improved the GALL report. The guidance documents provide a consistent and understandable process.

The GALL report is a remarkable compendium of current knowledge regarding aging effects and acceptable aging management programs. The report provides a technical basis to support license renewal decisions by describing where existing programs are sufficient and where “further evaluation” is required. Where further evaluation is required, the report generally explains what is expected. In many cases, the lessons learned from the review of the Oconee Nuclear Station and Calvert Cliffs Nuclear Power Plant license renewal applications have provided examples of the programmatic enhancements required. In some instances, the report identifies the need for further evaluation, but provides no guidance on what is expected or what criteria will be used to judge adequacy. The staff indicated that this lack of guidance is due to the limited experience with license renewal, and that programmatic enhancements developed for new license renewal applications will provide additional examples and alternate approaches. Since the preparation and review of future applications are likely to result in a significant number of new lessons learned, the staff should update the GALL report to incorporate the lessons learned.

The provisions of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code have been codified in 10 CFR 50.55a. The staff has been amending 10 CFR 50.55a periodically to incorporate later editions of the ASME code. During periodic revision of 10 CFR 50.55a, the staff plans to evaluate the adequacy of these later editions for license renewal using the criteria described in the SRP. We believe this process is appropriate for the period of extended operation. The staff should update the GALL report to incorporate new editions of codes and standards for which a similar process does not exist.

Until GSI-168, which deals with environmental qualification of low-voltage instrumentation and control cables, is resolved, aging management of such cables will continue to be addressed through plant-specific programs. It does not appear that condition monitoring is a reliable predictor of future performance of cables under accident conditions. Testing of cables, which have undergone accelerated aging, identified severe degradation. The staff should validate that the artificially aged cables used in the accelerated aging studies conducted to address the issues of GSI-168 are representative of 30-40 year old cables. We plan to review this issue during our review of the proposed resolution of GSI-168.

The SRP provides guidance to review the adequacy of the scoping and screening processes used by the licensees to identify structures and components that are subject to an aging

management review. As the first two applications demonstrated, the scoping process for older plants is a challenging task that does not lend itself to a standard procedure. Systems and components in scope are identified based on a review of accident analyses that are part of the current licensing basis (CLB) of the plant. The accident analyses, especially those of older plants, provide abbreviated descriptions of events and seldom identify all of the equipment required to achieve safe shutdown. More detailed information is contained in the emergency operating procedures (EOPs) that are referenced in the Final Safety Analysis Report and, thus, are part of the CLB of the plant. However, the scoping process defined by the license renewal rule does not explicitly include the EOPs as a source of information to identify equipment in scope. In contrast, the maintenance rule explicitly includes the EOPs as a source of information to identify equipment in scope. As a result, there may be equipment whose active components are within the scope of the maintenance rule but its passive long-lived components are not within the scope of the license renewal rule.

We recognize that most of the equipment used in the EOPs will be identified by the license renewal rule scoping process. The EOPs are already listed in Table 2.1-1 of the SRP as a possible information source. However, they are not listed as a possible information source in the corresponding Table 3.1-1 of NEI 95-10. We recognize that the EOPs are not within the scope of the license renewal rule. However, we believe that it would be prudent for the industry and the staff to include the EOPs in the guidance documents as a possible information source. This would confirm that equipment important to safety has not been omitted inadvertently in the scoping process, rather than leaving it to the individual reviewers to deal with this issue.

Severe Accident Management (SAM) guidelines are currently implemented at all plants, are part of the CLB, and are tied to the EOPs. Operators are routinely trained on their use. However, SAM guidelines were developed as a voluntary industry initiative. The equipment used to support these guidelines is not necessarily within the scope of the license renewal rule. The SAM guidelines should be identified as a potential source of information in Table 2.1-1 of the SRP and Table 3.1-1 of NEI 95-10 to confirm that equipment important to safety has not been omitted inadvertently in the scoping process.

Dr. William J. Shack did not participate in the Committee's deliberations regarding the GALL report.

Sincerely,

/RA/

Dana A. Powers
Chairman

References

1. U. S. Nuclear Regulatory Commission, Draft for Public Comment, "Standard Review Plan for the Review of License Renewal Applications for Nuclear Power Plants," August 2000.
2. U. S. Nuclear Regulatory Commission, NUREG-xxxx, Volume 1, Summary (Draft for Public Comment), "Generic Aging Lessons Learned (GALL) Report," August 2000.

3. U. S. Nuclear Regulatory Commission, NUREG-xxxx, Volume 2, Tabulation of Results (Draft for Public Comment), "Generic Aging Lessons Learned (GALL) Report," August 2000.
4. U. S. Nuclear Regulatory Commission, Draft Regulatory Guide DG-1104, "Standard Format and Content for Applications to Renew Nuclear Power Plant Operating Licenses," August 2000.
5. NEI 95-10, Revision 2, "Industry Guideline for Implementing the Requirements of 10 CFR 54 - the License Renewal Rule," August 2000.
6. S. P. Carfagno, ACRS Consultant, "Review of Adequacy of Staff Guidance for Reviewing License Renewal Applications," October 12, 2000.
7. C. Chen, Apollo Consulting, Inc., ACRS Consultant, "Report to USNRC ACRS on the Independent Review of SRP-LR and GALL Report for Containment Structures," October 8, 2000.