

A.3 GENERIC SAFETY ISSUES RELATED TO AGING (BRANCH TECHNICAL POSITION RLSB-2)

A.3.1 Background

Unresolved Safety Issues (USIs) and Generic Safety Issues (GSIs) are identified and tracked in the NRC's formal resolution process set forth in NUREG-0933, "A Prioritization of Generic Safety Issues," which is updated periodically (Ref. 1). Appendix B to NUREG-0933 contains a listing of those issues that are applicable to operating and future plant. NUREG-0933 is a source of information on generic concerns identified by the NRC. Some of these concerns may be related to the effects of aging or Time-Limited Aging Analyses (TLAAs) for systems, structures, or components within the scope of license renewal review. The purpose of this branch technical position (RLSB-2) is to address the license renewal treatment of an aging effect or a TLAAs which is a subject of an USI or a GSI (60 FR 22484).

Table A.3-1 provides examples to help determine whether a USI or GSI should or should not be specifically addressed for license renewal, based on lessons learned from the staff review of the initial license renewal applications. However, two of these examples (GSI-23 and -190) have been resolved by the staff. They are included in the examples for illustrative purposes.

A.3.2 Branch Technical Position

A.3.2.1 Treatment of GSIs

1. The license renewal rule requires that aging effects be managed to ensure that the structure and component intended function(s) are maintained and that TLAAs are evaluated for license renewal. Thus, all applicable aging effects of structures and components subject to an AMR and all TLAAs must be evaluated, regardless of whether they are associated with GSIs or USIs.
2. USIs and HIGH- and MEDIUM-priority issues described in NUREG-0933 Appendix B (Ref. 1) that involve aging effects for structures and components subject to an AMR or TLAAs should be specifically addressed. The version of NUREG-0933 that is current on the date 6 months before the date of the license renewal application should be used to identify such issues. Prior to Safety Evaluation Report (SER) completion, any new issues contained in later versions of NUREG-0933 should be reviewed and resolved if determined to be applicable to the applicant's plant. New issues may be addressed by using one of the approaches described in Position A.3.2.2 below.
3. New generic safety issues, designated as USI, HIGH-, or MEDIUM- priority after the application has been submitted, that involve aging effects for structures and components subject to an aging management review or TLAAs should be submitted in the annual update of the application.
4. During the preparation and review of a license renewal application, an applicant or the NRC may become aware of an aging management or TLAAs issue that may be generically applicable to other nuclear plants. If issues may have generic applicability (but are not yet part of the formal GSIs resolution process as identified in NUREG-0933), an applicant should still address the issue to demonstrate that the effects of aging are or will be managed adequately or that TLAAs have been evaluated for the period of extended operation.

A.3.2.2 Approaches for Addressing GSIs (60 FR 22484)

One of the following approaches may be used:

1. If resolution has been achieved before issuance of a renewed license, implementation of that resolution is incorporated within the license renewal application. The plant-specific implementation information should be provided.
2. A technical rationale is provided that demonstrates that the CLB will be maintained until some later time in the period of extended operation, at which point one or more reasonable options (for example, replacement, analytical evaluation, or a surveillance/maintenance program) would be available to adequately manage the effects of aging. An applicant would have to describe the basis for concluding that the CLB is maintained during the period of extended operation, and briefly describe options that are technically feasible during the period of extended operation to manage the effects of aging, but would not have to preselect which option would be used.
3. An aging management program is developed that, for that plant, incorporates a resolution to the aging effects issue.
4. An amendment of the CLB (as a separate action outside the license renewal application) is proposed that, if approved, would remove the intended function(s) from the CLB. The proposed CLB amendment is reviewed under 10 CFR Part 50 and is not a review area for license renewal.

A.3.3 References

1. NUREG-0933, "A Prioritization of Generic Safety Issues."
2. NRC Regulatory Issue Summary 2000-02, "Closure of Generic Safety Issue 23, Reactor Coolant Pump Seal Failure," February 15, 2000.
3. Letter from Ashok C. Thadani of the Office of Nuclear Regulatory Research, NRC, to William D. Travers, Executive Director of Operations, NRC, dated December 26, 1999.
4. SECY 94-225, "Issuance of Proposed Rulemaking Package on GSI-23, Reactor Coolant Pump Seal Failure," August 26, 1994.
5. Information Notice 93-61, "Excessive Reactor Coolant Leakage Following a Seal Failure in a Reactor Coolant Pump or Reactor Recirculation Pump," August 9, 1993.
6. Letter to Doug Walters, Nuclear Energy Institute, from Christopher I Grimes, NRC, dated June 2, 1998.

Table A.3-1. Examples of Generic Safety Issues that Should/Should Not Be Specifically Addressed for License Renewal and Basis for Disposition

Example	Disposition
GSI-23, "Reactor Coolant Pump Seal Failures"	This issue relates to reactor coolant pump seal failures, which challenge the makeup capacity of the emergency core cooling system in PWRs. Although GSI-23 originally addressed seal performance both during normal operation and during loss of seal cooling conditions, it has been modified to address only seal performance during loss of seal cooling conditions (Refs. 4 and 5). Loss of all seal cooling may cause the reactor coolant pump seals to fail or leak excessively. Because the reactor coolant pump seal performance during loss of seal cooling conditions is not an issue that involves AMR or TLAA, GSI-23 need not be specifically addressed for license renewal (Ref. 2).
GSI-168, "Environmental Qualification of Electrical Equipment"	This issue relates to aging of electrical equipment that is subject to environmental qualification requirements. Environmental qualification is a TLAA for license renewal. Thus, GSI-168 should be specifically addressed for license renewal (Ref. 6).
GSI-173.A, "Spent Fuel Storage Pool: Operating Experience"	This issue relates to the potential for a sustained loss of spent fuel pool cooling capacity and the potential for a substantial loss of spent fuel pool coolant inventory. The staff evaluated the issue and concluded that no actions will be taken for operating plants. As indicated in NUREG-0933, the staff is pursuing regulatory improvement changes to RG 1.13, "Spent Fuel Storage Facility Design Basis," and NUREG-0800, "Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants." Thus, GSI-173.A need not be specifically addressed for license renewal.
GSI-190, "Fatigue Evaluation of Metal Components for 60-Year Plant Life"	This issue relates to environmental effects on fatigue of reactor coolant system components for 60 years. Fatigue is also a TLAA for license renewal. Thus, GSI-190 was specifically addressed for license renewal by the initial license renewal applicants. This GSI has now been resolved (Ref. 3).

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