

Limerick/NRC Pre-Submittal Meeting

Technical Specification 4.0.5 License
Amendment Request

November 5, 2019



Exelon Generation®

Agenda

- Background
- License Amendment Request
- Closing Remarks

Background

- Limerick Generating Station (LGS), Units 1 and 2, License Amendment Request (LAR) to adopt 10 CFR 50.69, "Risk-Informed Categorization and Treatment of Structures, Systems, and Components (SSCs) for Nuclear Power Plants," was submitted on June 28, 2017 as supplemented by letters dated August 14, 2017; January 19, 2018; April 23, 2018; and July 27, 2018.

Background

- Amendment Nos. 230 and 193 for LGS, Units 1 and 2, respectively, were issued on July 31, 2018, giving NRC approval to implement the requirements of 10 CFR 50.69 at LGS.
- LGS began implementation of the 50.69 categorization of systems, structures, and components (SSCs) in October 2018.

Background

- 10 CFR 50.69(b)(1)(v) allows voluntary compliance with the requirements of 50.69 as an alternative to compliance with the following requirements for Risk-Informed Safety Class (RISC)-3 and RISC-4 SSCs:
 - The inservice testing requirements in 10 CFR 50.55a(f); the inservice inspection, and repair and replacement (with the exception of fracture toughness), requirements for ASME Class 2 and Class 3 SSCs in 10 CFR 50.55a(g); and the electrical component quality and qualification requirements in Section 4.3 and 4.4 of IEEE 279, and Sections 5.3 and 5.4 of IEEE 603-1991, as incorporated by reference in 10 CFR 50.55a(h).

Background

- 10 CFR 50.69(d)(2) designates alternative treatment requirements for RISC-3 SSCs.
 - Reasonable confidence, that RISC–3 SSCs remain capable of performing their safety-related functions under design basis conditions, including seismic conditions and environmental conditions and effects throughout their service life. The treatment of RISC–3 SSCs must be consistent with the categorization process.
 - Inspection and testing. Periodic inspection and testing activities must be conducted to determine that RISC–3 SSCs will remain capable of performing their safety-related functions under design basis conditions; and
 - Corrective action. Conditions that would prevent a RISC–3 SSC from performing its safety-related functions under design basis conditions must be corrected in a timely manner. For significant conditions adverse to quality, measures must be taken to provide reasonable confidence that the cause of the condition is determined and corrective action taken to preclude repetition.
 - Note: There are no alternative treatment requirements specified in 50.69 for RISC-4 SSCs.

License Amendment Request

- LGS has several TS Surveillance Requirements (SRs) that require testing pursuant to TS 4.0.5.
- TS 4.0.5 implements the requirements of 10 CFR 50.55a(f) via the Inservice Testing (IST) Program and 10 CFR 50.55a(g) via the Inservice Inspection (ISI) Program.
- Since SSCs categorized as RISC-3 or RISC-4 may be removed from the IST/ISI Programs in accordance with 10 CFR 50.69(b)(1)(v), this represents a potential conflict between the TS SRs and 50.69.
- LGS proposes to modify TS 4.0.5 to require testing/inspection via 10 CFR 55.55a(f)/(g) or the alternative treatment requirements of 10 CFR 50.69(d)(2) for those SSCs categorized as RISC-3.

License Amendment Request

- Current LGS TS 4.0.5:

The INSERVICE TESTING PROGRAM is the licensee program that fulfills the requirements of 10 CFR 50.55a(f). The Inservice Inspection Program is the licensee program that fulfills the requirements of 10 CFR 50.55a(g).

The provisions of SR 4.0.2 and SR 4.0.3 do not apply to the INSERVICE TESTING PROGRAM unless there is a specific SR referencing usage of the program.

License Amendment Request

- Proposed LGS TS 4.0.5:

SSCs within the INSERVICE TESTING PROGRAM shall be tested in accordance with the requirements of 10 CFR 50.55a(f). SSCs within the Inservice Inspection Program shall be inspected in accordance with the requirements of 10 CFR 50.55a(g). The provisions of SR 4.0.2 and SR 4.0.3 do not apply to the INSERVICE TESTING PROGRAM unless there is a specific SR referencing usage of the program.

SSCs that have been categorized as RISC-3 in accordance with 10 CFR 50.69, and removed from the INSERVICE TESTING PROGRAM or Inservice Inspection Program in accordance with 10 CFR 50.69(b)(1)(v), are subject to the alternative treatment requirements specified in 10 CFR 50.69(d)(2). The SSCs must continue to meet the acceptance criteria specified in the applicable technical specification surveillance requirements; however, the surveillance frequency is determined as part of the alternative treatment.

[For SSCs that have been categorized as RISC-4 in accordance with 10 CFR 50.69, and removed from the INSERVICE TESTING PROGRAM or Inservice Inspection Program in accordance with 10 CFR 50.69(b)(1)(v), there are no alternative treatment requirements specified in 10 CFR 50.69(d)(2); however, the SSCs must continue to meet the acceptance criteria specified in the applicable technical specification surveillance requirements.]

Closing Remarks

- 10 CFR 50.69 allows removal of SSCs categorized as RISC-3 and RISC-4 from the IST and ISI programs.
- The proposed change to TS 4.0.5 provides consistency between TS and 50.69 by continuing to require testing/inspection of TS SSCs pursuant to 50.55a(f)/(g) for those not categorized under 50.69 or those categorized as RISC-1 or RISC-2, but allows application of the alternative treatment requirements of 50.69 for those SSCs categorized as RISC-3.