NUCLEAR ENERGY INSTITUTE

Use of Risk Insights to support 10 CFR 50.59 Evaluations

NRC PUBLIC MEETING
June 4, 2020

PURPOSE

- Engage with NRC to discuss opportunities on using risk insights in the application of 10 CFR 50.59
- Identify areas within industry and NRC guidance documents to enhance the application of 10 CFR 50.59
- Propose engagement strategy and schedule

BACKGROUND

- NEI 96-07 rev. 1, “Guidelines for 10 CFR 50.59 Implementation” endorsed by RG 1.187 was issued in November, 2000 based on a 10 CFR 50.59 rule change made in 1999
  - Intent was to conserve both licensee and NRC resources while continuing to ensure that significant changes are thoroughly evaluated and approved by the NRC as appropriate

PROBLEM STATEMENT

- NEI 96-07 rev. 1 may include self-imposed limitations on the ability to fully utilize the provisions allowed by 10 CFR 50.59 to make changes
  - Not efficient for either the licensee or the NRC staff
  - Serves as an unnecessary distraction
  - Doesn’t support the principles of good regulation

SCOPE

- NEI focus team was established to review 50.59 guidance and experience for improvement opportunities
  - Developed cross walk between NEI 96-07 rev.1 and 10 CFR 50.59
  - Reviewed 50.59 violations from 2000-Present
  - Reviewed 50.59 related guidance including insights from Tornado Missile Resolution and Low Safety Significance Issue Resolution (LSSIR) Memos
- The result was the identification of 3 focus areas

FOCUS AREAS

1. Clarifying the use of “more than minimal” as it pertains to 10 CFR 50.59
   - E.g., Criterion 2: Does the Activity Result in More Than a Minimal Increase in the Likelihood of Occurrence of a Malfunction of an SSC Important to Safety?
   - Consider approaches similar to “sufficiently low” described in NEI 96-07, Appendix D
2. Clarifying the application of GDC language contained within NEI 96-07, rev. 1
3. Clarifying application of methods of evaluations (MOE)

STRATEGY

- Apply similar engagement approach used in support of other initiatives (e.g., operability determination)
  - Industry team composed of regulatory expertise/50.59 working knowledge and leadership
  - NRC team composed of headquarters and regional branch chiefs and staff members with senior executive sponsor
  - Frequent interaction between industry and NRC to address distinct areas during public meetings

PROPOSED SCHEDULE

June	Public meeting – overview of focus areas
July	Public meeting – insights from focus area #1
August	Public meeting – insights from focus area #2
September	Public meeting – insights from focus area #3
October	Public meeting – discuss proposed guidance changes
November	Review/prepare guidance changes
December	Prepare for implementation

FOLLOW UP/LONGER TERM ACTIONS

- Industry/NRC training on changes
- Evaluate effectiveness of changes
- Others?
  - Petition for risk informing 10 CFR 50.59 (e.g., SECY 18-0060, encl. 5 (withdrawn in 2019))
  - Streamlined review and approval for low safety significant changes that requires NRC approval (LSSIR memo, rec. 5 - LSSIR focus team)

SUMMARY

- We see an opportunity to provide clarity to industry guidance related to the application of 50.59
- We have identified 3 focus areas that we believe will support that goal
- We are prepared to engage with the NRC on these focus areas

SUPPLEMENTAL INFORMATION

10 CFR 50.59(c)(1)

- A licensee may make changes in the facility as described in the final safety analysis report (FSAR) (as updated) make changes in the procedures as described in the FSAR (as updated), and conduct tests or experiments not described in the FSAR (as updated) without obtaining a license amendment pursuant to Sec. 50.90 only if:

  (i) A change to the technical specifications incorporated in the license is not required, and;

  (ii) The change, test, or experiment does not meet any of the criteria in paragraph (c)(2) of this section.

10 CFR 50.59(c)(2)

A licensee shall obtain a license amendment pursuant to Sec. 50.90 prior to implementing a proposed change, test, or experiment if the change, test, or experiment would:

(i) Result in more than a minimal increase in the frequency of occurrence of an accident previously evaluated in the FSAR (as updated);

(ii) Result in more than a minimal increase in the likelihood of occurrence of a malfunction of a structure, system, or component (SSC) important to safety previously evaluated in the FSAR (as updated);

(iii) Result in more than a minimal increase in the consequences of an accident previously evaluated in the FSAR (as updated);

(iv) Result in more than a minimal increase in the consequences of a malfunction of an SSC important to safety previously evaluated in the FSAR (as updated);

(v) Create a possibility for an accident of a different type than any previously evaluated in the FSAR (as updated);

(vi) Create a possibility for a malfunction of an SSC important to safety with a different result than any previously evaluated in the FSAR (as updated);

(vii) Result in a design basis limit for a fission product barrier as described in the FSAR (as updated) being exceeded or altered; or

(viii) Result in a departure from a method of evaluation described in the FSAR (as updated) used in establishing the design bases or in the safety analyses.

REFERENCES

- NEI 96-07 rev. 1, “Guidelines for 10 CFR 50.59 Implementation” is endorsed by RG 1.187 rev. 1, “Guidance for the Implementation of 10 CFR 50.59, Changes, Tests, and Experiments”
- Other Industry 50.59 related guidance
  - NEI 96-07 Appendix B, “Guidelines for 10 CFR 72.48 Implementation endorsed by RG 3.72 (will be superseded by NEI 12-04 currently under NRC review)
  - NEI 96-07 Appendix C, “Guidelines for implementation of changes for new nuclear power plants licensed under 10 CFR 52
  - NEI 96-07 Appendix D, “Supplemental Guidance for Application of 10 CFR 50.59 to Digital Modifications” (currently being reviewed for NRC endorsement via RG 1.187 revision 2)
  - NEI 96-07 Appendix E, “Users Guide for NEI 96-07, Revision 1” contains examples of commonly encounter 50.59 industry topics. Not submitted for NRC endorsement

REFERENCES

- NRC 50.59 related guidance or information
  - RG 1.187 rev. 1, “Guidance for the Implementation of 10 CFR 50.59, Changes, Tests, and Experiments” (rev. 2 under review for endorsing NEI 96-07 Appendix D)
  - RG 3.72, “Guidance for Implementation of 10 CFR 72.48, Changes Tests, and Experiments”
  - NRC letter to NEI (ML14113A529) Acceptance for endorsement of NEI 96-07 Appendix C (Part 52 plants)
  - RIS 01-003, “Changes, Tests, and Experiments”
  - IP 71111.17, “Evaluations of Changes, Tests, Experiments”

REFERENCES

- NRC 50.59 related guidance or information
  - IP 71111.18, Plant Modifications
  - RIS 2015-03, 10 CFR 50.59 Issues Identified in NRC's San Onofre Steam Generator Tube Degradation Lessons Learned Report
  - RIS 2002-22 Supplement 1, Clarification on Endorsement of NEI Guidance in Designing Digital Upgrades in I&C Systems
  - Timely Resolution of Issues Related to Tornado-Missile Protection-Supplemental Information Memorandum (ML20015A299)
  - Low Safety Significance Issue Resolution Working Group Recommendations Memorandum-Recommendation 5 (ML19260G224)