

Before the
UNITED STATES NUCLEAR REGULATORY COMMISSION
Rockville, Maryland

**In the Matter of a Proposed Rulemaking
Regarding Amendment of 10 CFR Part
50.69, *Risk-Informed Categorization and
Treatment of Structures, Systems, and
Components for Nuclear Power Reactors***

Docket No. 689

PETITION FOR RULEMAKING

This Petition for Rulemaking is submitted pursuant to 10 CFR 2.802, "Petition for Rulemaking" by the Nuclear Energy Institute (NEI) on behalf of its members. NEI requests that the U.S. Nuclear Regulatory Commission (NRC), following public notice and opportunity for comment, amend 10 CFR Part 50.69, *Risk-Informed Categorization and Treatment of Structures, Systems, and Components for Nuclear Power Reactors*, to clarify the scope of applicability to include holders of Combined Operating Licenses (COLs).

Table of Contents

1. Statement of Petitioner’s Interest.....3

2. Background.....3

3. Proposed Amendments to 10 CFR Part 50.694

4. Cumulative Impacts.....4

5. Conclusion.....4

1. Statement of Petitioner's Interest

The Nuclear Energy Institute (NEI) is the organization responsible for establishing unified industry policy on matters affecting the nuclear energy industry, including the regulatory aspects of generic operational and technical issues. NEI's members include all entities licensed to operate commercial nuclear power plants in the United States, nuclear plant designers, major architect/engineering firms, fuel cycle facilities, nuclear materials licensees, and other organizations and entities involved in the nuclear energy industry. These members include Combined Operating License (COL) holders, who are constructing and will operate new nuclear power reactors, as well as COL applicants. Many of these COL holders and applicants plan to apply the provisions of 10 CFR 50.69, *Risk-Informed Categorization and Treatment of Structures, Systems, and Components for Nuclear Power Reactors*, once the reactors are operating. Thus, NEI is petitioning for a rule change to extend the applicability of 10 C.F.R. § 50.69 to include COL holders.

2. Background

NRC spent several years and considerable effort developing 10 C.F.R. § 50.69, which provides for an optional risk-informed scope of structures, systems and components (SSCs) subject to a number of NRC "special treatment" regulations. This was an important rulemaking, and implementation would provide for a more safety-focused approach to the special treatment regulations. However, while the rule explicitly states that is applicable to an applicant for a COL, the current language does not extend applicability of this regulation to holders of COLs under Part 52.

The wording of the regulation regarding applicability is as follows:

b) Applicability and scope of risk-informed treatment of SSCs and submittal/approval process.

(1) A holder of a license to operate a light water reactor (LWR) nuclear power plant under this part; a holder of a renewed LWR license under part 54 of this chapter; an applicant for a construction permit or operating license under this part; or an applicant for a design approval, a combined license, or manufacturing license under part 52 of this chapter; may voluntarily comply with the requirements in this section as an alternative to compliance with the following requirements for RISC-3 and RISC-4 SSCs:

The rule is applicable to COL applicants, but is not, as written, applicable to COL holders. Limiting the applicability of section 50.69 to COL holders is inappropriate for several reasons. First, a COL applicant could submit and receive NRC approval to implement 10 CFR 50.69, and then later become a COL holder, and therefore no longer be allowed to use the previously approved 10 CFR 50.69 application. Second, as written, the rule denies applicability to plants possessing COLs for the life of the plant. A plant holding a COL and in operation for fifteen years is in all practical matters no different than the current operating fleet, which per the current rule language, can implement 10 C.F.R. § 50.69. Additionally, it should be noted that these plants (COL holders) must comply with 10 C.F.R. §§ 50.71(h)(1) and 10 CFR 50.71(h)(2), which require COL holders to produce and maintain Probabilistic Risk Assessments (PRA) that comport with NRC-endorsed PRA consensus standards. So, by operation of NRC's existing rules, COL holders will possess the necessary PRA infrastructure to effectively implement section 50.69.

In particular, these plants, prior to fuel load, will have developed level 1 and level 2 PRAs. These PRAs will have covered those initiating events and modes for which NRC-endorsed consensus standards exist. Additionally, these plants are required to periodically (at least every four years) maintain and upgrade the PRA consistent with NRC-endorsed consensus standards until the permanent cessation of operations under section 52.110(a).

The rule should be revised to extend applicability to COL holders, as there is no practical or safety basis to limit applicability in this manner, and COL holders will have the PRA infrastructure to support this application. As has been demonstrated in a number of industry and NRC sponsored efforts [1, 2, 3, 4], 10 C.F.R. § 50.69 allows industry and NRC to focus resources on those SSCs that are most important to safety and provides for cost effective increases in plant safety. Additionally, as discussed in the Statement of Considerations (SOC)¹, in the longer term as experience with 10 C.F.R. § 50.69 on the New Build fleet was gained that information could be brought into a future revision to the Design Certification. Extending this safety focused rule to COL holders is supportive of NRC's mission of protecting people and the environment.

3. Proposed Amendments to 10 CFR Part 50.69

Paragraph (b)(1) of 10 C.F.R. § 50.69 should be revised to read as follows:

A holder of a license to operate a light water reactor (LWR) nuclear power plant under this part; a holder of a renewed LWR license under part 54 of this chapter; an applicant for a construction permit or operating license under this part; or an applicant for *or holder of* a design approval, a combined license, or manufacturing license under part 52 of this chapter; may voluntarily comply with the requirements in this section as an alternative to compliance with the following requirements for RISC-3 and RISC-4 SSCs:

4. Cumulative Effects of Regulation

As the proposed change to the rule is straightforward and would ensure that new plants are able to utilize the safety and operational improvements allowed by 10 C.F.R. § 50.69, the benefits to COL holders are substantial. Given the near-term needs of new reactors beginning operations in the next few years, it is vital that this change be pursued imminently.

5. Conclusion

Amending 10 C.F.R. § 50.69 to clarify applicability to COL holders is a straightforward change that will benefit new build reactors, and will support advancement of risk-informed regulation with more widespread implementation of the safety and operational benefits of this rule.

¹ "10 CFR Part 50, Risk-Informed Categorization and Treatment of Structures, Systems and Components for Nuclear Power Reactors; Final rule," 69 Federal Register 224 (22 November 2004), pp. 68008-68048

5. References

- 1) "Lessons Learned While Pursuing the 10CFR50.69 Project at Vogtle Electric Generating Plant," Proceedings of the 2012 20th International Conference on Nuclear Engineering, V. Patel, et al.
- 2) NRC staff presentations at the Advisory Committee on Reactor Safeguards, Subcommittee on Reliability and PRA, March 7, 2012
- 3) SECY-2012-0081 "Risk-informed Regulatory Framework for New Reactors.
- 4) Summary of Public Meeting to Perform Tabletop Exercises Regarding Guidance on 50.69, and Draft NEI 96-07, Appendix C Related to Ex-Vessel Severe Accident Features for New Reactors, Held August 9, 2011, ML112290891