



NUCLEAR ENERGY INSTITUTE

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December 29, 2004

Mr. Michael T. Lesar
Chief, Rules and Directives Branch
Division of Administrative Services, Office of Administration
Mail Stop T6-D59
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

PROJECT NUMBER: 689

Dear Mr. Lesar:

We are providing comments in response to the notice of opportunity for public comment (69 FR 60193) on draft regulatory guide DG-1139, *Risk-Informed, Performance-Based Fire Protection for Existing Light-Water Nuclear Power Plants*. We support the NRC staff efforts to issue a Regulatory Guide that endorses NEI 04-02. The NEI document provides guidance for plants choosing to implement the new risk-informed, performance-based fire protection program option permitted by 10 CFR 50.48(c).

Our principal comments are in the following areas. Each is detailed in the enclosure. Other comments and requests for clarification are also provided in the enclosure.

1. Coordination of licensing processes to be followed under 10 CFR 50.48(c) with guidelines for generic licensing processes
2. Providing explicit endorsement of or exceptions to NEI 04-02 in the Regulatory Guide
3. Providing explicit staff approval for new licensing bases that implement NFPA 805
4. Providing appropriate methods for licensee use of alternate methods to minimize repetitive license amendment requests and approvals
5. Need for risk assessment for change evaluations using a deterministic approach

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If you have any questions regarding this information, please contact me (202-739-8080; am@nei.org) or Fred Emerson (202-739-8086; fae@nei.org).

Sincerely,

A handwritten signature in cursive script that reads "Alex Marion".

Alex Marion

Enclosure

c: John Hannon, NRC
Sunil Weerakkody, NRC
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James Lyons, NRC
William Reckley, NRC
NRC Document Control Desk

NEI Comments on DG-1139

1. NEI has a number of process concerns with the proposed regulatory framework for implementing NFPA-805 as discussed in DG-1139. Some of these concerns (discussed in later comments) are:
 - a. the use of precedent to establish a plant-specific licensing basis
 - b. the documentation of compliance with a plant-specific licensing basis
 - c. the documentation of acceptable deviations from requirements
 - d. the incorporation of inspection experience into the licensing basis
 - e. the documentation of regulatory exceptions to NEI guidelines
 - f. restrictions on the future use of NFPA-805

We have similar concerns about the regulatory framework being used to implement other requirements, for example:

- a. conditions on risk-informed categorization and treatment of structures, systems, and components
- b. obstacles to plant-specific use of analytical methods that have received a “generic” NRC safety evaluation
- c. obstacles to plant-specific use of “TSTF travelers” that have received a generic NRC safety evaluation
- d. limitations on the plant-specific use of 10 CFR 50.59 to implement final rules
- e. limitations on the use of plant-specific safety evaluations as precedent on other dockets

These concerns are the subject of a draft NEI Guideline that is being prepared by the NEI Licensing Action Task Force (LATF). The draft guideline is scheduled for submittal to the NRC LATF in early 2005. We request that NRR technical divisions coordinate with the NRR Division of Licensing Project management to ensure that generic licensing processes are used consistently to implement new and revised technical requirements.

2. The final Regulatory Guide should explicitly endorse NEI 04-02 in its entirety, except for Chapter 6, which provides guidance for plants maintaining compliance with existing regulations. If the staff cannot endorse certain elements of the next revision of NEI 04-02, those should be explicitly stated along with the staff positions that licensees should consider in lieu of the NEI 04-02 elements. Currently there are a number of staff positions in DG-1139 that are not stated as either endorsements of or exceptions to NEI 04-02. This places the licensee in the position of having to compare the two documents to determine whether the positions are the same and lessens the value of NEI 04-02 as the accepted method for implementation.

3. NRC should state in the Regulatory Guide a method for providing explicit approval of the elements of the new licensing basis. NRC stated that submittal of the revised fire protection program for NRC review would not be required, and licensee compliance with NFPA 805 will be evaluated as part of the Reactor Oversight Process. However, inspection findings (or lack of findings) are not currently considered an acceptable method for approving a plant licensing basis. This gap leaves no visible process for NRC approval of the new licensing basis.

One specific consideration of this is as follows: Under “Fire Protection Program Transition,” the second sentence of the first paragraph refers to license amendments, exemptions or deviations that have been previously approved by the NRC for the plant. It should be noted that the NRC may not have issued a formal “approval” document, such as a safety evaluation report, for requested deviations. Therefore, the NRC is placing the licensee in a situation where the licensee must make a determination of whether or not the NRC tacitly approved the requested deviation. In this case, the guidance could be clarified by stating that not all deviations were explicitly approved by the NRC. It is still the licensee’s responsibility to verify that the deviation is still relevant and representative of the current plant operations and configuration.

4. The regulatory treatment of “deviations” to fire protection requirements during transition to a fire protection program allowed by 10 CFR 50.48(c) should be addressed further. The Regulatory Guide should recognize the fact that the current licensing basis for some licensees may include deviations to fire protection requirements that did not receive formal review and approval by the NRC. These include fire protection program changes implemented under 10 CFR 50.59 and Generic Letter 86-10 provisions. While not considered “previously approved,” they can be considered part of the plant licensing basis if they are of acceptable quality as discussed in NEI 04-02 Section 4.3.2. Following the “safe-today, safe-tomorrow” approach, licensees should be able to carry these deviations forward into the new fire protection licensing basis allowed by 10 CFR 50.48(c), provided that the conditions described in the original deviation, as may be modified under the conditions of the existing fire protection program, are still representative of current plant operations and configuration.
5. Section B, Discussion, fourth paragraph – this paragraph appears to limit the use of future editions of NFPA 805 by a licensee, via a license amendment, to only those areas pertaining to risk-based or performance-based alternatives. However, a licensee may request an exemption to 10 CFR 50.48(c) to adopt a newer edition of NFPA 805 in its entirety. The last sentence should be modified to include use of future editions of NFPA 805 by requesting an exemption or voluntarily as a result of direct rulemaking to adopt future editions. The standard license condition in Regulatory Position 2.2 should reflect this also.

6. 10CFR50.48(c) does not endorse the following elements of NFPA 805: (1) the Life Safety Goal, Objectives and Criteria in NFPA 805 Chapter 1; (2) existing cables that meet the exception in NFPA 805 Section 3.3.5.3; and (3) water supply and distribution systems that meet the exception in NFPA 805 Section 3.6.4. The Regulatory Guide should address these in Section C.
7. Regulatory Position 3.1.2 states that change evaluations should demonstrate that adequate defense-in-depth and safety margins are maintained. Several industry guidance documents, including NEI 00-01 and NEI 04-02, have provided criteria for conducting these evaluations based on Regulatory Guide 1.174. NRC should specifically accept these industry guidelines or provide explicit guidelines in the Regulatory Guide for assessing the adequacy of defense-in-depth and safety margins.
8. Regulatory Position 3.1.2 (d) does not agree with NEI 04-02. It does not make sense that a 'risk evaluation' needs to be performed if the 'deterministic' approaches are deemed to satisfy the nuclear safety criteria (since they are the Appendix R requirements, without the option of performing engineering equivalency evaluations). It would be equivalent to stating that certain aspects of Appendix R, even if met, do not have acceptable risk. NEI 04-02 has been clarified to include a review of defense-in-depth and safety margins for all changes. This should meet the NRC's intent without the need for a risk assessment for plant changes using the deterministic approach.
9. Regulatory Positions 3.1.4 and 4.2 – more clarity is needed as to how NRC will approve the use of fire modeling techniques and how licensees may subsequently use them. First, it is unclear if the NRC intends to issue safety evaluations for each of the methods and models that the NRC will review and approve for use for fire modeling. Second, it is also unclear how the NRC will treat the topical reports discussed in Section 2.4.2 of NEI 04-02. Third, there should be a provision for licensee use of models or methods not specifically covered by this regulatory position that either have been approved for use by other licensees, or are commonly accepted in the literature as valid calculational methods.

Following initial approval, licensees should be able to implement the method or model without receiving prior NRC approval, provided that the licensee can demonstrate that their use of the method or model meets certain quality assurance/control and experience requirements, is used within the limitations and constraints provided in the NRC's approval, and is appropriate for the intended application. These implementation provisions can be verified during inspections.

10. Regulatory Position 3.2, Fire Protection Program Documentation, third sentence - this sentence should be expanded to also state the “design-basis document” should not be confused with the plant specific “licensing basis documentation.”
11. Regulatory Position 3.3 states in part, “Licensees should identify the sources of radioactive materials that could be released during a fire (e.g., wastes, resins, and spent fuel) and evaluate the fire protection provided for these sources and the adequacy of fire response procedures to manage or control radioactive release.” The NFPA 805 performance criteria for radioactive release do not include ‘fire protection features’ for radioactive materials. Section 1.5.2 states, “Radiation release to any unrestricted area due to the direct effects of fire suppression activities (but not involving fuel damage) ...” This regulatory position should be revised.
12. Regulatory Position 4.4, Circuit Analysis. The NRC states that the method in NFPA 805 Appendix B is an acceptable method for identifying circuits related to nuclear functions. The NRC also states that they plan to endorse NEI 00-01 for circuit analysis once certain comments have been addressed. The circuit analysis methodologies in Appendix B to NFPA 805 and NEI 00-01 are contradictory, and the method in Appendix B does not reflect the risk insights from RIS 2004-03 that NRC requested be included in NEI 00-01. We recommend that the Regulatory Guide withdraw its endorsement of NFPA 805 Appendix B as an acceptable method for circuit analysis and endorse NEI 00-01.
13. Related to Comment 3, many existing licensing bases do not include explicit NRC approval of licensee assumptions about the number of fire-induced spurious actuations to be considered. The Regulatory Guide or NEI 04-02 should recommend that each licensee state clearly in the licensing basis their assumptions about the number of spurious actuations to be postulated.
14. DG-1139 does not provide guidance related to recovery actions (known as “manual actions” under current regulations). We recommend that guidance be provided in the Regulatory Guide or NEI 04-02 to address (1) feasibility or acceptance criteria, and (2) criteria for deciding which recovery actions need a change analysis to implement them. The Regulatory Guide should also provide direction as to when risk-informed or performance-based change analysis is required for recovery actions. We further recommend that the feasibility criteria in Inspection Procedure 71111.05, dated March 6, 2003, be utilized.

15. The Regulatory Guide and NEI 04-02 should provide guidance for temporarily not being able to meet the performance criteria (i.e., compensatory measures).

The following comments should be considered as editorial or requests for clarification.

16. Section B, Discussion, fourth paragraph, last sentence - this statement implies that licensees may use specific risk-informed or performance-based alternatives included in the 2001 Edition of NFPA 805 without submitting a license amendment. Clarification should be provided, consistent with the requirements of the regulation and guidance document, to clearly state the requirements for using the alternative approaches provided in NFPA 805, 2001 Edition. See also Comment 9.
17. Fire Protection Program Transition”, third paragraph, second sentence - the modified fire protection program cannot be implemented until the approved license amendment is received by the licensee. This sentence should be modified to provide this clarification.
18. “Transition Identified Noncompliance and Interim Enforcement Discretion Policy”, last paragraph, second sentence – please add a clarification that the “letter” is the licensee’s notice of withdrawal letter.
19. Regulatory Position 1 states in part, “In addition, the NRC’s endorsement of NEI 04-02 does not imply its endorsement of the references cited in NEI 04-02.” It would be helpful when finalizing NEI 04-02, to know what specific references the NRC does not endorse. This could then be clarified in NEI 04-02.
20. Regulatory Position 2.2 - the standard license condition contains an incorrect reference. “10 CFR 48(a)” should be “10 CFR 50.48(a).” Also, NFPA 805 is endorsed in two parts of the regulation. The reference to “10 CFR 50.48(c)(2)” should also include “10 CFR 50.48(c)(1).”
21. Regulatory Position 3.1 states in part, “The version of NEI 02-03 currently available to the NRC has not been reviewed and endorsed by the NRC for application to a risk-informed, performance-based fire protection program.” NEI 04-02 is expected to include more detail for the ‘change process’ in the final version. Specific NRC concerns with respect to NEI 02-03 usage in a risk-informed, performance-based fire protection program should be clarified, such that NEI 04-02 can be finalized.

In addition, Regulatory Position 3.1.1, Configuration Control and Change Screening, suggests using 10 CFR 50.59(a)(1) as a method to identify changes that require an evaluation. With respect to fire protection program changes, this

is a misapplication of 10 CFR 50.59. Under current regulations, as noted in NEI 96-07 Revision 1 (endorsed by NRC in Regulatory Guide 1.187), Section 1.2.1, *“Where a licensee possesses a license condition that specifically permits changes to the NRC-approved fire protection program (i.e., that has received the standard fire protection license condition contained in Generic Letter 86-10), subsequent changes to the fire protection program would be controlled under the fire protection program and not under 10 CFR 50.59.”* Related to NFPA 805, 10 CFR 50.59(c)(4) states, *“The provisions in this section do not apply to changes to the facility or procedures when the applicable regulations establish more specific criteria for accomplishing such changes.”* 10 CFR 50.48(c)(3)(i) allows a licensee to adopt a fire protection program that complies with NFPA 805. NFPA 805 provides specific criteria for accomplishing changes to the fire protection program. Therefore, per 10 CFR 50.59(c)(4), 10 CFR 50.59 does not apply for fire protection program changes. However, there may be certain activities for which a license would need to apply both the requirements of 10 CFR 50.59 and that of 10 CFR 50.48(c). The requirements of each regulation should consider only those effects that are pertinent to the scope of the regulation being applied. The reference to 10 CFR 50.59 in this section should be either deleted, or modified to reflect the requirements of the regulations.

22. Regulatory Position 3.1.2 (a) discusses the concept of ‘free of fire damage’ with respect to evaluating plant changes. Specific guidance is provided for demonstrating ‘free of fire damage’ when using fire modeling to evaluate the change (paragraph 3 of this subsection). As discussed during meetings held with the staff, and as discussed in NEI 04-02 Section 5.3.1 (bulleted list “Acceptability Determination” bullet), ‘free of fire damage’ can be demonstrated using risk assessment alone. Regulatory Position 3.1.2 should be clarified to include this aspect of demonstrating ‘free of fire damage’.
23. Regulatory Position 3.1.4 and 3.1.4(b) – the references to Regulatory Positions 3.5.1 and 3.5.2 should be changed to 3.1.1 and 3.1.2.
24. Regulatory Position 3.1.4 – in several places the Regulatory Position indicates that requests for approval for fire protection program changes can take the form of either license amendment requests or exemption requests. The rule itself refers only to license amendment requests. Please clarify whether exemption requests are also acceptable.
25. Regulatory Position 3.1.4 (b), last bullet, indicates that “changes that deviate from other specific NFPA 805 requirements” will require NRC approval. The NRC should clarify the “changes” and the “other specific NFPA requirements” being referred to by this sentence.

26. Regulatory Position 3.2 is unclear as to whether the NRC endorses the discussion of licensee documentation provided in NEI 04-02 Section 5.1.1.1. Please provide clarification.

27. Regulatory Position 4.3 does not mention Appendix I of NEI 04-02 nor does Regulatory Position 3.1.2. Please clarify as a part of addressing Comment 2 above.