

NRR-PMDAPEm Resource

From: Klett, Audrey
Sent: Thursday, November 07, 2013 9:50 AM
To: Tomonto, Bob (Bob.Tomonto@fpl.com); 'Hanek, Olga' (Olga.Hanek@fpl.com); Cross, William (WILLIAM.CROSS@fpl.com)
Cc: Robinson, Jay
Subject: Request for Additional Information (RAI) Regarding NFPA-805 License Amendment Request (TACs ME8990-91)

Bob, Olga, Bill,

Background

By letter dated June 28, 2012 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML12191A048), Florida Power & Light Company (the licensee) submitted a license amendment request (LAR) to the U.S. Nuclear Regulatory Commission (NRC) to enable adoption of a new fire protection licensing basis that complies with the requirements in Title 10 of the *Code of Federal Regulations*, Part 50, Section 48(a) and (c) and the guidance in Revision 1 of NRC Regulatory Guide 1.205.

In order to complete our evaluation, the NRC staff requests the following additional information by January 10, 2014, to complete its review.

Request for Additional Information (RAI)

Fire Protection Engineering RAI 02.c.01

In the letter dated March 15, 2013 (ADAMS Accession No. ML13038A310), FPE RAI 02(c) requested the licensee to "identify what controls and requirements will be in place for flammable gas after transition and to provide the basis of those controls." The response in letter dated March 18, 2013 (ADAMS Accession No. ML13099A441), indicated that "flammable gases are programmatically controlled via station procedures." Provide a more detailed description of those controls and the basis for them.

Fire Protection Engineering RAI 12

National Fire Protection Association Standard 805 (NFPA 805), "Performance-Based Standard for Fire Protection for Light Water Reactor Electric Generating Plants," 2001 Edition, Chapter 3, Section 3.5.13 identifies certain requirements for inside headers that are fed from both ends, which supply sprinkler and standpipe systems. In the entry in LAR Attachment A, Table B-1 for this section, the licensee stated that this arrangement is not used.

Provide a description of the arrangement, including any piping codes (for example, American National Standards Institute B31.1) that apply. Also, include a description of how each sprinkler and standpipe system is equipped with an approved shutoff valve (for example, an outside screw and yoke gate valve).

Justify any differences between the installed arrangement and the requirements of NFPA 805 Chapter 3, Section 3.5.13.

Fire Protection Engineering RAI 13

The entry in LAR Attachment A, Table B-1 for NFPA 805, Section 3.3.5.3 relies on previous approval for electric cable construction using fire retardant coatings approved by the authority having jurisdiction. However, this does not qualify non-rated cable to exclude the likelihood of self-ignition. Explain what assumptions were made with regard to cabling, specifically with regard to self-ignition. Provide the technical bases and justifications for these assumptions.

Fire Protection Engineering RAI 14

LAR Attachment C, Table C-2, “NFPA 805 Required Fire Protection Systems and Features,” does not appear to identify Fire Probabilistic Risk Assessment (FPRA) multi-compartment analysis (MCA) credited automatic suppression systems in fire zones 074 (Fire Area AA) and 075 (Fire Area BB). Additionally, the MCA credits suppression systems in fire zones 053 (Fire Area BBB) and 129 (Fire Area AAA) where these systems do not exist. Provide a justification for this apparent discrepancy. If corrections to the table are required, provide a review to ensure all suppression and detection systems credited or required by the FPRA, or by NFPA 805, Chapters 3 or 4, have been fully documented in Table C-2. Also, provide the corrected Table C-2.

Fire Protection Engineering RAI 15

The compliance statement for LAR Attachment A, Table B-1, Element 3.4.1 (c) [On-Site Fire-Fighting Capability] is “Complies,” with no further elaboration.

Describe how the requirements of NFPA 805, Section 3.4.1(c) are met, namely either: “the brigade leader and at least two brigade members shall have sufficient training and knowledge of nuclear safety systems to understand the effects of fire and fire suppressants on nuclear safety performance criteria,” or if the exception is used, which allows the “sufficient training and knowledge” to be provided by an operations advisor.

Clarify whether the exception is used.

Explain the level of training and knowledge of the fire brigade members or the operations advisor (if the exception is used).

An approach acceptable to the staff for meeting this training and knowledge requirement is provided in Regulatory Guide 1.189, Revision 2, “Fire Protection for Operating Nuclear Power Plants,” Section 1.6.4.1, “Qualifications,” which states:

The brigade leader and at least two brigade members should have sufficient training in or knowledge of plant systems to understand the effects of fire and fire suppressants on safe-shutdown capability. The brigade leader should be competent to assess the potential safety consequences of a fire and advise control room personnel. Such competence by the brigade leader may be evidenced by possession of an operator’s license or equivalent knowledge of plant systems. Nuclear power plants staffed with a dedicated professional fire department may use a fire team advisor to assess the potential safety consequences of a fire and advise the control room and incident commander. The fire team advisor should possess an operator’s license or equivalent knowledge of plant systems and be dedicated to supporting the fire incident commander during fire emergency events. The fire team advisor does not need to meet the qualifications of a fire brigade member, but if he or she does not, there should be five available qualified fire brigade members, in addition to the fire team advisor.”

If applicable, another option available with regard to this attribute is to maintain the fire protection program consistent with existing commitments and use a compliance category of “Complies by previous NRC Approval” in accordance with NFPA 805, Section 3.1.

Safe Shutdown RAI 17

LAR Attachment B, Table B-2 identifies 10 areas of Nuclear Energy Institute (NEI) 00-01, “Guidance for Post Fire Safe Shutdown Circuit Analysis,” guidance using the statement, “Aligns with Intent.” For many of these, it is not clear why “aligns with intent” was identified instead of “aligns.” For each of the following items, provide a more detailed explanation of what specifically does not align with the guidance.

- a) 3.1.3.3 Define Combination of Systems for Each Safe Shutdown Path
- b) 3.1.3.4 Assign Shutdown Paths to Each Combination of Systems

- c) 3.2.1.2 Fire Damage to Mechanical Components (not electrically supervised)
- d) 3.3.1.2 Cables Affecting Multiple Components
- e) 3.3.1.7 Circuit Coordination
- f) 3.3.3.1 Identify Circuits Required for the Operation of the Safe Shutdown Equipment
- g) 3.3.3.3 Assign Cables to the Safe Shutdown Equipment
- h) 3.5.1.2 Circuit Contacts and Operational Modes
- i) 3.5.1.5 B, Cable Failure Modes
- j) 3.5.2.4 Circuit Failures Due to Inadequate Circuit Coordination

Safe Shutdown RAI 18

LAR Attachment F identifies the steps used to perform the multiple spurious operations (MSO) evaluation. Provide the following additional details of the evaluation performed:

- a) Currently the LAR identifies “representatives from PTN [PTN is the licensee’s acronym for Turkey Point] fire protection and post-fire safe shutdown, PTN Operations/PRA [probabilistic risk assessment], and supporting contract staff” as having participated in the MSO expert panel review. Describe in more detail the composition of the expert panel, including qualifications, background, and experience.
- b) Describe the criteria used in the decision process for resolution(s).
- c) Currently the LAR indicates that “the proposed scenarios should not have presupposed limits on the number of fire-induced hot shorts or spurious operations.” Provide more detail regarding the manner in which they occur (e.g., sequentially or simultaneously), and the time between spurious actuations (as supported by engineering analysis, test results, or both).
- d) Provide typical MSO justifications or rationale for MSOs being eliminated from further evaluation. Include a description of the configuration control mechanisms that ensures these exclusion bases will remain valid.

Safe Shutdown RAI 19

LAR Attachment C for each fire area identifies performance goals, method of accomplishment, and applicable variance from deterministic requirements. The decay heat performance goal is the only goal that is identified as hot standby and cold shutdown. Provide a description of why cold shutdown is provided for this performance goal. Describe if any other performance goals include cold shutdown in the performance evaluation.

Fire Modeling RAI 01.01

In a letter dated May 15, 2013 (ADAMS Accession No. ML13157A011), the licensee responded to Fire Modeling RAIs 01.j and 01.k, which make reference to “additional work.” For this reason, a final review of these RAI responses could not be completed.

- FM RAI 01.j pertains to the use of the Generic Fire Modeling Treatments (GFMTs) to determine the zone of influence (ZOI) for fires that involve intervening combustibles.
- FM RAI 01.k requests that the licensee describe how fire propagation in cable trays and the corresponding heat release rate (HRR) are calculated, and explain how the fire propagation and HRR estimates affect the ZOI determination and hot gas layer calculations.

The NRC staff noted that the “additional work” will also affect the evaluation of the responses to FM RAI 01.p (wall and corner effects), FM RAI 04 (application of GFMTs outside limitations of use), and several PRA RAIs.

Provide the results of this “additional work” to the NRC staff for review and describe any changes to the conclusions regarding core damage frequency (CDF), delta (Δ) CDF, large early release frequency (LERF), and Δ LERF resulted from the “additional work.”

Fire Modeling RAI 02.01

In letter dated May 15, 2013 (ADAMS Accession No. ML13157A011), in response to FM RAI 02.e, the licensee referred to Fire PRA Frequently Asked Question (FAQ) 13-0004 to justify the use of cable damage thresholds as the criteria for sensitive electronics inside an enclosure. Fire PRA FAQ 13-0004 was still under development at the time the response was submitted, and the licensee therefore stated, “Resolution of this issue will be re-assessed once the FAQ is finalized.”

Provide the results of the re-assessment. Quantify the impact of any changes to the guidelines in the final version of Fire PRA FAQ 13-0004 on CDF, LERF, Δ CDF, and Δ LERF; or justify why these changes need not be considered.

Thank you,

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Subject: Request for Additional Information (RAI) Regarding NFPA-805 License
Amendment Request (TACs ME8990-91)
Sent Date: 11/7/2013 9:49:56 AM
Received Date: 11/7/2013 9:49:00 AM
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Files	Size	Date & Time
MESSAGE	10960	11/7/2013 9:49:00 AM

Options

Priority: Standard
Return Notification: No
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Sensitivity: Normal
Expiration Date:
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