NRR-PMDAPEm Resource

From: Saba, Farideh
Sent: Thursday, August 20, 2015 4:51 PM
To: David.Walter@adph.state.al.us
Cc: Tam, Peter; Clayton, Beverly; Hon, Andrew
Subject: BROWNS FERRY, 1, 2, AND 3 - ISSUANCE OF AMEND TRANSITION TO A RISK-INFORMED, PERFORMANCE-BASED FIRE PROTECTION PROGRAM (TAC NOS. MF1185, MF1186, AND MF1187)
Attachments: 78FR49302.pdf

Importance: High

Dear Mr. Walter,

This is a follow up to the voice message that I left for you this afternoon. The U.S. Nuclear Regulatory Commission (NRC) is about to issue amendments to the Brown Ferry Units 1, 2, and 3 licenses. In accordance with Title 10 of the Code of Federal Regulations, Section 50.91(b), I am notifying you of the proposed issuance of this amendment.

These amendments are in response to Tennessee Valley Authority's (the licensee) application dated March 27, 2013, as supplemented by letters dated May 16, 2013; November 22, 2013; December 20, 2013; January 10, 2014; January 14, 2014; February 13, 2014; March 14, 2014; May 30, 2014; June 13, 2014; July 10, 2014; August 14, 2014; August 29, 2014; September 16, 2014; October 6, 2014; December 17, 2014; March 27, 2015; April 9, 2015; June 19, and August 18, 2015.

The amendments modify the renewed licenses and technical specifications (TSs) to incorporate a new fire protection licensing basis in accordance with Title 10 of the Code of Federal Regulations Section 50.48(c). The amendments authorize the transition of the licensee's fire protection program to a risk-informed, performance-based program based on the 2001 Edition of National Fire Protection Association Standard 805, "Performance-Based Standard for Fire Protection for Light Water Reactor Electric Generating Plants." This standard describes how to use performance-based methods, such as fire modeling, and risk-informed methods, such as fire probabilistic risk assessment, to demonstrate compliance with nuclear safety performance criteria.

Attached is the associated proposed no significant hazards consideration for the amendment request that was published in the Federal Register on February 3, 2015 (80 FR 5819).

Please let us know if you have any comments on behalf of the State of Alabama for the above amendments.

Regards,

Farideh

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1. Does the proposed Technical Specification change involve a significant increase in the probability or consequences of an accident previously evaluated?

Response: No.

Changing the fuel design, adding the additional approved methodologies to the Technical Specifications, and revising the unit 2 SLMCPR [Safety Limit Minimum Critical Power Ratio] value in the Technical Specifications will not increase the probability of a LOCA [Loss-of-Coolant Accident]. The fuel cannot increase the probability of a primary coolant system breach or rupture, as there is no interaction between the fuel and the system piping. The fuel will continue to meet the 10 CFR 50.46 limits for peak clad temperature, oxidation fraction, and hydrogen generation. Therefore, the consequences of a LOCA will not be increased.

Similarly, changing fuel type and revising the Technical Specifications as proposed cannot increase the probability of an abnormal operating occurrence (AOO). As a passive component, the fuel does not interact with plant operating or control systems. Therefore, the fuel change cannot affect the initiators of the previously evaluated AOO transient events. Thermal limits for the new fuel will be determined on a reload specific basis, ensuring the specified acceptable fuel design limits continue to be met. Therefore, the consequences of a previously evaluated AOO will not increase.

The refueling accident is potentially affected by a change in fuel design, due to the mechanical interaction between the fuel and the refueling equipment. However, the probability of the refueling accident with XM fuel is not increased because the upper bail handle is designed to be mechanically compatible with existing fuel handling equipment. The design weight of the XM design is similar to other designs in use at BFN, and is well within the design capability of the refueling equipment. The consequences of the refueling accident are similar to the current ATRIUM–10 fuel, remaining well within the design basis (7×7 fuel) evaluation in the UFSAR [Updated Final Safety Analysis Report].

The probability of a control rod drop accident does not increase because the XM fuel channel is mechanically compatible with the co-resident ATRIUM–10 fuel, and the existing control blade designs. The mechanical interaction and friction forces between the XM fuel channel, and control blades, would not be higher than previous designs. In addition, routine plant testing includes confirmation of adequate control blade to control rod drive coupling. The probability of a rod drop accident is not increased with the use of XM fuel. Control rod drop accident consequences are evaluated on a cycle specific basis, confirming the number of calculated fuel rod failures remains with the UFSAR design basis.

The dose consequences of all the previously evaluated UFSAR accidents remain with the limits of 10 CFR 50.67.

2. Does the proposed Technical Specification change create the possibility of a new or different kind of accident from any accident previously evaluated?

Response: No.

The XM fuel product has been designed to maintain neutronic, thermal-hydraulic, and mechanical compatibility with the NSSS [nuclear steam supply system] vendor fuel designs. The XM fuel has been designed to meet fuel licensing criteria specified in NUREG–0800, ''Standard Review Plan for Review of Safety Analysis Reports for Nuclear Power Plants.'' Compliance with these criteria ensures the fuel will not fail in an unexpected manner.

A change in fuel design and revising the Technical Specifications as proposed cannot create any new accident initiators because the fuel is a passive component, having no direct influence on the performance of operating plant systems and equipment. Hence, a fuel design change cannot create a new type of malfunction leading to a new or different kind of transient or accident.

Consequently, the proposed fuel design change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Does the proposed Technical Specification change involve a significant reduction in a margin of safety?

Response: No.

The XM fuel is designed to comply with the fuel licensing criteria specified in NUREG–0800. Reload specific and cycle independent safety analyses are performed ensuring no fuel failures will occur as the result of abnormal operational transients, and dose consequences for accidents remain with the bounds of 10 CFR 50.67. All regulatory margins and requirements are maintained.

Therefore, the proposed change does not involve a significant reduction in a margin of safety.

Based on the above, TVA concludes the proposed amendment does not involve a significant hazards consideration under the standards set forth in 10 CFR 50.92(c), and, accordingly, a finding of ''no significant hazards consideration'' is justified.

The NRC staff has reviewed the licensee's analysis and, based on this review, it appears that the three standards of 10 CFR 50.92(c) are satisfied. Therefore, the NRC staff proposes to determine that the amendment request involves no significant hazards consideration.

Attorney for licensee: General Counsel, Tennessee Valley Authority, 400 West Summit Hill Drive, 6A West Tower, Knoxville, Tennessee 37902.

NRC Branch Chief: Jessie F. Quichocho.

Tennessee Valley Authority, Docket Nos. 50–259, 50–260, and 50–296, Browns Ferry Nuclear Plant (BFN), Units 1, 2 and 3, Limestone County, Alabama

Date of amendment request: March 27, 2013 (publicly available version is in ADAMS under Accession No. ML13092A392), as supplemented by letter dated May 16, 2013 (ADAMS Accession No. ML13141A291).

Description of amendment request: This amendment request contains sensitive unclassified non-safeguards information (SUNSI). The proposed license amendment requests NRC approval to adopt a new fire protection licensing basis that complies with the requirements in 10 CFR 50.48(a), 10 CFR 50.48(c), and the guidance in Regulatory Guide 1.205, Revision 1, ''Risk-Informed, Performance Based Fire Protection for Existing Light-Water Nuclear Power Plants.'' This license amendment request also follows the guidance in Nuclear Energy Institute 04–02, Revision 2, ''Guidance for Implementing a Risk-Informed, Performance-Based Fire Protection Program Under 10 CFR 50.48(c).'' If approved, the BFN fire protection program would transition to a new risk-informed, performance-based alternative in accordance with 10 CFR 50.48(c), which incorporates by reference National Fire Protection Association Standard 805.

Basis for proposed no significant hazards consideration determination: As required by 10 CFR 50.91(a), the licensee has provided its analysis of the issue of no significant hazards consideration, which is presented below:

1. Does the proposed Technical Specification change involve a significant increase in the probability or consequences of an accident previously evaluated?

Response: No.

Operation of Browns Ferry Nuclear Plant (BFN) in accordance with the proposed amendment does not involve a significant increase in the probability or consequences of accidents previously evaluated. The Updated Final Safety Analysis Report (UFSAR) documents the analyses of design basis accidents (DBAs) at BFN. The proposed amendment does not adversely affect accident initiators nor alter design assumptions, conditions, or configurations of the facility and does not adversely affect the ability of structures, systems, and components (SSCs) to perform their design function. SSCs required to safely shut down the reactor and to maintain it in a safe shutdown (SSD) condition will remain capable of performing their design functions.

The purpose of this amendment is to permit BFN to adopt a new fire protection licensing basis which complies with the requirements in 10 CFR 50.48(a) and (c) and the guidance in Revision 1 of Regulatory Guide (RG) 1.205. The NRC considers that National Fire Protection Association (NFPA) 805 provides an acceptable methodology and performance criteria for licensees to identify fire protection systems and features that are an acceptable alternative to the 10 CFR Part

50, Appendix R fire protection features. Engineering analyses, in accordance with NFPA 805, have been performed to demonstrate that the risk-informed, performance-based (RI–PB) requirements per NFPA 805 have been met.

NFPA 805, taken as a whole, provides an acceptable alternative to 10 CFR 50.48(b) and satisfies 10 CFR 50.48(a) and General Design Criterion 3 of Appendix A to 10 CFR Part 50 and meets the underlying intent of the NRC's existing fire protection regulations and guidance, achieves defense-in-depth (DID) and the goals, performance objectives, and performance criteria specified in Chapter 1 of NFPA 805. Additionally, 10 CFR 50.48(c) allows self approval of fire protection program changes post-transition. If there are any increases post-transition in core damage frequency or risk, the increase will be small and consistent with the intent of the Commission's Safety Goal Policy.

The improved modeling associated with the elimination of Containment Accident Pressure credit does not change the design functions of the systems. By maintaining these functions, the probability or consequences of an accident previously evaluated is not significantly increased.

Based on this, the implementation of this amendment does not involve a significant increase in the probability of any accident previously evaluated. Equipment required to mitigate an accident remains capable of performing the assumed function. Therefore, the implementation of this amendment does not involve a significant increase in the consequences of an accident previously evaluated.

2. Does the proposed technical specification change create the possibility of a new or different kind of accident from any accident previously evaluated?

Response: No.

Operation of BFN in accordance with the proposed amendment does not create the possibility of a new or different kind of accident from any accident previously evaluated. The proposed change does not alter the requirements or function for systems required during accident conditions. Implementation of the new fire protection licensing basis which complies with the requirements in 10 CFR 50.48(a) and (c) and the guidance in Revision 1 of RG 1.205 will not result in new or different accidents. The proposed amendment does not adversely affect accident initiators nor alter design assumptions, conditions, or configurations of the facility.

The proposed amendment does not adversely affect the ability of SSCs to perform their design function. SSCs required to safely shut down the reactor and maintain it in a safe shutdown condition remain capable of performing their design functions.

The purpose of this amendment is to permit BFN to adopt a new fire protection licensing basis which complies with the requirements in 10 CFR 50.48(a) and (c) and the guidance in Revision 1 of RG 1.205. The NRC considers that NFPA 805 provides an acceptable methodology and performance criteria for licensees to identify fire protection systems and features that are an acceptable alternative to the 10 CFR Part 50, Appendix R fire protection features.

The requirements in NFPA 805 address only fire protection and the impacts of fire on the plant that have already been evaluated. Based on this, the implementation of this amendment does not create the possibility of a new or different kind of accident from any kind of accident previously evaluated. The proposed changes do not involve new failure mechanisms or malfunctions that can initiate a new accident.

The improved modeling associated with the elimination of Containment Accident Pressure credit does not change the design functions of the systems. The systems are not accident initiators and by maintaining their current functions, they do not create the possibility of a new or different kind of accident.

Therefore, the implementation of this amendment does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Does the proposed technical specification change involve a significant reduction in a margin of safety?

Response: No.

Operation of BFN in accordance with the proposed amendment does not involve a significant reduction in the margin of safety. The proposed amendment does not alter the manner in which safety limits, limiting safety system settings, or limiting conditions for operation are determined. The safety analysis acceptance criteria are not affected by this change. The proposed amendment does not adversely affect existing plant safety margins or the reliability of equipment assumed to mitigate accidents in the UFSAR. The proposed amendment does not adversely affect the ability of SSCs to perform their design function. SSCs required to safely shut down the reactor and to maintain it in a safe shutdown condition remain capable of performing their design function.

The purpose of this amendment is to permit BFN to adopt a new fire protection licensing basis which complies with the requirements in 10 CFR 50.48(a) and (c) and the guidance in Revision 1 of RG 1.205. The NRC considers that NFPA 805 provides an acceptable methodology and performance criteria for licensees to identify fire protection systems and features that are an acceptable alternative to the 10 CFR Part 50, Appendix R fire protection features. Engineering analyses, which may include engineering evaluations, probabilistic safety assessments, and fire modeling calculations, have been performed to demonstrate that the performance-based methods do not result in a significant reduction in the margin of safety.

The improved modeling associated with the elimination of Containment Accident Pressure credit does not change the design functions within the applicable limits.

Based on this, the implementation of this amendment does not significantly reduce the margin of safety. The proposed changes are evaluated to ensure that the risk and safety margins are kept within acceptable limits. Therefore, the transition does not involve a significant reduction in the margin of safety. The requirements of NFPA 805 are structured to implement the NRC's mission to protect public health and safety, promote the common defense and security, and protect the environment. NFPA 805 is also consistent with the key principles for evaluating license basis changes, as described in RG 1.174, is consistent with the DID philosophy, and maintains sufficient safety margins.

The NRC staff has reviewed the licensee's analysis and, based on this review, it appears that the three standards of 10 CFR 50.92(c) are satisfied. Therefore, the NRC staff proposes to determine that the amendment request involves no significant hazards consideration.

Attorney for licensee: General Counsel, Tennessee Valley Authority, 400 West Summit Hill Drive, 6A West Tower, Knoxville, Tennessee 37902.

NRC Branch Chief: Jessie F. Quichocho.

Order Imposing Procedures for Access to Sensitive Unclassified Non-Safeguards Information for Contention Preparation

Carolina Power and Light Company, Docket Nos. 50–325 and 50–324, Brunswick Steam Electric Plant, Units 1 and 2, Brunswick County, North Carolina

Tennessee Valley Authority, Docket Nos. 50–259, 50–260, and 50–296, Browns Ferry Nuclear Plant, Units 1, 2, and 3, Limestone County, Alabama

Tennessee Valley Authority, Docket Nos. 50–259, 50–260, and 50–296, Browns Ferry Nuclear Plant, Units 1, 2 and 3, Limestone County, Alabama

A. This Order contains instructions regarding how potential parties to this proceeding may request access to documents containing SUNSI.

B. Within 10 days after publication of this notice of hearing and opportunity to petition for leave to intervene, any potential party who believes access to SUNSI is necessary to respond to this notice may request such access. A ''potential party'' is any person who intends to participate as a party by demonstrating standing and filing an admissible contention under 10 CFR 2.309. Requests for access to SUNSI submitted later than 10 days after publication of this notice will not be considered absent a showing of good cause for the late filing, addressing why the request could not have been filed earlier.

C. The requestor shall submit a letter requesting permission to access SUNSI to the Office of the Secretary, U.S. Nuclear Regulatory Commission, Washington, DC 20555–0001, Attention: Rulemakings and Adjudications Staff, and provide a copy to the Associate