

From: Vaidya, Bhalchandra
Sent: Wednesday, September 16, 2009 2:49 PM
To: 'Dorman, Eugene'; 'Pechacek, Joseph'
Cc: Salgado, Nancy; Frumkin, Daniel; Metzger, Brian; Weimer, Stephanie; Klein, Alex
Subject: ME0727 - DRAFT RAIs - Exemption from 10 CFR 50, Appendix R, Section III.G.2 Based on Manual Actions

By letter dated February 18, 2009, as supplemented by letter dated March 30, 2009, Entergy Nuclear Operations Inc. requested an exemption for the James A. FitzPatrick Nuclear Power Plant (JAF) from certain technical requirements of Title 10 of the *Code of Federal Regulations* Part 50, Appendix R, Section III.G.2 (III.G.2) for the use of operator manual actions (OMAs) in lieu of meeting the circuit separation and protection requirements contained in III.G.2 for Fire Area 10 at the plant.

The Fire Protection Branch (AFPB) has reviewed the information provided by Entergy Nuclear Operations Inc. and determined that additional information is needed to complete our review. The request for additional information (RAI) is described below:

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REQUEST FOR ADDITIONAL INFORMATION ON THE REQUEST FOR
EXEMPTION FROM 10 CFR 50, APPENDIX R, SECTION III.G.2 REQUIREMENTS BASED
ON MANUAL ACTIONS AT JAMES A. FITZPATRICK NUCLEAR POWER PLANT
(TAC NO. ME0727)

RAI-01 Circumstances for Review

Enclosure 1 of the February 18, 2009, request contains descriptions of the proposed deviations from III.G.2 and the operator manual actions in question but does not contain a discussion of why JAF is unable to meet the requirements of III.G.2 and why a deviation from III.G.2 requirements is necessary.

Provide a justification of the special circumstances, in accordance with 10 CFR 50.12, that are present and warrant the consideration of this Exemption request. If it is the licensee's position that the protective measures prescribed by III.G.2 are not necessary to meet the underlying purpose of the rule, provide a technical justification of how the proposed arrangement achieves the underlying purpose of the rule.

RAI-02 Regulatory Deficiency

Enclosure 1 of the March 30, 2009, "Response to Request for Information for Acceptance Review," provides background regarding the change but does not state, specifically, which criteria of III.G.2 are not met. In response to Question 3, JAF states that ionization smoke detection systems and no intervening combustibles are present in FA 10 and in response to Question 1 JAF states that III.G.2 separation requirements are also not met but it is not clear whether an automatic fire suppression system is provided.

Provide a detailed description of the deficiencies that exist with regard to fire detection, suppression, intervening combustibles and spatial separation and explain how the deficiencies are mitigated with other forms of defense-in-depth measures. For example, confirm whether an

automatic suppression system is provided and if not, provide a justification for how the established level of safety and protection is maintained. Additionally, if the 20-ft spatial separation between redundant equipment trains is not provided, provide a description of the separation that is provided and why this arrangement should be considered acceptable with regard to the established level of safety.

The licensee's response should also include a technical explanation to justify how the proposed methods will result in a level of protection that is consistent with that intended by III.G.2. For example, demonstrate that defense-in-depth is provided such that operators are able to safely and reliably achieve and maintain hot shut down capability from the control room. Note that it is the Nuclear Regulatory Commission (NRC) staff's position that operator manual actions alone, regardless of their feasibility and reliability, do not meet the underlying purpose of the rule without specific consideration of the overall concept of defense-in-depth that is being applied in a particular fire area.

RAI-03 Ensuring That One of the Redundant Trains Is Free of Fire Damage

Question 1 Response in Enclosure 1 of the March 30, 2009, "Response to Request for Information for Acceptance Review," states that the JAF does not meet the separation requirements of Appendix R Section III.G.2 for FA 10, but redundant cables and components are maintained free of fire damage for the Local SRV Control Panel in the Reactor Building 300' elevation.

Confirm whether all redundant equipment in FA 10 is assumed lost during a fire event. If it is assumed that all redundant equipment is lost during a fire event, this is inconsistent with III.G.2, which states that measures must be taken to ensure that one of the redundant trains remains free of fire damage. Furthermore, the use of OMAs, in lieu of the three options provided in III.G.2, is not explicitly included as a means of compliance with III.G.2. Provide a technical justification to support the claim that the redundant cables and components are maintained free of fire damage for the Local SRV Control Panel in the Reactor Building 300' elevation.

RAI-04 Other Evaluations

Fire areas may have other exemptions or engineering evaluations that affect fire protection systems or safe shutdown capabilities.

Provide a discussion of any other exemptions or evaluations that impact this request in any way and a justification for why such impact should be considered acceptable.

RAI-05 Standards and Listings for Systems and Barriers

Enclosure 1 of the March 30, 2009, "Response to Request for Information for Acceptance Review," states that an ionization smoke detection system is installed in FA 10. However, the request does not state whether the system has been designed and installed in accordance with recognized design standards.

Where fire protection features such as detection and suppression systems and fire rated assemblies are installed, describe the technical basis for such installations including the applicable codes, standards and listings. In addition, provide a technical justification for any deviations from codes, standards and listings by independent testing laboratories in the fire

areas that could impact this evaluation. Additionally, provide a technical justification for any non-rated fire protection assemblies.

For example:

Fire Area 10 is noted as having ionization smoke detectors installed throughout the area. State whether the detectors have been installed and maintained in accordance with a particular design standard or basis, e.g. National Fire Protection Association 72: National Fire Alarm Code, 1985 Edition.

Fire Areas 8 and 9 are noted as having water spray curtains installed. State whether the water spray curtains have been installed and maintained in accordance with a particular design standard or basis, e.g. National Fire Protection Association 13: Standard for the Installation of Sprinkler Systems, 1985 Edition.

RAI-06 Time and Sequence Assumptions

Question 2 Response in Enclosure 1 of the March 30, 2009, "Response to Request for Information for Acceptance Review," states that based on walkthroughs of Abnormal Operating Procedure 28 for a fire in FA 10, an Operator would be stationed at the Local Safety/Relief Valve (SRV) Control Panel within 15 minutes. The request lacks a detailed description of the series of events that may occur prior to initiating the OMA procedures.

Describe the circumstances and assumptions needed to enter the OMA procedure. For example, describe the amount of time, and the technical basis, that has been assumed for detection and assessment of a postulated fire. Additionally, provide an analysis and/or a technical justification to evaluate scenarios where components fail, or damage occurs, before a fire has been detected.

RAI-07 Water Curtain

Enclosure 1 of the February 18, 2009, request states that a water spray curtain is installed in the southwest stairwell leading up to Fire Area 9. Provide an explanation as to why a water spray curtain is not shown on Attachment 2 and explain the intended purpose of the water spray curtain. If the water spray curtain is installed to separate redundant equipment, describe if it impacts this exemption.

RAI-08 Motor Control Centers

Enclosure 1 of the March 30, 2009, "Response to Request for Information for Acceptance Review," states that there are two Motor Control Centers (MCCs) located in FA 10. The Question 3 Response section states that it is unlikely that sufficient heat buildup would occur from the MCCs at the ceiling level to cause cable damage. Provide the critical details and/or assumptions of the analysis that supports this claim.

RAI-09 Smoke Migration

Attachment 1 and 2 of the February 18, 2009, request indicate that FA 8 is located directly above the postulated fire location in FA 10, elevation 272'. Attachment 2 shows that the ceiling on elevation 272' contains hatches which could allow smoke to migrate into FA 8 on elevation 300'. The Smoke and Toxic Gases section of Enclosure 1, states that the floor of Fire Area 8 is

three hour rated and that all penetrations are sealed to the equivalent rating of the fire barrier. Confirm that the hatches on the drawing are three hour rated with the appropriate seals and provide the critical details and/or assumptions of the analysis to justify that smoke migration does not occur and would not impact the ability of plant personnel to perform the OMA in FA 8.

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Please let me know, whether you need clarification of these RAIs via tele-conference. In either case, let me know when you can commit to provide the responses to these RAIs.

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Subject: ME0727 - DRAFT RAIs - Exemption from 10 CFR 50, Appendix R, Section III.G.2 Based on Manual Actions
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