

NRR-DMPSPeM Resource

From: Hood, Tanya
Sent: Wednesday, June 13, 2018 2:08 PM
To: bryan.hanson@exeloncorp.com
Cc: Gropp Jr, Richard W:(GenCo-Nuc); David.Gudger@exeloncorp.com; Williams, Christian D:(GenCo-Nuc); Danna, James
Subject: FitzPatrick RAls - LAR to Adopt EAL Schemes Pursuant to NEI 99-01, Revision 6
Attachments: RAl - Fitzpatrick EAL Scheme Change.pdf

SUBJECT: JAMES A. FITZPATRICK NUCLEAR POWER PLANT – REQUEST FOR ADDITIONAL INFORMATION REGARDING LICENSE AMENDMENT REQUEST TO REVISE EMERGENCY ACTION LEVEL SCHEMES (EPID L-2018-LLA-0032)

By application dated January 31, 2018 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML18037A786), Exelon Generation Company, LLC (the licensee) submitted a license amendment request for the James A. FitzPatrick Nuclear Power Plant. The proposed amendment would revise the emergency plans by changing the emergency action level schemes for this facility. The proposed changes are based on the Nuclear Energy Institute's (NEI's) guidance in NEI 99-01, Revision 6, "Development of Emergency Action Levels for Non-Passive Reactors."

The U.S. Nuclear Regulatory Commission staff has reviewed the licensee's submittal and determined that additional information is required in order to complete the review. The requested additional information is attached. The draft questions were sent to Mr. Richard Gropp of your staff to ensure that they were understandable, the regulatory basis for the questions was clear, and to determine if the information was previously docketed. Please respond within 30 days.

If you have any questions, please contact me at (301) 415-1387 or Tanya.Hood@nrc.gov.

Thank you,

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Tracking Status: None

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REQUESTS FOR ADDITIONAL INFORMATION
OFFICE OF NUCLEAR REACTOR REGULATION
LICENSE AMENDMENT REQUEST REGARDING
EMERGENCY ACTION LEVEL SCHEME CHANGE
JAMES A. FITZPATRICK NUCLEAR POWER PLANT
EXELON GENERATION COMPANY, LLC
DOCKET NOS. 50-333 AND 72-012

By application dated January 31, 2018¹, Exelon Generation Company, LLC (the licensee or Exelon) requested approval to adopt the Nuclear Energy institute's (NEI's) revised Emergency Action Level (EAL) schemes described in NEI 99-01, Revision 6, "*Development of Emergency Action Levels for Non-Passive Reactors*,"² for the James A. FitzPatrick Nuclear Power Plant (FitzPatrick).³ By letter dated March 28, 2013,⁴ the U.S. Nuclear Regulatory Commission (NRC) endorsed NEI 99-01, Revision 6, as an acceptable generic EAL scheme development guidance.

The requirements of Section 50.47(b)(4) to Title 10 of the *Code of Federal Regulations* (10 CFR) state, in part, that:

A standard emergency classification and action level scheme is in use by the nuclear facility licensee, and State and local response plans call for reliance on information provided by facility licensees for determinations of minimum initial offsite response measures.

The NRC staff has reviewed the information submitted by the licensee and determined that additional information is required to complete its review. The specific request for additional information (RAI) is addressed below.

RAI-1

Section 4.3, "Instrumentation Used for EALs," to NEI 99-01, Revision 6, states: "Scheme developers should ensure that specific values used as EAL setpoints are within the calibrated range of the referenced instrumentation." Confirm that all setpoints and indications used in the FitzPatrick EAL scheme are within the calibrated range(s) of the stated instrumentation and that the resolution of the instrumentation is appropriate for the setpoint/indication.

¹ Agencywide Documents Access and Management System (ADAMS) ML18037A786

² ADAMS Accession Number ML12326A805

³ ADAMS Accession Number ML18037A782 (package)

⁴ ADAMS Accession No. ML12346A463

RAI-2

The proposed EAL RA3.1 includes either the Central Alarm Station (CAS) or the Secondary Alarm Station (SAS) as threshold criteria. If the CAS and SAS can both provide access to areas required to assure safe plant operations, explain why the EAL does not provide an “AND” logic to the CAS and SAS, or select the primary station as the threshold value as provided in accordance with endorsed guidance.

RAI-3

The Basis discussion for EAL RU3 states, in part: “Conditions that cause the specified monitor to alarm that are not related to fuel clad degradation should not result in the declaration of an Unusual Event.”

Explain how a decision-maker can quickly and accurately determine whether or not a letdown radiation monitor alarm is due to clad damage. Alternatively, revise the EAL RU3 basis to remove the identification of fuel cladding degradation as a criterion.

RAI-4

The proposed Fission Product Barrier EAL CT3 - Potential Loss 3 threshold value includes the qualifier “and rising” to the maximum containment pressure. NEI 99-01, Revision 6, provides that the values used to assess EALs should be valid. The fact that containment pressure has reached the maximum design pressure represents itself a potential loss of containment. The inclusion of “and rising” could result in classification delays for valid containment pressure conditions that are substantially above the maximum design pressure because the pressure was not continuing to rise.

Remove “and rising” from the proposed Fission Product Barrier CT3 - Potential Loss 3 threshold value, consistent with the endorsed guidance, or explain how a containment pressure in excess of design pressure, with a lowering pressure due to barrier degradation, would be appropriately assessed.

RAI-5

The proposed EALs MA1 and CU1 imply that emergency diesel generator (EDG) A, EDG B, EDG C, and EDG D are independent power supplies, each of which is capable of powering emergency buses 10500 and 10600. This is consistent with the first bulleted example in the Basis section. However, the FitzPatrick Technical Specifications and Final Safety Analysis Report indicate that FitzPatrick has two subsystems capable of powering emergency buses 10500 and 10600. These subsystems each consist of two emergency diesel generators.

Explain whether or not the four EDGs provided in the threshold value for EALs MA1 and CU1 can independently provide required power for a spectrum of events. If the EDGs cannot independently provide required power for a spectrum of events, then revise the MA1 threshold value and Basis discussion as appropriate.

RAI-6

- a. For EALs MA5 and CA2, Exelon proposed a wording modification to the NRC guidance contained in EPFAQ 2016-02, "Clarification of Equipment Damage as a Result of a Hazardous Event."⁵ This modification affects a note for the threshold values. The key wording change is identified in bold as follows:

EPFAQ 2016-02

If the hazardous event only resulted in VISIBLE DAMAGE, **with no indications of degraded performance** to at least one train of a SAFETY SYSTEM, then this emergency classification is not warranted.

Exelon proposed

For SAFETY SYSTEMS with multiple trains **if the hazardous event only resulted in VISIBLE DAMAGE or degraded performance to the one train**, then this emergency classification is not warranted.

This is a change of intent from the NRC guidance contained in EPFAQ 2016-02, which was that an Alert should not be declared unless there was VISIBLE DAMAGE resulting from the hazardous event, with no indications of degraded performance. Without this condition, an Alert could be declared even if the affected equipment was not currently required to be in operation. Align EALs MA5 and CA2 EALs with the intent of EPFAQ 2016-0,2 or provide a justification that supports the revised MA5 and CA2 in EAL notes.

- b. For EALs MA5 and CA2, Exelon proposed a wording modification to the NRC guidance contained in EPFAQ 2016-02. This modification affects threshold value 2.a. The key wording change is identified in bold as follows:

EPFAQ 2016-02

Event damage has caused indications of degraded performance on one train of a SAFETY SYSTEM needed for the current operating mode.

Exelon proposed

Event damage has caused indications of degraded performance **or VISIBLE DAMAGE** to one train of a SAFETY SYSTEM **required by Technical Specifications** for the current operating mode.

This is a change of intent from the NRC guidance contained in EPFAQ 2016-02. As the threshold value includes "or VISIBLE DAMAGE," an Alert could be declared when the only impact is visible damage to both trains. Revise EALs MA5 and CA2 to align with the intent of EPFAQ 2016-02, or provide a justification that supports the revised MA5 and CA2 EAL notes, as provided by Exelon, for FitzPatrick.

⁵ ADAMS Accession No. ML17195A299

- c. Exelon proposes the addition of the following alternative condition to threshold value 2.b for EALS MA5 and CA2:
- An additional train of the SAFETY SYSTEM is inoperable or out of service.

It appears that the above additional threshold value is intended to require the declaration of MA5 or CA2 whenever a hazardous event has caused degraded performance or visible damage to one train of a SAFETY SYSTEM, whenever an additional train of the safety system is inoperable or out of service. The intent of EPFAQ 2016-02 is to declare an Alert if the hazardous event has resulted in **degraded performance** to the one train, and **VISIBLE DAMAGE or degraded performance** of the second train. Additionally, it appears as though the above alternative condition proposed by Exelon for EALs MA5 and CA2 would not result in an Alert declaration based on the addition of the following note:

For SAFETY SYSTEMS with multiple trains *if the hazardous event only resulted in **VISIBLE DAMAGE or degraded performance to the one train***, then this emergency classification is not warranted.”

Revise EALs MA5 and CA2 to align with the intent of EPFAQ 2016-02, or provide a justification that supports the revised MA5 and CA2 EAL notes, as provided by Exelon, for FitzPatrick.

RAI-7

- a. For EALs MU7 and CU4, it appears that if only Out-of-Plant cellular phones were available, then FitzPatrick site would not be able to communicate with onsite personnel as needed to conduct routine operations. Additionally, it does not appear that Out-of-Plant cellular phones would support communications with offsite organizations and the NRC without resorting to relaying of information.

Justify using Out-of-Plant cellular phones as a means to support Onsite, Offsite, and NRC communications if no other communication method is available, or revise accordingly. This justification should explain how communications could be completed without resorting to extraordinary means as discussed in the proposed FitzPatrick Emergency Classification Technical Basis Document.

- b. For EALs MU7 and CU4, the staff could not determine whether Plant Satellite Phones, refers to the TSC satellite phone, the handheld satellite phones, or both. Additionally, it does not appear that Plant Satellite Phones would support communications with offsite organizations and the NRC without resorting to relaying of information.

Justify using Plant Satellite phones as a means to support Offsite and NRC communications if no other communication method is available, or revise accordingly. This justification should explain how communications could be completed without resorting to extraordinary means as discussed in the proposed FitzPatrick Emergency Classification Technical Basis Document.

RAI-8

Explain how the term “Security Force” is equivalent to “security supervision,” as the intent of EALs HU1.1, HA1.1, and HS1.1, is to ensure an individual specifically trained to identify a hostile action and communicate with the control room is tasked with this responsibility, or revise accordingly.

RAI-9

Concerning EAL HS2, the Basis discussions include the following:

The time period to establish control of the plant starts when either:

a) [c]ontrol of the plant is no longer maintained in the Control Room

Or

b) [t]he last Operator has left the Control Room, whichever comes first.

The first condition implies that as soon as control of the plant is no longer maintained in the Control Room, that the time period to establish control at the alternate location starts. It is not clear to the NRC staff whether this time should start “when control of the plant cannot be maintained.” It appears that the second condition would provide a more clear and consistent start time for the declaration of EAL HS2. Provide clarification to address NRC staff’s concern, or revise accordingly to provide a clear 30 minute start time that supports a timely and consistent event declaration.

RAI-10

The proposed EAL HU4.2.b, requiring validation of the seismic event, is not consistent with NEI 99-01, Revision 6. Specifically, the proposed EAL criterion HU4.2.b does not include that the occurrence of a seismic event is confirmed by the Shift Manager, as provided in the NEI 99-01, Revision 6, Developer’s Notes.

- a. Add a condition that the Shift Manager confirms the occurrence of a seismic event, as provided by NEI 99-01, Revision 6, or provide further justification as to why this variance from endorsed guidance is acceptable.
- b. Explain why the basis discussion includes typical lateral acceleration values instead of site-specific values, or revise accordingly.

RAI-11

The FitzPatrick EAL alternative method (e.g., wall board) for presenting EAL scheme information is not consistent with the proposed EAL Technical Basis document. For example, the FitzPatrick Technical Basis document threshold value for MA4 is ECCS Injection instead of ECCS Actuation as identified on the FitzPatrick EAL alternative method. This could lead to inaccurate or delayed emergency classifications. Explain how the method is technically accurate and addresses human factors issues that could impact timely and accurate EAL assessments.