

## **NRR-PMDAPEm Resource**

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**From:** Wengert, Thomas  
**Sent:** Thursday, February 02, 2017 11:22 AM  
**To:** BICE, DAVID B (ANO)  
**Cc:** PYLE, STEPHENIE L; Pascarelli, Robert; Robinson, Jay  
**Subject:** Arkansas Nuclear One Unit 2 - Final Request for Additional Information Concerning License Amendment Request to Revise Certain NFPA 805 Modifications (CAC MF8691)  
**Attachments:** ANO-2 Draft RAI for NFPA 805 Mod LAR CAC MF8691.pdf

### Final Request for Additional Information

On January 31, 2017, the U.S. Nuclear Regulatory Commission (NRC) staff sent Entergy Operations, Inc. (Entergy or the licensee) the draft Request for Additional Information (RAI) provided below (and attached). This RAI relates to a license amendment request (LAR) that would revise certain modifications required to be completed to fully implement Arkansas Nuclear One Unit 2's risk-informed, performance-based fire protection program, as approved in the license amendment issued on February 18, 2015 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML14356A227).

On February 2, 2017, the NRC staff conducted a conference call with the licensee staff to clarify the request. Entergy subsequently informed the NRC staff that the information requested by the NRC staff was understood and that no additional clarification of the RAI was necessary. During the call, Mr. David Bice of Entergy agreed to provide a response to this **final** RAI within 30 days from the date of this correspondence. The NRC staff also informed the licensee that a publicly available version of this final RAI would be placed in the NRC's ADAMS system.

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By letter dated October 27, 2016 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML16302A227), as supplemented by letter dated December 2, 2016 (ADAMS Accession No. ML16340A018), Entergy Operations, Inc. (the licensee), submitted a license amendment request (LAR) for Arkansas Nuclear One, Unit 2 (ANO-2), proposing to revise certain modifications required to be completed to fully implement ANO-2's risk-informed, performance-based fire protection program, as approved in the license amendment issued on February 18, 2015 (ADAMS Accession No. ML14356A227). The U.S. Nuclear Regulatory Commission (NRC) staff has determined that additional information is needed to complete its review, as described in the attached request for additional information (RAI).

This RAI is identified as draft at this time to confirm your understanding of the information that the NRC staff needs to complete the evaluation. If the request for information is understood, please respond to this RAI within 30 days of the date of this request. Please contact me if you would like to set up a conference call to clarify this request for information.

Regards,

Tom Wengert  
Project Manager – Arkansas Nuclear One  
NRR/DORL/LPL4  
(301) 415-4037

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REQUEST FOR ADDITIONAL INFORMATION  
LICENSE AMENDMENT REQUEST TO REVISE  
NATIONAL FIRE PROTECTION ASSOCIATION STANDARD 805 MODIFICATIONS  
ENTERGY OPERATIONS. INC.  
ARKANSAS NUCLEAR ONE, UNIT 2  
DOCKET NO. 50-368

By letter dated October 27, 2016 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML16302A227), as supplemented by letter dated December 2, 2016 (ADAMS Accession No. ML16340A018), Entergy Operations, Inc. (the licensee), submitted a license amendment request (LAR) for Arkansas Nuclear One, Unit 2 (ANO-2), proposing to revise certain modifications required to be completed to fully implement ANO-2's risk-informed, performance-based fire protection program (RI/PB FPP) as approved in the amendment issued on February 18, 2015 (ADAMS Accession No. ML14356A227). The U.S. Nuclear Regulatory Commission (NRC) staff has determined that additional information is needed to complete its review, as described below.

PRA RAI 01

In its letter dated October 27, 2016 (ADAMS Accession No. ML16302A227), the licensee stated that a new recovery action (RA) is being added to its probabilistic risk assessment (PRA) to ensure that instrumentation using the safety parameter display system (SPDS) remains available. It is not clear whether this additional RA has been evaluated using an accepted fire PRA method and approach, as summarized in the final safety evaluation accompanying the license amendment approving the transition to National Fire Protection Association Standard 805 (NFPA 805).

Summarize the method the licensee applied to evaluate the feasibility and PRA credit for this RA and whether this method has been previously used at ANO-2 or by another licensee. If not used at ANO-2, but used by another licensee, identify what NRC document describes the NRC staff's review of the method.

PRA RAI 02

In its letter dated October 27, 2016 (ADAMS Accession No. ML16302A227), the licensee stated that, during a triennial fire inspection, the NRC staff identified a concern with the licensee's fire PRA regarding the improper dilution of motor ignition frequency by counting motors of 5 horsepower or less. The licensee stated that this issue is not expected to affect the ANO-2 risk results significantly, since a sensitivity study for the Arkansas Nuclear One, Unit 1 (ANO-1) NFPA 805 transition, on this incorrect assumption, showed that the increase in ANO-1 risk from the increase in motor fire frequency was more than offset by the removal of inappropriate fire scenarios from those motors less than or equal to 5 horsepower.

Since the design of ANO-1 is not similar to ANO-2, the NRC staff determines that any conclusions about ANO-1 do not automatically apply to ANO-2. Perform a sensitivity analysis correcting the error and provide the corrected risk results (post-transition core damage

frequency (CDF) and large early release frequency (LERF), transition delta CDF and delta LERF), including the corrected risk values associated with main control room (MCR) abandonment.

### PRA RAI 03

In its letter dated October 27, 2016 (ADAMS Accession No. ML16302A227), the licensee stated that adequate safety margin is maintained because the codes and standards used have been accepted for use by the NRC and meet the acceptance criteria in NFPA 805. The NRC staff expected that the licensee's evaluation of the changes proposed to ensure that safety margins are maintained would be performed in a manner similar to the equivalent evaluation described in the original ANO-2 NFPA 805 application dated December 17, 2012 (ADAMS Accession No. ML12353A041), as supplemented.

Explain what is meant by the statement that, "... the codes and standards used ... meet the acceptance criteria in NFPA 805." If the licensee's evaluations performed to ensure that safety margins are maintained for the changes proposed in this LAR differ from the evaluations described in the licensee's December 17, 2012 application, as supplemented, explain the evaluation and justify the conclusion that the appropriate safety margins are maintained.