

August 4, 2015

MEMORANDUM TO: Alexander R. Klein, Chief
Fire Protection Branch
Division of Risk Assessment
Office of Nuclear Reactor Regulation

FROM: Barry W. Miller, Sr. Project Manager **/RA/**
Fire Protection Branch
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Office of Nuclear Reactor Regulation

SUBJECT: SUMMARY OF THE JULY 16, 2015, CATEGORY 2 MEETING
BETWEEN THE NUCLEAR REGULATORY COMMISSION AND
NUCLEAR ENERGY INSTITUTE REGARDING NATIONAL FIRE
PROTECTION ASSOCIATION STANDARD 805

On July 16, 2015, the U.S. Nuclear Regulatory Commission (NRC) staff held a public meeting with the Nuclear Energy Institute (NEI) and the public to discuss issues related to license amendment reviews and implementation of National Fire Protection Association Standard 805 (NFPA 805), "Performance-Based Standard for Fire Protection for Light Water Reactor Electric Generating Plants." The meeting notice was made available at Agencywide Document Access and Management System (ADAMS) Accession No. ML15181A003.

Status of NFPA 805 License Amendment Requests (LARs)

The NRC staff provided an update on the status of NFPA 805 LAR reviews. There has been notable progress in the NFPA 805 LAR review effort. To date, the NRC staff has issued 14 license amendments (2 pilot plants, 12 non-pilot plants) to transition to NFPA 805. The NRC currently has 13 applications under review, with 2 additional applications expected to be submitted in Fiscal Year (FY) 2016 and FY 2017. The NRC staff estimates 12 LARs to be approved by the first quarter of calendar year 2016. While the LAR reviews progress, NRC staff still face a number of challenges, including matters related to Fire Probabilistic Risk Assessment (PRA) models and last-minute licensee-initiated changes.

NFPA 805 Triennial Fire Protection Inspections

The NRC staff continues to support and observe NFPA 805 triennial inspections at various plants, providing 'real-time' training to regional inspectors. At a recent inspection at Nine Mile Point, the industry shared that it was appreciative of the support provided by NRC headquarters staff. Additionally, the NRC staff has provided inspector workshops in Region II and Region III, and plans to conduct workshops in Region I and Region IV in the near future to enhance knowledge management. The NRC and NEI both agreed that more guidance for inspectors

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would be beneficial. However, in response to the industries request for an update to the inspection procedure, the NRC staff reminded NEI that the collection of lessons learned is still a work in progress, and that it had not yet received comments or suggestions from NEI. NEI indicated that it would provide NRC a white paper with inspection procedure suggestions.

Process for Handling Newly-Approved Methods and Data

With respect to the implementation of newly-approved methods and data, particularly in Fire PRAs, the NRC staff provided an overview of its thinking of how new information might be incorporated within the context of each stage of an NFPA 805 LAR submittal, review, approval, and implementation:

- 1) Before LAR Submittal: Prior to LAR submission, the PRA Configuration Control program applies and the licensee considers the cumulative impact of all new methods and data.
- 2) During LAR Review: Once the new methods/data of the aggregate study (commonly known as PRA Request for Additional Information (RAI) 03)) have been resolved by the licensee in its RAI response, the NRC staff would 'freeze' the list of methods/data for consideration. However, if the licensee applied a significant risk reduction method/data (e.g., new heat release rates) after the list was frozen, then the licensee would be required to apply all new methods/data. Also, if an emergent safety issue arises at any time before the issuance of the Safety Evaluation (SE), it should be addressed.
- 3) Transition Period: Prior to the transition to self-approval, the licensee should update their PRA model to reflect the as-built, as-operated plant following NFPA 805 modifications and evaluate the impact of new methods/data.
- 4) Post-Transition: The final stage occurs after full transition to NFPA 805 has been completed. Self-approval may or may not be exercised before the licensee's periodic update. The licensee would consider the cumulative impact of new methods/data on the self-approval application. Also, the licensee would evaluate the impact of new methods/data during the periodic update.

Modification Changes during Implementation Period

Through Frequently Asked Question (FAQ) 15-0075, "Treatment of Changes to Attachment S Modifications During Transition," dated May 15, 2015, the industry proposed a new transition license condition which would allow a licensee to make changes to the committed modifications described in Attachment S of the NFPA 805 LAR without prior NRC approval. This concept had been raised at several NEI/NRC Management Meetings prior to submission of this FAQ, and it was also discussed during a stand-alone public meeting on April 13, 2015.

The NRC staff indicated that it has gone back and reviewed each iteration of the proposal and still has not been able to reconcile its concerns. Specifically, allowing licensee self-approval during transition using the risk thresholds in Regulatory Guide 1.174, "An Approach for Using Probabilistic Risk Assessment in Risk-Informed Decisions on Plant-Specific Changes to Licensing Basis," would grant licensees the same authority to approve risk-informed changes as the NRC staff. Additionally, the 90-day notification to the NRC prior to any modification changes, as proposed in FAQ 15-0075, would be outside any existing process and would provide the NRC no regulatory recourse to disapprove any modification changes because the authority to make the changes would have already been granted to licensees.

The NRC staff said that, alternatively, the LAR process (10 CFR 50.90) is the established process that can and should be utilized to address modification changes during NFPA 805 transition. The staff further suggested that to address implementation timeline concerns, licensees could concurrently submit a request for a delay in modification implementation commensurate with any modification changes that are requested through the LAR process.

NFPA 805 Chapter 3 Rulemaking Proposal

On July 1, 2015, the NRC staff held a public teleconference with NEI regarding a potential rulemaking for performance-based alternatives to comply with Chapter 3 of NFPA 805. It was discussed that the rulemaking process is a long and resource-heavy endeavor. At the end of the July 1 meeting, NEI took an action to compile a list of sections in Chapter 3 that the industry would like to make more performance-based, and the NRC took an action to compile a list of sections that it likely would not support being made more performance-based. During this NEI/NRC Management meeting, the NRC staff indicated that it had since taken a closer look at rulemaking processes and noted that NRC staff has restrictions on acting as a consultant on potential rulemakings, and that providing any sort of list to NEI might be construed as consulting. With that reminder, the NRC staff may not be able to provide the list of Chapter 3 sections as discussed during the July 1 meeting, nor engage the industry in further discussion outside of any rulemaking process.

Research Items

Staff from the NRC's Office of Nuclear Regulatory Research (RES) provided an update on several fire research items:

Electrical Enclosure Heat Release Rate (HRR) Report Status

NUREG-2178, "Refining And Characterizing Heat Release Rates From Electrical Enclosures During Fire (RACHELLE-FIRE)" — Volume 1: Peak Heat Release Rates and Effect of Obstructed Plume, focuses on enhancing the methodology used to model electrical enclosure fires in nuclear power plants (NPPs). The public comment period for this draft NUREG closed on June 15, 2015, resulting in approximately 146 comments. NEI questioned when the report would be finalized and endorsed by the NRC's Office of Nuclear Reactor Regulation (NRR) for use by licensees. NRR staff stated that it was meeting with RES staff to resolve internal comments and could therefore not commit to a date, but that this was one of its highest priority items.

Very Early Warning Fire Detection System Draft NUREG Out for Comment

NUREG-2180, "Determining the Effectiveness, Limitations, and Operator Response for Very Early Warning Fire Detection Systems in Nuclear Facilities (DELORES-VEWFIRE)," evaluates the performance of smoke detection systems when configured for very early warning fire detection applications, and conventional spot-type detection systems for use in NPP applications. The draft NUREG was issued for a 60-day public comment period on July 7, 2015. The NRC staff stated that any operating experience the industry could share with the NRC would be informative.

Main Control Room (MCR) Abandonment Fire Human Reliability Analysis (HRA) Working Group Status Update

The industry and Electric Power Research Institute (EPRI) shared the difficulty of developing one singular generic approach to MCR abandonment. The working group is currently considering different scenarios in two phases: qualitative and quantification.

International High Energy Arc Fault (HEAF) Testing Project Status

HEAF is a topic with great international interest. The NRC staff has several tests scheduled within the next month in Pennsylvania. By the end of the year, the NRC staff expects to issue a draft NUREG in the form of a data-type report (rather than analysis).

EPRI/RES Fire PRA Training Dates

This year, NRC/RES and EPRI have again jointly sponsored fire PRA training courses. Recognizing that a majority of the intended audience has now received the training in previous years, the NRC and EPRI received feedback to develop a web-based refresher training for those who would benefit from an update of the new methods regarding Fire PRA as opposed to a week-long course.

Fire Model Verification and Validation (V&V) Update Status

RES is currently utilizing international data to aid in the research on fire model V&V. EPRI is working to improve Fire PRA and will be issuing a white paper on component based frequency.

General Comments from NEI

NEI staff expressed that now that the NFPA 805 LAR review process is nearing its tail end, the industry would be interested in more general fire protection discussion during these periodic NRC/NEI management meetings. Areas of interest include: 10 CFR 50, Appendix R; multiple spurious operations; NEI 00-01, "Guidance for Post-Fire Safe Shutdown Circuit Analysis"; Task Interface Agreement 2013-02, "Single Spurious Assumption for Braidwood and Byron Stations Safe-Shutdown Methodology"; operating experience; and new test results/methods. The industry agreed to submit topics of interest to the NRC for further consideration so that the NRC can determine the appropriate NRC staff from other parts of the organization that might be needed to support discussion on expanded topics.

An opportunity for public comment was provided near the end of the meeting. No public comments were received. The meeting was then adjourned.

A list of meeting attendees is enclosed with this memorandum.

Enclosure:
As stated

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Date	07 / 28 / 2015	07 / 03 / 2015	07 / 04 / 2015

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**NATIONAL FIRE PROTECTION ASSOCIATION STANDARD 805
NRC/NEI MANAGEMENT MEETING
LIST OF ATTENDEES**

July 16, 2015

**U. S. Nuclear Regulatory
Commission Staff**

J. Giitter
S. Lee
A. Klein
M. Salley
B. Miller
J. Robinson
S. Dinsmore
H. Barrett

Stakeholders

E. Flick (Exelon)
V. Anderson (NEI)
J. Reed (NEI)
R. Rolland (NEI)
J. Stone (Exelon)
J. Ertman (Duke)
A. Lindeman (EPRI)
A. Ratchford (RDS)
J. Quinn (EPM)
T. Shudak (NPPD)
M. Crompton (EPM)
T. Jutras (EPM)
P. Ouellette (EPM)
T. Dodson (EPM)
L. Abbott (FPL/NextEra)
M. Lilley (Exelon)
M. Schairer (EPM)
A. Reiter (Xcel)

ENCLOSURE