

February 10, 2014

MEMORANDUM TO: Hossein G. Hamzehee, Chief  
PRA Licensing Branch  
Division of Risk Assessment  
Office of Nuclear Reactor Regulation

FROM: Garrett Newman, Reliability and Risk Analyst /RA/  
PRA Licensing Branch  
Division of Risk Assessment  
Office of Nuclear Reactor Regulation

SUBJECT: SUMMARY OF JANUARY 13, 2014 CATEGORY 2 MEETING  
REGARDING FIRE PROBABILISTIC RISK ASSESSMENT  
METHODS AND FREQUENTLY ASKED QUESTIONS

On January 13, 2014, the U.S. Nuclear Regulatory Commission (NRC) staff held a Category 2 public meeting, via teleconferencing, with the nuclear industry and the Nuclear Energy Institute (NEI) to discuss fire probabilistic risk assessment (FPRA) Frequently Asked Questions (FAQs). The NRC staff provided the following documents to the industry prior to the meeting:

- NRC Comments on Discussion Points on Follow-On Peer Review Expectations, (Agencywide Documents Access and Management System (ADAMS) Accession No. ML14015A158)
- NRC Comments on Finalizing Licensing Basis Information for NFPA 805 PRAs, (ADAMS Accession No. ML14015A155)

A summary of the topics discussed at this meeting is provided below:

- The NRC staff discussed its comments on the industry's paper, "Discussion Points on Follow-On Peer Review Expectations ADAMS Accession No. ML13248A129," as documented in the reference above. The industry did not have any questions on the NRC comments. The industry committed to review the NRC agreed and revise the document by January 24, 2014. The NRC agreed to determine the regulatory process to document the final guidance on peer review expectations for PRA maintenance and upgrades at the next Fire PRA FAQ meeting.

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- The NRC and industry discussed the research priorities in the area of fire PRA:
  - The industry informed the NRC staff that they were undertaking a number of steps to advance methods for improved realism in fire PRAs. Specifically, the industry is working on (1) fire ignition frequencies and non-suppression probabilities, (2) restarting the methods panel, and (3) transient fire scenarios. Additionally, the industry is working on the fire growth modeling and fire PRA uncertainty.
  - The NRC staff discussed the recent progress on incipient detection testing, which is complete. The National Institute of Science and Technology (NIST) is analyzing and compiling the data. The test report will be issued for public comment.
  - The NRC staff also discussed the status of electrical cabinet heat release rate (HRR) testing. The NRC will provide high-level feedback on the industry's comments on the test plan through EPRI. The NRC is revising the test plan. Testing is expected to resume between February and March 2014.
  - The NRC staff provided the status of high energy arcing fault (HEAF) testing. The NRC expects to finish the test plan in early February 2014 and commence testing in late spring and early summer.
  - The NRC staff plans to provide the industry test status and a list of equipment needs for HRR and HEAF testing, through NEI and EPRI.
- The NRC staff informed the industry that it agrees with the concept of a freeze point as postulated in the industry's paper, "Finalizing Licensing Basis Information for NFPA 805 PRAs (ADAMS Accession No. ML13346A945)." The NRC staff reiterated that a successful process must include (1) a change control process to identify and track changes after the freeze, (2) agreement on how to determine which issues cannot be deferred until after the Staff's review has been completed, and (3) well-defined roles and responsibilities. The NRC staff discussed its comments on the industry's paper, as documented in the reference above. The industry sought clarification on some of the NRC staff's comments on the industry document. The industry committed to review the NRC comments and provide a revision to its document at a later date.
- The industry inquired about the expectations for implementation of the circuit failure likelihoods transmitted from the NRC to NEI in the letter, "Interim Technical Guidance on Fire-Induced Circuit Failure Mode Likelihood Analysis (ADAMS Accession No. ML13165A209)." The industry also asked the NRC whether it would issue additional interim guidance for other panel results. The NRC staff agreed to add fire-induced circuit failure mode likelihood analysis and completion plan as a discussion topic for the next Fire PRA FAQ meeting.

Meeting notice and agenda for this public meeting is available at ADAMS Accession No. ML13354B653.

The NRC and industry discussed the research priorities in the area of fire PRA:

- The NRC staff updated the industry on incipient detection testing, which is complete. The National Institute of Science and Technology (NIST) is analyzing and compiling the data. The test report will be issued for public comment.
- The NRC staff updated the industry on electrical cabinet heat release rate (HRR) testing. The NRC will provide high-level feedback on the industry's comments on the test plan through EPRI. The NRC is revising the test plan. Testing is expected to resume between February and March 2014.
- The NRC staff updated the industry on high energy arcing fault (HEAF) testing. The NRC expects to finish the test plan in early February 2014 and commence testing in late spring and early summer.
- The NRC staff committed to provide the industry test status and a list of equipment needs for HRR and HEAF testing, through NEI and EPRI.
- The NRC staff informed the industry that it agrees with the concept of a freeze point as postulated in the industry's paper, "Finalizing Licensing Basis Information for NFPA 805 PRAs (ADAMS Accession No. ML13346A945)." The NRC staff reiterated that a successful process must include (1) a change control process to identify and track changes after the freeze, (2) agreement on how to determine which issues cannot be deferred until after the Staff's review has been completed, and (3) well-defined roles and responsibilities. The NRC staff discussed its comments on the industry's paper, as documented in the reference above. The industry sought clarification on some of the NRC staff's comments on the industry document. The industry committed to review the NRC comments and provide a revision to its document at a later date.
- The industry inquired about the expectations for implementation of the circuit failure likelihoods transmitted from the NRC to NEI in the letter, "Interim Technical Guidance on Fire-Induced Circuit Failure Mode Likelihood Analysis (ADAMS Accession No. ML13165A209)." The industry also asked the NRC whether it would issue additional interim guidance for other panel results. The NRC staff agreed to add fire-induced circuit failure mode likelihood analysis and completion plan as a discussion topic for the next Fire PRA FAQ meeting.

Meeting notice and agenda for this public meeting is available at ADAMS Accession No. ML13354B653.

A list of meeting attendees is enclosed with this memorandum.

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ADAMS Accession No. **ML14027A368**

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**FIRE PROBABILISTIC RISK ASSESSMENT  
FREQUENTLY ASKED QUESTIONS PROCESS**

**LIST OF ATTENDEES**

January 13, 2014

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

S. Lee  
H. Hamzehee  
A. Klein  
M. Salley  
H. Barrett  
S. Dinsmore  
D. Gennardo  
J. Hyslop  
P. Lain  
N. Melly  
C. Moulton  
G. Newman  
M. Reisi Fard  
D. Stroup  
G. Taylor

**Stakeholders**

P. Amico (Hughes Associates, Inc.)\*  
V. Anderson (Nuclear Energy Institute)\*  
S. Brinkman (EPM)\*  
J. Curry (NuScale)\*  
R. Dyer (EPM)\*  
J. Julius (Sciencetech)\*  
A. Lindeman (Electric Power Research Institute)\*  
A. Ratchford (RDS)\*

\*participated via phone

ENCLOSURE