

November 24, 2004

MEMORANDUM TO: Sunil Weerakkody, Chief  
Fire Protection Engineering and Special Projects Section  
Plant Systems Branch  
Division of Systems Safety and Analysis

FROM: James Downs, Fire Protection Engineer **//RA//**  
Fire Protection Engineering and Special Projects Section  
Plant Systems Branch  
Division of Systems Safety and Analysis

SUBJECT: SUMMARY OF OCTOBER 2004 PUBLIC MEETING ON FIRE  
PROTECTION IN ATLANTA

On October 13, 2004 thru October 15, 2004 the Fire Protection Engineering and Special Projects Section conducted a public meeting in Atlanta on the major focuses in fire protection. The meeting summary and the handouts provided on each day are attached. Please contact me if you require any additional information.

Attachments: Attachment 1A: Meeting Summary  
Attachment 1B: DAY 1 - Handouts (ML043290028)  
Attachment 1C: DAY 1 - Transition Examples (ML043290032)  
Attachment 2: DAY 2 - Handouts (ML043290035)  
Attachment 3: DAY 3 - Handouts (ML043290038)

Contact: James Downs, NRR/DSSA/SPLB  
415-3194

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## Meeting Summary

The NRC staff and management conducted a Category II public meeting at the NRC Region II Office in Atlanta from October 13–15. The meeting, attended by roughly 100 individual stakeholders, had three primary focuses: NFPA 805, circuit analysis, and regulatory tools. The goal of the meeting was to inform stakeholders on the staff's path forward on each of the primary focuses. Although comments were heard at the meeting and are taken in writing during the 30 days following the meeting (November 19<sup>th</sup> deadline was extended to November 30<sup>th</sup>), the focus was on information sharing. As stated during the meeting, there was no intention to present or create new staff positions and individual opinions expressed by the staff may not have been the official NRC position.

### DAY 1 - October 13, 2004      TOPIC: NFPA 805

The discussion on the new risk-informed, performance-based fire protection rule, National Fire Protection Association's (NFPA) Standard 805, focused on how the new rule can be applied at the nation's commercial nuclear power plants. The meeting included discourse on the transition to NFPA 805, a cost/benefit analysis, a synopsis of the Regulatory Guide (which is currently open for public comment), a description on how inspections will be carried out, and specific examples of risk-informed, performance-based analysis that the standard supports. A discussion period was permitted at the conclusion of each presentation. To view the first day's handouts, see Attachment 1B and Attachment 1C. To supplement the handouts, notes from each presentation and the following discussion are included here, along with any take back items. There were no names taken of individuals voicing discussion points.

#### **High Level Objectives (Hannon)**

- In February 2004, Chairman gave one year to bring key fire protection issues to closure.
- Fire protection has been in constant development for 25 years, and great advancements have been made recently.
- The path to closure is established and we are nearing its end.
- If not now, when will closure occur? If not us, who will make closure happen?

#### **Regulatory Stability Through NFPA 805 (Klein)**

- NFPA 805 is voluntary and will establish a clear licensing basis.
- NFPA 805 helps the licensees to focus on risk significant issues.

#### **Utilizing NFPA 805 as "The Rule" (Lain)**

- Rule was issued June 16, 2004 (ML040540511).
- 10 CFR 50.48(c) can be used to replace 50.48(b) but 50.48(a) remains in effect.
- How do tech specs relate to NFPA 805 and the 72 hour analysis? **(TAKE BACK)**

### Enforcement Discretion (Sparks)

- Interim enforcement discretion was issued June 16, 2004 (ML040540548).
- Enforcement discretion is permitted for noncompliances identified during the transition and for existing noncompliances.
- Existing identified noncompliances that have been colored and entered into the action matrix can not be removed under the Interim Enforcement Policies for the licensing basis transition to NFPA 805. (NOTE: Following the meeting it was clarified that licensees could defer corrective action for existing identified non-red noncompliances until after the transition period is complete. See ADAMS ML043020353)
- Safety significance of an issue is established regardless of whether it is in the action matrix to determine if enforcement is needed, evaluate corrective action, and inform stakeholders.
- An overall plant license renewal application and any license amendment request must be two different submittals, but they may occur at the same time. This will remain true for NFPA 805 plants.
- A plant remains under its current licensing basis until the license amendment request is approved.
- Two years of enforcement discretion is available for existing noncompliances if a letter of intent is received by the NRC prior to the designated deadline which is currently January 16, 2005. NRC is considering an NEI request for an extension of this deadline to December 15, 2005, so licensees can plan for the 2006 budget cycle. Note: There is no expiration date to start the two years of enforcement discretion for noncompliances found during the NFPA 805 transition process.
- If a degraded cornerstone is present and a licensee wants to transition to NFPA 805, would a 95-002 type inspection still be done? **(TAKE BACK)**

### Transition to NFPA 805 (Lain)

- Implementation process, projected savings, and NRC review expectations were discussed.
- Duke power has done cost/benefit and found that a plant's stance on Operator Manual Actions and Circuit Analysis can greatly effect the cost effectiveness.
- Provide assumptions for NRC cost analysis to provide a more accurate number. **(TAKE BACK)**
- Verify that, where appropriate, the Operator Manual Actions calculated savings use same inputs as the NFPA 805 calculated savings. **(TAKE BACK)**
- Key discussions during assist visits should be documented in SER... the documents used during the transition become licensing basis documents. Verify a process is in place for this. **(TAKE BACK)**
- Canadian experience has been that adoption of NFPA 805 has eliminated the need for many modifications at Canadian plants.
- NEI requested 12/05 extension of the submission period for the letter of intent. **(TAKE BACK)**
- NRC is evaluating a waiver of licensing fee for the first amendment request, but a waiver of fees would require CFO approval. **(TAKE BACK)**
- Licensees have a responsibility to review and accept the NRC's draft SER for the license amendment request.

### **The NFPA 805 Regulatory Guide (Lain)**

- The Reg. Guide is currently open for public comment (ML042240308).
- “Safe Today” transitioning to “Safe Tomorrow” philosophy applies.
- Includes NRC endorsement of NEI 00-01 and NEI 04-02.
- What is NRC intended role for NEI 02-03? **(TAKE BACK)**
- Most changes after the transition will not require prior NRC approval but will be monitored through the Reactor Oversight Process.
- Provide examples to better define the threshold for what comes to the NRC for pre-approval, although NEI 96-07 and 10 CFR 50.59 attempt to do this but not directly tied to fire protection. **(TAKE BACK)**
- FSAR should say that you meet NFPA 805, do not reference the transition report. Incorporating the transition report by reference may create the need for a license revision whenever the report is modified.
- Clarify recovery action criteria. **(TAKE BACK)**

### **Inspecting with NFPA 805 (Dipert)**

- Inspection guidance discussed for both during and after transition period.
- Guidance may be drawn from license renewal inspection procedures. **(TAKE BACK)**
- Is 10 CFR 50.59 consistent with NFPA 805 change control process? **(TAKE BACK)**
- Will noncompliance with NFPA 805 be treated by SDP colors or an escalated enforcement? **(TAKE BACK)**

### **Change Control Process Examples (Gallucci)**

- Various examples of paths through NFPA 805's change evaluation process were given.
- Fire risk assessment supported by fire modeling is often needed in this process. However, fire modeling results alone may justify no increase in risk if targets are free of fire damage.
- Full plant fire PRA is not required by NFPA 805, but it may become useful.
- Paragraph 3.1.2(d) of Regulatory Guide appears to conflict with Section 4.1 of NFPA 805, with respect to the need for a risk assessment for a deterministic change. **(TAKE BACK)**
- Examples in initial risk assessment should resemble NEI 04-02. **(TAKE BACK)** (Note that there is no plan to present these examples again, so no specific action on existing slides. If concept is resurrected in the future, consistency with NEI 04-02 change evaluation process [delta CDF vs CDF] would be restored. However, although slides were labeled as Change Evaluation and were based on Table 5-1 of NEI 04-02, they were actually intended as transition examples, so some disconnect existed.)

## **DAY 2 - October 14, 2004      TOPIC: Circuit Analysis**

The second day focused on how the NRC will restart the circuit inspections in a risk-informed manner as discussed in the Regulatory Issue Summary (RIS) 2004-03. The topics presented included regulatory clarification, the revised inspections procedures, discussion on a self-assessment period, and how the NEI publications on this topic will be applied. The staff sees the need to further elaborate on the merger of risk-informed inspections and strict rule compliance when revising RIS 2004-03. Positive feedback was received on the proposal of a

self-assessment period utilizing a method like NEI 04-06. A discussion period was permitted at the conclusion of each presentation. To view the second day's handouts, see Attachment 2. To supplement the handouts, notes from each presentation and the following discussion are included here, along with any take back items. There were no names taken of individuals voicing discussion points.

### **Welcome/Historical Perspectives (Klein)**

- The closure plan for circuit analysis was reviewed.

### **Regulatory Background (Frumkin)**

- Key documents and actions were reviewed to provide a clear, historical perspective.
- Verify GL 81-12 decay heat removal valve nomenclature is consistent with slide 12. Also verify thermoset intercable failure for valve maleoperation. **(TAKE BACK)**
- Paragraphs in revised RIS should be consistent and build upon each other. **(TAKE BACK)**
- Provide a public comment period for all RIS. **(TAKE BACK)**

### **Post Fire Safe Shutdown Circuit Analysis (Radlinski)**

- Several key issues of concern were highlighted during this presentation. These included: Train Free of Fire Damage, Spurious Actuations; Any-And-All / One-At-A-Time, Associated Circuits, Plant Specific Exemptions, and Emergency Control Stations.
- Currently, deterministic regulation is enforced by risk-informed inspections. The RIS describes inspection focus, not compliance with the rule. The documents produced as NRR nears closure will clarify and bring these two issues together.
- License amendments, exemption requests, and NFPA 805 take significant resources... how many spurious actuations should a licensee postulate? **(TAKE BACK)**
- It was clarified that a revised RIS and a completely new RIS are expected. The new RIS will also address control room circuit analysis considerations.
- The discussion centered around the industry's interpretations of regulatory requirements.

### **Inspection Procedures and the Reactor Oversight Process (Dreisbach)**

- The revised Inspection Procedures brings more risk-awareness to the inspectors by providing risk-informed guidance for use when selecting samples and assessing issues.

### **Enforcement Discretion (Klein)**

- More information was provided on how the Staff views NEI 00-01, 02-03, and 04-06.
- Staff is 95% comfortable with current version (Rev. 1) of NEI 00-01 for use with NFPA 805.
- NEI 02-03 outlines a method to determine whether NRC approval is needed prior to implementing a change. NEI requested formal endorsement or NRC guidance similar to that provided in 10 CFR 50.59. **(TAKE BACK)**
- A revision of NEI 04-06 is expected that will include lessons learned from the pilots.
- A new plan for enforcement discretion for plants performing self-assessments similar to NEI 04-06 was discussed. Some level of NRC oversight will be provided during this process. The NRC would likely want to see results that would normally fall into the action matrix.

- What is the date by which the self-assessments must be performed to qualify for this plan? It was stated that six months into the year is too soon since many plants do not have room under the fixed 2005 budget. **(TAKE BACK)**
- A panel is being established at NRC headquarters to recognize challenges in licensing basis and assist regions with circuit analysis.
- Consider having regional inspectors funnel questions and judgements made to NRR for generic application. **(TAKE BACK)**

### **Practical Applications (Frumkin)**

- The pilots conducted by NEI were discussed during this presentation.
- Guidance is needed on what an “unrecoverable” condition is and further discuss evaluation of any-and-all / one-at-a-time. **(TAKE BACK)**
- Multiple failures taken concurrently needs to have boundary analysis considered. **(TAKE BACK)**

## **DAY 3 - October 15, 2004      TOPIC: Regulatory Tools**

The meeting was wrapped up with a half day of presentations on the advancements being made in tools supplemental to fire protection regulation. Staff from the Office of Research discussed PRA methodology, NUREG 1805 (Fire Dynamics Tools - Quantitative Fire Hazard Analysis Methods for the USNRC Fire Protection Program), and the verification/validation of several fire modeling programs. The staff received positive feedback from these presentations, and only technical questions on the interrelation with NFPA 805 were raised. A discussion period was permitted at the conclusion of each presentation. To view the third day's handouts, see Attachment 3. To supplement the handouts, notes from each presentation and the following discussion are included here, along with any take back items. There were no names taken of individuals voicing discussion points.

### **Welcome/Fire Protection Tools Past, Present, and Future with NFPA 805 (Salley)**

- Fire models are vital to NFPA 805 but non-805 plants may find useful application for them as well.
- Caution must be taken when using a fire model. Verification of equations, limitations, boundaries, and sensitivity analysis is needed.
- Can the safety margin associated with limiting fire scenarios and maximum expected fire scenarios be quantified? **(TAKE BACK)**

### **Fire Probabilistic Risk Assessment (Hyslop)**

- The Fire PRA Methodology document, NUREG/CR-6850 (EPRI 1008239), provides state-of-art fire risk analysis methods, tools, and data. It was jointly developed by RES and EPRI. This document will provide a basis for risk-informed analysis, especially as it pertains to NFPA 805.
- This fire PRA methodology will likely be important for applications beyond those conforming to Category III of the ANS Fire Risk Standard. Although Category II quality may be predominant in many applications, Category II quality, supplemented by category III as appropriate, may be necessary. The ANS Fire Risk Standard committee is in the process for determining the

technical guidance for the various quality categories of the ANS Fire Risk Standard.

- This Fire PRA Methodology addresses technical issues identified by NRC staff in the IPEEE reviews.

#### **Joint Fire PRA Methodology (Najafi - SAIC)**

- An update on the PRA Methodology document, now out for public comment, was provided. This update is identified in the above mentioned presentation.
- A screening tool could be useful for fire PRA. **(TAKE BACK)**
- Are there plans for a maintenance tool for fire PRA's? **(TAKE BACK)**

#### **ANS Fire Risk Standard (Henneke - Duke)**

- This presentation was given by B. Najafi of SAIC.
- The ANS Fire PRA Standard was outlined and is captured in the slides.

#### **NUREG 1805 (Salley)**

- An overview of NUREG-1805 was provided and is captured in the slides.
- A training is scheduled for November 22<sup>nd</sup> and 23<sup>rd</sup> at NRC Headquarters.

#### **RES/EPRI Verification and Validation Project (Hill)**

- A status update and overview of the V&V Study was given and is captured in the slides.
- Has NRC section that handles quality assurance of computer programs been consulted? **(TAKE BACK)**

#### **RES/EPRI V&V Analysis Technical Content (Najafi - SAIC)**

- A more technical analysis of the V&V Study was provided and is captured in the slides.