Enclosure

NFPA 805 OBSERVATION VISIT TRIP REPORT[1]

Date: August 6 - 9, 2007

Location: Hyatt Hotel, Bethesda, Maryland

Attendees: Representatives from the following organizations attended the meetings:

Duke Energy	NRC Headquarters
Progress Energy	Kleinsorg Group
ERIN Engineering and Research, Inc.	Pacific Northwest National Laboratory (PNNL)

Subject: Risk-Informed, Performance-Based Fire Protection Transition Pilot-Plant Observation Visit – Shearon Harris Nuclear Power Plant and Oconee Nuclear Station

Agenda: See Attachment 1

Summary:

A Nuclear Regulatory Commission (NRC) transition pilot plant observation visit for implementation of Title 10 of the *Code of Federal Regulations* (10 CFR), Section 50.48(c), was held with representatives from Duke Energy and Progress Energy at the Hyatt Regency in Bethesda, Maryland, from August 6 to 9, 2007. Other industry representatives were also present to observe the public and non-public proceedings. The meetings on August 6, 7, and 8, 2007, were closed to the public. These meetings covered Sensitive Homeland Security Information. The public meeting was held the morning of August 9, 2007. Duke Energy and Progress Energy presented the status of their transition projects and specific topics related to 10 CFR 50.48(c) implementation. Attachment 1 provides the topics and agenda. Attachment 2 provides a list of issues raised by the observation visit participants and is called the "Parking Lot." This list documents and tracks transition issues from visit to visit. The NFPA 805 Frequently Asked Question (FAQ) process is often used to close the Parking Lot issues. Attachment 3 refers to the presentations given during the meetings that are security-related and not released to the public under 10 CFR 2.390. Attachment 4 refers to the presentations during the public meeting that are not security-related and are being released to the public. Attachment 5 provides the Issue Summary Sheets. These summaries provide clarification and detail of lessons learned from NFPA 805 Transition Pilot Program. Attachment 6 provides a summary of the issues and of the resolution status.

[1] To maintain consistency with other "Observation Visit Trip Reports" in this series, this same terminology is used here, although the "visit" and "trip" took place locally (Bethesda, Maryland), essentially at NRC headquarters.

General Discussion:

The general objective of the observation visits is to facilitate communications between NRC staff (the staff) and the pilot plant licensees in order to: (1) gain experience with plant specific application of risk-informed, performance-based methods, including validation of the approach and methods of Nuclear Energy Institute (NEI) NEI 04-02, and Regulatory Guide (RG) 1.205; (2) identify regulatory and licensing issues that may impact implementation; and (3) identify improvements and lessons learned to be considered in future inspection procedures and inspector training.

This visit supported the NRC observation of on-going pilot plant activities by Progress Energy and Duke Energy involving the transition from their current fire protection programs to risk-informed, performance-based fire protection programs that meet 10 CFR 50.48(c) and NFPA 805, as endorsed therein.

Specific Visit Topics:

This section of the report summarizes the specific topics identified in the agenda and includes information that resulted in identification of new Parking Lot issues, lessons learned, or other information that has the potential to influence regulatory or industry processes or guidance for implementation of NFPA 805. Attachment 5 identifies, by number, the Issue Summary Sheets associated with the agenda topics.

Agenda Topic 1, Introductions, Meeting Kickoff:

NRC and Progress Energy led the introduction of team members and agenda overview.

Agenda Topic 2, Progress Energy Status (Handout References 1, 2, 3, 4, 5, and 6):

Progress Energy provided the transition status of the Harris Nuclear Plant (HNP) (Reference 1). Highlights include the following: (1) Table B-3 is complete and under review; (2) probabilistic risk assessment (PRA) quantification is underway; and (3) Progress Energy is working the change process and non-power operation issues. Development of a draft license amendment request (LAR) and a draft final safety analysis report (FSAR) outline are on track for presentation at the November meeting. Progress Energy presented their schedule for development of change evaluations (Reference 2) as well as an overview of their change evaluation/deficiency resolution process (Reference 3). Progress Energy again presented their fire PRA/fire protection program interface (Reference 4) to provide common discussion points on the interface between the two parts of the program. Progress Energy also provided a flowchart of their expected post transition documentation (Reference 5). The schedule for reviews was briefly discussed (Reference 6). The next pilot meeting will be held the week of November 5 in Atlanta, Georgia. Concerning the NRC pilot plant reviews of the PRA models, two items were of particular note: (1) providing the material two weeks before the reviews should be adequate, and (2) parts of the internal events model will be subject to the NRC review.

Agenda Topic 3, Duke Energy Status (Handout Reference 7):

Duke Energy provided the transition status of the Oconee Nuclear Station (ONS). ONS Unit 1 cable selection and routing is nearing completion (expected in early 2008), as is the plant modification review for plant changes since 2002. Revision 0 to Tables B-1 and B-2 are complete and ready for NRC review and comment, while work on Table B-3 continues. Duke Energy noted that configuration control is one of the largest and hardest parts of implementing NFPA 805. They are having to do a reconstitution of the Post-Fire Safe Shutdown Analysis in parallel with the existing Fire Protection Program licensing basis as well as the NFPA 805 Fire Protection licensing basis (i.e., both have to be maintained at the same time to the same configuration). I**ssue Summary Sheet 45** documents this issue.

Agenda Topic 4, FAQs for NEI 04-02 Revision 2 (Handout Reference 8):

Progress Energy led a discussion on the status of NFPA 805 frequently asked questions (FAQs). To date, 28 FAQs have been submitted to the NRC. Fifteen have been resolved, ten are with the NRC staff for review and comment, and three are with the NEI Task Force for review and revision. Revision 2 to NEI 04-02 incorporates resolved FAQs and should be ready by spring 2007. Outstanding FAQs 5, 8, and 11 have the highest priority for resolution and incorporation into NEI 04-02, Revision 2. An issue exists with the ability to revise RG 1.205 to reference NEI 04-02, Revision 2, due to ties with RG 1.200. **Issue Summary Sheet 47** documents this issue.

Agenda Topic 5, Upcoming Schedule (Handout Reference 6):

Progress Energy led the discussion on planning the next pilot-plant meetings. Of note, the next pilot-plant meeting will be in Atlanta, Georgia, the week of November 5, 2007, while the NEI Fire Protection Information Forum will be in New Orleans during the week of September 17, 2007. In response to a request from Duke Energy, it was noted that the ONS PRA review will occur after the HNP review and will thus have to be in March 2008.

Agenda Topic 6, Non Power Operations (Handout References 9 and 10):

Duke Energy (Reference 9) and Progress Energy (Reference 10) provided presentations on non-power operations. NFPA 805 requires the evaluation of the effects of a fire “during any operational mode and plant configuration” and NEI 04-02, Appendix F, provides a detailed methodology for these low power and non-power modes. However, during previous pilot-plant meetings, NRC has expressed concerns with the definitions and analysis related to key safety functions (KSF) and higher risk evolutions (HREs). **Issue Summary Sheet 41** documents this issue. Specifically, industry was challenged to propose a method for addressing fire-induced HREs as opposed to addressing fire risk during “higher risk”” evolutions. The presentations by Duke Energy and Progress Energy outlined their proposed methods**.** Further and formal resolution will be via the FAQ process and inclusion in a future revision to NEI 04-02.

Agenda Topic 7, NRC Notes/Comments on Process:

Sunil Weerakkody, NRC, reiterated the NRC support (including the commissioners) of NFPA 805 and risk-informed programs and provided information/comments on the NFPA 805 process, including:

- the FAQ process will be formalized via an upcoming RIS, already in the internal NRC approval process.

- Alex Klein would be acting as the Branch Chief in an interim capacity until a permanent replacement could be found.
- A RG 1.205 revision will follow the expected revision of NEI 04-02 (currently scheduled for submittal in January 2008); the process would be started soon after the NEI 04-02 revision is submitted. **Issue Summary Sheet 47** documents an issue with the planned RG 1.205 revision.

Agenda Topic 8, Circuit Analysis Methodology Update (Handout Reference 11):

Progress Energy led the discussion on circuit analysis methodology. HNP is generally relying on re-validation of the existing safe shutdown analysis (SSA) using the methodology outlined in NEI 04-02, Appendix B-2, coupled with an expert panel to identify multiple combinations of concern. The Fire PRA results also identify additional multiple combinations of concern. There were substantial discussions between the industry and staff whether screening was based on SER statements for HNP that excluded inter-cable hot shorts from consideration. HNP explained that the expert panel examined the potential for multiple combinations at the system level and did not exclude inter-cable hot shorts. Further clarification indicated that risk-significant inter-cable hot shorts will be integral to the Fire PRA. There were indications that HNP plans to bring the SER on cable-to-cable forward through the NFPA 805 process, but will address cable-to-cable hot shorts in the risk analysis. **Issue Summary Sheet No. 40** documents this issue.

Agenda Topic 9, Change Evaluation Procedures and Process (Handout References 3, 5, 12, 13, 14, 15, 16, and 17)

Progress Energy and Kleinsorg Group led the discussion of the HNP change evaluation process and procedures. Change evaluations are covered in several different documents related to NFPA 805, including 10 CFR 50.48(c), NFPA 805, NEI 04-02, and RG 1.205. Change evaluations are performed to ensure that a change to a previously approved fire protection program element is acceptable (NFPA 805, 2.2.4). HNP developed a plant procedure (Reference 17) that steps through the four areas of a change evaluation (defining the change, preliminary risk screening, risk evaluation, and acceptance criteria). The process depends largely on measuring changes in risk for individual changes under consideration. Progress Energy stepped through generic and specific examples. NRC provided comments for resolution by Progress Energy before and during the meeting on specific documents related to this topic.

Agenda Topic 10, Progress Energy PRA: Supporting PRA Delta Analysis:

Progress Energy showed, but did not provide, a draft Fire PRA notebook. It included templates for characterization of detection and suppression systems, Fire PRA model assumptions, analysis of hot gas layer potential, risk ranking of ignition sources, final compartment CDF, and references. The document summarizes databases and spreadsheets used to provide input to the calculations referenced in Agenda Topic 9.

Agenda Topic 11, Progress Energy PRA: Supporting Target Determination Analysis (Handout References 14 and 18):

Progress Energy led the discussion on NFPA 805 target selection. The NFPA 805 target selection process is an iterative process starting with full compartment and ignition sources, screening out using scoping results, and refining the analysis as needed. The change evaluation process requires the addition of details. Progress Energy discussed the sample

calculation provided earlier (Reference 14). NRC provided comments for resolution by Progress Energy before and during the meeting on specific documents related to this topic. However, general concerns exist with the staff over the use of performance-based only approaches (i.e., fire modeling to define compliance without consideration of risk insights from the PRA). The staff cited previously documented concerns by the ACRS on this method (during NEI 04-02 development). Both Duke Energy and Progress Energy indicated fire modeling would be performed in support of and integrated with the Fire PRA process. **Issue Summary Sheet 48** documents this issue. In addition, the staff noted that NUREG-1824 outlines the limitations of NUREG-1805 ("Fire Dynamics Tools," FDTs) and that its use for these purposes needs to be verified as appropriate.

Agenda Topic 12, NRC Comments on Progress Energy Calculations (Handout Reference 19):

NRC staff from Headquarters provided comments on documents supplied by Progress Energy before this pilot observation meeting. A brief review of the NRC comments provided clarification of specific NRC questions and allowed Progress Energy to discuss their planned resolution of the issues. NRC expects Progress Energy to submit final comment resolutions for inclusion on the docket.

Agenda Topic 13, Defining NFPA 805 Compliance (Handout References 4 and 5):

Progress Energy and Duke Energy led a discussion on NFPA compliance (i.e., "what does 'done' look like?"). Progress Energy has a plan for the post-transition documentation it expects to maintain (Reference 4) as well as how it defines the relationship between the Fire PRA and the Fire Protection Programs (Reference 5). Discussions indicated a growing realization that supporting documentation will need to be included with non-pilot as well as pilot LAR submittals. It is unclear if this additional information required for NRC review should be included as part of the transition reports or in the actual LARs. For example, inclusion of information from Tables B-1, B-2 and B-3 is needed to review the LARs, but the level of detail actually included in the submittal is still not decided. **Issue Summary Sheet 49** documents this issue.

Agenda Topic 14, Duke Energy Examples and Related Topics (Handout References 20, 21, 22, 23, 24, 25, 26, 27, and 28):

Duke Energy and ERIN led a discussion on the Duke Energy change evaluation documentation provided to the NRC in July. This included fire hazards analysis for a specific fire area, fire ignition source information, ignition frequency calculation data, ignition source/scenario summary, and change calculation. NRC provided comments for resolution by Duke Energy before and during the meeting on specific documents related to this topic. Additional discussions also indicated NRC required resolution of the following issues:

- For their Fire PRAs, both pilot plants are assuming the transient combustibles are on the floor when calculating zones of influence (ZOIs). Other references indicate a 2 foot height should be assumed. NUREG/CR-6850 does not specify a height. The appropriate height of transient combustibles for calculating ZOI is not clear. **Issue Summary Sheet 50** documents this issue.
- Issues arose concerning appropriate resolution when Appendix R actions differ from NFPA 805 Fire PRA assumed actions (e.g., SSD-required actions versus screened or

unnecessary actions as indicated by NFPA 805). **Issue Summary Sheet 51** documents this issue.

- It was discussed that fire modeling and risk assessments will be used to modify (add, remove, change/reprioritize) proceduralized human actions, and the NRC would expect this type of information to be discussed in the LAR. For example, Table B-3 will contain information about changes (e.g., manual actions that are no longer required); however, at this time, a formal summary of changes to manual actions is not specified. **Issue Summary Sheet 49** documents this issue.

Agenda Topic 15, Parking Lot Review (Attachment 2):

Kleinsorg Group led a discussion on the Parking Lot (Attachment 2). One item was split into two (61 became 61 and 62), two new items were created (63 and 64), one item was updated (49), and twelve items were closed (21, 22, 44, 48, 53, 54, 55, 56, 57, 59, 60, and 64). Additional details on actions taken, a short summary of the discussions on specific issues, and whether an FAQ is associated with an item are included in the Parking Lot Issues (Attachment 2).

Agenda Topic 16, NRC Comments on Duke Energy Calculations (Handout Reference 28):

NRC staff from Headquarters provided comments on documents supplied by Duke Energy before this pilot observation visit. A brief review of the NRC comments provided clarification of specific NRC questions and allowed Duke Energy to discuss their planned resolution of the issues. NRC expects Duke Energy to submit final comment resolutions for inclusion on the docket.

Agenda Topic 17, Public Meeting (Handout References 29, 30, 31, 32, and 33):

Harold Barrett of the NRC and Jeff Ertman of Progress Energy provided introductions for the Category 2 Public Meeting. The following presentations were provided and they closely followed the similar content provided during the non-public meetings.

- Duke Transition Status, David Goforth, Duke Energy (Reference 29)
- Progress Transition Status, Jeff Ertman, Progress Energy (Reference 30)
- Non Power Operations (Dave Goforth), Duke Energy (Reference 31)
- Change Evaluation Process (Jeff Ertman), Progress Energy (Reference 32 and 33)

No major additional discussions were held as part of the public meeting. The issue of whether the level of detail provided in the B-1, B-2, and B-3 tables is required as part of the LAR was again raised. **Issue Summary Sheet 49** documents this issue.

Parking Lot Issues Summary:

The Parking Lot Issues summary (see Attachment 2) was initiated at the first observation visit in November 2005. The summary documents the issues and needs identified during observation visit presentations and related discussions. NRC and Industry use this summary to track issues, revise existing items as necessary, and open new items for issues identified during follow-on observation visits.

As discussed under Agenda Topic 15 (above), the August 2007 observation visit identified two new items, split an existing item into two, closed twelve, and changed the status on one other. Additional details on actions taken, a short summary of the visits' discussions on the specific issues, and whether a FAQ is associated with an item are included in the Parking Lot Issues (Attachment 2).

Issue Summary Sheets

The Issue Summary Sheets were initiated at the second observation visit in March 2006. The NRC staff determined that additional information, clarification, and detail (to that provided in the Parking Lot Issues table) were needed to convey pilot-plant identified issues and lessons learned to the non-pilot licensees and other interested parties. Attachment 5 provides the Issue Summary Sheets combined with the related Parking Lot Issues.

Plans for Next Observation Meeting:

The NRC and industry representatives discussed future observation visits and a tentative schedule for working level visits. Progress Energy provided a "strawman" for a 2007-2008 schedule (Reference 6) for interim review of deliverables (in particular, the PRA activities), and Duke Energy is to provide NRC with their PRA schedule information to facilitate planning of review activities.

Attachments:

1. Topics and Agenda. NFPA 805 Transition Observation Visit at the Hyatt Regency in Bethesda, MD, August 6 - 9, 2007.

2. Updated Parking Lot (Meeting Agenda Topic #15). NFPA 805 Transition Observation Visit. at the Hyatt Regency in Bethesda, MD, August 6 - 9, 2007.

3. Security-Related Handouts. NFPA 805 Transition Observation Visit at the Hyatt Regency in Bethesda, MD, August 6 - 9, 2007.

4. Non Security-Related Handouts. NFPA 805 Transition Observation Visit at the Hyatt Regency in Bethesda, MD, August 6 - 9, 2007.

5. NFPA Pilot-Plant Implementation Issue Summary Sheets

6. Summary of Issue Identification and Resolution Table

Handout References:

1. NFPA 805 Implementation August Pilot Observation Meeting Harris Transition Status, Jeff Ertman, Progress Energy, August 6, 2007 - Meeting Agenda Topics 2 - Slide Presentation.

2. HNP NFPA 805 Change Evaluation Development – Draft for Review, Jeff Ertman, August 6, 2007 – Meeting Agenda Topic 2 – Single Slide.

3. Change Evaluations / Deficiency Resolution Process Overview, Jeff Ertman, Progress Energy, August 6, 2007 – Meeting Agenda Topic 2 – Single Slide/Flow Chart.

4. PE Fire PRA / Fire Protection Program Interface, Jeff Ertman, Progress Energy, August 6, 2007 – Meeting Agenda Topic 2 – Single Slide.

5. Post Transition Documentation, Jeff Ertman, Progress Energy, August 6, 2007 - Meeting Agenda Topic 2 – Single Slide/Flow Chart.

6. Harris NFPA 805 Pilot Observation Meeting/Reviews Proposed Schedule, Jeff Ertman, Progress Energy, August 6, 2007 – Meeting Agenda Topics 2 and 5 – Single Slide

7. Oconee NFPA-805 Technical Update, David Goforth, Duke Energy, August 6, 2007 - Meeting Agenda Topic 3 – Slide Presentation.

8. NEI 04-02 Frequently Asked Questions Pathway to Resolution, Jeff Ertman, Progress Energy, August 6, 2007 – Meeting Agenda Topic 4 – Slide Presentation

9. Non Power Operation Transition, David Goforth, Duke Energy, August 7, 2007 – Meeting Agenda Topic 6 – Slide Presentation

10. NFPA 805 Transition August Pilot Observation Non-Power Operations, David Miskiewicz, Progress Energy, August 7, 2007 – Meeting Agenda Topic 6 – Slide Presentation

11. Circuit Analysis Methodology Update, Jeff Ertman, Progress Energy, August 7, 2007 – Meeting Agenda Topic 8 – Slide Presentation

12. Harris Nuclear Plant (HNP) Risk-Informed Performance-Based Transition Change Evaluation Process, Jeff Ertman, Progress Energy, August 7, 2007 – Meeting Agenda Topic 9 – Slide Presentation

13. Calculation HNP-M/MECH-1105 “NFPA 805 Transition – Fire Area 1-A-BAL-C Fire Safety Analysis [DRAFT]”, Bob Rhodes, Progress Energy, August 7, 2007 – Meeting Agenda Topic 9 – Plant Calculation (Sensitive)

14. Calculation HNP-F/PSA-0071 “Fire Zone of Influence Calculation [DRAFT]”, Bob Rhodes, Progress Energy, August 7, 2007 – Meeting Agenda Topic 9 – Plant Calculation (Sensitive)

15. Calculation “Fire Area 1-A-BAL-C Fixed and Transient Ignition Source Fire Modeling Analysis [DRAFT]”, Bob Rhodes, Progress Energy, August 7, 2007 – Meeting Agenda Topic 9 – Plant Calculation (sensitive)

16. Table B-3 Fire Area Transition 1-A-BAL-C [DRAFT], Bob Rhodes, Progress Energy, August 7, 2007 – Meeting Agenda Topic 9 – Table (Sensitive)

17. FPIP-0128 NFPA 805 Transition Change Evaluations, Revision 0, Progress Energy, August 7, 2007 – Meeting Agenda Topic 9 – Plant Procedure (Sensitive)

18. NFPA 805 Transition August Pilot Observation Target Selection, Sarah Thompson, Progress Energy, August 7, 2007 – Meeting Agenda Topic 11 – Slide Presentation

19. NRC Comments on Documents Supplied by Progress Energy for Pilot Observation Meetings, Jeff Ertman, Progress Energy, August 7, 2007 – Meeting Agenda Topic 12 – Table (Sensitive)

20. Duke Power Change Evaluation Example for NRC Review, Usama Farradj, ERIN, August 8, 2007 – Meeting Agenda Topic 14 – Slide Presentation

21. ISDS Worksheets, David Goforth, Duke Energy, August 8, 2007 – Meeting Agenda Topic 14 – Plant Document (Sensitive)

22. Oconee NFPA 805 Transition FHA Verification Walkdown ignition Source Results, David Goforth, Duke Energy, August 8, 2007 – Meeting Agenda Topic 14 – Plant Document (Sensitive)

23. OSC-8979, Draft A, Fire PRA, Initiating Events, David Goforth, Duke Energy, August 8, 2007 – Meeting Agenda Topic 14 – Calculation (Sensitive)

24. OSC-8978, Draft A, Fire PRA, Component Selection, David Goforth, Duke Energy, August 8, 2007 – Meeting Agenda Topic 14 – Calculation (Sensitive)

25. Attachment C, Table C-1, OSC-8978 Draft A, David Goforth, Duke Energy, August 8, 2007 – Meeting Agenda Topic 14 – Calculation (Sensitive)

26. Attachment C, Table C-2, OSC-8978 Draft A, David Goforth, Duke Energy, August 8, 2007 – Meeting Agenda Topic 14 – Calculation (Sensitive)

27. Attachment C, Table C-3, OSC-8978 Draft A, David Goforth, Duke Energy, August 8, 2007 – Meeting Agenda Topic 14 – Calculation (Sensitive)

28. NRC Comments on Documents Supplied by Duke Energy for NFPA 805 Pilot Observation Meetings, Usama Farradj, ERIN, August 8, 2007 – Meeting Agenda Topic 16 – Table (Sensitive)

29. Oconee NFPA 805 Technical Update, David Goforth, Duke Energy, August 9, 2007 – Meeting Agenda Topic 17 – Slide Presentation

30. NFPA 805 Implementation August Pilot Observation Meeting Harris Transition Status, Jeff Ertman, Progress Energy, August 9, 2007 – Meeting Agenda Topic 17 – Slide Presentation

31. Non-Power Operation Transition, David Goforth, Duke Energy, August 7, 2007 – Meeting Agenda Topic 17 – Slide Presentation

32. Harris Nuclear Plant (HNP) Risk-Informed Performance-Based Transition Change Evaluation Process, Jeff Ertman, Progress Energy, August 9, 2007 – Meeting Agenda Topic 17 – Slide Presentation

33. Change Evaluation / Deficiency Resolution Process Overview, Jeff Ertman, Progress Energy, August 9, 2007 – Meeting Agenda Topic 17 – Slide Presentation

Attachment 1 to the Trip Report
Pilot Plant Observation Meeting
August 6 - 9, 2007

NFPA 805 Meeting for Oconee Pilot Plant NRC Observation Meeting Topics and Agenda, Hyatt Hotel, Bethesda, MD – August 6 – 9, 2007				
		Topic	**Lead Presenter**	**Topic Notes**
Monday August 6	1300 – 1310	Introductions, Meeting Kickoff	Jeff Ertman	Topic 1
	1310 – 1400	Progress Energy Status	Jeff Ertman	Topic 2, References 1, 2, 3, 4, 5, and 6
	1400 - 1415	Duke Energy Status	Dave Goforth	Topic 3, Reference 7
	1415 – 1500	FAQs for NEI 04-02 Revision 2	Jeff Ertman	Topic 4, Reference 8
	1500 - 1600	Upcoming Schedule	Jeff Ertman	Topic 5, Reference 6
Tuesday August 7	0830 – 1020	Non Power Operations	Dave Goforth Dave Miskiewicz	Topic 6, References 9 and 10
	1020 - 1030	NRC Notes/Comments on Process	Sunil Weerakkody	Topic 7
	1030 - 1130	Circuit Analysis Methodology Update	Jeff Ertman	Topic 8, Reference 11
	1200 – 1315	Change Evaluation Procedures and Process	Jeff Ertman Andy Ratchford Shirelle Allen	Topic 9, Reference 3, 5, 12, 13, 14, 15, 16, and 17
	1315 – 1355	Progress Energy PRA Supporting PRA delta analysis	Dave Miskiewicz	Topic 10
	1355 - 1455	Progress Energy PRA supporting target determination analysis	Sarah Thompson	Topic 11, Reference 14 and 18
	1515 - 1430	Comments on Progress Energy Calculations	Jeff Ertman	Topic 12, Reference 19

NFPA 805 Meeting for Oconee Pilot Plant NRC Observation Meeting Topics and Agenda, Hyatt Hotel, Bethesda, MD – August 6 – 9, 2007				
		Topic	**Lead Presenter**	**Topic Notes**
Wednesday August 8	0830 - 0910	Defining NFPA 805 Compliance	Jeff Ertman Dave Goforth	Topic 13, References 4 and 5,
	0915 – 1130	Duke Energy Examples and Related Topics	Usama Farradj	Topic 14, References 20, 21, 22, 23, 24, 25, 26, 27, and 28
	1315 – 1415	Parking Lot Review	Andy Ratchford	Topic 15, Attachment 2
	1430 – 1600	Comments on Duke Energy Calculations	Usama Farradj	Topic 16, Reference 28
Friday August 9 Public Meeting	0900 - 1130	Public Meeting	Harold Barrett	Topic 17, Reference 29, 30, 31, 32, and 33.

Attachment 2 to the Trip Report
Pilot Plant Observation Meeting
August 6 - 9, 2007

NFPA 805 Transition Observation Meeting Bethesda, MD – August 6 – 9, 2007 – Updated Parking Lot							
No.	**Topic**	**Assigned To**	**Action**	**Schedule**	**Action Taken**	**Meeting Discussion**	**FAQ Action**
1	How will Reactor Oversight Process deal with multiple spurious operations? Low significance vs. high significance. Philosophical approach for RI-PB treatment of multiple spurious operations is in NEI 04-02. 'Endorsement' of process will be accomplished via Reg. Guide.	Duke / Progress	ROP (new) / NEI 04-02 Methodology for Expert Panel Update Markup to P. Lain 3/28/06 flowchart Review of MC 0612	Feb. 2008 (Ertman)	NRC (Paul Lain) presented flowchart for "unevaluated Multiple Spurious operations" on 03/27/06. It included a screening process that included CAP and comp. measure inclusion, and documentation of the issue as a potential URI based upon risk significance.	Concerns and questions were raised about the process and the burden associated with URIs. Look at minor violation questions for MC 0612 – to see if 'potential multiple spurious operation findings' are adequately addressed. 1E-08 threshold for screening. Is it an appropriate value to use and consistent with the ROP? (NEI 04-02, NUREG-6850. RG 1.205) Pilot plants to provide comments on NRC flowchart and potential changes to NEI 04-02. Pilot Plants to provide Update by Feb. 2008	Potential
2	Consider Fussell-Vesely risk importance criteria for spurious operations in the gray area.					**[CLOSED] Refer to previous version of parking lot for details.**	No
3	Clarify approved/unapproved manual actions for change analysis.						**Closed to FAQ 06-0001 and 06-0012 October 2006**
4	NRC feedback on high-low pressure interface methodology and other items.						**Closed to FAQ 06-0006 October 2006**
5	Submittal/approval relative to Fire PRA peer review. Will the peer review be a prerequisite for license amendment submittal / approval.					**[CLOSED] Refer to previous version of parking lot for details.**	No
6	Non-power operational modes PRA requirements will be a 'show stopper'.					**[CLOSED] Refer to previous version of parking lot for details.**	No

NFPA 805 Transition Observation Meeting Bethesda, MD – August 6 – 9, 2007 – Updated Parking Lot							
No.	**Topic**	**Assigned To**	**Action**	**Schedule**	**Action Taken**	**Meeting Discussion**	**FAQ Action**
7	NEI 04-02 needs to be clearer on the relationship between NFPA 805 Chapter 3 and 4 requirements.						**Closed to FAQ 06-0004 October 2006**
8	Recommend making nuclear safety questions first in screening reviews.						**Closed to FAQ 06-0002 October 2006**
9	Clean up all change evaluation examples and send to NRC.					**[CLOSED to Item 10] Refer to previous version of parking lot for details.**	No
10	Modify NEI 04-02 to "show the path through" fire area boundary qualification.						**Closed to FAQ 06-0008 October 2006**
11	Guidance for performing preliminary risk screening.					**[CLOSED] Refer to previous version of parking lot for details.**	No
12	Change Question 4.f to "potentially greater than minimal" vs. "greater than minimal"						**Closed to FAQ 06-0003 October 2006**
13	How should the screening question be "reviewed" by the PRA engineers?					**[CLOSED] Refer to previous version of parking lot for details.**	
14	Consider having others serve as role of AHJ with respect to prior approval of Ch. 3 anomalies.					**[CLOSED to No. 10] Refer to previous version of parking lot for details.**	
15	Match up NEI 04-02 with RG 1.205 for baseline (Section 2.2 of Draft RG 1.205)						**Closed to FAQ 06-0010 October 2006**
16	How are interim changes to NEI 04-02 and issues going to be handled administratively?					**[CLOSED] Refer to previous version of parking lot for details.**	
17	Impact of circuit failure draft proposed RIS (May 2005) and Generic Letter (October 2005)					**[CLOSED] Refer to previous version of parking lot for details.**	
	Items started at PE Pilot (March 2006)						
18	Format for NEI 04-02 Appendix B NSPA methodology transition process.					**[CLOSED]**	**Closed to FAQ 06-0013 October 2006**

NFPA 805 Transition Observation Meeting Bethesda, MD – August 6 – 9, 2007 – Updated Parking Lot							
No.	**Topic**	**Assigned To**	**Action**	**Schedule**	**Action Taken**	**Meeting Discussion**	**FAQ Action**
19	Need to provide definitions and examples of related and unrelated changes.					**[CLOSED]**	**Closed to FAQ 06-0005 October 2006**
20	NRC provide any specific needs for "in progress" Fire PRA Peer Review This is relative to NRC stated intent to credit the observation process in instead of a Peer Review.	NRC and Progress	Provide proposed schedule at Nov. 2006 Pilot Mtg for NRC review of PRA task documents (estimated Jan. – Feb. 2007)	11/6/06		Item closed based on PE 'strawman' schedule for 2007 presented at 11/7/06 meeting. New item 31 (related) created. **[CLOSED]**	None
21	Reconciliation of different risk acceptance thresholds (RG 1.205, ROP acceptance, MSO acceptance).	Duke / Progress	Table of data and recommendations for change. Create FAQ	09/30/07 (Began)		Discussed at Oct. 2006 Pilot Mtg. Guidance will be developed during or post-performance of change evaluations.	**[CLOSED]**
22	Update Appendix I of NEI 04-02 to include non-power operational mode change evaluation.	NEI	Create FAQ to provide specific guidance.	09/30/07 (Began)		Closed to PL Item 64 at 8/8/07 pilot meeting	**[CLOSED]**
23	Discussion was held over wording related to FPP systems and features for the purposes of an FPP change.					**[CLOSED]**	**Closed to FAQ 06-0005 October 2006**
24	NRC expressed concern over "dividing up" individual changes that are small.					**[CLOSED]**	**Closed to FAQ 06-0014 October 2006**

NFPA 805 Transition Observation Meeting Bethesda, MD – August 6 – 9, 2007 – Updated Parking Lot							
No.	**Topic**	**Assigned To**	**Action**	**Schedule**	**Action Taken**	**Meeting Discussion**	**FAQ Action**
	Items started at ONS Pilot (October 2006)						
25	ONS Fire PRA are based on the fire zones as defined in the FP Program, which are not necessarily based on physical barriers or features that are subject to any rigorous treatment. The discussion with the NRC highlighted concerns with respect to the treatment of such compartment in the Fire PRA and the consistency of that treatment with the guidance provided in NUREG/CR-6850. Questions arose over impact of this approach on other tasks and level of documentation needed to justify this approach.	Duke	Provide clarification on methodology.	TBD		**11/7/06 Update** Closed due to change in Duke approach. PE will create similar item if issues arise at the PE sites. **[CLOSED]**	Potential
26	The NUREG/CR- 6850 methodology includes a specific frequency Bin for the treatment of the main control board in the Main Control Room (Bin 4 of Table 6-1). While the general description of this board by making Reference to the 'horseshoe', is generally correct, there are control room layout details that create some ambiguity, and the potential to characterize other electrical panels/cabinets as Bin 15. The guidance in NUREG 6850 is not clear enough to result in consistent application.	Duke	Provide clarification on methodology (FAQ?)	11/6/06 (HNP Pilot Mtg.)		High priority **[CLOSED]**	FAQ 06-0018 **[CLOSED]**

NFPA 805 Transition Observation Meeting Bethesda, MD – August 6 – 9, 2007 – Updated Parking Lot							
No.	**Topic**	**Assigned To**	**Action**	**Schedule**	**Action Taken**	**Meeting Discussion**	**FAQ Action**
27	NUREG/CR-6850 does not provide explicit guidance for the counting of plant electrical cabinets. Two basic approaches were debated. The Method 1 approach would count each individual electrical cabinet based on the physical boundaries of that cabinet independent of size or length. Method 2 would count electrical cabinets based solely on size.	Duke and Progress	Provide clarification on methodology (FAQ?)	11/6/06 (HNP Pilot Mtg.)		High priority FAQ 06-0016 presented at the meeting. **[CLOSED]**	FAQ 06-0016 **[CLOSED]**
28	The overall counting method guidance for switchgears, load centers, unit substations, and bus ducts is not completely clear. The concern is that counting these component types for Bin 16 using the Bin 15 method could result in a fire frequency distribution for HEAFs for switchgears and load centers that is inconsistent with industry experience in that the HEAF on the load centers and load centers would be much more frequent as compared to switchgears. A proposed change to the counting method for this Bin is proposed so that the HEAF frequency for low voltage equipment would be weighted to a lesser degree.	Duke / Progress	Provide clarification on methodology (FAQ?)	11/6/06 (HNP Pilot Mtg.)		High priority **11/8/06 Update** FAQ 06-0017 presented at the meeting. **[CLOSED] – Closed to FAQ 06-0017**	FAQ 06-0017
29	Miscellaneous ignition frequency binning issues. Questions arise during ignition frequency counting, such as: o MOV motors o Hydraulic actuators for valves o Transformers.	Duke / Progress	Provide clarification on methodology (FAQ?)	12/31/06		High priority **[CLOSED] – Closed to FAQ 07-0031**	FAQ 07-0031

NFPA 805 Transition Observation Meeting Bethesda, MD – August 6 – 9, 2007 – Updated Parking Lot							
No.	**Topic**	**Assigned To**	**Action**	**Schedule**	**Action Taken**	**Meeting Discussion**	**FAQ Action**
30	There is potential confusion over the role of 10 CFR 50.48(a) for a plant that is transitioning to NFPA 805. This may impact the scope of the transition and post-transition program management.	Progress	Provide clarification on the role of 10 CFR 50.48(a) with a post-transition fire protection program.	05/31/07		**11/7/06 HNP Pilot Discussion** Discussion held on information available in promulgation of 10 CFR 50.48(c) on 6/8/04 [ADAMS Accession No. ML041340086]. New FAQ to be issued to update NEI 04-02. **[CLOSED] – Closed to FAQ 07-0032**	FAQ 07-0032
	Items started at PE Pilot (November 2006)						
31	NRC to provide feedback to PE on 'strawman' 2007 schedule for interim review of deliverables (in particular, the PRA activities). Duke to provide NRC with PRA schedule information to plan 'peer review' activities.	NRC / Duke / Progress	Develop plan for peer review			Added 11/7/06 3/22/07 – Progress Energy has developed a schedule and considers item closed **[CLOSED]**	**Closed based schedule provided**
32	What to do about the new requirement for seismic hose stations (NFPA 805 Section 3.6.4, considering info in 10 CFR 50.48(c))	Duke / Progress	Provide proposed resolution.			Added 11/8/06 **[CLOSED]**	**Closed based on B1 review**
33	What to do about the new 'requirement' for suppression for the diesel fire pump (NFPA 805 Section 3.9.4).	Duke / Progress	Provide proposed resolution.			Added 11/8/06 **[CLOSED]**	**Closed based on B1 review**
34	What to do about the new requirement for qualified cable (NFPA 805 Section 3.3.5.3, considering info in 10 CFR 50.48(c))	Duke / Progress	Create FAQ to provide specific guidance.			Added 11/8/06 Closure to FAQ 06-0022. **[CLOSED]**	**Closed to FAQ 06-0022**
35	Need additional discussion on FAQ 06-0011 (ASD area transition). Discussion was held at the 11/8/06 meeting on how an ASD fire area (in particular operator manual actions) transition over. Confusion was voiced over the characterization of ASD fire areas as 'deterministic', while recovery actions are defined in NFPA 805 as 'performance-based'. This issue needs additional clarification.	Duke / Progress	Provide proposed resolution.			Added 11/8/06 **[CLOSED]**	**Closed to FAQ 06-0011**

NFPA 805 Transition Observation Meeting Bethesda, MD – August 6 – 9, 2007 – Updated Parking Lot							
No.	**Topic**	**Assigned To**	**Action**	**Schedule**	**Action Taken**	**Meeting Discussion**	**FAQ Action**
36	Discussion was held on assessing the risk of recovery actions (operator manual actions) and the need/methods to perform/report this information as part of transition. Reference Section 4.2.4 of NFPA 805. NRC expressed concerns over risk significant operator manual actions.	Duke / Progress				Added 11/9/06 **[CLOSED]**	**Closed to FAQ 07-0030 February 2007**
37	Determine whether the NRC plans to endorse the ANS Fire PRA standard in RG 1.200 or wait for an integrated standard. The impact on non-pilots requiring peer review needs to be understood.	NRC / NEI				Added 11/9/06 The NRC is going to use the ANS FPRA Standard for the Pilot Plants. The integration of the PRA standards will not alter the technical requirements from the individual ASME and ANS Standards. **[CLOSED]**	
38	Determine information sharing between task force members (details of project / products).	Duke / PE / NEI				**[CLOSED]**	
39	Question was raised on allowing the NRC to have some specific access to the NEI NFPA 805 webboard.	NEI				**[CLOSED]**	
40	With respect to getting acknowledgment from the NRC, NEI stated that working level task progress could be posted on the NEI Webboard. This could be used to get information out on specific tasks to the non-pilot plants.	NEI / Duke / Progress				**[CLOSED]**	
	Items started at PE Pilot (March 2007)						
41	Technical paper on Fire Protection Engineering Analysis (FPEA)	NEI/ Duke/ Progress	Create FAQ to provide specific guidance.			Added 03/08/07 Related to FAQ 06-0008. FPEAs were part of industry's proposed FAQ -6-0008. It is proposed that NEI provide a technical paper that better describes and defines FPEAs Closure to FAQ 06-0008 & FAQ 07-0033. **[CLOSED]**	**Closed to FAQ 06-0008 & 07-0033**

NFPA 805 Transition Observation Meeting Bethesda, MD – August 6 – 9, 2007 – Updated Parking Lot							
No.	**Topic**	**Assigned To**	**Action**	**Schedule**	**Action Taken**	**Meeting Discussion**	**FAQ Action**
42	Both industry and NRC have proposed resolutions to FAQ 06-0008.	NEI/ Duke/ Progress				Revision 2 will be issued that incorporates changes in Revision 0 and 1 as well as the industry and NRC proposed resolutions. **[CLOSED]**	FAQ 06-0008
43	Revise NEI 04 02 to clarify existing engineering equivalency evaluations (EEEE) guidance	NEI/ Duke Progress				The plants' indicated that the EEEE guidance in NEI 04 02 still requires further clarification (in addition to that being provided as part of FAQ 06 0008) and plans to propose changes. **[CLOSED] – Closed to FAQ 07-0033**	FAQ 07-0033
44	Consider establishing a NEI site for U.S. Nuclear Regulatory Commission (NRC) review of pilot material	NEI	NEI to determine logistics and capability.	August 2007 NEI TF meeting		Consideration is being given to setting up a location at NEI to allow NRC staff and contractors to review pilot-plant material. This will enhance the review of required material while allowing the plants' proprietary, security, and business sensitive information maintained under appropriate controls. Staff recommended process used previously for Reg Guide 1.200. NRC requested more than a single laptop for the reviews of detailed material (i.e., PRA info) at the 8/8/07 Pilot meeting.	
45	Define boundary versus qualitative counting	NEI/ Duke Progress				Discussions where held concerning whether to count items in structures and compartments that screened out earlier as part of the process. It was stipulated at this meeting that once the analysis boundaries are set then all components within a bin that is within the boundaries should be counted. This means that the possibility exists that the sum of all compartments will not be equal to the sum of all the given generic frequencies **[CLOSED]**	FAQ not needed. The 805 pilots do not disagree with the NRC understanding of NUREG/CR-6850 on this issue as discussed at the March 8 HNP pilot meeting.
46	Transformer threshold	NEI/ Duke Progress				NUREG/CR 6850 has several bins into which transformers fit (e.g., Bin 16, Bin 23 and Bin 29). While the criteria for counting transformers in Bin 16 and Bin 29 is adequately clear, the lower bound on Bin 23 transformers is not clear and needs further definition. **[CLOSED] – Closed to FAQ 07-0031**	FAQ 07-0031

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No.	**Topic**	**Assigned To**	**Action**	**Schedule**	**Action Taken**	**Meeting Discussion**	**FAQ Action**
47	Resolve NUREG/CR 6850 versus Fire Protection Significance Determination Process (FPSDP) differences for fire modeling	NRC	No action necessary.			There are differences between the fire modeling done as part of a FPSDP and that done as part of NUREG/CR 6850. This is likely to raise multiple questions by inspectors as work progresses and licenses are amended. NUREG/CR 6850 is the guiding requirement for the NFPA 805 efforts and as such is the appropriate modeling approach. Additional work in anticipation of this issue is needed to assist plants and inspectors in dealing with the differences. **[CLOSED]**	**[CLOSED]**
48	Environmental considerations for "other" equipment in fire affected compartments.	NEI/ Duke/ Progress	Create FAQ to provide specific guidance.	August 2007 (Holder)		It was not clear to attendees if the current fire modeling was properly accounting for environmental considerations for "other" equipment in a fire impacted compartment. The fire modeling accounts for sources and targets and zones of influence (ZOI), but it is not clear if other equipment outside of the ZOI, which could be impacted from fire secondary effects (e.g., smoke and temperature), is being addressed in the fire modeling being conducted as part of the NFPA 805 transition. Issued closed NUREG/CR 6850 Appendices H and T provide adequate guidance (REVISED 7/19/07). Confirmed closed with NRC at 8/8/07 Pilot Meeting.	**[CLOSED]**
49	NUREG/CR 6850 Kerite FR is 237°C not 372°C	NRC	NRC Provide information to public domain July 2007) and eventually provide errata sheet.	Sept. 2007 (Fletcher)		NUREG/CR 6850 Table H 3 and H 4 incorrectly lists the Kerite failure temperatures as being between 372°C -382°C with a Recommended Failure Threshold of 372°C. The recommended Failure Threshold for Kerite should be 237°C. The tables need to be reviewed and an errata/revision issued for the NUREG/CR. 8/8/07 update – EPRI (Bijan N. reviewing the topic based on discussions with NRC Research staff)	NA

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No.	**Topic**	**Assigned To**	**Action**	**Schedule**	**Action Taken**	**Meeting Discussion**	**FAQ Action**
50	Multiple spurious operation (MSO) expert elicitation industry "guidance" required	NEI/ Duke Progress			Distribution of Project Instructions detailing application of the expert panel for MSO.	There is not currently a single standard by which to hold an expert elicitation as part of bounding the MSO possibilities. Both of the pilot-plants have pursued acquiring expert opinions on the subject as part of their NFPA 805 efforts. An industry standard and/or guidance on how to conduct such a meeting as well as how to handle and process knowledge gained is needed. Closure based on PIs (FPIP-0122) forwarded to NRC & NEI Non-Pilot Transitional Plants. **[CLOSED]**	**[CLOSED]**
51	Harris has source/target database that they are willing to share.	Progress				Harris Nuclear Plant (HNP) has developed a database as part of its NUREG/CR 6850 Task 8 efforts that is used to record source and target information for later use in the fire modeling and Fire PRA. HNP has offered to share this tool with interested non-pilot transition plants. **[CLOSED]**	**[CLOSED]**
52	Potential coordination issues between License Renewal Application (LRA) and NFPA 805 transitions (License Amendment Request [LAR])	Progress	Progress Energy point of contact K. Heffner. Developing a detailed plan and schedule.	August 2007 (Heffner)		The Harris Nuclear Plant (HNP) will be submitting a LRA that will be reviewed between 10/08 – 06/09. The current schedule for the NFPA 805 LAR is for submittal in 06/08 with review through 12/08. An LRA locks down a license (i.e., an LAR would not be considered prior to approval of a submitted LRA. This scheduling conflict has not been resolved for HNP.	

NFPA 805 Transition Observation Meeting Bethesda, MD – August 6 – 9, 2007 – Updated Parking Lot							
No.	**Topic**	**Assigned To**	**Action**	**Schedule**	**Action Taken**	**Meeting Discussion**	**FAQ Action**
	Items started at PE Pilot (May-June 2007)						
53	Incorporate Lessons Learned for preemptive manual actions, MSO expert panel, and Fire PRA processes into NEI 04-02	Progress	Create FAQ to update NEI 04-02	July 2007 (Ertman)		Pilot observation presentations indicated the need to define the expert panel review process for MSO and to include specific guidance in NEI 04-02. **[CLOSED]**	**FAQ 07-0038**
54	Define schedule for revision of NEI 04-02, and identify which FAQs will be included.	NEI	NEI to coordinate schedule for submittals	January 2008 (Ertman)		Observation meeting discussion indicated the need to project the next revision to NEI 04-02 to incorporate previously approved FAQs and upcoming RIS. Closed at 8/8/07 pilot meeting based on Progress Energy discussion (FAQs due to NRC by 9/07, Revision due to NRC by 1/2008) **[CLOSED]**	**[CLOSED]**
55	Update templates for Tables B-1, B-2, B-3 in NEI 04-02	NEI	Create FAQ to update NEI 04-02	July 2007 (Holder)		Pilot plants have identified specific enhancements from first use of the B-1,2,3 tables which should be incorporated in NEI 04-02 to ensure consistent submittal products. **[CLOSED]**	**FAQ 07-0036 (B-1)** **FAQ 07-0039 (B-2/B-3)**
56	Include Fire Area (1-A-BAL-C) as pilot sample for B-3 Table @ HNP.	Progress	Include sample fire area for August Pilot Observation Meeting	7-28-07 submittal (Maness)		Discussion indicated need to provide a completed product sample for an actual fire area incorporating reviews through Table B-3. Provided before 8/07 Pilot mtg in Bethesda, MD **[CLOSED]**	No
57	Submit revision of OMP-003, Outage Shutdown Risk Management to NRC staff for review and comment.	Progress	Provide next revision when available	Post Non-Power Operation Task (Began)		Based on previous discussions recommend submittal of OMP-003 for staff review and comment as part of pilot process. Provided before 8/07 Pilot mtg in Bethesda, MD **[CLOSED]**	NA
58	Include Table B-3 binning information in NEI 04-02.	Progress	Create FAQ to update NEI 04-02	To NEI T.F. 5-31-07		Pilot observation presentations indicated the need to include the Table B-3 Binning details in NEI 04-02. Staff recommended this be included in Rev 4 of FAQ 06-0012. **[CLOSED]**	**Closed to FAQ 06-0012**

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No.	**Topic**	**Assigned To**	**Action**	**Schedule**	**Action Taken**	**Meeting Discussion**	**FAQ Action**
59	Provide update of NEI 04-02 to include extension of existing HRA scenarios.	Progress/ NEI	Create FAQ to update NEI 04-02	August 2007 (Ertman)		Duplicate to PL Item 61. Closed on 8/8/07. **[CLOSED]**	No
	Items started at Duke-ONS Pilot (July 2007)						
60	Previous approval of Chapter 2"methodology" example (no cable to cable hot shorts). Clarify whether nuclear safety methods can be "brought forward" and clarify what that means with respect to a change evaluation. Clarify what "being brought forward" into the new licensing basis means.	Duke / Progress	Refine as part of the Pilot process	Aug 07	Pilot plants to provide input to task force at next meeting.	Closed on 8/8/07 due to adequate guidance provided in Section 4.1.1 and 2.3.1 of NEI 04-02. **[CLOSED]**	No
61	HRA in general Questions arose of HEP screening values in NUREG/CR-6850.	Duke / NEI	DUKE/ERIN to organize PRA Task Force Call on methods being used HEP screening values.	8/23/07		**Update at 8/8/07 Pilot Mtg [spilt item 61 into two PL Items 61 and 62]**	
62	How are the "new" instrumentation requirements in the new proposed revision to the ANS Fire PRA standard going to be addressed in a fire PRA used for NFPA 805 transition?	Duke / NEI		8/23/07 update		**Update at 8/8/07 Pilot Mtg [spilt item 61 into two PL Items 61 and 62]** New 'requirements' for instrumentation related to operator actions in the PRA are being introduced in the ANS FPRA standard. These 'requirements' exceed those in NUREG/CR-6850. Questions were raised on the manner in which this new information will be implemented in an NFPA 805 Fire PRA.	
	Items started at Pilot Meeting (Bethesda, MD) (August 2007)						
63	NRC to review ability to revise RG 1.205 to address FAQs in spring 2007 to support Pilot Plant LAR reviews.	NRC / Lain		8/23/07 Pilot Mtg. (update)		Concerns were raised over RG 1.205 revision and ability to revise it in 2007. A tie to RG 1.200 was discussed as part of a reason that RG 1.205 may not be able to be revised.	

NFPA 805 Transition Observation Meeting Bethesda, MD – August 6 – 9, 2007 – Updated Parking Lot							
No.	**Topic**	**Assigned To**	**Action**	**Schedule**	**Action Taken**	**Meeting Discussion**	**FAQ Action**
64	Non-power operations. Need clarification on NEI 04-02 for non-power operational modes to reflect presentations and discussions at the August 2007 pilot meeting.	Duke / Goforth		8/29/07		Specific concerns included defining high risk evolutions (scope of the review) and potential limitations on potential damage to Key Safety Functions. (all key safety functions, all success paths for a given key safety function. Also parking lot item 22 (update Change Evaluation guidance for non-power operational modes) closed to this item. **[CLOSED]**	**FAQ 07-0040**

Security Handout References

Located in ADAMS Accession No. ML072880342

Non-Security Handout References

Located in ADAMS Accession No. ML072830337

Attachment 5 to the Trip Report
Pilot Plant Observation Meeting
August 6 - 9, 2007

Issue Summary Sheets

NFPA 805 Pilot-Plant Implementation
Issue Summary Sheet No. 1

Topic: Multiple Spurious Operation - Treatment of newly identified multiple spurious operations in Reactor Oversight Process (ROP) prior to risk significance determination

Associated Observation Meeting Parking Lot Item(s): 1, 50, 53

Description: NEI 04-02, Appendix B-2 describes the proposed industry approach to evaluating multiple spurious operations, which in turn, references NEI 00-01. The proposed approach is to analyze all single spurious operations and risk-significant multiple spurious operations. The approach includes a provision that newly identified multiple spurious operations will not be considered part of the licensing basis unless determined to be risk significant. The issue requiring further evaluation is how the reactor oversight process (ROP) will exclude newly discovered multiple spurious circuits from the license basis, until they are determined to be risk significant.

Status: OPEN. The November 2005 pilot-plant observation visit initially identified this issue. The NRC Staff reviewed the ROP relative to the treatment of newly identified multiple spurious operations that have unknown risk significance.

At the March 2006 pilot plant observation visit, the Staff presented a flow chart, illustrating how newly found multiple spurious circuits identified during an inspections, could be treated (See flow chart below). In addition to the flowchart, the following information was discussed:

- If circuits identified by an inspector and its related contributors were omitted, and their contribution to risk; are “greater than Green” OR “constitute a violation of defense-indepth” or “safety margins,” in spite of using an appropriate screening tool, the issue would constitute a minor violation. If the inspector determines that the licensee’s screening tool is flawed, that would constitute a violation. Here “related contributors” are those that are associated via the same root cause, fire scenario, or fire area.

- If the circuit issue identified by the inspector and its related contributors that were also omitted are “less than Green” AND “do not constitute a violation of defense-in-depth” or “safety margins” AND the licensee has used an appropriate screening tool, no further action is warranted. However, if the inspector determines that the licensee’s screening tool is flawed, that would constitute a minor violation.

The process outlined in the flowchart documents (new) unevaluated multiple spurious operations as unresolved items (URI) and proposes a risk threshold below which the multiple spurious operation is screened (a potential threshold for such “treatment” of 1 E-08/yr delta-CDF [1 E-09/yr delta LERF] was offered for discussion). Industry raised the concern that documenting all multiple spurious operations as URIs pending evaluation will create a significant cost and resource impact because all URIs must be formally dispositioned and even those classified as minor can require 1000 hours. Industry’s preference would be to not treat the new multiple spurious as a URI, but to disposition the issue within the fire probabilistic safety assessment (PSA) process. Consensus was to review the minor questions in Inspection Manual Chapter (IMC) 0612, and suggest development of new questions if necessary such that multiple spurious operations below a certain threshold could be relegated to minor and treated accordingly.

Resolution Action(s)/Action Party: OPEN. Industry and pilot-plant participants agreed to review the flowchart, IMC 0612 questions, screening thresholds and provide feedback to the NRC at the next observation meeting. The industry may also submit an FAQ on the issue.

Associated FAQ: 07-0038

Lesson Learned: Pending resolution of issue.

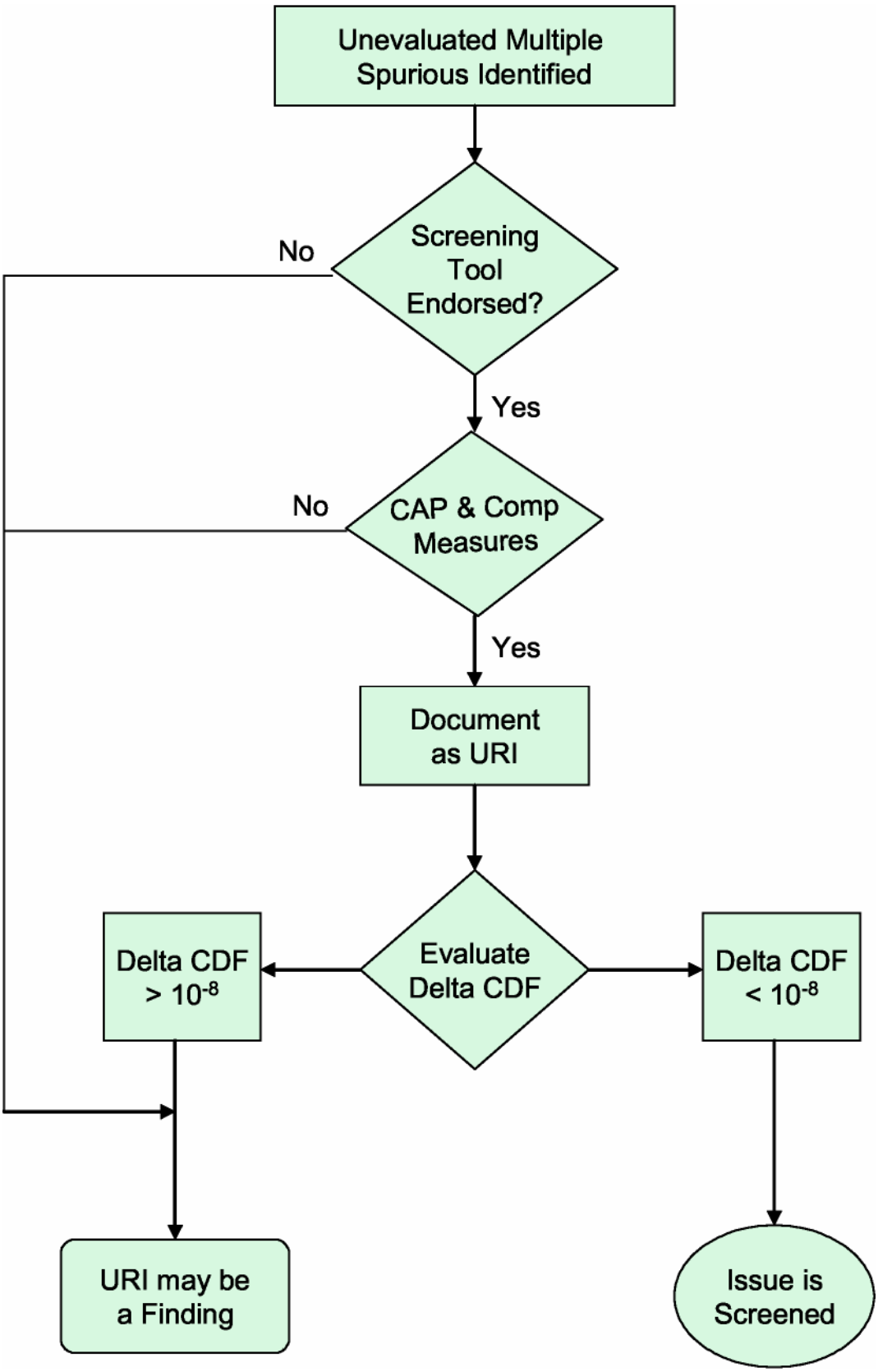

Figure 1. Multiple Spurious Post-Transition Inspections

NFPA 805 Pilot-Plant Implementation
Issue Summary Sheet No. 2

Topic: Multiple spurious operations - screening criteria

Associated Observation Meeting Parking Lot Item(s): 2

Description: Duke Energy presented its methodology for identification and analysis of multiple spurious operations during the November 2005 observation visit (See November 2006 Trip Report Handout Reference 4). During the visit, the participants held considerable discussion with regard to screening and treatment of newly identified multiple spurious operations. The Duke Energy approach considers newly identified spurious operations as outside the license basis until risk significance is determined. One suggested approach to establishing risk significance was the use of Fussell-Vesely (F-V) risk importance criteria.

This topic arose from a more general discussion on a proposed method to perform an acceptable transition change evaluation. A fire PSA that represents the plant “going forward” (GF) would be performed, i.e., crediting any modifications/changes to be implemented as part of the transition. This would be compared against an “ideal” fire risk if all-deterministic compliance were strictly met, yielding a fire delta-CDF (using CDF as the risk metric) = (fire-CDF-GF) minus (fire-CDF-ideal). The fire-CDF-ideal need not be calculated from a separate full fire PSA, but rather using the F-V risk importance measures (indicating the fractional contribution of fire induced failures to the fire CDF) associated with “non-compliance” as determined from the fire-CDF-GF. The sum of these F-V values would conservatively bound the delta-CDF. In the case where this bounding technique proved too conservative, Issue Summary Sheet 13 discusses some relaxations.

Resolution Action(s)/Action Party: CLOSED. The spurious operations evaluation methodology continues to evolve, and this specific issue was determined to be no longer relevant during the March 2006 meeting.

Associated FAQ: None.

Lesson Learned: As experience grows during transitioning the pilot-plants to a risk-informed, performance-based fire protection program, PSA methods and application to analyze spurious operations and plant change continue to evolve. As the PSA methods and process output become finalized and confirmed by peer review, NEI 04-02 will be revised, as appropriate, to provide the necessary guidance for implementing/applying these methods. At this time, no specific changes to the guidance were proposed.

NFPA 805 Pilot-Plant Implementation
Issue Summary Sheet No. 3

Topic: Transition of operator manual actions (OMA) to NFPA 805 Recovery Actions

Associated Observation Meeting Parking Lot Item(s): 3

Description: NEI 04-02, Revision 1, Section 2.3.1 and Appendix B-2 discuss the direct transition of previously approved program elements to the new program. Elements that do not meet the previous approval criteria should be addressed via the change evaluation process. Specific concerns have been expressed by industry with regard to transition of OMAs currently relied on to demonstrate compliance with 10 CFR 50, Appendix R, III.G.2, and the approval of which may be explicitly or implicitly addressed in a NRC Safety Evaluation Report (SER). (Ideally, OMA approval would be documented within an SER.) The NRC has established the position that OMAs are not an acceptable method to demonstrate compliance with 10 CFR 50, Appendix R, III.G.2; do not meet the deterministic criteria of NFPA 805, Chapter 4; and therefore must be addressed via a plant change evaluation. The NRC's position is in Regulatory Guide (RG) 1.205, Section 2.3, and Regulatory Issue Summary (RIS) 2006-10.

Considerable discussion was held during the November and March pilot-plant observation visits regarding transition of OMAs for safe shutdown, what documentation constitutes NRC approval of those OMAs, and how to disposition those

Resolution Action(s)/Action Party: CLOSED. Based on approval of FAQs 06-0001 and 06-0012.

Associated FAQ: 06-0001 and 06-0012

Lesson Learned: Transition of OMAs to NFPA 805 Recovery Actions will be documented in Revision 2 to NEI 04-02..

NFPA 805 Pilot-Plant Implementation
Issue Summary Sheet No. 4

Topic: Spurious Operations - Risk informed, performance-based treatment of high-low pressure interface components

Associated Observation Meeting Parking Lot Item(s): 4

Description: During the November 2005 observation visit, Duke Energy presented their NFPA 805, Chapter 4, methodology for transition. Included in this presentation was a discussion of the treatment of high-low pressure interface components. Duke Energy's presentation identified that there are some differences in how high-low pressure interfaces are defined between NFPA 805 and NEI 00-01. NEI 00-01 is the circuit analysis methodology referenced in NEI 04-02. NFPA 805 establishes the requirements by reference in 10 CFR 50.48(c), and the guidance must be consistent with the standard.

Resolution Action(s)/Action Party: CLOSED. Based on closure FAQ 06-0006.

Associated FAQ: FAQ 06-0006

Lesson Learned: By reference in 10 CFR 50.48(c), NFPA 805 establishes the requirements of the rule and supersedes any implementation guidance.

NFPA 805 Pilot-Plant Implementation
Issue Summary Sheet No. 5

Topic: Fire PSA Peer Review

Associated Observation Meeting Parking Lot Item(s): 5, 20, 37

Description: During the November 2005 observation visit, Oconee's fire PSA effort was identified as their critical path. The current schedule for completion of the PSA and submittal of the license amendment for adopting 10 CFR 50.48(c) and NFPA 805 would not support completion of an industry-developed fire PSA Peer Review prior to submittal. The Staff endorsed a position that a fire PSA Peer Review is part of the license amendment request to transition to NFPA 805.

While an ANS Fire PSA Standard is under development, and state-of-the-art guidance on performing fire PSA exists via NUREG/CR-6850 (EPRI TR-1011989), fire PSA remains (and will remain) in a state of development, rendering a "final" baseline against which to measure quality difficult. A peer review process analogous to that performed for internal event PSAs is under development by NEI and the Owners Groups to coincide roughly with the issuance of the fire PSA standard. However, it is unlikely that the Standard and the NEI peer review process will be completed and endorsed on a schedule that will fully support pilot-plant transition. Relief may come with the extension of enforcement discretion and Oconee may extend their pilot program for another year.

Discussion of this issue indicated that NRC oversight of the pilot-plant PSA effort would provide confidence in the quality of the PSA as part of the transition program. The pilot plants requested that the NRC perform intermediate PSA audits as the various elements of their fire PSAs are completed, rather than waiting to do a single audit during the license amendment review, to provide assurance that they are heading along the right path and provide lessons learned for non-pilot plants. The NRC agreed to accomplish this through several visits focused specifically on the fire PSA and a roll-up of these audits will substitute for an endorsed, industry-developed Fire PSA Peer Review for the pilot plants.

During the November 2006 pilot-plant observation visit, industry noted NRC's endorsement/non-endorsement of ANS Fire PRA standard in RG 1.200 will impact non-pilot plants. Issues may arise from a lack of endorsement

Resolution Action(s)/Action Party: OPEN. The NRC incorporated peer review guidance in RG 1.205, Section 4.3, was a discussion point at the March 2006 observation visit. The Regulatory Guide states that licensees should subject their fire PRA to a peer review to the extent that adequate industry guidance is available to support the transition process. Absent of industry guidance, the NRC will review the quality of the PRA for acceptability.

During the March 2006 observation visit, the NRC staff was asked to identify any specific needs they may have to perform the PRA Peer Review and what documentation will be necessary or provided that will constitute the record of this review and the acceptability of the PRA.

Associated FAQ: None.

Lesson Learned: The NRC Staff will assess the quality of the pilot-plant's fire PRA during the pilot in-process review of the PRA development. Until current efforts to establish fire PRA peer

review standards and processes are completed, non-pilot plants transitioning to NFPA 805 may choose to have their fire PRA reviewed by an independent group against available guidance to minimize impacts to transition schedules and reduce uncertainty in fire PRA application acceptability (e.g., in change analysis). As experience is gained with the pilot-plant reviews, additional lessons learned information would be provided.

NFPA 805 Pilot-Plant Implementation
Issue Summary Sheet No. 6

Topic: PSA and change evaluations for Low-Power/Shutdown (LP/SD) modes

Associated Observation Meeting Parking Lot Item(s): 6, 22

Description: During the November 2005 pilot-plant observation visit, industry representatives indicated that any requirement for a LP/SD mode fire PSA would be a cost prohibitive. There are no current guidance/methods for performing a LP/SD fire PSA. Although LP/SD fire PSAs exist, development of a standard is in progress and NRC/EPRI are considering a joint effort to develop guidance for shutdown fire PSA. Resources are not likely to be committed by utility management and the development of methods and performance of a LP/SD fire PSA would not support the transition schedules.

The NRC provided specific examples of LP/SD "risk" assessments under RG 1.174 plant change applications for licensees to consider in their NFPA 805 evaluations. The guidance in NEI 04-02 addresses LP/SD risk via the defense-in-depth approach currently used for outage management. This approach relies on the identification of high-risk evolutions and key safety functions associated with those evolutions (See NEI 04-02, Rev. 1, Section 4.3.3). The meeting attendees suggested that implementing guidance for meeting 10 CFR 50.48(c) should explicitly indicate the NRC's expectations for assessing fire risk in LP/SD modes.

The change evaluation process must address risk for changes that affect LP/SD modes. However, NEI implementation guidance (NEI 04-02) currently does not address the method to use in performing change evaluations for these operational modes.

Resolution Action(s)/Action Party: OPEN. In RG 1.205, the NRC staff accepted the approach described in NEI 04-02, Revision 1, for managing risk of LP/SD modes of operation. NEI will revise NEI 04-02 to address the performance of plant change evaluations for non-power modes.

Associated FAQ: Planned but not submitted.

Lesson Learned: At this time, a separate LP/SD fire PSA is not required, because there are currently no standards, methods or guidance available. Until these LP/SD fire PSA methods are developed and accepted, manage the fire risks during LP/SD modes according to established methods for outage risk management. Plants should identify high-risk evolutions and key safety functions and evaluate the associated structures, systems, and components as described in the endorsed NEI 04-02.

NFPA 805 Pilot-Plant Implementation
Issue Summary Sheet No. 7

Topic: NFPA 805 Chapter 3 - Chapter 4 related requirements

Associated Observation Meeting Parking Lot Item(s): 7, 8, 9

Description: During pilot-plant efforts to transition NFPA 805 Chapter 3 requirements and further develop and implement the guidance for plant change evaluations, the pilot plants identified concerns relative to the dependence of Chapter 3 fire protection design features on Chapter 4 required systems. Specifically, Chapter 3 requirements for detection, suppression, and fire barriers are dependent on these fire protection elements required by Chapter 4. During the November 2005 observation visit, the attendees determined that there was some confusion over the application of these requirements, particularly when applying a performance-based approach. In addition, because of the dependence of Chapter 3 on the requirements of Chapter 4, the change evaluation process should establish the Chapter 4 required systems before evaluating those systems against the Chapter 3 requirements.

Resolution Action(s)/Action Party: OPEN. Pending approval of FAQs. NEI needs to revise NEI 04-02 to clarify the application of these requirements. NEI has submitted a proposed revision and NRC Staff are reviewing the FAQs.

Associated FAQ: 06-0004 and 06-0002

Lesson Learned: Before doing Chapter 3 code compliance, determine which fire protection systems and elements Chapter 4 requires.

NFPA 805 Pilot-Plant Implementation
Issue Summary Sheet No. 8

Topic: Performance-based alternative for fire area boundary evaluation

Associated Observation Meeting Parking Lot Item(s): 10

Description: NFPA 805 includes provision for using existing engineering equivalency evaluations (i.e., GL 86-10 evaluations), but does not contain similar requirements for evaluation of fire protection features (e.g., fire barriers) using a risk-informed, performance-based approach. NFPA 805, Section 1.7, describes the general requirement for demonstrating equivalency in meeting the requirements of the standard. Section 1.7 states that the Authority Having Jurisdiction (i.e., the NRC) must approve alternative approaches. The rule (10 CFR 50.48(c)(2)(vii)) requires NRC approval of performance-based approaches to demonstrating compliance with NFPA 805, Chapter 3 requirements.

The Pilot Plants identified a need to revise NEI 04-02 to provide additional methodologies for performing engineering equivalency analyses that licensees could reference in their license amendment request.

Resolution Action(s)/Action Party: OPEN. Pending approval of FAQ. NEI developed proposed changes to NEI 04-02 to include a methodology and process for performing engineering equivalency evaluations. NEI Submitted a FAQ containing the proposed changes for NRC review.

Associated FAQ: 06-0008, 07-0033

Lesson Learned: Risk-informed, performance-based applications to fire protection under NFPA 805 needs a methodology for performing engineering equivalency evaluations, similar to current GL 86-10 evaluations.

NFPA 805 Pilot-Plant Implementation
Issue Summary Sheet No. 9

Topic: Plant change evaluations - Preliminary risk screening

Associated Observation Meeting Parking Lot Item(s): 11

Description: NEI 04-02, Revision 1, Section 5.3.3, Appendix I, and Appendix J address the use of preliminary screening with regard to evaluation of changes to the fire protection program. The attendees at the November 2005 observation visit held considerable discussion regarding the criteria to apply in the preliminary screening process and the need for additional guidance and examples in NEI 04-02.

Early in the development of NEI 04-02, NEI advocated a “qualitative” approach by which plant changes, which clearly would not influence risk, could be dispositioned without any quantification. Ultimately, the ACRS resisted this approach and therefore, all plant change processes would at least have a preliminary risk screen with some minimal level of quantification. Essentially a “qualitative” approach whereby changes that clearly did not increase risk, or did so at some to a “negligible” level, need not undergo any formal risk evaluation beyond a statement as to why any effect could be dismissed. Appendix I of NEI 04-02 listed some examples of these types of plant changes and Progress Energy provided example evaluations at the first observation visit.

Resolution Action(s)/Action Party: CLOSED. NRC and industry agreed that this would be a “living” part of NEI 04-02, whereby subsequent versions of NEI 04-02, for illustrative purposes, could include additional examples encountered in the transition process.

Associated FAQ: None submitted.

Lesson Learned: NEI will supplement the NEI 04-02 plant change evaluation process with examples identified during the pilot-plant transition.

NFPA 805 Pilot-Plant Implementation
Issue Summary Sheet No. 10

Topic: Plant change evaluations - Preliminary screening criteria and form corrections.

Associated Observation Meeting Parking Lot Item(s): 12

Description: While NEI originally proposed that the RG 1.174 thresholds be applied for determining "acceptable" increases in risk (measured via CDF and LERF) for NFPA 805 "self approvals" by licensees (i.e., without prior NRC review), the fact that RG 1.174 was conditioned on NRC review made adoption of equivalent thresholds untenable. Eventually, thresholds as outlined in RG 1.205, NRC included a "grey area" where the NRC review would be at NRC's discretion.

NEI 04-02, Appendix I, contains the plant change evaluation form. Section 4 of this form addresses the preliminary risk screening and includes qualitative criteria. Discussion during the November 2005 observation visit concluded that "greater than minimal" criteria should be revised to "potentially greater than minimal" when determining if more quantitative risk analysis is needed for the change. RG 1.205, Section 3.2.5, provides additional guidance with regard to risk thresholds to apply in the plant change evaluation process, and clarifies the terminology, such as "minimal," used in NEI 04-02, in determining the acceptability of the change and the need for NRC approval.

Resolution Action(s)/Action Party: CLOSED. Approved FAQ-0003 contains changes to NEI 04-02, Sections 5.3 and Appendix I that provide additional guidance on performance of preliminary screening and correct the change evaluation form with regard to applying the "potentially greater than minimal" criteria.

Associated FAQ: 06-0003

Lesson Learned: None

NFPA 805 Pilot-Plant Implementation
Issue Summary Sheet No. 11

Topic: Plant change evaluation - PSA engineer reviews of screens

Associated Observation Meeting Parking Lot Item(s): 13

Description: During the November 2005 observation visit, the Pilot Plants held considerable discussion regarding whether or not a PRA engineer should review the preliminary risk screening performed for plant changes. This topic is similar with some of the previous discussions regarding "qualitative" risk screening and involves the level of licensee review, if any, by the licensee PRA staff. The NRC advocates that the plant PRA staff see all plant changes, such that even the most trivial could be a simple sentence in the record. Licensees favored screening by fire protection personnel for such trivial items (using guidance developed with input from the plant PSA staff, perhaps in the form of screening questions), such that no PSA staff notification would be required.

In follow-up discussions of this topic during the March 2006 observation visit, it was determined that the interface between the PSA staff and fire protection program change evaluation screening process is plant specific and did not warrant tracking as a parking lot issue.

Resolution Action(s)/Action Party: CLOSED. No action taken.

Associated FAQ: None.

Lesson Learned: The interface between the PSA and fire protection staff during the fire protection program screening process for plant change evaluations is plant-specific, but it should ensure that all necessary communication between these respective disciplines occurs as part of the screening process.

NFPA 805 Pilot-Plant Implementation
Issue Summary Sheet No. 12

Topic: Authority having jurisdiction (AHJ) - NFPA Code deviations

Associated Observation Meeting Parking Lot Item(s): 14

Description: The NRC is the Authority Having Jurisdiction (AHJ) for determining acceptability of fire protection program elements to meet the requirements of NFPA 805. Chapter 3 of NFPA 805 references other NFPA codes that apply to administrative and design elements of the fire protection program (e.g., those that apply to suppression, detection, and water supply) that are managed day-to-day by the licensee but also contain responsibilities and requirements for AHJ approval. A compliance approach that applies the AHJ authority (as described in the NFPA Standards) as strictly meaning NRC approval could burden the NRC with reviewing fire protection system design changes and administrative procedures that implement NFPA code provisions requiring AHJ approval. Minor deviations to code compliance would also require possible NRC review. Licensees would be burdened by costs and delays associated with the review and approval process.

NFPA 805, Section 1.8 addresses “Code of Record,” which allows licensees to meet the version of the standard applicable to the fire protection element or design feature at the time it was designed or otherwise committed to the AHJ. Plants should follow the approval authorities granted by the code-of-record, with the recognition that the AHJ is the NRC as described in RG 1.205, Regulatory Position C.1.

Resolution Action(s)/Action Party: CLOSED. RS 1.205 incorporates the NRC position on AHJ. Parking Lot Item 10 (See Issue Summary Sheet No. 8 above) involves development of a process similar to the existing engineering equivalency evaluation (NFPA 805, Section 2.2.7 and GL 86-10) and is currently under review as an FAQ.

Associated FAQ: None.

Lesson Learned: NRC is the AHJ as described in RG 1.205, but the code-of-record for a given plant fire protection feature may allow licensees certain authority to establish applicable requirements that may differ (i.e., equivalency evaluations) from the versions cited in NFPA 805.

NFPA 805 Pilot-Plant Implementation
Issue Summary Sheet No. 13

Topic: Transition baseline risk.

Associated Observation Meeting Parking Lot Item(s): 19, 24

Description: The Pilot Plants discuss an issue regarding the cumulative impact of changes to the fire protection program that occur during the transition process. The new baseline risk established at the completion of implementation should incorporate these impacts. From the November 2005 observation visit, this issue is a spin-off of an industry concern with how and to what extent the difference between the "going forward" and "deterministically fully compliant" risks will be evaluated for transition. This issue is somewhat related to Topics 2 and 24. Based on the recent NRC clarifications with respect to vital fire protection program elements, especially circuit spurious operations ("any and all, one at a time") and operator manual actions for redundant trains in the same fire area (Appendix R, III.G.2), industry is concerned as to what would serve as the "deterministically fully compliant" baseline risk against which to measure the increase "going forward."

While calculating the "going forward" fire risk is relatively straightforward, doing likewise for the "deterministically fully compliant" risk could require essentially a second full fire PSA for "ideal" conditions. NRC proposed a multi-step analytic approach whereby the licensees could proceed from the most to least conservative (least to most realistic) estimate of the risk increase due to the transition, with the ability to stop the analysis at whatever step provides an estimate of an acceptable risk increase.

Resolution Action(s)/Action Party: OPEN. Pending approval of FAQs. RG 1.205, Section C.3.2.6, provides the staff position on treatment of individual and cumulative changes in risk, as well as the use of risk reductions associated with unrelated plant changes to offset increases in fire protection risks. NEI 04-02 will be updated to clarify that the baseline fire protection program risk, post-transition, will be the risk of the plant as designed and operated according to the NRC-approved licensing basis. This position is RG 1.205 and NEI will revise NEI 04-02 to address screening, processing, and tracking of changes.

Associated FAQ: 06-0005, 06-0014.

Lesson Learned: Pending submittal and final resolution of FAQs. Transitioning plants must establish baseline fire protection risk to support plant change evaluations post-transition.

NFPA 805 Pilot-Plant Implementation
Issue Summary Sheet No. 14

Topic: Regulatory position on interim guidance changes

Associated Observation Meeting Parking Lot Item(s): 16

Description: RG 1.205 endorses NEI 04-02, Revision 1. The pilot-plant implementation activities and observation visits have identified a number of changes that are necessary to clarify, update, or revise the implementing guidance in NEI 04-02. As pilot-plant implementation progresses, it is expected that the need to make these types of changes will continue. The processes for revising and reissuing these documents are neither efficient nor timely enough to support the on-going transition activities. Administrative mechanisms are necessary to allow guidance changes to be accumulated (e.g., as errata) between official/approved revisions. The ability to apply interim changes to the guidance is potentially problematic because of the Regulatory Guide revision and approval process and the direct endorsement of a specific revision of NEI 04-02 within the Regulatory Guide.

At the March 2006 pilot-plant observation visit, the industry proposed a Frequently Asked Question (FAQ) process as a means to address this issue. The Maintenance performance indicators process FAQs is the baseline for the NFPA 805 process. The NRC Staff agreed this may be a viable approach, but suggested that the utilities formally submit their requests by letter to initiate the FAQ process.

Resolution Action(s)/Action Party: CLOSED. By letter dated May 2, 2006, NEI submitted a letter with a draft description of the FAQ process for NRC review. The NRC responded with proposed changes in a letter to NEI dated July 12, 2006.

Associated FAQ: None. See referenced letters.

Lesson Learned: The NRC established a FAQ process to provide timely NRC review of changes to NFPA 805 implementing guidance. NEI will be incorporate approves FAQs in revisions to NEI 04-02. The NRC will revise RG 1.205, as appropriate; to endorse this revised NEI guidance.

NFPA 805 Pilot-Plant Implementation
Issue Summary Sheet No. 15

Topic: Circuit analysis Generic Letter and RIS - Compliance issues for transition

Associated Observation Meeting Parking Lot Item(s): 17

Description: This issue has significant implications related to implementation of NFPA 805. Specifically, the circuit analysis RIS and draft Generic Letter require a level of compliance for deterministic circuit analysis (associated with current fire protection programs) that is not currently achieved by most plants. A comparison between the NFPA 805 risk analyses against the deterministic case is required (NFPA 805, Section 4.2.4.2). Licensees that plan to transition to NFPA 805 do not plan to bring their plants into compliance with the RIS and GL provisions prior to transitioning to NFPA 805.

The NRC staff presented a suggested process by which licensees could establish an “ideal” risk baseline for the compliant deterministic case.

Resolution Action(s)/Action Party: CLOSED. This issue is related to others issues establishing the PRA baseline for the performance of plant change evaluation (See Issue Summary Sheets 13 and 18).

Associated FAQ: None planned.

Lesson Learned: None. Other parking lot issues and associated lessons learned will address this issue.

NFPA 805 Pilot-Plant Implementation
Issue Summary Sheet No. 16

Topic: NEI 04-02, Appendix B, methodology changes

Associated Observation Meeting Parking Lot Item(s): 18, 55

Description: Pilot-plant transition activities at the Oconee Nuclear Station have determined that the comparison tables of NEI 04-02, Appendix B, do not adequately communicate the compliance status and transition of current fire protection program elements to the nuclear safety performance criteria of NFPA 805. The pilot-plants and NEI will incorporate in NEI 04-02 an alternative methodology. The NRC staff expressed concern that NEI should communicate these types of issues with the existing (endorsed) guidance to non-pilot plants.

Resolution Action(s)/Action Party: OPEN. Pending approval of FAQ. NEI to develop alternative methods to comparison tables in NEI 04-02, Appendix B.

Associated FAQ: 06-0013, 07-0036, 07-0039

Lesson Learned: Transition activities for ONS identified that the current tabular method for transition of nuclear safety performance criteria, as described in NEI 04-02, Appendix B, is not an effective means of communicating the necessary information to demonstrate compliance with NFPA 805.

NFPA 805 Pilot-Plant Implementation
Issue Summary Sheet No. 17

Topic: Risk acceptance thresholds.

Associated Observation Meeting Parking Lot Item(s): 21

Description: There is a number of "risk acceptance" thresholds for fire PSA-related applications among various documents and programs, specifically the Reactor Oversight Process (ROP), the Significance Determination Process (SDP), RG 1.174 (and, by incorporation, NFPA 805), NEI 04-02 and RG 1.205. The Pilot Plants need to develop a reconciliation of these various thresholds for clarity and application of transition processes.

Resolution Action(s)/Action Party: OPEN. Guidance is required before performance of change evaluations.

Associated FAQ: Planned but not submitted.

Lesson Learned: Pending final resolution of the issue.

NFPA 805 Pilot-Plant Implementation
Issue Summary Sheet No. 18

Topic: Definition for fire protection program change

Associated Observation Meeting Parking Lot Item(s): 23

Description: During the March 2006 observation visit, the Pilot Plants held a discussion regarding what constitutes a change to the fire protection program. The attendees noted that plant changes not related to the fire protection program might influence the program. Installation of some fire protection systems and features are for protective purposes not related to demonstrating compliance with NFPA 805. Are these systems and features within the scope of the fire protection program that is subject to evaluation under the NFPA 805-required plan evaluation change process? The discussion identified a need to better define the boundaries of the fire protection program for the purposes of configuration control and application of the change evaluation process.

Resolution Action(s)/Action Party: OPEN. Pending resolution of FAQ. Industry drafted a methodology and examples of what constitutes a fire protection program change.

Associated FAQ: 06-0005.

Lesson Learned: Pending final resolution of this issue.

NFPA 805 Pilot-Plant Implementation
Issue Summary Sheet No. 19

Topic: Tracking of Cumulative Risk from Post-Transition Plant Changes

Associated Observation Meeting Parking Lot Item(s): 15, 24

Description: At the March 2006 observation visit, three specific items discussed were relevant to this topic:

Is a license amendment request needed post-transition to credit existing Systems, Structures, and Components (SSCs) to lower fire risk, i.e., taking credit for these not as offsets to risk increases but purely as decreases;

If both risk increases and decreases are due to related changes, such that the net increase is <10 E-7/yr delta-CDF (<10 E-8/yr delta-LERF), the changes need not be submitted for prior NRC approval. However, if they are unrelated (e.g., one is part of the fire protection program while the other is not), then prior NRC approval is needed; and

If an initial change results in a risk increase below some threshold value, the licensee needs to track future changes or be exempt from future tracking. What would be the appropriate threshold value, as determined through a screening process? Clarification is needed in the implementing guidance (i.e., Regulatory Guide or NEI 04-02) as to whether the tracking of the impacts of these changes needs to be continued post-transition or whether tracking of cumulative impacts begins when the new baseline risk is established.

RG 1.205 uses RG 1.174 as a risk acceptance template and requires that cumulative increases in risk be tracked over time and that increases in risk attributable to “related” program changes be aggregated to determine their total impact even if separated over time. Both of these imply that, no matter how widely separated in time these increases may be, they need to be summed and measured against the original baseline, i.e., the initial “going forward” fire risk, even if a fire PSA re-baselining is periodically performed. NRC distributed a graphic to illustrate the difference between the RG 1.174 approach and another where the “going forward” fire risk is “reset” after each periodic update (essentially shifting the time axis). The latter, although somewhat simpler, is not consistent with RG 1.174. However, except for related changes, tracking of the cumulative risk increase can be accomplished by considering the total risk rather than by segregating the changes into separate entities requiring individual aggregation. However, separate tracking for “related” changes over the life of the plant is a requirement. The Pilot Plants discussed screening methods to simplify this latter process, whereby risk increases of sufficiently low magnitude could be considered too small to merit retention for future tracking as part of a series of “related” changes (they would still be tracked implicitly through the total plant risk).

Resolution Action(s)/Action Party: OPEN. Pending resolution of FAQ. RG 1.205, Section C.3.2.6, provides the staff position on treatment of individual and cumulative changes in risk, as well as the use of risk reductions associated with unrelated plant changes to offset increases in fire protection risks. As stated in RG 1.205, NEI will revise NEI 04-02 to clarify that the baseline fire protection program risk, post-transition, will be the risk of the plant as designed and operated according to the NRC-approved licensing basis. NEI will also revise NEI 04-02 to address the screening, processing, and tracking of changes.

Associated FAQ: FAQs 06-0010, 06-0014.

Lesson Learned: Pending submittal and final resolution of FAQs. Licensees must establish baseline fire protection risk to support plant change evaluations post-transition.

NFPA 805 Pilot-Plant Implementation
Issue Summary Sheet No. 20

Topic: Fire Zones/Compartment Definitions

Associated Observation Meeting Parking Lot Item(s): 25

Description: During the October 2006 visit, Pilot Plants held discussion regarding what constitutes an acceptable Fire PSA compartment. For the purposes of fire PRA, plants portioning divides the plant into the Fire Compartments as defined in NUREG/CR-6850. Fire Compartments map fire areas and zones into compartments defined by fire damage potential. Defining many Fire Compartments within zones are that are not necessarily based on physical barriers or features can lead to the need to do substantial multi-compartment analysis. This is inconsistent with the guidance provided in NUREG/CR-6850 and raises concerns with the difficulty in managing and reviewing an analysis that relies on such complexities. Questions arose over impact of this approach on other tasks and level of documentation needed to justify this approach

Resolution Action(s)/Action Party: CLOSED. Industry changed approach to be consistent with NUREG/CR-6850 guidance.

Associated FAQ: None.

Lesson Learned: NUREG/CR-6850 provides adequate guidance concerning development of Fire Compartments for Fire PRA purposes.

NFPA 805 Pilot-Plant Implementation
Issue Summary Sheet No. 21

Topic: Ignition Frequency Binning Issues

Associated Observation Meeting Parking Lot Item(s): 26, 27, 28, 29

Description: NUREG/CR-6850 Task 6, "Fire Ignition Frequencies" provides a procedure for estimating fire-ignition frequencies for use in the Fire PSA. During the October 2006 observation visit, the pilot plants held presentations regarding the definitions and boundaries associated with "binning" of different components into appropriate collections to appropriate the fire ignition frequencies correctly compartment. Specifically questions arose concerning:

a) Main control board definition: The delineation between Bin 4 (main control board) and Bin 15 (electrical panels/cabinets) has some ambiguity that could lead to inconsistent application of the guidance (Parking Lot Item 26).
b) Electrical cabinets: NUREG/CR-6950 needs explicit guidance on counting of plant electrical cabinets. Presentations on two different approaches; one that counts electrical cabinet based on physical boundaries regardless of size or length and another that counts solely based on cabinet size (Parking Lot Issue 27).
c) HEAF frequency for low voltage equipment: Counting Bin 16 equipment using the Bin 15 method can result in a fire frequency distribution for HEAF for switchgears and load centers that are inconsistent with industry experience (Parking Lot Item 28).
d) Miscellaneous Binning Issues: Questions arose concerning ignition county frequency for MOV motors, hydraulic actuators for valves, and transformers (Parking Lot Item 29).

Resolution Action(s)/Action Party: OPEN. Pending resolutions of FAQs. Industry will provide clarification on the methodology. Note: FAQs 06-0016, 06-0017, and 06-0018 have been approved. FAQs 07-0031 and 07-0035 are still under consideration/discussion.

Associated FAQ: 06-0016, 06-0017, 06-0018, 07-0031, 07-0035.

Lesson Learned: Pending final resolution of this issue.

NFPA 805 Pilot-Plant Implementation
Issue Summary Sheet No. 22

Topic: Transition and Post-Transition Program Management

Associated Observation Meeting Parking Lot Item(s): 30

Description: During the October 2006 visit, discussion was held regarding the role of 10 CFR 50.48(a) for a plant that is transition to NFPA 805

Resolution Action(s)/Action Party: OPEN. Clarification information is available in the promulgation of 10 CFR 50.48(c) on 06/08/04 (ADAMS Accession No. ML041340086). Industry will provide clarification on the issue.

Associated FAQ: 07-0032.

Lesson Learned: Pending final resolution of this issue.

NFPA 805 Pilot-Plant Implementation
Issue Summary Sheet No. 23

Topic: "New" Requirements in NFPA Chapter 3/Table B-1 Issues

Associated Observation Meeting Parking Lot Item(s): 32, 33, 34

Description: Participants of the November 2006 meeting discussed the 82 paragraphs of Chapter 3. Industry reports based on pilot-plant experience, that seventeen paragraphs appear to be new requirements (e.g., NFPA 805 Section 3.94 requirement for suppression for the diesel fire pump). Clarification of some paragraphs may be required. Industry also noted that additional clarification/standardization of terms used in NEI 04 02 Tables B-1, B-2, and B-3 may also be necessary. Industry stipulated the table formats are not rigid (i.e., database, other report formats are acceptable).

Resolution Action(s)/Action Party: CLOSED. There are new requirements that each plant will need to address. It is expected that each plant will document their resolution of the new requirements in their Table B-1.

Associated FAQ: 06-0022

Lesson Learned: There are new requirements embedded in Chapter 3 that each plant will need to address on a case-by-case basis. Table B-1 provides a mechanism for documenting these issues.

NFPA 805 Pilot-Plant Implementation
Issue Summary Sheet No. 24

Topic: Assessing Risk of Recovery Actions

Associated Observation Meeting Parking Lot Item(s): 35, 36

Description: Participants of the November 2006 meeting discussed assessing the risk of recover actions (operator manual actions) and the need/methods to perform/report this information as part of transition (NFPA 805 Section 4.2.4). Risk significant operator manual actions are a concern to the NRC.

Resolution Action(s)/Action Party: OPEN. Discussions held at the November 2006 meeting concerning how an ASD fire area (in particular operator manual actions) transition over. Meeting participants voiced confusion over the characterization of ASD fire areas as 'deterministic', while NFPA 805 defines recovery actions as 'performance-based'. Industry will provide clarification on the issue.

Associated FAQ: 06-0011, 07-0030

Lesson Learned: Pending final resolution of this issue.

NFPA 805 Pilot-Plant Implementation
Issue Summary Sheet No. 25

Topic: Mapping efforts to10 CFR 50.48(a) requirements

Associated Observation Meeting Parking Lot Item(s): None

Description: Participants of the March 2007 meeting discussed mapping their efforts to 10 CFR 50.48(a). Specifically 10 CFR 50.48(b) and 10 CFR 50.48(c) constitute ways for a plant to satisfy the requirements of 10 CFR 50.48(a).

Resolution Action(s)/Action Party: OPEN. Pending acceptance of FAQ

Associated FAQ: 07-0032.

Lesson Learned: 10 CFR 50.48(c) meets the requirements in 10 CFR 50.48(a).

NFPA 805 Pilot-Plant Implementation
Issue Summary Sheet No. 26

Topic: clarify existing engineering equivalency evaluations (EEEE) guidance

Associated Observation Meeting Parking Lot Item(s): 43

Description: The plants' indicated the EEEE guidance in NEI 04 02 still requires further clarification (in addition to that being provided as part of FAQ 06-0008) and plan to propose changes.

Resolution Action(s)/Action Party: OPEN. Industry will provide clarification on the issue.

Associated FAQ: 07-0033.

Lesson Learned: Pending final resolution of this issue.

NFPA 805 Pilot-Plant Implementation
Issue Summary Sheet No. 27

Topic: Properly accounting for Kerite cables impacts on targets within a zone of influence (ZOI)

Associated Observation Meeting Parking Lot Item(s): None

Description: Kerite cables are a Thermoset sheathed cable, but the Kerite cables performance is more in line with Thermoplastic cable. Correctly accounting for Kerite cables as Thermoplastic cable results in additional targets within the zone of influence (ZOI).

Resolution Action(s)/Action Party: CLOSED. No further actions required.

Associated FAQ: No FAQ is required.

Lesson Learned: Plants must ensure they properly account for Kerite cables when establishing targets within the zone of influence (ZOI).

NFPA 805 Pilot-Plant Implementation
Issue Summary Sheet No. 28

Topic: Define boundary with respect to the counting of fire ignition sources

Associated Observation Meeting Parking Lot Item(s): 45

Description: Discussions during the March 2007 meeting highlighted issues with counting items in structures and compartments that screened out as part of the NEI 04-02 process. Once the analysis boundaries are set, then counting should include all components within a bin that are within the boundaries. This means that the possibility exists that the sum of the frequencies for all components in all compartments will not be equal to the total given generic frequencies in NUREG/CR-6850. The issue is strongly related to the establishment of the global analysis boundary of the plant. One concern is that components unrelated to the safety of the plant could dilute the fire ignition frequency for those areas important to safety. Another is that failure to include components within the boundaries, but located in screened compartments, could lead to overestimates of the frequency contribution from that class of components, thereby distorting the risk importance profile.

Resolution Action(s)/Action Party: CLOSED. After consideration, pilot-plants agree with the NRC understanding of NUREG/CR-6850.

Associated FAQ: Not required.

Lesson Learned: None.

NFPA 805 Pilot-Plant Implementation
Issue Summary Sheet No. 29

Topic: Transformer threshold

Associated Observation Meeting Parking Lot Item(s): 46

Description: Discussions during the March 2007 meeting identified an issue with the minimum size of transformer included during component counting. NUREG/CR 6850 has several bins into which transformers fit (e.g., Bin 16, Bin 23 and Bin 29). While the criteria for counting transformers in Bin 16 and Bin 29 is adequately clear, the lower bound on Bin 23 transformers is not clear and needs further definition.

Resolution Action(s)/Action Party: OPEN. Industry will provide clarification on the issue.

Associated FAQ: 07-0031.

Lesson Learned: The lower bound on Bin 23 transformers is not clear and needs further definition.

NFPA 805 Pilot-Plant Implementation
Issue Summary Sheet No. 30

Topic: Modular Accident Analysis Program (MAAP) versus Reactor Excursion and Leak Analysis Program (RELAP) review of Thermal-Hydraulic success criteria.

Associated Observation Meeting Parking Lot Item(s): None

Description: Discussions during the March 2007 meeting raised issues concerning use of Modular Accident Analysis Program (MAAP) versus Reactor Excursion and Leak Analysis Program (RELAP) for review of Thermal-Hydraulic success criteria. Staff noted that many utilities (Progress Energy included) use MAAP to model for success criteria. While MAAP has been part of the internal events PRAs at many facilities the NRC has not endorsed the code.

Resolution Action(s)/Action Party: CLOSED. No action required.

Associated FAQ: None

Lesson Learned: Plants can expect to be questioned on their use of MAAP for determining PRA success criteria

NFPA 805 Pilot-Plant Implementation
Issue Summary Sheet No. 31

Topic: Screening ignition sources (NUREG/CR 6850 Task 8).

Associated Observation Meeting Parking Lot Item(s): None

Description: NUREG/CR 6850 Task 8 allows for the screening of certain ignition sources through scoping fire modeling. Additionally, Task 8 allows for the development of a severity factor based upon those scoping fire modeling estimates. Harris Nuclear Power plant indicated during the March 2007 meeting, that they had determined this second phase screening effort was not worth the effort or worth generating questions that might be raised later. HNP decided not to screen ignition sources in this second phase of the process, but rather to bring those ignition sources that did not screen from the basic scoping fire modeling forward. Keeping ignition sources, rather than screening them, is a conservative approach to fire PRA.

Resolution Action(s)/Action Party: CLOSED. No action required.

Associated FAQ: None

Lesson Learned: Skipping screening of certain ignition sources as allowed as part of NUREG/CR 6850 Task 8 is desirable under some circumstances.

NFPA 805 Pilot-Plant Implementation
Issue Summary Sheet No. 32

Topic: Difference in fire modeling between NUREG/CR 6850 and the Fire Protection Significance Determination Process (FDSDP)

Associated Observation Meeting Parking Lot Item(s): 47

Description: There are differences between the fire modeling done as part of a FPSDP and that done as part of NUREG/CR 6850 (e.g., the designation of initial HRRs for a few types of fire ignition sources). This is likely to raise multiple questions by inspectors as work progresses and licenses. NUREG/CR 6850 is the guiding requirement for the NFPA 805 efforts and as such is the appropriate modeling approach. Clarification in anticipation of this issue will assist plants and inspectors in dealing with the differences.

Resolution Action(s)/Action Party: CLOSED. NUREG/CR 6850 is the guiding requirement for NFPA 805.

Associated FAQ: None

Lesson Learned: NRC inspectors are used to FPSDP and its methods, yet NUREG/CR 6850 is the appropriate modeling approach for NFPA 805 activities.

NFPA 805 Pilot-Plant Implementation
Issue Summary Sheet No. 33

Topic: Environmental considerations for “other” equipment in fire affected compartments.

Associated Observation Meeting Parking Lot Item(s): 48

Description: During the March 2007 meeting, it was not clear to attendees if the current fire modeling was properly accounting for environmental considerations for “other” equipment in a fire-impacted compartment. The fire modeling accounts for sources and targets and zones of influence (ZOI), but it is not clear if other equipment outside of the ZOI, which could be impacted from fire secondary effects (e.g., smoke and temperature), is being addressed in the fire modeling being conducted as part of the NFPA 805 transition.

Resolution Action(s)/Action Party: CLOSED. NUREG/CR 6850 Appendices H and T provide adequate guidance.

Associated FAQ: None

Lesson Learned: NUREG/CR 6850 Appendices H and T provide adequate guidance.

NFPA 805 Pilot-Plant Implementation
Issue Summary Sheet No. 34

Topic: Multiple spurious operation (MSO) expert elicitation guidance.

Associated Observation Meeting Parking Lot Item(s): 1, 50, 53

Description: During the March 2007 meeting, comparison of methods used by plants' to conduct MSO expert elicitation highlighted the need for standardized guidance. There is not currently a single standard to which to hold an expert elicitation as part of bounding the MSO possibilities. Both of the pilot-plants have pursued acquiring expert opinions on the subject as part of their NFPA 805 efforts. An industry standard and/or guidance is needed on the process and criteria for establishing important MSO possibilities as well as how to handle and process the knowledge that is gained at such elicitation meetings.

Resolution Action(s)/Action Party: OPEN. Industry will revise NEI 04-02 to incorporate the lessons-learned from the pilot-plant expert panels.

Associated FAQ: 07-0038

Lesson Learned: Pending final resolution of this issue.

NFPA 805 Pilot-Plant Implementation
Issue Summary Sheet No. 35

Topic: Potential coordination issues between License Renewal Application (LRA) and NFPA 805 transitions (License Amendment Request [LAR])

Associated Observation Meeting Parking Lot Item(s): 52

Description: During the March 2007 meeting the Harris Nuclear Plant (HNP) noted its LRA will be reviewed between 10/08 – 06/09. The current schedule for the NFPA 805 LAR is for submittal in 06/08 with review through 12/08. An LRA locks down a license (i.e., an LAR would not be considered prior to approval of a submitted LRA. This scheduling conflict has not been resolved for HNP.

Resolution Action(s)/Action Party: CLOSED. Plants must coordinate their LAR and LRA submittals

Associated FAQ: None

Lesson Learned: There are potential coordination issues between LRA and NFPA 805 transitions LAR that must be resolved between plants and the NRC.

NFPA 805 Pilot-Plant Implementation
Issue Summary Sheet No. 36

Topic: NUREG/CR 6850 Kerite FR listed temperature

Associated Observation Meeting Parking Lot Item(s): 49

Description: NUREG/CR 6850 Table H 3 and H 4 incorrectly list the Kerite failure temperatures as being between 372 C -382°C with a Recommended Failure Threshold of 372°C. The recommended Failure Threshold for Kerite should be 237°C.

Resolution Action(s)/Action Party: OPEN. NRC to issue an errata/revision for the NUREG/CR

Associated FAQ: None

Lesson Learned: . Pending final resolution of this issue.

NFPA 805 Pilot-Plant Implementation
Issue Summary Sheet No. 37

Topic: Consistent use of pre-defined definitions

Associated Observation Meeting Parking Lot Item(s): None

Description: NFPA 805, NEI 04 02, and NUREG/CR 6850 all contain specialized language and definitions. It is important that as plants develop procedures and documentation for this effort that they use the definitions and language from the references. This ensures their procedures are consistent with the accepted guidance (and thus also helps reduce review comments). There is no need to “word smith” or “invent” new phrases, definitions, and language.

Resolution Action(s)/Action Party: CLOSED. No action required

Associated FAQ: None

Lesson Learned: Use of standardized definitions and languages from project references ensures consistency and enhances reviewability.

NFPA 805 Pilot-Plant Implementation
Issue Summary Sheet No. 38

Topic: Define Fire Protection Engineering Analysis (FPEA)

Associated Observation Meeting Parking Lot Item(s): 41

Description: Part of the industries proposed FAQ 06-0008 and 07-0033 resolution includes FPEAs.

Resolution Action(s)/Action Party: OPEN. Industry will provide clarification on the issue.

Associated FAQ: 06-0008, 07-0033.

Lesson Learned: Pending final resolution of this issue.

NFPA 805 Pilot-Plant Implementation
Issue Summary Sheet No. 39

Topic: Source and Target Database

Associated Observation Meeting Parking Lot Item(s): 51

Description: Progress Energy developed a database as part of the NUREG/CR 6850 Task 8 efforts that records source and target information for later use in the fire modeling and Fire PRA. HNP offered to share the tool with interested non-pilot transition plants

Resolution Action(s)/Action Party: CLOSED. HNP is willing to share this database with interested organizations.

Associated FAQ: None.

Lesson Learned: HNP is will to share its fire source and target database with interested organizations.

NFPA 805 Pilot-Plant Implementation
Issue Summary Sheet No. 40

Topic: Applicability of licensees' current licensing basis (CLB) to new NFPA 805 licensing basis

Associated Observation Meeting Parking Lot Item(s): None

Description: During the May 2007 meeting, discussions indicated the licensees plans to bring forward existing SER exemptions/deviations which have been previously reviewed and approved by NRR.

For the deterministic transitions performed under NFPA 805, the staff expects licensees to review exemptions/deviations during the transition process to ensure the basis for acceptability remains valid. The staff notes that NEI 04-02 section 2.3.1 states "NRC approved exemptions/deviations from the original licensing basis are part of a licensee's CLB and must be reviewed for applicability going forward to a new NFPA 805 licensing basis. In accordance with NEI 04-02 section 4.1.1 and as stated above, the staff expects licensees to review exemptions/deviations during the transition process to ensure the basis for acceptability remains valid.

Resolution Action(s)/Action Party: CLOSED. The staff will address this issue during the development of the Standard Review Plan.

Associated FAQ: None.

Lesson Learned: The staff expects licensees to review exemptions/deviations from 10 CFR 50 Appendix R/NUREG 0800 brought forward as part of the transition to ensure the basis for acceptability remains valid

NFPA 805 Pilot-Plant Implementation
Issue Summary Sheet No. 41

Topic: Limited LP/SD Risk Review

Associated Observation Meeting Parking Lot Item(s): 64

Description: During the May 2007 meeting, discussions indicated pilot-plants do not expect to consider fire and fire effects when first defining the high risk evolutions (HREs) used as part of a Low Power/Shutdown (LP/SD) review. The staff expressed concern that this approach would allow the screening of potentially significant fire-induced HREs, should fire or fire effects be ignored in the development of these HREs.

Pilot-plants interpret NEI 04-02 as not requiring this level of examination, while the staff noted that, in order to meet the requirements of 10 CFR 50.65(a)(4), some sort of risk assessment, at least bounding quantitative, be performed on all LP/SD configurations with regard to potential fires and fire effects. Per the staff's initial understanding and the fact that licensees are not planning on developing LP/SD fire PRAs at this time, an enhanced qualitative approach (at least as a surrogate for "bounding quantitative") is deemed acceptable.

The prime reason for the staff concern is that, unlike the at-power operational mode analysis, there is a lack of a fire PRA assurance that potentially "risky" items within the deterministic analysis will be identified for disposition during LP/SD. Due to this lack, apparently permitted by NFPA-805's non-requirement that fire PRA be performed for all plant modes, including LP/SD, the staff must rely on the licensees' deterministic analyses to provide the assurance that potentially "risky" items will be identified and properly dispositioned during LP/SD. As NEI 04-02 is apparently being currently interpreted, the staff is not assured that this "safety valve" is in place.

Resolution Action(s)/Action Party: OPEN. Industry will provide clarification on the issue

Associated FAQ: 07-0040

Lesson Learned: Pending final resolution of this issue

NFPA 805 Pilot-Plant Implementation
Issue Summary Sheet No. 42

Topic: NEI 04-02, Appendix B, Table B-1, B-2, B-3 Template improvements

Associated Observation Meeting Parking Lot Item(s): 55

Description: During the May 2007 meeting, the pilot-plants demonstrated specific enhancements to NEI 04-02, Appendix B, Tables B-1, B-2, and B-3 that should be incorporated into NEI 04-02.

Resolution Action(s)/Action Party: OPEN. Pending approval of FAQ, NEI will propose changes to NEI 04-02, Appendix B, Tables B-1, B-2, and B-3 based on pilot-plant experience.

Associated FAQ: 07-0036 (Table B-1), 07-0039 (Tables B-2 and B-3)

Lesson Learned: The plants have substantially refined the tables of NEI 04-02 Appendix B. Non-pilot-plants will benefit from the lessons learned by the pilot-plants in their use of these tables.

NFPA 805 Pilot-Plant Implementation
Issue Summary Sheet No. 43

Topic: NEI 04-02 Table B-3 Binning Information

Associated Observation Meeting Parking Lot Item(s): 3, 58

Description: During the May 2007 meeting, it was noted that standardized language/binning is required to ensure consistency between plants in their use of NEI 04-02, Table B 3.

Resolution Action(s)/Action Party: OPEN. Pending approval of FAQ, NEI will update NEI 04-02 to include standardized binning language.

Associated FAQ: 06-0012.

Lesson Learned: Standardized binning language for use with NEI 04-02, Table B-3, will enhance reviewability.

NFPA 805 Pilot-Plant Implementation
Issue Summary Sheet No. 44

Topic: Extension of existing HRA scenarios

Associated Observation Meeting Parking Lot Item(s): 36, 59

Description: During the May 2007 meeting, discussions indicated an update to NEI 04-02 is warranted to include extension of existing HRA scenarios to address fire initiators and manual actions (both preventative and reactive).

Resolution Action(s)/Action Party: OPEN. Pending approval of FAQ, NEI will propose to include these changes as part of an existing planned FAQ (07-0030)

Associated FAQ: 07-0030

Lesson Learned: The plants have substantially refined the tables of NEI 04-02 Appendix B. Non-pilot-plants will benefit from the lessons learned by the pilot-plants in their use of these tables.

NFPA 805 Pilot-Plant Implementation
Issue Summary Sheet No. 45

Topic: Use of existing Configuration Management and Document Control systems in the NFPA 805 project

Associated Observation Meeting Parking Lot Item(s): NA

Description: During the July 2007 meeting, discussions indicated lessons learned from Table B-1 efforts include keeping relevant documents in one place, providing searchable indices to documents, integrating with existing document and configuration management system, and developing a good program document that comprehensively references and summarizes the Fire Protection Program.

Resolution Action(s)/Action Party: CLOSED. Lesson-Learned by Pilot Plants

Associated FAQ: None

Lesson Learned: Non-pilot-plants will benefit from the lessons learned by the pilot-plants to integrate their NFPA 805 transition information into their existing document management and configuration control systems.

NFPA 805 Pilot-Plant Implementation
Issue Summary Sheet No. 46

Topic: Impact of new ANS Fire PRA standard 'requirements' for instrumentation related to operator actions in the PRA.

Associated Observation Meeting Parking Lot Item(s): 61

Description: During the July 2007 meeting, discussions indicated "new" instrumentation requirements are included in the new proposed revision to the ANS Fire PRA standard. The impact and resolution of this issue with regards to a Fire PRA used for NFPA 805 transition is not clear.

Resolution Action(s)/Action Party: OPEN. Pending submittal and approval of FAQ.

Associated FAQ: FAQ planned but not yet submitted.

Lesson Learned: Pending final resolution of this issue

NFPA 805 Pilot-Plant Implementation
Issue Summary Sheet No. 47

Topic: RG 1.200 impact on revision schedule for RG 1.205

Associated Observation Meeting Parking Lot Item(s): 63

Description: During the August 2007 meeting, concerns were raised over the next RG 1.205 revision and NRC's ability to revise it in spring 2008. RG 1.205 has ties to RG 1.200 that may preclude a timely revision to RG 1.205 to support use of NEI 04-02, Revision 2.

Resolution Action(s)/Action Party: OPEN. NRC to review ability to revise RG 1.205 to address FAQs incorporated into NEI 04-02, Revision 2

Associated FAQ: None

Lesson Learned: Awaiting resolution of issue.

NFPA 805 Pilot-Plant Implementation
Issue Summary Sheet No. 48

Topic: Type of Fire Modeling Required to Support NFPA 805

Associated Observation Meeting Parking Lot Item(s): None

Description: During the August 2007 meeting, it became clear that most fire modeling done for of NFPA 805 purposes will be done in support of the Fire PRA.

Resolution Action(s)/Action Party: CLOSED. NRC to incorporate guidance on review of fire modeling for NFPA 805 related Fire PRA and deterministic purposes in its associated inspection guides and draft SRP section.

Associated FAQ: None

Lesson Learned: Most fire modeling for NFPA 805 will be done in support of the Fire PRA. Not expecting a lot of deterministic required fire modeling.

NFPA 805 Pilot-Plant Implementation
Issue Summary Sheet No. 49

Topic: Level of detail from Tables B-1, B-2, and B-3 that is required in submittal/LAR

Associated Observation Meeting Parking Lot Item(s): None

Description: During the August 2007 meeting, discussions indicated inclusion of information from Tables B-1, B-2 and B-3 is needed to review the LARs, but the level of detail to actually be included in the submittal is still not decided. In addition, some information included in the tables may not be complete enough for the LAR. For example, fire modeling and risk assessments will be used to modify (add, remove, change/reprioritize) proceduralized human actions and the NRC expects this type of information to be discussed in the LAR. Table B-3 contains information about changes (e.g., manual actions that are no longer required); however, at this time, no formal summary of changes to manual actions is specified.

Resolution Action(s)/Action Party: OPEN. NRC to work with the pilots to establish the level of detail from NEI 04-02 Tables B-1, B-2, and B-3 that should be included with the submittal and whether this information belongs in the LAR or in the transition report.

Associated FAQ: None

Lesson Learned: Awaiting resolution of issue.

NFPA 805 Pilot-Plant Implementation
Issue Summary Sheet No. 50

Topic: Height of fire source for transient combustibles for calculating ZOI.

Associated Observation Meeting Parking Lot Item(s): None

Description: During the August 2007 meeting, both pilot plants indicated their zone of influence (ZOI) calculations are assuming transient combustible fires are located on the floor. Other references indicate a 2 foot height should be assumed. NUREG/CR-6850 does not specify a height.

Resolution Action(s)/Action Party: OPEN. NRC to work with the pilots to establish guidance on appropriate height for transient combustibles when calculating ZOI for NFPA 805.

Associated FAQ: None

Lesson Learned: Awaiting resolution of issue.

NFPA 805 Pilot-Plant Implementation
Issue Summary Sheet No. 51

Topic: Resolution for Appendix R actions that differ from NFPA 805 Fire PRA assumed actions

Associated Observation Meeting Parking Lot Item(s): None

Description: Discussions during the August 2007 meeting indicated it was not clear what the appropriate resolution is when Appendix R operator manual actions differ from NFPA 805 Fire PRA assumed recovery actions (e.g., SSD-required operator manual actions versus screened or unnecessary recovery actions as indicated by NFPA 805)

Resolution Action(s)/Action Party: OPEN. NRC to work with the pilots to develop guidance on appropriate resolution of issue.

Associated FAQ: None

Lesson Learned: Awaiting resolution of issue.

Attachment 6 to the Trip Report
Pilot Plant Observation Meeting
August 6 – 9, 2007

- Issue Summary Sheet: The Issue Summary Sheets provide additional information, clarification, and detail about pilot plant identified issues and lessons learned to the non-pilot licensees and other interested parties
- Associated Parking Lot Item: The NRC and Industry use the Parking Lot table to track the resolution status of issues identified during visits presentations and related discussions
- Associated FAQ: The NRC and Industry use the Frequently Asked Question (FAQ) Process to develop NRC staff interpretations and clarifications of NEI 04 02 guidance and NFPA 805 requirements.

NFPA 805 Transition Observation Visit
August 6 - 9, 2007
Summary of Issue Identification and Resolution

No.	Issue Summary Sheet (Status)	Associated Parking Lot Item No. (Status)	Associated FAQ (Status)
1	Multiple Spurious Operation (MSO) – Treatment of Newly Identified MSO in ROP Prior to Risk Significance Determination (open)	1 (closed to FAQ 07-0038)	FAQ 07-0038 (open)
2	Multiple Spurious Operations - Screening Criteria (closed)	2 (closed)	None
3	Transition of Operator Manual Actions to NFPA 805 Recovery Actions (closed)	3 (closed to FAQs 06-0001 and 06-0012)	FAQ 06-0001 (closed) FAQ 06-0012 (closed)
4	Spurious Operations – Risk Informed, Performance-based Treatment of High/Low Pressure Interface Components (closed)	4 (closed to FAQ 06-0006)	FAQ 06-0006 (closed)
5	Fire PSA Peer Review (open)	5 (closed), 20 (closed), 37 (closed)	None
6	PSA and Change Evaluations for Low-Power/Shutdown Modes (open)	6 (closed) 22 (closed to Parking Lot Item 64 and FAQ 07-0040)	FAQ 07-0040 (planned)
7	NFPA 805 Chapter 3 – Chapter 4 Related Requirements (open)	7 (closed to FAQ 06-0004) 8 (closed to FAQ 06-0002) 9 (closed)	FAQ 06-0004 (open) FAQ 06-0002 (closed)
8	Performance-based Alternative for Fire Area Boundary Evaluation (open)	10 (closed to FAQs 06-0008 and 07-0033)	FAQ 06-0008 (open) FAQ 07-0033 (open)
9	Plant Change Evaluations – Preliminary Risk Screening (closed)	11 (closed)	None
10	Plant Change Evaluations – Preliminary Screening Criteria and Form Corrections (closed)	12 (closed to FAQ 06-0003)	FAQ 06-0003 (closed)
11	Plant Change Evaluation – PSA Engineer Reviews of Screens (closed)	13 (closed)	None
12	Authority Having Jurisdiction – NFPA Code Deviations (closed)	14 (closed)	None
13	Transition Baseline Risk (open)	19 (closed to FAQ 06-0005) 24 (closed to FAQ 06-0014)	FAQ 06-0005 (open) FAQ 06-0014 (planned)
14	Regulatory Position on Interim Guidance Changes (closed)	16 (closed)	None
15	Circuit Analysis Generic Letter and RIS – Compliance Issues for Transition (closed)	17 (closed)	None

NFPA 805 Transition Observation Visit August 6 - 9, 2007 Summary of Issue Identification and Resolution			
No.	**Issue Summary Sheet (Status)**	**Associated Parking Lot Item No. (Status)**	**Associated FAQ (Status)**
16	NEI 04-02, Appendix B, Methodology Changes (open)	18 (closed to FAQ 06-0013) 55 (closed to FAQs 07-0036 and 07-0039)	FAQ 06-0013 (planned) FAQ 07-0036 (open) FAQ 07-0039 (open)
17	Risk Acceptance Thresholds (open)	21 (Closed)	None
18	Definition for Fire Protection Program Change (open)	23 (closed to FAQ 06-0005)	FAQ 06-0005 (open)
19	Tracking of Cumulative Risk from Post - Transition Plant Changes (open)	15 (closed to FAQ 06-0010) 24 (closed to FAQ 06-0014)	FAQ 06-0010 (planned) FAQ 06-0014 (planned)
20	Fire Zones/Compartment Definitions (closed)	25 (closed)	None
21	Ignition Frequency Binning Issues (open)	26 (closed to FAQ 06-0018) 27 (closed to FAQ 06-0016) 28 (closed to FAQ 06-0017) 29 (closed to FAQ 07-0031)	FAQ 06-0018 (closed) FAQ 06-0016 (closed) FAQ 06-0017 (closed) FAQ 07-0031 (open)
22	Transition and Post-Transition Program Management (open)	30 (closed to FAQ 07-0032)	FAQ 07-0032 (open)
23	“New” Requirements in NFPA Chapter 3/Table B-1 Issues (closed)	32 (closed), 33 (closed) 34 (closed to FAQ 06-0022)	 FAQ 06-0022 (open)
24	Assessing Risk of Recovery Actions (open)	35 (closed to FAQ 06-0011) 36 (closed to FAQ 06-0030)	FAQ 06-0011 (open) FAQ 07-0030 (planned)
25	Mapping Efforts to 10 CRF 50.48(a) Requirements (open)	None	FAQ 07-0032 (open)
26	Clarify Existing Engineering Equivalency Evaluations Guidance (open)	43 (closed to FAQ 07-0033)	FAQ 07-0033 (open)
27	Properly Accounting for Kerite Cables Impacts on Targets within a Zone of Influence (closed)	None	None
28	Define Boundary with Respect to the Counting of Fire Ignition Sources (closed)	45 (closed)	None
29	Transformer Threshold (open)	46 (closed to FAQ 07-0031)	FAQ 07-0031 (open)
30	Modular Accident Analysis Program Versus Reactor Excursion and Leak Analysis Program for Review of Thermal-Hydraulic Success Criteria (closed)	None	None
31	Screening Ignition Sources (NUREG/CR 6850 Task 8) (closed)	None	None
32	Difference in Fire Modeling Between NUREG/CR 6850 and the Fire Protection Significance Determination Process (closed)	47 (closed)	None
33	Environmental Qualification Considerations for “Other” Equipment in Fire Affected Compartments (open)	48 (closed)	None
34	Multiple Spurious Operation Expert Elicitation Guidance (open)	1 (closed to FAQ 07-0038) 50 (closed) 53 (closed to FAQ 07-0038)	FAQ 07-0038 (open) FAQ 07-0038 (open)
35	Potential Coordination Issues Between License Renewal Application and NFPA 805 Transitions (License Amendment Request) (closed)	52 (open)	None
36	NUREG/CR 6850 Kerite FR Listed Temperature (open)	49 (open)	None
37	Consistent Use of Pre-defined Definitions (closed)	None	None

NFPA 805 Transition Observation Visit August 6 - 9, 2007 Summary of Issue Identification and Resolution			
No.	**Issue Summary Sheet (Status)**	**Associated Parking Lot Item No. (Status)**	**Associated FAQ (Status)**
38	Define Fire Protection Engineering Analysis (open)	41 (closed to FAQs 06-0008 and 07-0033)	FAQ 06-0008 (open) and FAQ 07-0033 (open)
39	Source and Target Database (closed)	51 (closed)	None
40	Applicability of Licensees' Current Licensing Basis to New NFPA 805 Licensing Basis (closed)	None	None
41	Limited LP/SD Risk Review (open)	64 (closed to FAQ 07-0040)	FAQ 07-0040 (planned)
42	NEI 04-02, Appendix B, Table B-1, B-2, B-3 Template Improvements (open)	55 (Closed to FAQs 07-0036 and 07-0039)	FAQ 07-0036 (B-1) (open) FAQ 07-0039 (B-2 and B-3) (open)
43	NEI 04-02 Table B-3 Binning Information (open)	3 (closed to FAQs 06-0001 and 06-0012) 58 (closed to FAQ 06-0012)	FAQ 06-0001 (closed) FAQ 06-0012 (closed)
44	Extension of Existing HRA Scenarios (open)	36 (closed to FAQ 07-0030) 59 (Closed)	FAQ 07-0030 (open) None
45	Use of existing Configuration Management and Document Control systems in the NFPA 805 project (closed)	None	None
46	Impact of new ANS Fire PRA standard 'requirements' for instrumentation related to operator actions in the PRA (open).	61 (open)	Planned
47	RG 1.200 impact on revision to RG 1.205 to support endorsement of NEI 04-02, Revision 2 (open)	63 (open)	None
48	Most fire modeling done for NFPA 805 efforts will be in support of the Fire PRA and will not be for deterministic purposes (closed)	None	None
49	Level of detail from Tables B-1, B-2, and B-3 that is required in submittal/LAR (open)	None	None
50	Height of transient combustibles for calculating ZOI (open)	None	None
51	Resolution for when Appendix R actions differ from NFPA 805 Fire PRA assumed actions (open)	None	None