

NFPA 805 OBSERVATION VISIT TRIP REPORT

Date: May 30 - June 1, 2007

Location: Progress Energy Headquarters, Raleigh, North Carolina (non-public)
New Horizons Fellowship Center, Apex, North Carolina (public)

Attendees: Representatives from the following organizations attended the meetings:

Duke Power	NRC Headquarters
Progress Energy	NRC Region II
ERIN Engineering and Research Inc	Pacific Northwest National Laboratory (PNNL)
Florida Power and Light	Kleinsorg Group
NIISYS	

Subject: Risk-Informed, Performance-Based Fire Protection Transition Pilot-Plant Observation Visit – Progress Energy Corporate Headquarters, Raleigh, North Carolina, and New Horizons Fellowship Center in Apex, North Carolina

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 Progress Energy and Duke Power at Progress Energy's corporate offices in Raleigh, North Carolina and at the New Horizons Fellowship Center in Apex, North Carolina. Other industry representatives were also present to observe the public and non-public proceedings. The meetings in Raleigh on May 30 and the morning of May 31, 2007, were closed to the public. These meetings covered Safeguards and/or Sensitive Homeland Security Information. The public meetings were held on the afternoon of May 31 and morning of June 1, 2007, in Apex. 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 given during the meetings that are not security-related. Attachment 5 provides the Issue Summary Sheets. These summaries provide clarification and detail of lessons learned from the NFPA 805 Transition Pilot Program. Attachment 6 provides a summary of the issues and of the resolution status.

ENCLOSURE

General Discussion:

The general objective of the observation visits is to facilitate communications between the 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 trip supported the NRC observation visit for on-going pilot plant activities by Progress Energy and Duke Power 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 trip 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 have 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, Fire PRA Circuit Analysis Follow-up (Handout Reference 1):

Progress Energy provided a discussion of the circuit analysis follow-up. The topics included process overview, circuit analysis, and expert panels.

The original Harris Nuclear Plant (HNP) expert panel identified multiple spurious operation (MSO) paths for which the existing probabilistic risk assessment (PRA) modeled a majority (estimated at 60% - 70%). The panel will reconvene to further examine the issue. The Oconee Nuclear Station (ONS) and HNP took different approaches to the expert elicitation. For example, at ONS the expert panels meet for multiple one-day events, while HNP conducts fewer one-week events. Both plants noted continuing improvements in the process. **Issue Summary Sheet No. 34** documents concerns with a lack of an industry standard for conduct and use of information from expert panels for multiple spurious operations (MSO). Industry plans a revision to NEI 04-02 to address lessons learned from the expert panel process.

Agenda Topic 2, Fire PRA Risk Ranking of Multiple Spurious Operations (Handout Reference 1):

Progress Energy presented an approach for using the internal events PRA information to identify spurious failure combinations for consideration by the expert panel. The initial effort concentrated on pairs, but multiple combinations evaluation is possible using this method. The method searches for previously screened components based on low probabilities whose risk

ranking when combined with another failure is high enough to warrant consideration and further evaluation. Progress Energy used the computer-aided fault-tree analysis (CAFTA) related code "SysImp" to perform this analysis.

Agenda Topic 3, Circuit Analysis Comments and Proposed Comment Resolution (Handout Reference 2). Agencywide Document Access and Management System (ADAMS) Accession No. 071650197:

On May 21, 2007, NRC staff from Headquarters, with support from Pacific Northwest National Laboratory (PNNL), participated in a teleconference with Progress Energy's NFPA 805 transition team regarding their in-process circuit analysis work products. Progress Energy provided discussions on their planned resolution of the issues raised. At NRC's request, Progress Energy agreed to produce a non-sensitive version of the comment resolutions for inclusion in the public portion of the meeting. It is important that non-pilot plants be able to access this information (note: see Agenda Topic 14 and its associated Reference 10). NRC expects Progress Energy to submit final comment resolutions for inclusion on the docket to close the issue.

Agenda Topic 4, NFPA 805 Chapter 4 (Handout References 3, 4, and 5):

Progress Energy reported on efforts for Tables B-2 and B-3 of NEI 04-02, Appendix B. The format and content are not the same as in NEI 04-02. Updates are required to the templates and guidance in NEI 04-02 for Tables B-1, B-2, and B-3 to reflect changes the pilot plants have found to be necessary to adequately record the information required to perform the transition work. **Issue Summary Sheet 42** documents this concern.

Progress Energy stated that they are "prototyping" HNP Fire Area 1-A-BAL-C for change evaluation.

Agenda Topic 5, Chapter 4 Follow-up to Previous Comments and Proposed Comment Resolution (Handout Reference 2). ADAMS Accession No. ML071650197:

On May 21, 2007, NRC staff from Headquarters, with support from PNNL, participated in a teleconference with Progress Energy's NFPA 805 transition team regarding their NFPA 805 Chapter 4 transition work. NRC expects Progress Energy to submit final comment resolutions for inclusion on the docket to close the issue.

Issues were raised over the "baseline" used in the license amendment request (LAR) for the transition change evaluation. The plant noted RG 1.205, Section C.2.2 states, "the baseline FPP risk for the estimate of the net risk change is that for a plant that is fully compliant with the current deterministic regulations for the FPP, including NRC-approved exemptions/deviations." 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. **Issue Summary Sheet 40** documents this concern.

Agenda Topic 6, Non-power Operations Preliminary Results (Handout Reference 6):

Progress Energy reported on the non-power operations preliminary results. One item of interest is that the spent fuel pool (SFP) cooling at HNP is not included as a key safety function

(KSF) of interest. This would not be the expected norm. HNP's SFP design allowed for multiple units that were never completed and has large excess capacity.

Agenda Topic 7, Non-Power Operations Comment and Proposed Comment Resolution (Handout Reference 2). ADAMS Accession No. ML071650197:

On May 21, 2007, NRC staff from Headquarters, with support from PNNL, participated in a teleconference with Progress Energy's NFPA 805 transition team regarding their non-power operations. NRC expects Progress Energy to submit final comment resolutions for inclusion on the docket to close the issue.

The NRC noted that the governing procedure for Outage Risk Management at HNP (OMP-003) needs to undergo NRC review once modified to include the effects of fire.

Discussions indicated that pilot plants do not expect to use fire 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 could allow lower risk evolutions that could be HREs if fire or fire effects are considered to be screened and never appropriately addressed. Pilot plants interpret NEI 04-02 as not requiring this level of examination, while staff noted some sort of risk assessment, at least bounding quantitative, on all LP/SD configurations with regard to potential fires and fire effects is needed. **Issue Summary Sheet 41** documents this concern.

Agenda Topic 8, Chapter 4 Operator Manual Actions Transition, (Handout Reference 7):

Progress Energy discussed the NFPA 805 Chapter 4 operator manual actions transition. This included background on the nuclear safety capability assessment (NSCA) transition, determining the scope of the transition change evaluation, and assessing the risk of recovery actions.

Issue Summary Sheet 3 documents concerns with transition of operator manual actions (OMAs) to NFPA 805 Recovery Actions. Discussion of the planned resolution of this issue indicated that standardized language/binning will enhance the reviewability of submittals. **Issue Summary Sheet 43** documents this concern.

Agenda Topic 9, Harris PRA Model Demonstration (Handout Reference 8):

Progress Energy described their PRA modeling efforts. This included an explanation of data infrastructure for the Fire PRA, the use of Fire Risk Analysis Code (FRANC) in compartment scenarios, timelines and damage sets, and fire modeling (e.g., hot gas layers / damage sets).

Discussions included integration of Fire PRA with changes to the internal events PRA model. Progress plans is to use XINIT as an integration tool between FRANC and the internal events model.

Progress Energy described potential use of "feed and bleed" in the PRA model and the 10 CFR 50.48(c) exception for the use of "feed and bleed" as the sole protected means of meeting nuclear safety criteria. Progress Energy intends that "feed and bleed" continue to be

part of Fire PRA, but is not be relied upon as sole protected means in the deterministic compliance-based approach.

Progress Energy stressed that the initial steps for estimating hot gas layer formation in compartments are very conservative in nature as is warranted for screening purposes.

Agenda Topic 10, Updated Parking Lot Issues - Review :

Progress Energy led the discussion on the Parking Lot Issues. See Attachment 2

Agenda Topic 11, Oconee PRA Model Demonstration:

Duke Energy described their PRA modeling efforts and database tools. Discussions following the demonstration of the Oconee Fire PRA information included correlation of fire to the internal events model, scenario development, and components with different failure functions, use of FRANC, and model changes to account for MSOs.

Agenda Topic 12, Introductions:

As annotated in Attachment 1, NRC held a public meeting in Apex, North Carolina, that started on the afternoon of May 31 and concluded on the morning of June 1, 2007. Paul Lain of the NRC led the public meeting.

Agenda Topic 13, Multiple Spurious Operations Process Summary (Handout Reference 9); Agenda Topic 14, Expert Panel Follow-up to Previous Comments (Handout Reference 10); and Agenda Topic 15, PRA Treatment of Fire Recovery Actions and Post Fire HRA (Handout Reference 11):

The discussion on these Agenda Topics closely followed related Agenda Topics from the non-public portion of the meeting, with the following addition:

An update to NEI 04-02 is warranted to include extension of existing human reliability analysis (HRA) scenarios to address fire initiators and manual actions (both preventative and reactive). **Issue Summary Sheet 44** documents this concern.

Agenda Topic 16, Thermo-Hydraulic Analyses Impact for Fire PRA (Handout Reference 12):

Progress Energy described their update to the plant's thermo-hydraulic analysis in support of the NFPA 805 transition process. The update is required to determine the PRA success criteria and to determine acceptability of PRA recovery actions. The plant continues to use its existing thermo-hydraulic codes (i.e., Gothic for heating ventilation and air conditioning (HVAC) and MAAP for PRA related primary and secondary system analysis). No new analysis is required to date, though some HVAC analysis revisions are required to support PRA.

Agenda Topic 17, Pilot Plant Coordination (Handout Reference 13):

Progress Energy led the discussion on planning the next pilot plant meetings. Of note, the August meeting will be in Washington DC, while a mid-July meeting is planned at the Oconee plant.

Agenda Topic 18, Review and Status of Follow-up Actions Lists (Attachment 5) & Agenda Topic 19, Review of FAQ List (Handout Reference 14):

Progress Energy led the discussion on the Parking Lot Issues and FAQ log. Of particular interest is the planned January 2008 update to NEI 04-02. Issues to be included in this update will need to be resolved between industry and NRC by December 2007. NRC and NEI agreed to determine which FAQs they would attempt to resolve and include in the update.

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.

The May 2007 observation visit identified five new items, closed four, and changed the status on three others. 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 Updated 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 schedule (Reference 13) for interim review of deliverables (in particular, the PRA activities), and Duke Power 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 Progress Energy Corporate Headquarters and at the New Horizons Fellowship Center, Apex, North Carolina. May 30 - June 1, 2007.

2. Updated Parking Lot Issues(Meeting Agenda Topic #10). NFPA 805 Transition Observation Visit at Progress Energy Corporate Headquarters and at the New Horizons Fellowship Center, Apex, North Carolina. May 30 - June 1, 2007.
3. Security-Related Handouts under 10 CFR 2.390. NFPA 805 Transition Observation Visit at Progress Energy Corporate Headquarters and at the New Horizons Fellowship Center, Apex, North Carolina. May 30 - June 1, 2007. ADAMS Accession No. ML071870425.
4. Non Security-Related Handouts. NFPA 805 Transition Observation Visit at Progress Energy Corporate Headquarters and at the New Horizons Fellowship Center, Apex, North Carolina. May 30 - June 1, 2007. ADAMS Accession No. ML071870400`
5. NFPA Pilot-Plant Implementation Issue Summary Sheets

Handout References:

1. Multiple Spurious Operations Methodology, Keith Began and David Miskiewicz, Progress Energy, May 30, 2007 - Meeting Agenda Topics 1 & 2 - Slide Presentation. Security-Related Handouts 10 CFR 2.390. ADAMS Accession No. ML071780284.
2. Response to NRC Comments on Progress Energy In-Process Work Products, Progress Energy, May 30, 2007 - Meeting Agenda Topics 3 & 5 & 7. Security-Related Handouts under 10 CFR 2.390. ADAMS Accession No. ML071780310.
3. NFPA 805 Chapter 4, Robert Rhodes, Progress Energy, May 30, 2007 – Meeting Agenda Topic 4 – Slide Presentation. ADAMS Accession No. ML071780363.
4. Progress Energy Harris Nuclear Power Plant NFPA 805 Table B-2 Nuclear Safety Capability Assessment - Meeting Agenda Topic 4. ADAMS Accession No. ML071630517.
5. Progress Energy Harris Nuclear Power Plant NFPA 805 Table B-3 Fire Area Transition - Meeting Agenda Topic 4. Security-Related Handouts under 10 CFR 2.390. ADAMS Accession No. ML071210355.
6. Non-Power Operations, Robert Rhodes, Progress Energy, May 30, 2007 - Meeting Agenda Topic 6 - Slide Presentation. Security-Related Handouts. Removed under 10 CFR 2.390. ADAMS Accession No. ML071780329.
7. Harris Nuclear Plant (HNP) Nuclear Safety Capability Assessment Transition Operator Manual Actions, Keith Began, Progress Energy, May 30, 2007 – Meeting Agenda Topic 8 – Slide Presentation. Security-Related Handouts under 10 CFR 2.390. ADAMS Accession No. ML071780338.
8. Harris Nuclear Plant (HNP) Fire PRA Demonstrations, David Miskiewicz, Progress Energy, May 31, 2007 - Meeting Agenda Topic 9 - Slide Presentation. ADAMS Accession No. ML071780395.

9. Multiple Spurious Operations (MSO) Process Summary, Robert Rhodes, Progress Energy, May 31, 2007 - Meeting Agenda Topic 13 - Slide Presentation. ADAMS Accession No. ML071780401.
10. Response to NRC Comments on Progress Energy In-Process Work Products, Robert Rhodes, Progress Energy, May 31, 2007 - Meeting Agenda Topic 14 - Slide Presentation. ADAMS Accession No. ML071780434.
11. Discussion of HRA in a Fire Probabilistic Safety Assessment (PSA), Robert Rhodes, Progress Energy, May 31, 2007 - Meeting Agenda Topic 15 - Slide Presentation. ADAMS Accession No. ML071780440.
12. Discussion of Thermal-Hydraulic Analyses, Robert Rhodes, Progress Energy, May 31, 2007 - Meeting Agenda Topic 16 - Slide Presentation. ADAMS Accession No. ML071780448.
13. Proposed Pilot Plant Schedule, June 1, 2007 - Meeting Agenda Topic 17 – Table Presentation. ADAMS Accession No. ML071780459.
14. FAQ Log, June 1, 2007 - Meeting Agenda Topic 19 – Table Presentation. ADAMS Accession No. ML071780475.

Attachment 1 to the Trip Report
Pilot Plant Observation Meeting
May 30 – June 1, 2007

NFPA 805 Meeting for Harris and Oconee Pilot Plants NRC Observation Meeting Topics and Agenda, Progress Energy Corporate HQ, Raleigh, NC – May 30 – June1, 2007				
		Topic	Lead Presenter	Topic Notes
Wednesday May 30	0900 – 0905	Introductions, Meeting Kickoff	N/A	
	0905 – 1010	Fire PRA Circuit Analysis Follow-up	Keith Began Robert Rhodes	Topic 1, Reference 1
	1010 – 1020	Fire PRA Risk Ranking of Multiples	Dave Miskiewicz	Topic 2, Reference 1
	1035 - 1130	Circuit Analysis Comments and Proposed Comment Resolution	Keith Began	Topic 3, Reference 2
	1300 – 1340	NFPA 805 Chapter 4	Robert Rhodes	Topic 4, Reference 3, 4, & 5
	1340 - 1440	Chapter 4 Transition Follow-up Previous Comments	Robert Rhodes	Topic 5, Reference 2
	1455 - 1530	Non-power Operations Preliminary Results	Robert Rhodes	Topic 6, Reference 6
	1530 – 1600	Non-power Operations Comments and Proposed Comment Resolution	Robert Rhodes	Topic 7, Reference 2
	1610 – 1700	Chapter 4 Manual Operator Actions Transition	Keith Began	Topic 8, Reference 7
Thursday May 31	0830 – 1040	Harris PRA Model Demonstration	Dave Miskiewicz	Topic 9, Reference 8
	1050 – 1120	Parking Lot – Review	Jeff Ertman	Topic 10, Enclosure 2
	1120 – 1200	Oconee PRA Model Demonstration	Usama Farradj	Topic 11

NFPA 805 Meeting for Harris and Oconee Pilot Plants NRC Observation Meeting Topics and Agenda, Progress Energy Corporate HQ, Raleigh, NC – May 30 – June1, 2007				
		Topic	Lead Presenter	Topic Notes
Thursday May 31 Public Meeting	1400 – 1405	Introductions & Opening of Public Meeting	Paul Lain Sunil Weerakkody	Topic 12
	1405 - 1430	Multiple Spurious Process Summary	Keith Began Dave Miskiewicz	Topic 13, Reference 9
	1430 – 1450	Expert Panel Follow-up Previous Comments	Jeff Ertman	Topic 14, Reference 10
	1500 – 1545	PRA Treatment of Fire Recover Actions and Post Fire HRA	Robert Rishel	Topic 15, Reference 11
	1545 -1600	Thermo-Hydraulic Analysis Impact for Fire PRA and Fire Protection NSA	Robert Rishel	Topic 16, Reference 12
Friday June 1 Public Meeting	0830 - 0845	Pilot Plant Coordination	Jeff Ertman	Topic 17, Reference 13
	0845 – 0915	Review and Status of Follow-up Actions List	Jeff Ertman	Topic 18, Enclosure 5
	0915 – 0945	Review of FAQ List	Jeff Ertman	Topic 19, Reference 14
	0945 – 0950	Questions	Paul Lain	Topic 20

Attachment 2 to the Trip Report
Pilot Plant Observation Meeting
May 30 – June 1, 2007

NFPA 805 Transition Observation Visit Harris Nuclear Plant – May 30 – June 1, 2007 – Updated Parking Lot Issues							
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	August 2007	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 August 2007	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 Visit Harris Nuclear Plant – May 30 – June 1, 2007 – Updated Parking Lot Issues							
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 Visit
Harris Nuclear Plant – May 30 – June 1, 2007 – Updated Parking Lot Issues**

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		Discussed at Oct. 2006 Pilot Mtg. Guidance will be developed during or post-performance of change evaluations.	Yes
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			Yes
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 Visit
Harris Nuclear Plant – May 30 – June 1, 2007 – Updated Parking Lot Issues

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]

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Harris Nuclear Plant – May 30 – June 1, 2007 – Updated Parking Lot Issues

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: <ul style="list-style-type: none"> 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

<p align="center">NFPA 805 Transition Observation Visit Harris Nuclear Plant – May 30 – June 1, 2007 – Updated Parking Lot Issues</p>							
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		<p><u>11/7/06 HNP Pilot Discussion</u> 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</p>	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			<p>Added 11/7/06 3/22/07 – Progress Energy has developed a schedule and considers item closed [CLOSED]</p>	Closed based on 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.			<p>Added 11/8/06 [CLOSED]</p>	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.			<p>Added 11/8/06 [CLOSED]</p>	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.			<p>Added 11/8/06 Closure to FAQ 06-0022. [CLOSED]</p>	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.			<p>Added 11/8/06 [CLOSED]</p>	Closed to FAQ 06-0011

NFPA 805 Transition Observation Visit Harris Nuclear Plant – May 30 – June 1, 2007 – Updated Parking Lot Issues							
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 Visit
Harris Nuclear Plant – May 30 – June 1, 2007 – Updated Parking Lot Issues**

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. Need for the August 2007 Pilot Observation Meeting	Submittals due July 28, 2007		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.	
45	Define boundary versus qualitative counting	NEI/ Duke Progress				Discussions were 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	Staff to update FDSAP Appendix F with NUREG 6850 insights			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		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.	Yes
49	NUREG/CR 6850 Kerite FR is 237°C not 372°C	NRC	Provide information to public domain	July 2007		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.	NA
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]

NFPA 805 Transition Observation Visit
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No.	Topic	Assigned To	Action	Schedule	Action Taken	Meeting Discussion	FAQ Action
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		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 Visit
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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		Pilot observation presentations indicated the need to define the expert panel review process for MSO and to include specific guidance in NEI 04-02.	Yes
54	Define schedule for revision of NEI 04-02, and identify which FAQs will be included.	NEI	NEI to coordinate schedule for submittals	Propose January 2008		Observation meeting discussion indicated the need to project the next revision to NEI 04-02 to incorporate previously approved FAQs and upcoming RIS.	NA
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		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.	Yes
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		Discussion indicated need to provide a completed product sample for an actual fire area incorporating reviews through Table B-3.	NA
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		Based on previous discussions recommend submittal of OMP-003 for staff review and comment as part of pilot process.	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
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		To be Included in FAQ 07-0030.	Yes

Attachment 3 to the Trip Report
Pilot Plant Observation Meeting
May 30 – June 1, 2007

Security-Related Handout References

Located in ADAMS Accession No. ML071870425
Not released to the public under 10 CFR 2.390

Attachment 4 to the Trip Report
Pilot Plant Observation Meeting
May 30 – June 1, 2007

Non Security-Related Handout References

Located in ADAMS Accession No. ML071870400

Attachment 5 to the Trip Report
Pilot Plant Observation Meeting
May 30 – June 1, 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-in-depth” 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: Planned, but not submitted.

Lesson Learned: Pending resolution of issue.

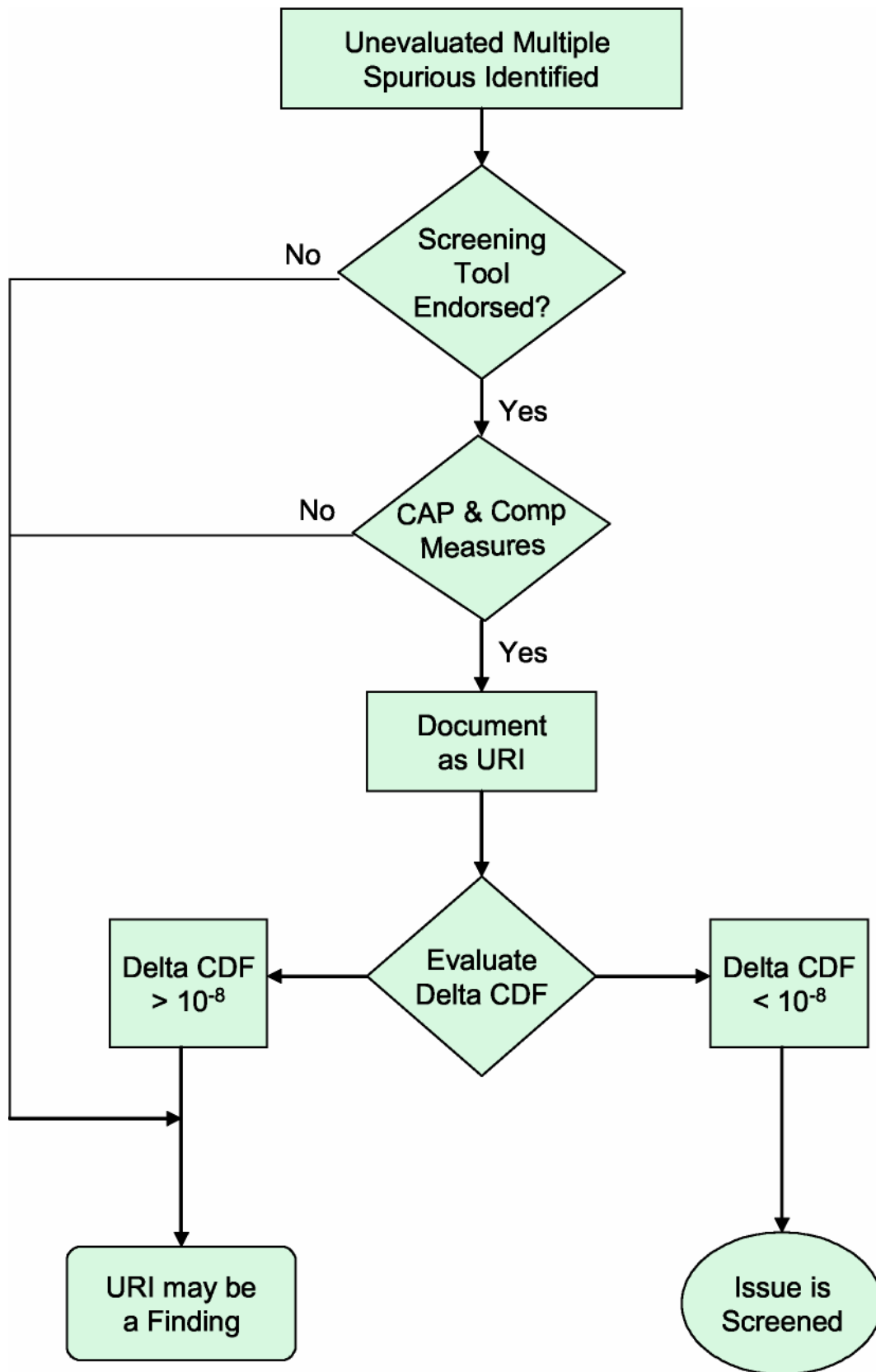


Figure 1. Multiple Spurious Post-Transition Inspections

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 Power 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 Power 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: OPEN. Pending approval of FAQs that clarify the approach to transitioning OMAs to Recovery Actions. The FAQs proposes necessary changes to NEI 04-02.

Associated FAQ: 06-0001 and 06-0012

Lesson Learned: Pending final resolution of FAQ.

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 Power 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 Power'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: OPEN. Pending approval of FAQ. NEI will revise NEI 04-02 as necessary to clarify that the guidance in NEI 00-01 is consistent with the definitions in NFPA 805 and meets the requirements.

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: 06-0002 and 06-0004

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

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 FAQ. 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

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

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 $<10 \text{ E-7/yr delta-CDF}$ ($<10 \text{ E-8/yr delta-LERF}$), 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 and 06-0018 have both been approved. FAQs 06-0017 and 07-0031 are still under consideration/discussion.

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

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: OPEN. Industry will provide clarification on the issue.

Associated FAQ: 06-0022.

Lesson Learned: Pending final resolution of this issue.

**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 to 10 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). Efforts to date appear to be concentrating on meeting the conditions of 10 CFR 50.48(c). Plants must ensure that they map these efforts back to the requirements in 10 CFR 50.48(a).

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

Associated FAQ: No FAQ is required.

Lesson Learned: Plants must ensure they map their NFPA 805 related efforts to 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: No FAQ required.

Lesson Learned: NRC inspectors are used to FDSDP 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 Qualification (EQ) 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 EQ 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: OPEN. Industry will provide clarification on the issue.

Associated FAQ: FAQs planned but not submitted.

Lesson Learned: Pending final resolution of this issue.

**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: FAQs planned but not submitted.

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 resolution includes FPEAs. NEI will provide a technical paper that better describes and defines 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): None

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 "blue box" (fire PRA) assurance that potentially "risky" items within the "red box" (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' "red box" 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. NRC will examine this issue and lead further discussion at a future pilot-plant meeting.

Associated FAQ: None.

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: FAQ planned but not yet submitted.

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.

Attachment 6 to the Trip Report
Pilot Plant Observation Meeting
May 30 – June 1, 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 Harris Nuclear Plant – May 30 – June 1, 2007 Summary of Issue Identification and Resolution			
No.	Issue Summary Sheet (Status)	Associated Parking Lot Item (Status)	Associated FAQ (Status)
1	Multiple Spurious Operation (MSO) – Treatment of Newly Identified MSO in ROP Prior to Risk Significance Determination (open)	1 (open), 50 (closed), 53 (open)	Planned
2	Multiple Spurious Operations - Screening Criteria (closed)	2 (closed)	None
3	Transition of Operator Manual Actions to NFPA 805 Recovery Actions (open)	3 (closed by FAQs)	FAQ 06-0001 (closed) FAQ 06-0012 (closed)
4	Spurious Operations – Risk Informed, Performance-based Treatment of High/Low Pressure Interface Components (open)	4 (closed by FAQ)	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 (open)	Planned
7	NFPA 805 Chapter 3 – Chapter 4 Related Requirements (open)	7 (closed by FAQ), 8 (closed by FAQ) 9 (closed)	FAQs 06-0004 (open) FAQ 06-0002 (closed)
8	Performance-based Alternative for Fire Area Boundary Evaluation (open)	10 (closed by FAQ)	FAQ 06-0008 (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 by FAQ)	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 by FAQ), 24 (closed by FAQ)	FAQs 06-0005 (open) FAQ 06-0014 (future)
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
16	NEI 04-02, Appendix B, Methodology Changes (open)	18 (closed by FAQ)	FAQ 06-0013 (future)
17	Risk Acceptance Thresholds (open)	21 (open)	Planned
18	Definition for Fire Protection Program Change (open)	23 (closed by FAQ)	FAQ 06-0005 (open)

No.	Issue Summary Sheet (Status)	Associated Parking Lot Item (Status)	Associated FAQ (Status)
19	Tracking of Cumulative Risk from Post - Transition Plant Changes (open)	15 (closed by FAQ) 24 (closed by FAQ)	FAQ 06-0010 (future) FAQ 06-0014 (future)
20	Fire Zones/Compartment Definitions (closed)	25 (closed)	None
21	Ignition Frequency Binning Issues (open)	26 (closed by FAQ) 27 (closed by FAQ) 28 (closed by FAQ) 29 (closed by FAQ)	FAQ 06-0018 (closed) FAQ 06-0016 (closed) FAQ 06-0017 (open) FAQ 07-0031 (open)
22	Transition and Post-Transition Program Management (open)	30 (closed by FAQ)	FAQ 07-0032 (open)
23	"New" Requirements in NFPA Chapter 3/Table B-1 Issues (open)	32 (closed), 33 (closed), 34 (closed by FAQ)	FAQ 06-0022 (open)
24	Assessing Risk of Recovery Actions (open)	35 (closed by FAQ) 36 (closed by FAQ)	FAQ 06-0011 (open) FAQ 07-0030 (future)
25	Mapping Efforts to 10 CRF 50.48(a) Requirements (closed)	None	None
26	Clarify Existing Engineering Equivalency Evaluations Guidance (open)	43 (closed by FAQ)	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 by FAQ)	FAQ 07-0031 (open)
30	MAAP Versus RELAP 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 (open)	Planned
34	Multiple Spurious Operation Expert Elicitation Guidance (open)	1 (open), 50 (closed), 53 (open)	Planned
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
38	Define Fire Protection Engineering Analysis (open)	41 (closed by FAQs)	FAQ 06-0008 (open) 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/AD Risk Review (open)	None	None
42	NEI 04-02, Appendix B, Table B-1, B-2, B-3 Template Improvements (open)	55 (open)	Planned
43	NEI 04-02 Table B-3 Binning Information (open)	3 (closed by FAQs 06-0001 & 06-0012), 58 (closed by FAQ 06-0012)	FAQ 06-0001 (closed), FAQ 06-0012 (closed)
44	Extension of Existing HRA Scenarios (open)	36 (closed by FAQ), 59 (open)	FAQ 07-0030 (future)

