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**National Fire Protection Association Standard 805  
Non-Pilot Transition**

*NFPA 805 Public Meeting*  
*US NRC Headquarters Offices*  
*November 18, 2011*



# Presentation Overview

- Opening Remarks
- Staff Observations on the Current LARs
- LAR Status and Scheduling
- Redaction of Security Related Information
- Information Portals
- NFPA 805 Triennial Fire Protection Inspection
- Unreviewed Fire PRA Methods
- NEI 04-02 Guidance
- Final Comments



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## Opening Remarks

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Staff Observations On Current Non-Pilot License Amendment  
Requests

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# Topics for Discussion

- General Observations
  - LAR Template
  - Lessons Learned
    - “Generic RAIs”
- Summary

# General Observations

- All LAR submittals received have very closely followed the NEI LAR template
  - This has resulted in very consistent content
  - LARs look very similar to both the template and the pilot LARs

# Generic Request for Additional Information (RAIs)

- Although the LARs appear to be complete packages, the staff has identified some information that will be essential for us to write the safety evaluation
  - In some cases, this information was obtained from the pilots, but done through RAIs rather than placed in the LAR template or FAQs

# Generic RAIs

- Some “generic RAIs”:
  - Monitoring Program
  - Seismic Standpipes and Hose Stations
  - Total CDF/LERF
  - FSAR
  - Defense-in-Depth and Safety Margins
  - Fire PRA Quality
  - Post Transition Change Process
  - Non-Power Operations



# Generic RAIs

- Some additional “generic RAIs”:
  - B-2 Table alignment with NFPA 805, not Appendix R
  - NEI 00-01, Revision 2
  - Safe and Stable – provide a qualitative risk evaluation beyond defined time period
  - Complies with Clarification should not be used to obtain approval of performance-based methods

# Monitoring Program



- Current licensees are planning to follow FAQ 10-0059 when it is accepted
- A major point that has been omitted in the non-pilot applications has been a reference to the use of the Maintenance Rule (10 CFR 50.65) and/or the details of program planned

# Monitoring Program

- Monitoring Nuclear Safety equipment without use of Maintenance Rule may be acceptable;
  - Current wording in FAQ 10-0059 does not require use of Maintenance Rule;
  - Approving that portion of the NFPA 805 program to cover these components will require significantly more information to be submitted

# Seismic Standpipes/ Hose Stations

- All non-pilot LARs have claimed previous approval to address the ability to fight fires following a seismic event
  - While this may be true, that only addresses the need to backfit seismically supported fire protection equipment
  - It does not address the requirement to be able to fight a fire to protect nuclear safety equipment following an earthquake

# Total CDF/LERF

- Some LARs only provided a statement that their overall plant risk is below  $1\text{E-}04/\text{yr}$  for CDF and below  $1\text{E-}05/\text{yr}$  for LERF
  - In accordance Regulatory Guide 1.174, the staff needs the estimate of the overall plant risk if the proposed increase is greater than  $1\text{E-}05/\text{yr}$  for CDF or  $1\text{E-}06/\text{yr}$  for LERF

# FSAR

- All LARs being submitted have not included any information regarding planned revisions to the FSAR
  - NEI 04-02 Revision 2 currently has a requirement that FSAR revisions be discussed (see section 4.6.2, page 36, 5<sup>th</sup> bullet on page)
  - The staff wants to be sure that the FSAR will accurately describe the new risk-informed, performance-based fire protection program

# Defense-in-Depth (DID) and Safety Margins (SM)

- Although all LARs have some very high level statements that DID and SM have been considered, none have a description of the overall process or attributes considered in the evaluations
  - Needs to be described under oath/affirmation so that the staff can reference it in SE

# Fire PRA Quality

- An accurate description of how the Fire PRA quality meets regulatory requirements is required
  - Use of terms like Limited Scope Peer Review, GAP assessment, etc. must be made in accordance with the requirements in the consensus standards and NRC guidance
  - Only an ASME standard section 1-6 “Peer Review” can discard previous F&Os



# Post-Transition Change Process

- In most cases, development of the post-transition change process will be finalized during the implementation window
- The staff needs to see how this process will be implemented in order to grant self-approval upon issuance of the safety evaluation

# Non-Power Operations



- Several key RAIs were made of the pilots
  - Actions taken to prevent spurious actuation of nuclear safety equipment during Non-Power Operations
  - Recovery actions required to meet Key Safety Functions during Non-Power Operations

# B-2 Table Alignment with Appendix R



- B-2 Table alignment with endorsed guidance should be based on current, living engineering documentation, not previous licensing basis (Appendix R) or calculations being superseded by NFPA 805 processes/calculations

# NEI 00-01, Revision 2

- Regulatory Guide 1.205 currently endorses NEI 00-01, Revision 2
  - B-2 tables have been developed using NEI 00-01, Revision 1
  - Provide a gap analysis indicating what impact (if any) there is by using the previous guidance

# Safe and Stable

- Licensees that plan to use a defined time period to define their safe and stable condition should provide a justification (qualitative risk analysis) that demonstrates that the risk of not being able to maintain the defined safe and stable conditions will be acceptably low beyond the defined time limit

# Complies with Clarification

- Use of the classification of “Complies with Clarification” should not be used to request approval for alternative compliance or use of performance-based methods
- If you want to pursue deviations from Chapter 3, you need to request approval using either (c)(4) or (c)(2)(vii)

# Summary of Staff Observations

- The non-pilot LARs have followed the LAR template very closely
- Some key information is still required for the staff to make their safety conclusions and write a safety evaluation



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## **LAR Status and Scheduling**

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# LAR Status and Scheduling

- Complete each review within 2 years
- Resources are being aligned to meet this goal

LAR	Plant	Date
<b>FY11</b>		
1	D.C. Cook 1&2	7/1/11
2	Duane Arnold	7/28/11
3	Callaway	9/2/11
4	Kewaunee	9/21/11
5	Fort Calhoun	9/28/11
6	V.C. Summer	11/17/11
7	Waterford 3	11/30/11
<b>FY12</b>		
8	Brown's Ferry 1,2,3	3/6/2012
9	ANO Unit 2	3/30/12
10	Cooper	4/27/12
11	Turkey Point 3&4	6/30/12
12	Nine Mile Point 1	6/30/12
13	ANO Unit 1	8/31/12
14	Prairie Island 1&2	9/30/12
15	Joseph M. Farley 1&2	9/30/12
16	Brunswick 1&2	9/30/12
17	Beaver Valley 1&2	9/30/12
18	Palisades	12/21/12

# LAR Status and Scheduling

- Complete each review within 2 years
- Resources are being aligned to meet this goal

LAR	Plant	Date
<b>FY13</b>		
19	R.E. Ginna	3/29/13
20	St Lucie 1&2	3/30/13
21	San Onofre 2&3	3/31/13
22	Diablo Canyon 1&2	6/28/13
23	Point Beach 1&2	6/30/13
24	McGuire 1&2	9/30/13
25	Catawba 1&2	9/30/13
26	Robinson 2	9/30/13
27	Calvert Cliffs 1&2	9/30/13
<b>FY14</b>		
28	Crystal River 3	7/1/14
29	Davis Besse	7/1/14



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**Redaction of Security Related Information**

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# Topics for Discussion

- Fire Protection and Security
- What is SUNSI?
  - 10 CFR 2.390
  - SECY 04-0191
- NFPA 805 Pilot Experience
- Non-Pilot LARs
- New Guidance
- Cooperative Effort
- Summary

# Fire Protection and Security

- Following the events of 9/11/01, all federal agencies were required to assess the information publicly available to determine if any could be useful to an adversary
- At that time, it was decided that nuclear power plant fire protection information could be useful to terrorists

# What is SUNSI?

- Covered under 10 CFR2.390, Public inspection, exemptions, request for withholding.
- One category of information used here at the NRC is called Sensitive Unclassified Non-Safeguards Information
  - SUNSI ... means any information of which the loss, misuse, modification, or unauthorized access can reasonably be foreseen to harm the public interest, the commercial or financial interests of the entity or individual to whom the information pertains, the conduct of NRC and Federal programs, or the personal privacy of individuals.

# SUNSI

- Guidance for handling SUNSI within NRR is contained within SECY 04-0191, “Withholding Sensitive Unclassified Information Concerning Nuclear Power Reactors from Public Disclosure”

# SECY 04-0191

- Fire Protection information is specifically addressed
  - The Public Document Room initially treats fire protection submittals as non-public
  - After staff review, it turns out that most information is not SUNSI and should be released
  - Detailed drawings showing specific locations should be withheld under 10 CFR 2.390



# NFPA 805 Pilot Experience



- Both pilots submitted LARs with substantial sections categorized as security related – withhold in accordance with 10 CFR 2.390
- When public versions of the LARs were posted, almost none of the technical reviews were available for public viewing

# Pilot Experience

- Various stakeholders voiced concern that this did not meet NRC's requirements for transparency and openness
- The NRC staff worked with the pilots to identify critical information that could be mis-used

# Pilot Experience

- Both pilots supplied redacted versions of the LAR using this criteria
- Both pilot safety evaluations were redacted as well
- The goal was to make the regulatory basis of the new risk-informed, performance-based fire protection program as publicly available as possible

# Non-Pilot LARs

- Similar to the initial NFPA 805 Pilot LARs, the current group of non-pilot LARs do not meet our expectations for transparency and openness
  - major portions of the LAR are being withheld such that an independent stakeholder can not see how the performance-based, risk-informed process assures public safety

# New Guidance

- In an effort to make our reviews more efficient, and make the process more transparent and open, the NRC staff has developed new guidance for screening fire protection information in NFPA 805 submittals and safety evaluations

# New Guidance

- The staff intends to take the NRR guidance very literally;
  - Two categories of information would need to be redacted;
    - Drawings
    - Specific Component/Cable Location Information

# Cooperative Effort

- For this new guidance to be useful, it has to be used in the original LAR submittals
- The staff would like to propose that we work with the Nuclear Energy Institute to develop industry guidance and disseminate this new guidance to licensees

# Cooperative Effort

- Once the guidance is available, the staff requests that licensees provide LARs meeting the new guidance
- The staff also encourages the NFPA 805 LARs currently submitted for review to be revised to meet this new guidance so that their submittals will be transparent and open



# Summary of Redaction of Security Related Information




- Certain fire protection information falls under the requirements for SUNSI
- Most fire protection information should be publicly available
- Non-pilot LARs currently under review do not meet our transparency and openness requirements
- The staff has created new guidance for SUNSI fire protection reviews
- The staff would like to work with NEI to get licensees to use this new guidance



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## Information Portals



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# Topics for Discussion

- Background
- Pilot Experience
- Sharepoint -> Portal
- Generic information
- Timing
- Summary

# Background

- NFPA 805 Transition is a massive engineering effort
- The NFPA 805 LAR actually only represents a small fraction of the documentation needed to understand what a licensee did to transition
- The NRC staff normally looks at these lower tier documents during an on-site audit
- However, due to the volume of material this type of program requires, the staff rarely sees all of these documents during the audit

# Pilot Experience

- During the review of the NFPA 805 Pilot LARs, the staff requested the pilots to place key documents on a sharepoint site so that they could be reviewed as necessary to support the LAR review
- Each pilot set up a sharepoint site that allowed many documents to be viewed by the NRC staff

# Pilot Experience

- The sharepoint sites were a very effective way for the staff to see how the licensee addressed various aspects of the transition
- The sharepoint sites also significantly impacted the turnaround time for Requests for Additional Information (RAIs) as well

# Pilot Experience

- The pilots both used Microsoft Sharepoint software to allow viewing their documents through a high speed internet connection
- This capability relied on agreements between the pilots and the NRC staff that the documents would not be downloaded, copied or printed

# “Sharepoint” to “Portal”

- Licensees have begun using specific software to provide viewing ability on the part of the NRC staff and associated contractors
- This new software does not provide any ability to download (other than viewing), copy or print
- In order to use the software, the user must agree to the terms and limitations placed on it by the owner of the information



# Generic Information

- The NRC staff has compiled an initial list of documents we would like to see on a licensee's portal
- These documents fall into several broad categories:
  - Drawings
  - Calculations
  - Procedures/Manuals/Miscellaneous
  - Evaluations

# Generic Information: Drawings

- Credited Fire Protection (FP) System and Feature Drawings
- Drawings related to systems credited in the Nuclear Safety Capability Assessment
- Fire Calculations
- Nuclear Safety Calculations
- Radioactive Release calculations

# Generic Information



- Calculations
  - PRA Calculations
  - Fire modeling to support the Fire PRA
  - Fire modeling used in the Fire Modeling performance-based approach
- Procedures/ Manuals/ Miscellaneous

# Timing

- Since the establishment and use of a portal can significantly influence the time required to perform the technical review of an NFPA 805 license amendment, it is important that the portal be available when the staff begins its review
- The ideal time for the portal to be available is immediately upon acceptance review completion
- For a given application, that is when the staff will begin looking at detailed documentation

# Timing

- Any delay in establishing the portal may result in the need to postpone the on-site audit since review of the detailed technical information is required to develop the questions that will form the basis of the audit
- The timing of the audit and subsequent RAIs may have an influence on the length of time the amendment will take to complete the review
- The first group of LARs should be completed within a 2 year time frame

# Summary of Information Portals



- NFPA 805 Transition involves hundreds of documents
- To expedite the NRC staff review it makes a lot of sense for licensees to provide a portal to allow viewing key documents
- The staff has developed an initial list of generic documents to be placed on the portal
- For this portal to be effective, it should be available early in the timeline of the staff review



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**NFPA 805 Triennial Fire Protection Inspection**

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# Topics for Discussion

- Background
- Fire Protection Inspections
- NFPA 805 Inspection Program
- Summary



# Background

- Risk-Informed, Performance-Based Fire Protection Programs (RI/PB FPP) are founded on engineering analyses
- Verification of public health and safety through inspection involves review of many of these engineering analyses
- Although the volume of analyses changes with RI/PB FPP, the nature of inspections remains essentially the same

# Fire Protection Program Inspections

- Fire Protection Inspections
  - NRC Fire Protection Program (FPP) Inspections
    - Quarterly, Annual, & Triennial Procedures
  - NFPA 805 FPP Inspections
    - Transition Triennial Procedure (71111.05TTP)
    - “New” Post-Transition Triennial Procedure (71111.05XT)
- The “New” Triennial addresses new concepts
  - Fire Risk
  - Plant Change Evaluations


# NFPA 805 Inspection Program



- 1<sup>st</sup> pilot TFPI conducted at Shearon Harris
  - Onsite weeks of Aug 29 and Sept 19
- NRC inspection procedure IP71111.05XT
  - Effective 8/1/2011
  - New areas to inspect
  - Inspection selection
- Conduct of inspection
  - Successfully implemented the procedure
  - Team make-up
  - Licensee support for the team

# Summary

- RI/PB FPP is based on engineering analyses
- NRC FPP inspections focus on those engineering analyses
- New TFPI is not substantially different
- Some new attributes, slightly different focus
- The new NFPA 805 TFPI procedure provided adequate guidance for performing the Harris inspection



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## Unreviewed Fire PRA Methods

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# Overview

- An Unreviewed Analysis Method (UAM) is identified by the industry peer review of a fire PRA
- A position on the current 4 UAMs has not been established by industry or NRC
- The UAMs are related to fire PRAs, which may be used for 10CFR50.48(c)
- Deliberations conducted under an industry panel with NRR participating (NRR has one vote)

# Specific UAMs

- Areas of current UAMs
  - Transient combustible fires
  - Hot Work producing cable fires
  - Electrical cabinet fires
  - Pump oil fires (beyond MFW pumps, covered in NFPA 805 FAQ 44)

# Summary: Overall Considerations

- The NRC expects that proposed methods that differ from NUREG/CR-6850 will be described in a document referenced in the LAR or in the LAR itself
- The NRC expects that the UAM panel will resolve (i.e., identify acceptable versus unacceptable) proposed methods on a timely basis; resolution of methods by the UAM panel will facilitate NRC review of the application
- Currently, submittals that use unresolved methods are being accepted for review when accompanied by sensitivity studies.
- Demonstration of acceptable results using sensitivity studies may suffice for transition, but a PRA upgrade to acceptable methods and an additional LAR may be required for self-approval.





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**RG1.205/NEI 04-02 Revision - NFPA 805 Implementation Guidance**

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# Topics for Discussion

- FAQ Integration
- Non-Pilot License Amendment Request (LAR) Acceptance Reviews
- Summary

# FAQs Integration



- When NEI 04-02, Rev. 2 was received, FAQ program had few closed-out FAQs to incorporate
- The staff requests NEI 04-02, Rev. 3 incorporate the closed FAQs and those FAQs that are in process

# Non-Pilot LAR Acceptance Reviews



- Implementation Guidance (RG 1.205 & NEI 04-02) should incorporate non-pilot LAR acceptance review lessons-learned

# Non-Pilot LAR Acceptance Review Lessons-Learned

- Implementation Guidance (RG 1.205 & NEI 04-02) should incorporate non-pilot LAR acceptance review lessons-learned

# LAR Template

- Implementation Guidance (RG 1.205 & NEI 04-02) should incorporate LAR template
  - Update with acceptance review lessons-learned
  - Updated with the latest FAQs
  - Have NRC re-review (last mtg – Dec. 2010)

# Summary

- The staff is scheduled to revise RG 1.205
- The staff considers it beneficial for the revised RG 1.205 to endorse a revised NEI 04-02
- It would also be beneficial if NEI 04-02 incorporated the following:
  - Closed-out and in-process FAQs (once closed)
  - Acceptance review lessons-learn
  - Updated LAR template