



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

December 20, 2011

LICENSEE: Licensees Planning to Transition to NFPA 805

FACILITY: Facilities Planning to Transition to NFPA 805

SUBJECT: SUMMARY OF NOVEMBER 18, 2011, MEETING WITH THE NUCLEAR ENERGY INSTITUTE, INDUSTRY REPRESENTATIVES, AND LICENSEES ON TRANSITIONING TO NATIONAL FIRE PROTECTION ASSOCIATION STANDARD 805

On November 18, 2011, a Category 2 public meeting was held between the Nuclear Regulatory Commission (NRC), the Nuclear Energy Institute (NEI), and representatives of licensees planning to transition to National Fire Protection Association (NFPA) Standard 805 at NRC Headquarters, One White Flint North, 11555 Rockville Pike, Rockville, Maryland. The purpose of the meeting was to discuss staff observations regarding the license amendment requests (LARs) received to date as well as other associated topics regarding future LAR submittals. A list of attendees is provided as Enclosure 1. The slides presented during the meeting can be found at Agencywide Documents Access and Management System (ADAMS) Accession No. ML113210461.

During the public meeting of May 18, 2011 (ADAMS Accession No. ML111450665), the non-pilot licensees planning to transition to NFPA 805 provided their anticipated submittal dates for their respective LARs. The NRC staff has actively started its review of the first 5 LARs.

NRC staff observations of the current LARs under review and common concerns for future LARs were discussed. The staff has found that the initial submittals are closely following the NEI template. Additional information that was identified during the presentation, will be obtained through requests for additional information (RAIs).

The NRC staff voiced a concern about the amount of information that is being withheld as Sensitive Unclassified Non-Safeguards Information (SUNSI) in the first 5 non-pilot LARs under review. While the initial LARs followed the NEI template, licensees are not submitting redacted versions of the withheld attachments. This has resulted in major portions of the LARs being withheld such that an independent stakeholder cannot determine how the performance-based, risk-informed process assures public safety. The staff believes that greater transparency is necessary and that licensees should be submitting redacted versions of the withheld attachments. The staff also noted that both of the pilot plants submitted redacted versions of their LARs.

The NRC staff has developed draft criteria (Enclosure 2) that should accurately identify the type of information that needs to be withheld from public disclosure. Briefly stated, this should include 1) drawings that provide an adversary with specific location information of safe shutdown equipment and potentially, the location of critical areas for which the licensee needs

to control transient combustibles, and 2) specific location information of safe shutdown cables and/or equipment. The staff will work with NEI to finalize the criteria to be used.

The NRC staff has encouraged licensees to create sharepoint sites so that supporting documentation, beyond the LAR, can be viewed by the staff and its contractors. The staff found the sharepoint sites created and maintained by the pilot plants to be very effective in supporting the staff's review. Licensees are expected to place controls on the sharepoint sites such that the documents cannot be downloaded, copied, or printed. The staff has created a generic list of documents that will be needed to support the LAR reviews. This list is included as Enclosure 3.

The NRC staff discussed the results of the first NFPA 805 triennial fire protection inspection. This inspection was performed at the Shearon Harris facility this past summer. The staff used the newly-issued inspection procedure IP71111.05XT which included additional reviews such as radiological releases and non-power operations. The staff chose 3 fire areas and focused on certain fire scenarios within those fire areas. The overall success of this inspection can be attributed, in part, to additional NFPA 805 training for the inspection team, the NRC team make-up, and the licensee's support of our efforts.

The NRC staff discussed unreviewed analysis methods (UAMs) related to fire probabilistic risk analysis that may be used for LAR submittals. LARs that use UAMs are being accepted for review provided that they include sensitivity studies. The staff 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. In addition, the staff expects that the UAM panel will resolve proposed methods on a timely basis.

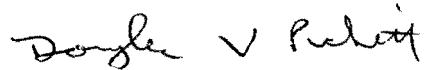
The NRC staff discussed developments in the NFPA 805 implementation guidance documents. Revisions are being planned for both Regulatory Guide 1.205, Revision 1, "Risk-Informed, Performance-Based Fire Protection for Existing Light-Water Nuclear Power Plants," and NEI-04-02, Revision 2, "Guidance for Implementing a Risk-Informed, Performance-Based Fire Protection Program." The revised guidance documents should incorporate closed frequently asked questions, non-pilot LAR acceptance review lessons-learned, and the updated NEI LAR template.

A number of stakeholders voiced concerns about the projected man-hours and costs associated with the NRC staff reviews of the LARs. The staff indicated it was working with contractors and is on a learning curve. The LARs submitted during FY-2011 are expected to last 2 years but it is anticipated that future LAR reviews can be streamlined. However, the staff was unable to provide any definitive cost or full-time equivalent estimates for current or future reviews. Factors such as a single or multi-unit facility reviews, variations in vendor facilities, superior/inferior LAR submittals, turnover of staff reviewers and NRC contractors, and turnover of licensee personnel and their contractors would question the validity of any estimate.

Finally, it was noted that some of the slides required minor corrections or updates. Enclosure 4 includes an errata sheet identifying where corrections should be made.

Members of the public were in attendance. Additional stakeholders participated via a toll-free telephone conference bridge that allowed them to ask questions at designated times. Public Meeting Feedback forms were available but none were received.

Please direct any inquiries to me at 301-415-1364 or at Douglas.Pickett@nrc.gov.



Douglas V. Pickett, Senior Project Manager
Plant Licensing Branch I-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Enclosures:

1. List of Attendees
2. Draft NFPA 805 SUNSI Criteria
3. Generic List of SharePoint Portal NFPA 805 Documents
4. Errata Sheet for Slides

cc w/encls: Distribution via Listserv



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**

MEETING ATTENDANCE FORM

Subject: Transition of Non-Pilot Licensees to NFPA 805

Date: November 18, 2011 Location: Rockville, MD

PLEASE PRINT LEGIBLY

NAME	ORGANIZATION
William A Cross	Next Era Energy Inc
✓ Vincent Rubano	Next Era Energy
Robert Natuch	First Energy
Ken McElroy	Southern Nuclear
Ren Thomas	DOMINION
Vitor Iltzschewski	Constellation Energy
Ernie Skj	Domunion
Stephanie Adams	Entergy
R. PRATT CHERRY	DOMINION
Annie Ratchford	Knowledge Group
Tony Mahness	NEI
Michal Flitum	AMEREN
LIZ Kleinschlag	Kleinschlag Group
ROBERT FOSDICK	SWRI
GREG HARRIS	Ameren
Tom Jutras	EPM, Inc.
PAUL QUELLETTE	EPM INC
HENRY HEGRAT	FENOC
DAN MACDONAGH	AMERICAN ELECTRIC POWER
Robert Harris	Entergy
Florencia de Peralta	TRI-EN CORP.

Draft Criteria for Reviewing NFPA 805 License Amendment Requests and Safety Evaluations for SUNSI requirements

There are basically two types of information that must be removed (redacted):

Drawings - Detailed plant layout drawings used for fire protection – these provide an adversary with specific location information on safe shutdown equipment and potentially, the location of critical areas for which the licensee needs to control transient combustibles (these would be ideal spots to locate a sabotage-related fire).

Specific Component/Cable Routing Dimensions - Any specific location information on safe shutdown cables and/or equipment – such as as-built dimensional information (i.e. "...the cables for the "B" AFW pump run 3' 6" from the west wall of the Auxiliary Building in the "B" train Chiller Room). If the licensee uses general descriptions, that would not require redaction (i.e. "...the cables for the "B" AFW pump run near the west wall of the Auxiliary Building..."). One is specific, the other is general.

Lists of fire areas, the description of variations from deterministic requirements (VFDRs) used in a performance-based evaluation for a given fire area, and description of the resolution of those VFDRs give general information about the fire protection program and compliance to the requirements. They do not provide specific vulnerability location information and therefore would not require redaction.

The same is true of the tables of risk information provided in NFPA 805 license amendment requests and in our safety evaluations. A table that states that a given fire area has 3.2 E-06/yr CDF and 4.5 E-07/yr LERF does not provide specific information about why the risk is that number or how an adversary could defeat the engineering and/or administrative controls that make the risk that number.

Note that a significant amount of "risk" information is already available to the public in the form of previous risk-informed fire protection inspections and SDP activities. Each triennial fire protection inspection includes a listing of the risk-significant fire areas and a general description of how the fire areas were selected, along with a discussion of the strategy used by inspectors to challenge the licensee's post-fire safe shutdown analysis. Limiting the information on the NFPA 805 fire protection performance-based engineering evaluations would be inconsistent with that precedence already set.

Generic List of Sharepoint Portal Documents

1. NFPA Code Deviations and Justifications
 - a. Power Block screening/justification document
2. All applicable PRA Peer Review Reports
3. All site calculations reference in the LAR
 - a. Calculations or Engineering evaluations (including Code Compliance evaluations) used to demonstrate compliance with Chapter 3 elements (B-1 Table)
 - b. Calculations or Engineering evaluations used to support (c)(2) (vii) or (c)(4) requests
4. Credited Fire Protection (FP) System and Feature Drawings
 - a. Layout Drawings: fire barriers, installed fire detection and suppression systems, fire areas, fire zones, stairwells, fire doors, fire dampers, etc.
 - b. P&IDs: FP Water System Piping and Instrumentation Diagrams
 - c. System Descriptions for Fire Suppression, Water Supply, and Detection (including incipient or VEWFS detection).
 - d. Hydraulic Calculations for Fire Service and Fire Suppression System Water Demand (if used to support non-fire water use in (c)(2)(vii))
5. Drawings related to systems credited in the Nuclear Safety Capability Assessment (NSCA) as well as those required to fully understand plant response:
 - a. P&IDs: Reactor Coolant System, Main Steam, Main Feedwater, Circulating Water, Service Water, etc.
 - b. Safe Shutdown/NSCA Logic Diagrams (if used)
 - c. Post-fire SSD procedures
 - d. Post-fire access/egress path & emergency lighting drawing
 - e. SSD equipment location and cable routing database
 - f. Electrical protection and coordination calculation
 - g. Electrical Distribution System One-Lines (AC and DC)
 - h. Electrical Schematic Diagrams
 - i. Electrical Block Diagrams
6. Those documents that fulfill the NFPA 805 requirement for "Design Basis Document"
 - a. Fire Area Calculations (e.g. Fire Safety Analyses, Fire Risk Analyses, Plant Change Evaluations, Fire Risk Evaluations, etc.)
 - b. NSCA Calculation (Safe Shutdown/Circuit Analysis)
 - c. MSO Expert Panel Report

Generic List of Sharepoint Portal Documents

- d. Thermo-Hydraulic Analysis serving as the basis for VFDR and recovery action timing
 - e. Evaluation of Recovery Actions for feasibility
 - f. Fire Hazards Analysis (if separate from the fire area calculations)
 - g. Non-Power Operation Calculation(s)
 - h. Radioactive Release Calculation(s)
 - i. Pre-Fire Plans
- 7. Fire PRA Calculations**
- a. Plant Boundary/Partitioning Methods and Results (TASK 1)
 - b. Component Selection Calculation (TASK 2)
 - c. Cable Selection and Circuit Analysis (TASK 3, 9, and 10)
 - d. Ignition Frequency Calculation (TASK 6)
 - e. Fire PRA Quantification Calculations (TASK 5) including:
 - i. Seismic Fire Interactions (TASK 13) Methodologies and results (including assumptions)
 - ii. Screening Methodologies and Results (TASK 4 and 7) (including assumptions)
 - iii. Fire Risk Quantifications (TASK 14) Methodologies and Results (including assumptions)
 - iv. Multi-Compartment Screening and Analysis
 - v. Post-Fire HRA Analysis Methodologies and Results (including assumptions) (TASK 12)
 - vi. Detailed proposed modification descriptions (Engineering Change Requests/ Records) sufficient to comprehend potential impact/improvement to Fire PRA
 - f. NFPA 805 Application Calculation (provides all the delta risk calculations for VFDRs)
 - g. Control Room Risk Calculation
 - h. Uncertainty and Sensitivity Calculations (TASK 15)
 - i. Fire Modeling Calculations used to support the Fire PRA (zone of influence (ZOI), hot gas layer, bounding, detailed fire modeling, etc.)
 - i. Plant Specific V&V Analysis
 - ii. Non-Public V&V References (e.g.; EPRI Fire Modeling, Generic Treatment)
 - iii. Fire Modeling Assumptions and Calculations performed to support target selection (e.g.; ZOI, secondary fires, transient combustible/ignition sources) including those that deviate from NUREG/CR-6850. (TASKS 8 and 11)
- 8. Fire Modeling used in the Fire Modeling Performance-Based Approach**
- a. Plant Specific V&V Analysis performed
 - b. Non-Public V&V References (e.g.; EPRI Fire Modeling, Generic Treatments...)

Generic List of Sharepoint Portal Documents

- c. Fire Modeling Assumptions and Calculations performed to support Performance-Based Evaluations (e.g.; ZOI, secondary fires, transient combustible/ignition sources...) considered outside NUREG/CR 6850 Assumptions and Parameters (TASKS 8 and 11)
 - d. Hot Gas Layer Determination Calculations (including Assumptions)
9. Fire Protection Program Manual
 10. Fire Protection Quality Assurance (QA) Program (including FP SSC's and FP Features)
 11. NFPA 805 Monitoring Program Calculations and Procedures
 12. Technical Requirements Manual
 13. UFSAR Changes (including current UFSAR 9.5.1 Fire Protection and Section 7.4 Alternate Shutdown / Instrumentation)

ERRATA SHEET FOR SLIDES

SLIDES ARE AVAILABLE AT ADAMS ACCESSION NO. ML113210461

Slide 13

The probabilities for core damage frequency (CDF) and large early relief frequency (LERF) were incorrectly listed.

The last sentence on the slide should read, "In accordance Regulatory Guide 1.174, the staff needs the estimate of the overall plant risk if the proposed increase is greater than 1E-06/yr for CDF or 1E-07/yr for LERF."

Slide 25

The projected LAR submittal dates need to be updated. The V.C. Summer LAR for NFPA 805 was submitted on November 15, 2011, while the Waterford 3 LAR was submitted on November 17, 2011. In addition, the correct Palisades commitment date is December 31, 2012.

Slide 39

This slide inadvertently is numbered both 18 and 39. It should be slide 39.

Slide 55

The correct title for Rebecca Nease is Chief, Engineering Branch 1, Division of Reactor Safety, U.S. Nuclear Regulatory Commission, Region II.

Slides 68 & 69

These slides are duplicates.

Please direct any inquiries to me at 301-415-1364 or at Douglas.Pickett@nrc.gov.

/ra/

Douglas V. Pickett, Senior Project Manager
Plant Licensing Branch I-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Enclosures:

1. List of Attendees
2. Draft NFPA 805 SUNSI Criteria
3. Generic List of SharePoint Portal NFPA 805 Documents
4. Errata Sheet for Slides

cc w/encls: Distribution via Listserv

DISTRIBUTION:

PUBLIC	RidsRgn1MailCenter Resource	RidsRgn3MailCenter Resource
LPL1-1 r/f	CSteger, NRR	RidsRgn4MailCenter Resource
RidsAcrcAcnw_MailCTR	RidsNrrDraAfpb	GGulla, OE
RidsNrrDorlLpl1-1 Resource	RidsNrrDraApla	RNease, Region 4
RidsNrrPMCalvertCliffs	HBarrett, AFPB	GBowman, EDO NRR
RidsNrrLASLittle Resource	PLain, AFPB	
RidsOgcRp Resource	RidsRgn2MailCenter Resource	

ADAMS Accession Nos.: PKG ML11113340210
 Meeting Notice: ML112901202
 Meeting Summary ML113340218
 Meeting Slides ML113210461

OFFICE	LPL1-1/PM	LPL1-1/LA	AFPB/BC	LPL1-1/BC
NAME	DPickett	SLittle via email	AKlein	NSalgado
DATE	12 / 20 / 11	12 / 06 / 11	12 / 20 / 11	12 / 20 / 11

OFFICIAL RECORD COPY