

June 1, 2009

Alexander Marion, Vice President
Nuclear Operations
Nuclear Energy Institute
1776 I Street, NW, Suite 400
Washington, DC 20006

Dear Mr. Marion:

In response to a July 2006 request from the Nuclear Energy Institute, the Nuclear Regulatory Commission (NRC) staff established the Frequently Asked Question (FAQ) process to provide clarification of existing NRC staff positions to assist licensees who are transitioning to National Fire Protection Association Standard 805 (NFPA 805), "Performance-Based Standard for Fire Protection for Light Water Reactor Electric Generating Plants". The FAQ process has been very effective in addressing a variety of questions associated with NFPA 805 implementation.

One area of industry and NRC staff focus is a series of FAQs associated with the development of fire probabilistic risk assessments consistent with the methods in the joint NRC and Electric Power Research Institute report NUREG/CR-6850, "Fire PRA Methodology for Nuclear Power Facilities." Several meetings regarding these FAQs have not generated resolutions to the questions and the lack of resolutions could contribute to regulatory uncertainty for licensees transitioning to NFPA 805.

Therefore, the Office of Nuclear Reactor Regulation, in consultation with the Office of Nuclear Regulatory Research, has developed the enclosed approach and timeline to eliminate any further delays in dispositioning the critical FAQs related to NUREG/CR-6850 and to provide regulatory certainty to licensees who are transitioning to NFPA 805. This path forward is consistent with Regulatory Guide (RG) 1.200, RG 1.205, and the established FAQ process.

The enclosure provides the NRC's approach and path forward. Please do not hesitate to contact me with any questions.

Sincerely,

/RA/

John A. Grobe, Associate Director
for Engineering and Safety Systems
Office of Nuclear Reactor Regulation

Enclosure:
As stated

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NRR-106

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DATE	05/06/2009	05/06/09	05/06/09	05/11/09	05/10/09	06/01/2009

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PATH FORWARD IN RESOLVING FREQUENTLY ASKED QUESTIONS RELATED TO NUREG/CR-6850

BACKGROUND

The Nuclear Regulatory Commission (NRC) staff established the Frequently Asked Questions (FAQ) process in response to a request from Nuclear Energy Institute (NEI) in July 2006. The goal was to provide any necessary clarification or interpretation of existing NRC staff positions beyond what is provided in Revision 0 of Regulatory Guide (RG) 1.205, "Risk-Informed, Performance-Based Fire Protection for Existing Light-Water Nuclear Power Plants," and NRC's endorsement of NEI 04-02, "Guidance for Implementing a Risk-Informed Performance-Based Fire Protection Program Under 10 CFR 50.48(c)."

The FAQ process is outlined in a July 12, 2006, letter from Sunil Weerakkody (NRC) to Alexander Marion (NEI) (Agencywide Document Access and Management System (ADAMS) Accession Number ML061660105) and in Regulatory Issue Summary (RIS) 2007-19, "Process for Communicating Clarifications of Staff Positions Provided in Regulatory Guide 1.205 Concerning Issues Identified during the Pilot Application of National Fire Protection Association Standard 805" (ADAMS Accession Number ML071590227).

In summary, the process is as follows: FAQs are submitted for initial review to the NEI National Fire Protection Association (NFPA) Standard 805 Task Force and presented to the NRC during monthly public meetings. If resolution is reached on a FAQ, the Fire Protection Branch of the Office of Nuclear Reactor Regulation (NRR) issues a closure memorandum documenting the staff's position. The closure memorandum documents the acceptable resolution to the FAQ for licensees transitioning to NFPA 805. The FAQ is officially closed when the NRC approves an update to RG 1.205 endorsing the revised NEI 04-02, or other appropriate guidance.

The staff recognized that in some cases, industry and the staff may not reach consensus on the resolution of a particular FAQ. In accordance with the established FAQ process, if resolution is not reached in a reasonable time frame, the NRR Division of Risk Assessment may issue a closure memorandum describing the staff's position.

The FAQ Process and NUREG/CR-6850

RG 1.205 acknowledges that the Office of Nuclear Regulatory Research (RES) and the Electric Power Research Institute (EPRI) have jointly published fire probabilistic risk assessment (PRA) methods in NUREG/CR-6850, "Fire PRA Methodology for Nuclear Power Facilities." NUREG/CR-6850 was developed by a team comprised of RES and EPRI personnel working under a Memorandum of Understanding (MOU). During the NFPA 805 pilot plant transition process, the staff, licensees, or their consultants identified a number of FAQs related to NUREG/CR-6850. These FAQs were initially given to the NUREG/CR-6850 MOU team for resolution since they had originally developed the methods.

It has been difficult and time consuming to develop consensus positions regarding the complex technical issues associated with resolution of the FAQs related to NUREG/CR-6850. In addition, resolution of the FAQs must give appropriate consideration to the balance between

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realism and conservatism in the fire PRA and the level of understanding of fire behavior and equipment performance that underpins the fire PRA. In December 2008, EPRI published an interim report consisting of preliminary, non-consensus positions on three separate FAQs related to NUREG/CR-6850. Questions have also been raised regarding the relationship and applicability of various documents, including RG 1.205, NEI 04-02, NUREG/CR-6850, and RG 1.200, "An Approach for Determining the Technical Adequacy of Probabilistic Risk Assessment Results for Risk-Informed Activities." NRC held a public meeting with industry representatives on April 23, 2009, to discuss these issues.

The following sections clarify the issues and provide the path forward with respect to the FAQs related to NUREG/CR-6850. Discussions at the April 23, 2009, public meeting have been factored into the issue clarification and path forward.

ISSUE DISCUSSION

Section 3 of Title 10 of the *Code of Federal Regulations* 50.48(c), the rule endorsing NFPA 805, gives responsibility to the Director of NRR, or a designee of the Director, to approve a license amendment request for a licensee to adopt NFPA 805. The goal of the FAQ process is to support a stable and predictable regulatory environment for the licensees that request to transition to NFPA 805. NFPA 805, Section 2.4.3.3 regarding Fire Risk Evaluations states that "The PSA approach, methods, and data shall be acceptable to the AHJ [the NRC]." One method to provide clarity on methods for licensees transitioning to NFPA 805 is the NRC established FAQ process outlined in the July 12, 2006, letter.

RG 1.200 provides guidance on determining the technical adequacy of a PRA used to support an application. Addressed within RG 1.200 is the expectation for each facility PRA to be peer reviewed and the peer review findings to be dispositioned. Licensee conformance with RG 1.200 will obviate the need for an in-depth NRC staff review, allowing the NRC staff to focus review efforts on key assumptions and associated peer review insights. The NRC staff approach for its review of PRAs is further described in RG 1.200 and Standard Review Plan Chapter 19.1. As the FAQs related to fire PRAs address what may be key assumptions in developing fire PRAs, predictable and clear resolution of the FAQs facilitates efficient peer review and NRC licensing review effectiveness.

PATH FORWARD

Approach to Resolve FAQs Related to NUREG/CR-6850

1. NRR staff, in consultation with RES staff, will develop an Interim Position for each specific FAQ related to NUREG/CR-6850 in accordance with the schedule provided in the enclosures. This is the start of the process.
2. NRR will transmit the draft Interim Position to RES within two weeks after the start of the process.
3. RES will engage EPRI under the MOU to obtain comments on the specific FAQ Interim Position within two weeks from receipt of the NRR draft. The MOU Team (RES and EPRI) may agree, disagree, or concur on additional confirmatory research.

4. RES will return the specific FAQ Interim Position to NRR with recommendations, as appropriate, within five weeks after the start of the process.
5. NRR will appropriately incorporate recommendations generated through review under the RES/EPRI MOU and provide a proposed resolution of the FAQ for industry and other public stakeholder consideration within seven weeks after the start of the process.
6. Industry and other public stakeholder comments will be received and appropriately considered in finalizing the FAQ resolution and issuing the final FAQ closure documentation within sixteen weeks of the start of the process.

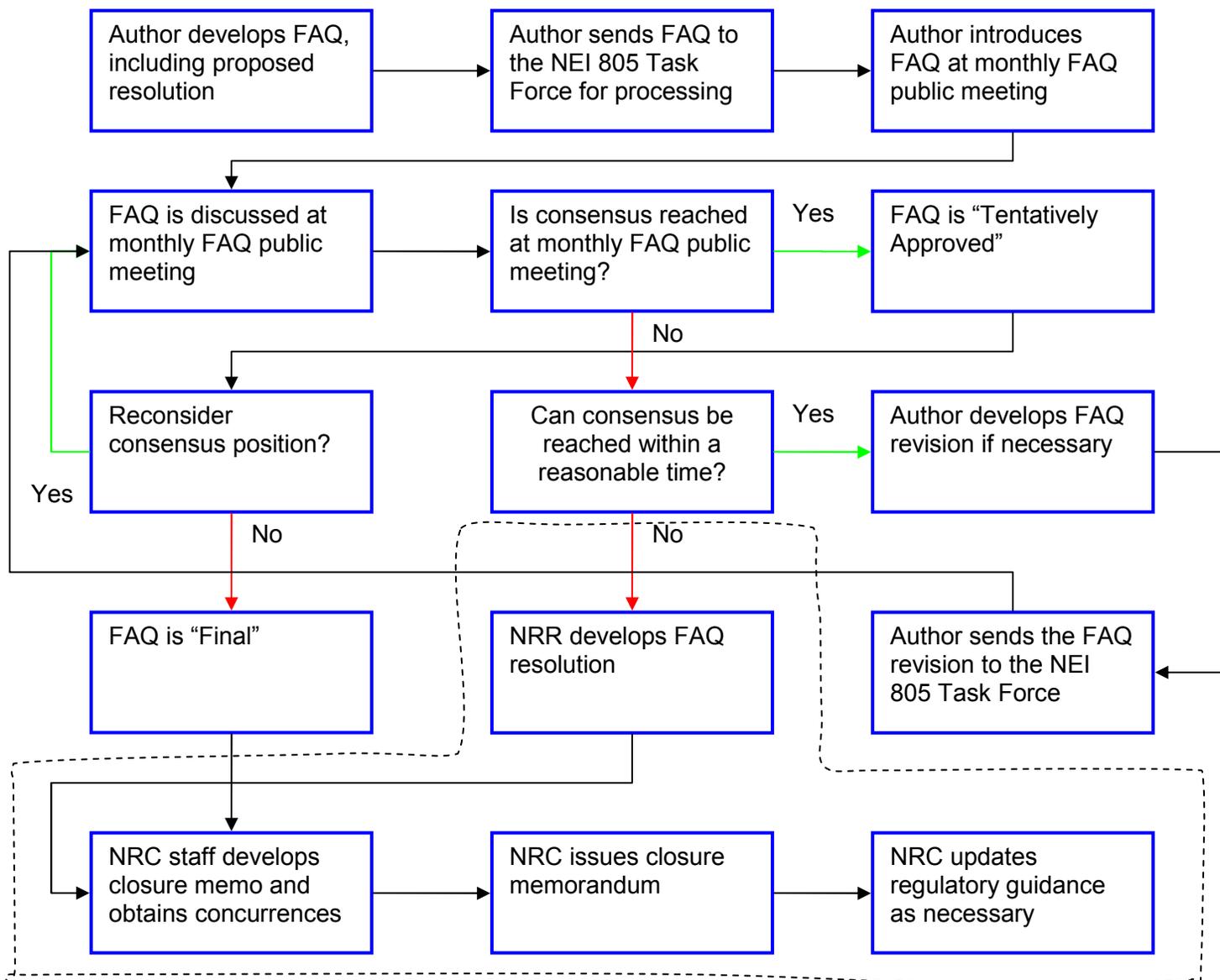
The approach described above is consistent with the process published in July 2006 (ADAMS Accession Number ML061660105). A detailed version of the flowchart extracted from the July 2006 letter is included here as Attachment 1.

Attachment 2 shows the more detailed flow chart for this approach to implement the FAQ process.

Attachment 3 provides the schedule for dispositioning the remaining FAQs related to NUREG/CR-6850.

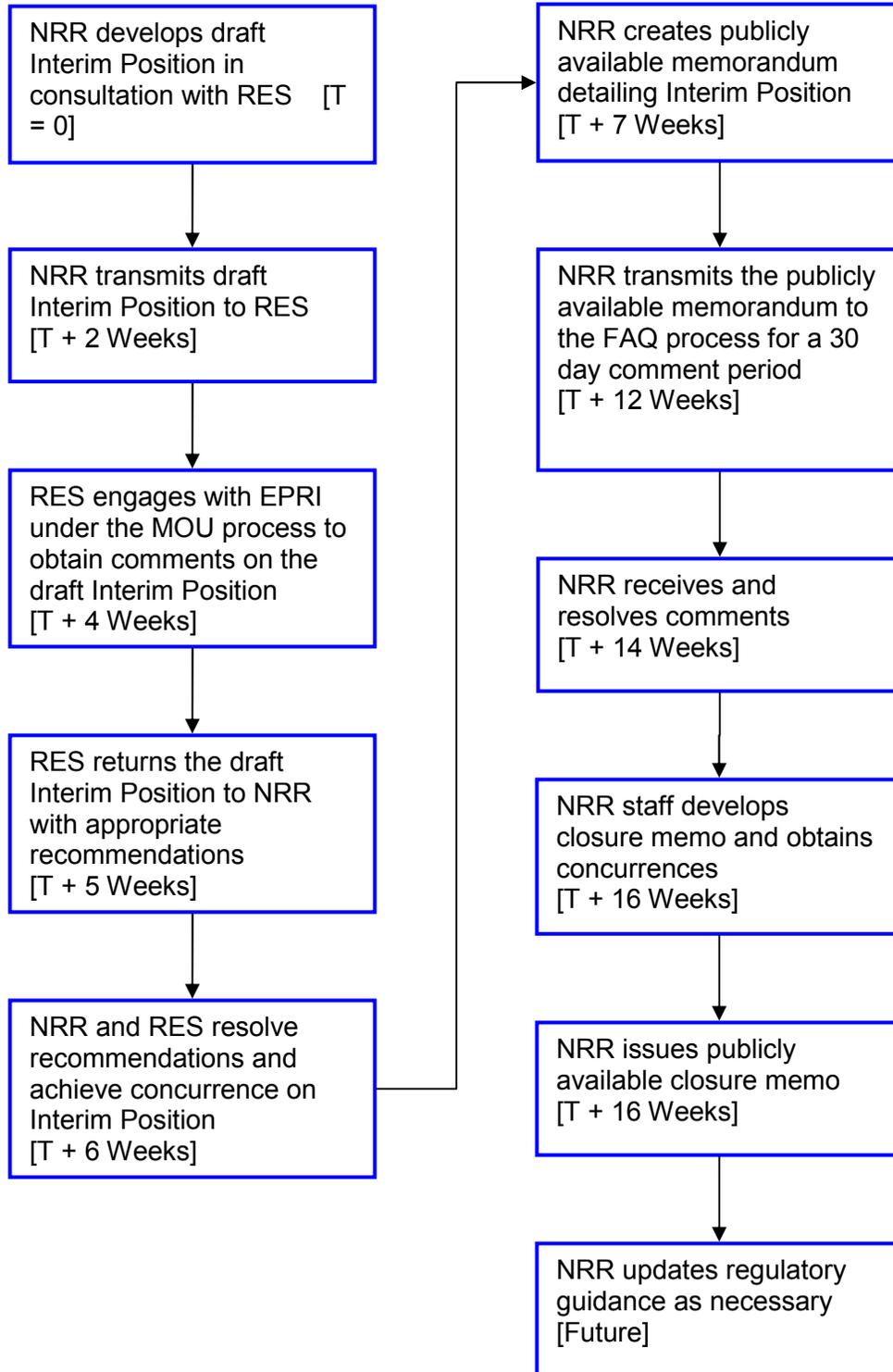
In summary, the NRC staff is taking the described path forward to eliminate any further delays in dispositioning the critical FAQs related to NUREG/CR-6850 and to provide regulatory certainty to licensees who are transitioning to NFPA 805. This path forward is consistent with RG 1.200, RG 1.205, and the established FAQ process.

FAQ Process Outlined in the July 12, 2006, Letter Showing Modification



The area inside the dashed line is expanded and clarified in Attachment 2 for this approach for resolution of FAQs related to NUREG/CR-6850.

Path Forward Flowchart



Status of NUREG/CR-6850 FAQs

FAQ #	Description	RES Input Received	Draft NRR Position Completed	MOU/RES Comments & Resolution Returned to NRR	NRC Concurrences Completed	NRR Position Publicly Available	NEI 805 Task Force Comments Received	Closure Memo Issued
35	High Energy Arcing Faults in bus ducts. FAQ provides both frequencies and zones of influence for damage for bus duct HEAFs. [NOTE: This FAQ remains in the regular FAQ process and will be closed accordingly]	N/A	N/A	N/A	N/A	N/A	N/A	07/24/2009
42	Clarify guidance on treatment of fire propagation from electrical cabinets. This is a deterministic approach that defines those characteristics of cabinets needed to prevent propagation of a fire.	4/17/2009	5/1/2009	5/22/2009	N/A	6/5/2009	7/10/2009	8/7/2009
43	Clarify guidance on proper location to assume for a fire source inside an electrical cabinet when performing fire modeling.	4/17/2009	5/1/2009	5/22/2009	N/A	6/5/2009	7/10/2009	8/7/2009
44	Clarify guidance on probability and size of MFW Pump oil spills and fires.	Complete	5/1/2009	5/22/2009	5/29/2009	6/5/2009	7/10/2009	8/7/2009

FAQ #	Description	RES Input Received	Draft NRR Position Completed	MOU/RES Comments & Resolution Returned to NRR	NRC Concurrences Completed	NRR Position Publicly Available	NEI 805 Task Force Comments Received	Closure Memo Issued
45	More detailed guidance on fire growth inside electrical cabinets. [NOTE: This FAQ will be closed out and incorporated into a research program.]							
46	Provide guidance on how to treat/credit a "very early warning smoke detection system" (sometimes referred to as "incipient fire detection system")	N/A	5/1/2009	5/22/2009	6/12/2009	6/19/2009	7/24/2009	8/21/2009
48	Update fire ignition frequencies using additional fire event data developed by industry.	Complete	4/24/2009	5/15/2009	6/5/2009	6/12/2009	7/17/2009	8/14/2009
49	Clarify guidance for cable tray to cable tray fire propagation.	Complete	4/24/2009	5/15/2009	5/22/2009	5/29/2009	7/3/2009	7/31/2009
50	Timing for fire brigade response and the effect on non-suppression probability.	5/1/2009	5/15/2009	6/5/2009	6/12/2009	6/19/2009	7/24/2009	8/21/2009

FAQ #	Description	RES Input Received	Draft NRR Position Completed	MOU/RES Comments & Resolution Returned to NRR	NRC Concurrences Completed	NRR Position Publicly Available	NEI 805 Task Force Comments Received	Closure Memo Issued
51	Duration of hot-short-induced spurious actuations.	7/6/2009	7/20/2009	8/10/2009	8/17/2009	8/24/2009	9/28/2009	10/26/2009
52	Which suppression curve to apply to transient fires in the Control Room and Trash can / trash bag transient fires	5/1/2009	5/15/2009	6/5/2009	6/12/2009	6/19/2009	7/24/2009	8/21/2009
53	How to treat Kerite cables (thermoplastic vs thermoset). [NOTE: This FAQ remains in the regular FAQ process and will be closed accordingly]	N/A	N/A	N/A	N/A	N/A	N/A	7/29/2009 (est.)