FAQ TEMPLATE

Plant:	Harris Nuclear Plant (HNP)	FAQ #	06-0006
Submittal Date:	08-22-06		
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Subject:

Interpretation of guidance? Yes

Proposed new guidance not in NEI 04-02? Yes

Details:

NEI 04-02 Guidance needing interpretation (include section, paragraph number, and line number):

NEI 04-02 Section 4.3.2
NEI 04-02 Appendix B, Section B.2.1

Circumstances requiring guidance interpretation or new guidance:

Section 4.3.2 of NEI 04-02 Revision 1 discusses the process for the Nuclear Safety Performance Criteria Transition Review. This section includes the process for the safe shutdown methodology review, evaluates the existing post-fire safe shutdown analyses against the guidance provided in Section 2.42 of NFPA 805. Appendix B-2 of NEI 04-02 provides details regarding the transition review. Section 2.1 of NEI 04-02 states:

> "The review should be conducted against the methodology provided in NEI 00-01. This review is intended to ensure that the transitioning nuclear safety analysis meets basic established criteria for identification and analysis of equipment and cables. Exceptions and clarifications identified during the transition review should be documented in order to provide a well-established baseline for future changes."

During a pilot plant review of the post-fire safe shutdown methodology against NEI 00-01 methodology. It was noted that the definition of high-low pressure interface provided in NEI 00-01 Revision 1 Appendix C, is not in strict alignment with the definition provided in NFPA 805 (2001 edition) section 1.6.31.

It is noted that the NFPA 805 text (Section 1.6.31) contains the definition of high-low pressure interface. However, the remainder of the NFPA 805 text does not include guidance or requirements related to high-low pressure interfaces. The only technical guidance on the subject is provided in Appendix B to NFPA 805, which has not been endorsed by the NRC.

Since this has historically been an area of varying interpretations, it is recommended that the

NEI 00-01 Revision 1 interpretation be utilized as part of the NEI 04-02 Revision 1 nuclear safety performance criteria methodology review.

Detail contentious points if licensee and NRC have not reached agreement
Pilot plant meetings yielded no disagreement on this topic. This is Parking Lot Item 4 from the November 2005 Pilot Meeting (NRC meeting notes – ADAMS Accession No. ML060250034, Att. 2) and the March 2006 Pilot Meeting.

This topic has been a subject of varying interpretations for years. A consistent definition moving forward will avoid future confusion and interpretation by licensees, NRC inspectors, and NRR staff.

Potentially relevant existing FAQ numbers:
None

<u>Response Section</u>

Proposed Resolution of FAQ and the basis for the proposal:

Revise Section B.2.1 of NEI 04-02 to state (underlined section is the proposed resolution):

"Tables B-2 and B-3 of this Appendix outline a recommended method to review the acceptability of a program for transition by examining the basic components of a nuclear safety capability assessment. These worksheets organize the transition of the 'pre-transitional safe shutdown analysis' to the 'nuclear safety analysis' as follows:

1. Nuclear Safety Capability System and Equipment Selection

2. Nuclear Safety Capability Circuit Analysis

3. Nuclear Safety Equipment and Cable Location

4. Fire Area Assessment

The review should be conducted against the methodology provided in NEI 00-01. This review is intended to ensure that the transitioning nuclear safety analysis meets basic established criteria for identification and analysis of equipment and cables. Exceptions and clarifications identified during the transition review should be documented in order to provide a well-established baseline for future changes.

<u>The methodology in NEI 00-01 for post-fire safe shutdown analyses may require additional clarification if the corresponding information in NFPA 805 is not in strict alignment (e.g., definition of high low pressure interfaces in NFPA 805, 2001 edition, Section 1.6.31, and NEI 00-01, Revision 1, Appendix C). For the purposes of the methodology review, the methodology in NEI 00-01 should be used as the basis for acceptability.</u>

If the existing licensing basis is vague or silent on the methodologies identified, then a licensing basis should be clearly defined during the transition period. For example, if the existing

licensing basis is vague or silent on the methodology for circuit analysis (selection and/or protection of circuits) or evaluation of the failures of circuits within a fire area (single failure, any and all, one-at-a-time, sequential/concurrent, cumulative effects) a licensing basis should be established against which changes can be assessed post transition."

Basis:

A consistent definition moving forward will avoid future confusion and interpretation by licensees, NRC inspectors, and NRR staff.

The interpretation of high-low pressure interface components is provided in NEI 00-01, Appendix C:

> "Based on the above guidance, the following criterion is established to determine if a RCPB valve is considered a high/low pressure interface valve component: *A valve whose spurious opening could result in a loss of RPV/RCS inventory and, due to the lower pressure rating or other breaches such as relief valve operations on the downstream piping, an interfacing LOCA (i.e., pipe rupture in the low pressure piping)."*

The NRC has endorsed the methodology for safe shutdown analysis in NEI 00-01 on several occasions, most notably:

NRC Regulatory Issue Summary (RIS) 2005-30, Clarification of Post-Fire Safe-Shutdown Circuit Regulatory Requirements, dated December 20, 2005 (ADAMS Accession No. ML053360069) pages 1 and 2, states:

> "This RIS also gives the NRC staff's views on the use of NEI guidance document NEI 00-01, "Guidance for Post-Fire Safe Shutdown Circuit Analysis," Revision 1 (ML050310295), in complying with Appendix R. The deterministic methodology presented in NEI 00-01, when applied in accordance with the regulatory expectations described in this RIS, is one acceptable approach to the analysis of post-fire, safe-shutdown circuits."

In addition, the Draft Generic Letter 2006-XX, NRC Generic Letter 2006-XX: Post-Fire Safe-Shutdown Circuit Analysis Spurious Actuations (May 2006, ADAMS Accession No. ML061280517), page 7, states:

> "The deterministic methodology in NEI 00-01, Rev. 1 (January 2005), "Guidance for Post-Fire Safe Shutdown Circuit Analysis," Chapter 3 (including the associated appendices), for analysis of post-fire safe-shutdown circuits, in conjunction with the guidance provided in this GL, is one acceptable approach to achieving regulatory compliance with post-fire safe-shutdown circuit protection requirements for multiple spurious actuations. Licensees should assume that the fire may affect all unprotected cables and equipment within the fire area simultaneously and address all cable and equipment impacts affecting the required safe-shutdown path in the fire area. All potential impacts within the fire area should be addressed."

Section B-2.1 of NEI 04-02 also states:

> "The NRC staff has reviewed Revision 1 of NEI 00-01 and concluded that Chapter 3 provides an acceptable way to select circuits, and Chapter 4 provides an acceptable way to determine risk- significance of circuit findings."

NEI 04-02 has been formally endorsed, with exceptions noted by Regulatory Guide 1.205, *Risk-Informed, Performance-Based Fire Protection for Existing Light-Water Nuclear Power Plants,* May 2006 (ADAMS Accession No. ML0601100174). Besides endorsement of NEI 04-02, the following statement is also provided in Section 3.3 of Regulatory Guide 1.205:

> "Industry guidance document NEI 00-01, Revision 1, "Guidance for Post-Fire Safe Shutdown Circuit Analysis," used in conjunction with NFPA 805 and this regulatory guide, provides one acceptable approach to circuit analysis for a plant that has transitioned to a 10 CFR 50.48(c) licensing basis."