

FAQ Number: NRC-0001

Plant: N/A

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Submitter Contact: NRC

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Subject: Extension of Plant Change Process to include affect of proposed changes on risk during Low Power and Shutdown.

Interpretation of guidance? Yes / **No**

Proposed new guidance not in NEI 04-02? **Yes** / No

Details:

NEI 04-02 guidance needing interpretation (include section, paragraph, and line numbers as applicable):

NFPA 805

Page 12

First paragraph under:

2.4.4.1* Risk Acceptance Criteria.

“The change in public health risk from any plant change shall be acceptable to the AHJ. CDF and LERF shall be used to determine the acceptability of the change.”

NEI 04-02

Page 39

Last line under:

5.1.3 Fire PRA Considerations

“As stated in section 4.3.3 shutdown PRAs do not exist at this time.”

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Fifth sentence under:

5.3.4 Risk Evaluation

“The acceptance criteria require that the resultant change in CDF and LERF be consistent with the guidelines of Regulatory Guide 1.174.”

RG 1.174

Page 15

Third sentence under:

2.2.4 Acceptance Guidelines

“These guidelines are intended for comparison with a full-scope (including internal events, external events, full power, low power, and shutdown) assessment of the change in risk metric...”

Circumstances requiring guidance interpretation or new guidance:

The change in public health risk acceptable to the AHJ are, in the US, the guidelines contained

in RG 1.174. NE-04-02 also refers to the RG 1.174 guidelines for acceptable risk increase. The acceptable increase in risk guidelines in RG 1.174 are to be compared to the risk increase caused by a proposed changes during all modes of operation, including shutdown and low power operation.

Changes to fire protection features will normally have the greatest risk impact during full power operation and therefore the risk increase during full power operation caused by proposed changes will normally dominate the final result. However, simply stating that some analysis models do not exist does not relieve licensees from demonstrating that the acceptance guidelines have been satisfied.

Potentially relevant existing FAQ numbers:

None

Response Section:

Proposed resolution of FAQ and the basis for the proposal:

Guidance is needed on how to develop risk estimates that consider the full scope of operations consistent with the guidelines in RG 1.174. It is acceptable to demonstrate that the risk increases from “missing” initiators and operating modes, if quantified, would not affect the regulatory decision in a substantial manner. In practice, this can often be accomplished by demonstrating that the contribution from the missing operating modes would be less than the available quantitative estimate for full power operation (or much less than the guideline values). In some cases this may not be possible and some quantitative estimate may be required.

DRAFT FOR DISCUSSION

Appendix F in NEI-04-02 includes considerations for assessing the fire protection requirements for non-power modes. Appendix F is included to satisfy the nuclear safety goal of NFPA-805 that requires the evaluation of the effect of a fire during “any operational mode and plant configuration.” However, the collected information appears to include much, if not all, of the qualitative information upon which an initial evaluation of the possible affect on risk during shutdown can be based.

Completing Appendix F appears to yield a list of fire protection features relied upon to minimize the risk from fires during shutdown and the potentially sensitive location of the SSCs that are being protected. Proposed changes that do not affect these features and that do not increase the risk of fires in potential sensitive locations, should have minimal impact on risk during shutdown. Changes that would affect such features or locations could be explicitly evaluated to support conclusions that the increase in risk would be minimal compared to the increase in risk during operation. If such conclusions could not be drawn, the features, locations, and possible fire events could be used to develop a bounding estimate of the increase in risk caused by the proposed change.

If appropriate, provide proposed rewording of guidance for inclusion in the next Revision:

Wording of guidance needs to be developed during pilot applications.