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SUBJECT: SUMMARY OF OCTOBER 25, MEETING BETWEEN THE NUCLEAR REGULATORY COMMISSION (NRC) AND THE NUCLEAR ENERGY INSTITUTE (NEI) REGARDING CHANGES TO GUIDANCE DOCUMENTS USED TO IMPLEMENT 10 CFR 50.65(a)(4)

On October 25, 1999, the NRC staff held a public meeting in One White Flint North with representatives from the Nuclear Energy Institute (NEI) to provide feedback on NEI's proposed changes to the final draft NUMARC 93-01, Section 11, "Assessment of Risk Resulting from Performance of Maintenance Activities", dated October 8, 1999, (Attachment 1). This was the fourth public meeting to discuss proposed industry guidance developed to implement 10 CFR 50.65(a)(4). In addition, NEI provided comments on Draft Guide (DG) 1082, "Assessing and Managing Risk Before Maintenance Activities at Nuclear Power Plants."

During the meeting, the NRC staff stated that the final draft Section 11 was a significant improvement in guidance licensees can use to assess and manage increases in risk before performing maintenance. The NRC and NEI identified a few issues that need further clarification. The NRC staff anticipates that once these issues are addressed, the NRC staff could propose to endorse NUMARC 93-01, Section 11 in DG-1082 and proceed with the process of final review and approval by the Advisory Committee for Reactor Safeguards (ACRS), the Committee to Review Generic Requirements (CRGR) and the Commission. These issues include adequate guidance on:

- inclusion of SSCs with inter-system dependencies in the scope of (a)(4) assessments,
- managing risk due to maintenance, and
- an acceptable definition of unavailability.

In a previous meeting, the NRC staff provided NEI with NRC's position on the optional scope of SSCs that may be in the pre-maintenance safety assessments. As described in DG-1082, the NRC stated that the scope should include (1) those SSCs modeled in probabilistic risk assessments (PRAs), (2) all other SSCs considered to be risk significant (high safety significant (HSS)) by the licensees' maintenance rule expert panels, and (3) low safety significant (LSS) SSCs that meet the following conditions for inclusion in pre-maintenance safety assessment programs:

(1) the SSC is a support system for a HSS SSC,
(2) the SSC has dependencies with another low safety significant SSC
(3) the SSC failure could increase any initiating event frequency, or
(4) the SSC is in a relatively low frequency cutset that becomes a significant contributor to the plant core damage frequency (or large early release frequency) when multiple SSCs are out of service.

Final draft NUMARC 93-01, Section 11.3.3, "Scope of the Assessments for Power Operating Conditions," presents guidance on items (1) and (2), above, for SSC trains within the scope of the Paragraph (a)(4) assessments. NEI stated that they believe that items (3) and (4) are not bounded; therefore, the scope of LSS SSCs under these categories could not be clearly defined.

During a NRC/NEI telephone conference on November, 2, 1999, the NRC proposed revisions to the text of DG-1082, Section 1.1, "Assessment Scope", to state:

> "The scope of SSCs in the assessments should be the SSCs modeled in the licensee's PRA plus all other SSCs considered to be high safety-significant by the licensee's Maintenance Rule Expert Panel. A PRA model is typically a component level model, whereas the concern of (a)(4) assessments is the safety function of a system that the component supports. Thus, the phrase "SSCs modeled in the PRA" should be interpreted as identifying the systems, system trains and segments of systems included in the high level logic structure of the PRA model, rather than the individual components. The PRA model used for identifying the scope of SSCs should include both front-line/support system dependencies and support system/support system dependencies.
>
> The licensee should evaluate whether the dependencies between front-line and support systems, and dependencies between support systems, are adequately modeled in the plant PRA model. If the PRA modeling of the inter-system dependencies is inadequate, the licensee should revise the PRA model to address the inter-system dependencies which have an effect on the key plant safety functions, or the SSCs with inter-system dependencies should be added to the scope of (a)(4) assessments. The scope of SSCs should be periodically reviewed to account for changes in the plant baseline configuration and operational performance."

In the final draft NUMARC 93-01, Section 11.3.7, "Managing Risk," the NRC staff proposed that NEI add statements to paragraph 3, page 12, to clarify the guidance on cumulative risk

thresholds for meeting risk management objectives. The issue is that the frequency of high risk configurations that may be encountered during a single operating cycle should be considered.

On page 14, the titles in the table for each threshold should be removed since they do not adequately describe the risk level (i.e., remove the words "Potentially risk significant, minimal risk significance, and nominal risk significance").

The NRC also commented on NEI's proposed new definition for unavailability in NUMARC 93-01, Appendix B, Definitions. The definition contains the following statement:

> "(1) SSCs out of service for surveillance testing are considered unavailable, unless the test configuration is overridden by a valid starting signal, or the function can be restored either by an operator in the control room or by a dedicated operator stationed locally ***within the time frame required by the analysis of record***. Restoration actions must be contained in a written procedure, must be uncomplicated, and must not require diagnosis or repair. Credit for a dedicated local operator can be taken only if (s)he is positioned at the proper location throughout the duration of the test for the purpose of restoration of the train should a valid demand occur."

The NRC questioned the meaning of the term "***within the time frame required by the analysis of record***," proposed in the definition. The time frame for operator recovery actions could be broadly defined and interpreted by licensees. For example, during a maintenance rule follow-up inspection, one licensee considered an emergency diesel generator (EDG) available when the EDG output breaker was completely removed from its cubicle for minor maintenance. The licensee claimed that the EDG was available because the breaker could be installed in the cubicle and energized within 10 minutes. In addition, this definition is not consistent with the unavailability definition found in NEI 99-02, Regulatory Assessment Performance Indicator Guideline, (draft Rev. 3), dated September, 1999, page 21 under Planned Unavailability Hours. Part of this definition states that "Causes of planned unavailable hours include, but are not limited to the following:

> testing, unless the testing configuration is automatically overridden by a valid starting signal or the function can be immediately restored, either by an operator in the control room or by a dedicated operator stationed locally for that purpose. Restoration actions must be contained in a written procedure, must be uncomplicated ***(generally, a single action)***, and must not require diagnosis or repair. Credit for a dedicated operator can be taken only if (s)he is positioned at the proper location throughout the duration of the test for the purpose of restoration of the train should a valid demand occur. ***The intent of this paragraph is to allow licensees to take credit for restoration actions that are virtually certain to be successful (i.e., probability nearly equal to 1) during accident conditions***."

The NRC believes that the unavailability definition, above, should be used in NUMARC 93-01 since it is more closely aligned with the current unavailability definition used by most licensees. The NRC also believes that this definition should be used because it is consistent with other NRC regulatory programs and industry initiatives for tracking system unavailability (e.g., NRC Performance Indicators in the Inspection and Oversight Process, Institute of Nuclear Power Operations (INPO) Equipment Performance and Information Exchange (EPIX) database definition). This definition will ensure consistent and uniform application between different regulatory programs and industry initiatives and should reduce licensees' burden since one definition will result in less effort to track unavailability.

Other issues included discussion of planned maintenance activities on good performing HSS train functions for SSCs monitored under 10 CFR 50.65(a)(2) while train functions for the same system are experiencing performance problems and are being monitored under 10 CFR 50.65(a)(1). The NRC believes that licensees should carefully assess performing planned maintenance activities on good performing HSS trains when redundant HSS trains are in a degraded or poor performing condition because the failure of the redundant, poor performing train could cause the loss of a HSS system function and could place the plant in a HSS configuration.

A copy of NRC comments on the final draft to NUMARC 93-01, Section 11 is presented in Attachment 2 to this memorandum. The attendance list for this meeting is provided in Attachment 3.

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ORIGINATOR: FXTalbot

SECRETARY: CTobe

DATE: April 26, 2002

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