September 28, 2006

Mr. Anthony Pietrangelo, Vice President
Regulatory Affairs
Nuclear Energy Institute
Suite 400
1776 I Street, NW
Washington, DC 20006-3708

SUBJECT: FINAL SAFETY EVALUATION FOR NUCLEAR ENERGY INSTITUTE (NEI) INDUSTRY GUIDANCE DOCUMENT NEI 04-10, REVISION 0, "RISK-INFORMED TECHNICAL SPECIFICATIONS INITIATIVE 5B, RISK-INFORMED METHOD FOR CONTROL OF SURVEILLANCE FREQUENCIES" (TAC NOS. MB2531 AND MD3077)

Dear Mr. Pietrangelo:

By letter dated February 3, 2005, as supplemented by letters dated December 20, 2005, July 28, 2006, and August 21, 2006, the NEI submitted Industry Guidance Document NEI 04-10, Revision 0, to the Nuclear Regulatory Commission (NRC) staff for review. By letter dated September 21, 2006, an NRC draft safety evaluation (SE) (Agencywide Documents Access and Management System (ADAMS) Accession No. ML062360567) regarding NRC approval of NEI 04-10, Revision 0, was provided for your review and comments. By letter dated September 22, 2006 (ADAMS Accession No. ML062680219), NEI responded with no comments on the draft SE and requested issuance of the final SE.

The NRC staff has found that NEI 04-10, Revision 0, is acceptable for referencing in licensing applications for boiling water reactors to the extent specified and under the limitations delineated in NEI 04-10, Revision 0, and in the enclosed final SE. The final SE defines the basis for NRC acceptance of NEI 04-10, Revision 0.

Our acceptance applies only to material provided in the subject NEI 04-10, Revision 0. We do not intend to repeat our review of the acceptable material described in NEI 04-10, Revision 0. When NEI 04-10, Revision 0, appears as a reference in license applications, our review will ensure that the material presented applies to the specific plant involved. License amendment requests that deviate from NEI 04-10, Revision 0, will be subject to a plant-specific review in accordance with applicable review standards.

If future changes to the NRC's regulatory requirements affect the acceptability of NEI 04-10, Revision 0, the NEI and/or licensees referencing it will be expected to revise NEI 04-10, Revision 0, appropriately, or justify its continued applicability for subsequent referencing.

Sincerely,

/RA/

Ho Nieh, Deputy Director
Division of Policy and Rulemaking
Office of Nuclear Reactor Regulation

Project No. 689

Enclosure: Final SE

cc w/encl: See next page

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FINAL SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

INDUSTRY GUIDANCE DOCUMENT NEI 04-10, REVISION 0

"RISK-INFORMED METHOD FOR CONTROL OF SURVEILLANCE FREQUENCIES"

NUCLEAR ENERGY INSTITUTE

PROJECT NO. 689

1.0 INTRODUCTION AND BACKGROUND

On February 3, 2005, the Nuclear Energy Institute (NEI) submitted the draft of Industry Guidance Document NEI 04-10, "Risk-Informed Method for Control of Surveillance Frequencies," (Reference 1) for Nuclear Regulatory Commission (NRC or the Commission) staff review. The NRC staff submitted requests for additional information (RAIs) to NEI on April 12, 2005, October 20, 2005, and June 6, 2006 (References 2, 3, and 4, respectively). NEI provided RAI responses by letters dated December 20, 2005, and July 28, 2006 (References 5 and 6). In a letter dated August 21, 2006, NEI provided the final version of NEI 04-10, Revision 0, for NRC review and approval (Reference 7). NEI 04-10, Revision 0, July 2006, provides a risk-informed methodology to identify, assess, implement, and monitor proposed changes to frequencies of surveillance requirements of technical specifications (TSs). NEI 04-10 supports industry initiative 5b of the risk-informed TS program. These initiatives are intended to maintain and improve safety through the incorporation of risk assessment and management techniques in TSs, while reducing unnecessary burden and making TS requirements consistent with the NRC's other risk-informed regulatory requirements.

NEI 04-10 provides the detailed process requirements for controlling surveillance frequencies of various TS surveillance requirements that have been relocated from the TSs to a licensee-controlled document. The process requirements and surveillance frequencies would be controlled by including NEI 04-10 by reference in the Administrative Controls of the TSs. Revisions to the surveillance frequencies would be made in accordance with the new program, the Surveillance Frequency Control Program (SFCP), which would be added to the Administrative Controls of the TSs. The methodology described in NEI 04-10 provides a risk-informed process to support a plant expert panel assessment of proposed changes to surveillance frequencies, assuring appropriate consideration of risk insights and other deterministic factors which may impact surveillance frequencies, along with appropriate performance monitoring of changes and documentation requirements.

2.0 REGULATORY EVALUATION

The regulation at Section 50.36 of Title 10 of the *Code of Federal Regulations* (10 CFR), "Technical Specifications," establishes the regulatory requirements related to the content of TSs. Pursuant to 10 CFR 50.36, TSs are required to include items in the following five specific

categories related to station operation: (1) safety limits, limiting safety system settings, and limiting control settings; (2) limiting conditions for operation; (3) surveillance requirements; (4) design features; and (5) administrative controls. The rule does not specify the particular requirements to be included in TSs. As stated in 10 CFR 50.36(c)(3), "surveillance requirements are requirements relating to test, calibration, or inspection to assure that the necessary quality of systems and components is maintained, that facility operation will be within safety limits, and that the limiting conditions for operation will be met."

The SFCP shall ensure that surveillance requirements specified in the TSs are performed at intervals sufficient to assure the above regulatory requirements are met. Existing regulatory requirements, such as 10 CFR 50.65, "Requirements for monitoring the effectiveness of maintenance at nuclear power plants," and 10 CFR Part 50, Appendix B paragraph XVI, "Corrective Action," require monitoring of surveillance test failures and implementing corrective actions to address such failures. One of these actions may be to consider increasing the frequency at which a surveillance is performed. In addition, the SFCP implementation guidance in NEI 04-10 requires monitoring of the performance of structures, systems, and components (SSCs) for which surveillance frequencies are decreased to assure reduced testing does not adversely impact the SSCs.

Changes to surveillance frequencies in the SFCP, using NEI 04-10, including qualitative considerations, results of risk analyses, sensitivity studies and any bounding analyses, and recommended monitoring of SSCs, are required to be documented. These may be subject to regulatory review and oversight of the SFCP implementation.

These regulatory requirements, and the monitoring required by NEI 04-10, ensure that surveillance frequencies that are insufficient to assure that the requirements of 10 CFR 50.36 are satisfied will be identified and appropriate corrective actions taken.

3.0 TECHNICAL EVALUATION

NEI 04-10 provides a risk-informed method to change surveillance frequencies. Probabilistic risk assessment (PRA) methods are used, in combination with plant performance data and other considerations, to identify and justify modifications to the surveillance frequencies of equipment at nuclear power plants. This is in accordance with guidance provided in Regulatory Guide (RG) 1.174, "An Approach for Using Probabilistic Risk Assessment in Risk-Informed Decisions on Plant-Specific Changes to the Licensing Basis" (Reference 8), and RG 1.177, "An Approach for Plant-Specific, Risk-Informed Decisionmaking: Technical Specifications" (Reference 9), in support of changes to surveillance test intervals.

RG 1.177 identifies five key safety principles to be met for risk-informed changes to TSs. Each of these principles is addressed by the industry methodology document, NEI 04-10, as discussed below.

3.1 The proposed change meets the current regulations unless it is explicitly related to a requested exemption or rule change.

The regulation at 10 CFR 50.36(c)(3) provides that TSs will include surveillance requirements which are "requirements relating to test, calibration, or inspection to assure that necessary quality of systems and components is maintained, that facility operation will be within safety limits, and that the limiting conditions for operation will be met." NEI 04-10 supports relocating the surveillance frequencies from the TSs to a licensee-controlled program by providing an NRC-approved methodology for control of the surveillance frequencies. The surveillance requirements themselves would remain in the TSs, as required by 10 CFR 50.36(c)(3). Regulations, such as 10 CFR 50.36 and Appendix A to 10 CFR Part 50, "General Design Criteria for Nuclear Power Plants," do not specifically address any surveillance frequency intervals associated with the surveillance requirement specifications.

This change is consistent with other NRC-approved TS changes in which the surveillance frequencies are relocated to licensee-controlled documents, such as surveillances performed in accordance with the In-Service Testing Program or the Primary Containment Leakage Rate Testing Program. Therefore, this proposed change meets the first key safety principle of RG 1.177 by complying with current regulations.

3.2 The proposed change is consistent with the defense-in-depth philosophy.

Consistency with the defense-in-depth philosophy is maintained if:

- A reasonable balance is preserved among prevention of core damage, prevention of containment failure, and consequence mitigation.
- Over-reliance on programmatic activities to compensate for weaknesses in plant design is avoided.
- System redundancy, independence, and diversity are preserved commensurate with the expected frequency, consequences of challenges to the system, and uncertainties (e.g., no risk outliers). Because the scope of the proposed methodology is limited to revision of surveillance frequencies, the redundancy, independence, and diversity of plant systems are not impacted.
- Defenses against potential common cause failures are preserved, and the potential for the introduction of new common cause failure mechanisms is assessed.
- Independence of barriers is not degraded.
- Defenses against human errors are preserved.
- The intent of the General Design Criterion of Appendix A to 10 CFR Part 50 are maintained.

NEI 04-10 uses both the core damage frequency (CDF) and the large early release frequency (LERF) metrics to evaluate the impact of proposed changes to surveillance frequencies. Consistency with the guidance of RG 1.174 and RG 1.177 for changes to CDF and LERF is achieved by evaluation using a comprehensive risk analysis, which assesses the impact of proposed changes including contributions from human errors and common cause failures. Defense-in-depth is also included in the methodology explicitly as a qualitative consideration outside of the risk analysis, as is the potential impact on detection of component degradation that could lead to increased likelihood of common cause failures. Both the quantitative risk

analysis and the qualitative considerations assure a reasonable balance of defense-in-depth is maintained to ensure protection of public health and safety, satisfying the second key safety principle of RG 1.177. Therefore, this proposed change meets the second key safety principle of RG 1.177.

3.3 The proposed change maintains sufficient safety margins.

The design, operation, testing methods, and acceptance criteria for SSCs, specified in applicable codes and standards (or NRC-approved alternatives) will continue to be met as described in the plant licensing basis (including the final safety analysis report and bases to TSs), since these are not affected by changes to the surveillance frequency. Similarly, there is no impact to safety analysis acceptance criteria as described in the plant licensing basis.

The NRC staff evaluation focused on changes proposed by NEI 04-10. Areas specifically addressed are in 6 of the 20 steps shown in Figure 1 of NEI 04-10:

- Surveillance test intervals (STIs) associated with committed industry codes, standards, and NRC RGs. (Steps 7, 15 and 16)

- Potential for tighter TS acceptance criteria for longer STIs. (Steps 7, 15 and 16)

- Effect of less pre-conditioning from exercising with less frequent testing because of longer STIs. (Steps 7, 15 and 16)

- Criteria for multiple extensions of STIs using the proposed methodology. (Steps 0, 15 and 16)

- Criteria for returning to the previous STI following unsuccessful experience at the new extended STI. (Steps 19 and 20)

3.3.1 STIs associated with committed industry codes, standards and NRC RGs.

The present surveillances, STIs, and acceptance criteria were established over a 40-year history of industry consensus standards development, e.g. in the form of the Institute of Electrical and Electronics Engineers (IEEE) standards, and regulatory endorsement through the regulatory guide process. The proposed NEI 04-10 methodology will allow a licensee's independent decisionmaking panel (IDP) to alter STIs to a frequency different from those recommended in previously-approved consensus standards and RG processes.

The surveillance requirements themselves are not to be changed and will continue to be performed in accordance with the applicable RG or topical report, as appropriate. However, associated STIs may be modified in accordance with the licensee-controlled program. Where the associated STIs were established based on commitments documented in the plant's safety analysis, those commitments would be subject to review by an IDP using the guidance of NEI 99-04, "Commitment Control" (Reference 10), and could potentially be changed by the licensee-controlled program without prior NRC-approval. This provision is addressed in Steps 1 through 4 of NEI 04-10 consistent with NEI 99-04.

In NEI 04-10, Step 7, “Identify Qualitative Considerations to be Addressed (by the IDP),” technical justification will be provided for changes to the STIs found in committed industry standards. Consideration of committed industry standards and the current revisions of those standards will be documented. The NRC staff finds this acceptable due to the rigorous review and documentation required to justify an STI change related to an industry code or standard.

3.3.2 Potential for tighter TS acceptance criteria for longer STIs.

NUREG 0800, Standard Review Plan, Chapter 19, "Use of Probabilistic Risk Assessment in Plant-Specific Risk-Informed Decisionmaking: General Guidance" (Reference 11), refers to the four elements of RG 1.174. RG 1.1.74, Element 2, provides for an engineering analysis and consists of two main parts: evaluation of defense-in-depth and evaluation of the safety margins. In addition, a critical attribute for any calibration or surveillance test is the interval between calibrations or tests. Any change to the interval should be accompanied with consideration of a corresponding change to the acceptance criteria. The as-left acceptance criteria should factor in the potential for drift over the extended interval including any new uncertainties in the new drift value. The IDP review of a proposed STI change may result in a tighter acceptance criteria in the implementing test procedure. The NRC staff finds this approach acceptable due to the adoption of tighter TS acceptance criteria if necessary.

3.3.3 Conditioning provided by existing STIs.

The effect of less pre-conditioning from exercising with longer STIs is a requirement in NEI 04-10, Step 7, “Identify Qualitative Considerations to be Addressed (by the IDP),” to consider any conditioning exercise that maintains equipment operability. Examples provided included lubrication of bearing and electrical contact wiping (cleaning) of built up oxidation. The NRC staff finds this requirement acceptable since equipment operability may be dependent upon performance of a conditioning exercise at a certain frequency.

3.3.4 Criteria for multiple extensions of STIs using the proposed methodology.

NEI 04-10, Step 0, Select Proposed STIs for Adjustment, is an approach similar to that previously taken in guidance document NUMARC 93-01, Revision 3, "Industry Guideline on Monitoring the Effectiveness of Maintenance at Nuclear Power Plants" (Reference 12), to limit the rate at which STIs can be increased. NEI proposed that prior to considering additional STI changes, the limit on how quickly the methodology can be applied to the same STI is three successive successful surveillances for STIs less than, or equal to, six months and two successive successful surveillances for STIs greater than six months. While the potential rate of change to an STI appeared arbitrary, the basis is rational, as NEI indicated that the confidence in lamda-sub-t, the change in standby failure rate versus STI, would cause larger and larger uncertainty values beyond the second extension and would be a review factor for the IDP re-assessment. The NRC staff finds this requirement acceptable since it provides a logical basis for proposed STI extensions.

3.3.5 Criteria for returning to the previous STI following unsuccessful experience at the new extended STI.

If the results of an emergent assessment indicated that the time interval between successive performance of a surveillance is a factor in the cause of its unsatisfactory performance, this would result in a re-assessment by the IDP. This is addressed in NEI 04-10, Steps 19 and 20. The NRC staff finds this requirement acceptable in light of the review and reassessment requirements imposed when adopting a new STI.

Therefore, as discussed above, sufficient safety margins are maintained by the proposed methodology of NEI 04-10, and the third key safety principle of RG 1.177 is satisfied.

3.4 When proposed changes result in an increase in CDF or risk, the increases should be small and consistent with the intent of the Commission's Safety Goal Policy Statement.

RG 1.177 provides a framework for risk evaluation of proposed changes to surveillance frequencies, which requires identification of the risk contribution from impacted surveillances, determination of the risk impact from the change to the proposed surveillance frequency, and performance of sensitivity and uncertainty evaluations. NEI 04-10 satisfies RG 1.177 guidelines for evaluation of the change in risk and for assuring that such changes are small.

3.4.1 Quality of the PRA.

The quality of the PRA must be compatible with the safety implications of the proposed TS change and the role the PRA plays in justifying the change. The NRC has developed regulatory guidance to address PRA technical adequacy, RG 1.200, "An Approach for Determining the Technical Adequacy of Probabilistic Risk Assessment Results for Risk-Informed Activities" (Reference 13), which addresses the use of the American Society of Mechanical Engineers (ASME) RA-Sa-2003, Addenda to ASME RA-S-2002, "Standard Probabilistic Risk Assessment for Nuclear Power Plant Application" (Reference 14), and NEI 00-02, "PRA Peer Review Process Guidance" (Reference 15). NEI 04-10 requires an assessment of the PRA models used to support the SFCP against the guidelines of RG 1.200 to assure that the PRA models are capable of determining the change in risk due to changes to surveillance frequencies of SSCs, using plant-specific data and models. Capability Category II of ASME RA-Sa-2003 is applied as the standard, and any identified deficiencies to those requirements are assessed further in sensitivity studies to determine any impacts to proposed decreases to surveillance frequencies. This level of PRA quality, combined with the proposed sensitivity studies, is sufficient to support the evaluation of changes to surveillance frequencies within the SFCP, and is consistent with Regulatory Position 2.3.1 of RG 1.177.

3.4.2 Scope of the PRA.

NEI 04-10 evaluates each proposed surveillance frequency change to determine its potential impact on risk, due to impacts from internal events, fires, seismic, other external events, and from shutdown conditions. Consideration is made of both CDF and LERF metrics. Where quantitative risk models are unavailable, bounding analyses or other conservative quantitative evaluations are performed. A qualitative screening analysis may be used when the surveillance frequency impact on plant risk can be shown to be negligible or zero. The methodology of NEI 04-10 is sufficient to ensure the scope of the risk contribution of each surveillance is properly identified for evaluation, and is consistent with Regulatory Position 2.3.2 of RG 1.177.

3.4.3 PRA Modeling.

NEI 04-10 determines if the SSCs affected by a surveillance are modeled in the PRA. Where the SSC is directly or implicitly modeled, a quantitative evaluation of the risk impact is carried out. The methodology adjusts the failure probability of the impacted SSCs, including any impacted common cause failure modes, based on the proposed change to the surveillance frequency. Where the SSC is not modeled in the PRA, bounding analyses are performed to characterize the impact of the proposed change to surveillance frequency. Potential impacts on the risk analyses due to screening criteria and truncation levels are adequately addressed by the requirements for PRA technical adequacy addressed by RG 1.200, and by sensitivity studies identified in NEI 04-10. Therefore, the NEI 04-10 methodology for PRA modeling is sufficient to ensure an acceptable evaluation of risk due to the change in surveillance frequency, and is consistent with Regulatory Position 2.3.3 of RG 1.177.

3.4.4 Assumptions.

The failure probabilities of SSCs modeled in a PRA include a standby time-related contribution and a cyclic demand-related contribution. NEI 04-10 adjusts the time-related failure contribution of SSCs affected by the proposed change to surveillance frequency. This is consistent with RG 1.177, Section 2.3.3, which permits separation of the failure rate contributions into demand and standby for evaluation of surveillance requirements. If the available data do not support distinguishing between the time-related failures and demand failures, then the change to surveillance frequency is conservatively assumed to impact the total failure probability of the SSC, including both standby and demand contributions. The SSC failure rate (per unit time) is assumed to be unaffected by the change in test frequency and is confirmed by the required monitoring and feedback implemented after the change in surveillance frequency is implemented.

The process requires consideration of qualitative sources of information with regard to potential impacts of test frequency on SSC performance, including industry and plant-specific operating experience, vendor recommendations, industry standards, and code-specified test intervals. Thus, the process is not reliant upon risk analyses as the sole basis for the proposed changes.

NEI 04-10 does not explicitly address staggered or sequential test strategies and their potential impact on risk, and any existing TS requirements for these strategies are not relocated to the SFCP, and are therefore not subject to revision by NEI 04-10. Staggered or sequential test strategy requirements are not relocated to the SFCP, but the surveillance frequency can be relocated. The potential beneficial risk impacts of reduced surveillance frequency, including reduced downtime, lesser potential for restoration errors, reduction of potential for test-caused transients, and reduced test-caused wear of equipment, are identified qualitatively, but are conservatively not required to be quantitatively assessed. Therefore, NEI 04-10 employs reasonable assumptions with regard to extensions of surveillance test intervals, and is consistent with Regulatory Position 2.3.4 of RG 1.177.

3.4.5 Sensitivity and Uncertainty Analyses.

NEI 04-10 requires sensitivity studies to assess the impact of uncertainties from key assumptions of the PRA, uncertainty in the failure probabilities of the affected SSCs, impact to the frequency of initiating events, and of any identified deviations from capability Category II of

ASME RA-Sa-2003. Where the sensitivity analyses identify a potential impact on the proposed change, revised surveillance frequencies are considered, along with any qualitative considerations that may bear on the results of such sensitivity studies. Required monitoring and feedback of SSC performance once the revised surveillance frequencies are implemented are also used. Therefore, NEI 04-10 appropriately considers the possible impact of PRA model uncertainty and sensitivity to key assumptions and model limitations, consistent with Regulatory Position 2.3.5 of RG 1.177.

3.4.6 Acceptance Guidelines.

NEI 04-10 quantitatively evaluates the change in total risk (including internal and external events contributions) in terms of CDF and LERF for both the individual risk impact of a proposed change in surveillance frequency and the cumulative impact from all individual changes to surveillance frequencies. Each individual change to surveillance frequency must be shown to result in a risk impact below 1E-6 per year for change to CDF, and below 1E-7 per year for change to LERF. These are consistent with the limits of RG 1.174 for very small changes in risk. Where the RG 1.174 limits are not met, the process either considers revised surveillance frequencies which are consistent with RG 1.174 or terminates without permitting the proposed changes. Where quantitative results are unavailable to permit comparison to acceptance guidelines, appropriate qualitative analyses are required to demonstrate that the associated risk impact of a proposed change to surveillance frequency is negligible or zero. Otherwise, bounding quantitative analyses are required which demonstrate the risk impact is at least one order of magnitude lower than the RG 1.174 acceptance guidelines for very small changes in risk.

In addition to assessing each individual SSC surveillance frequency change, the cumulative impact of all changes must result in a risk impact below 1E-5 per year for change to CDF, and below 1E-6 per year for change to LERF, and the total CDF and total LERF must be reasonably shown to be less than 1E-4 per year and 1E-5 per year, respectively. These are consistent with the limits of RG 1.174 for acceptable changes in risk, as referenced by RG 1.177 for changes to surveillance frequencies. The assessment of cumulative risk is a requirement to calculate the change in risk from a baseline model utilizing failure probabilities based on surveillance frequencies prior to implementation of the SFCP, compared to a revised model with all changed frequencies included. The cumulative risk assessment is re-performed when the baseline PRA models are periodically updated. The NRC staff notes that NEI 04-10 allows exclusion of small risk increases associated with individual STI changes once the baseline PRA models are updated to include the effects of the revised surveillance frequencies.

The quantitative acceptance guidance of RG 1.174 is necessary but not sufficient to accept changes in surveillance frequencies. The NEI 04-10 process also considers qualitative information to evaluate the proposed changes to surveillance frequencies, including industry and plant-specific operating experience, vendor recommendations, industry standards, the results of sensitivity studies, and SSC performance data and test history. The final acceptability of the proposed change is based on all of these considerations and not solely on the PRA results compared to numerical acceptance guidelines. Performance monitoring and feedback are also required to assure that lessons learned from past experience are considered. Therefore, NEI 04-10 provides reasonable acceptance guidelines and methods for evaluating the risk increase of proposed changes to surveillance frequencies, consistent with Regulatory Position 2.4 of RG 1.177.

Therefore, as discussed above, the proposed methodology satisfies the fourth key safety principle of RG 1.177 by assuring any increase in risk is small, consistent with the intent of the Commission's Safety Goal Policy Statement.

3.5 The impact of the proposed change should be monitored using performance measurement strategies.

NEI 04-10 requires performance monitoring of SSCs whose surveillance frequency has been revised as part of a feedback process to assure that the change in test frequency has not resulted in degradation of equipment performance and operational safety. The monitoring and feedback includes consideration of Maintenance Rule monitoring of equipment performance. In the event of degradation of SSC performance, the surveillance frequency is reassessed in accordance with the methodology, in addition to any corrective actions which may apply as part of the Maintenance Rule requirements. The performance monitoring and feedback specified in NEI 04-10 is sufficient to reasonably assure acceptable SSC performance and is consistent with Regulatory Position 3.2 of RG 1.177. Therefore, the fifth key safety principle of RG 1.177 is satisfied.

4.0 CONCLUSION

The NRC staff has reviewed NEI 04-10, Revision 0, a risk-informed methodology using plant-specific risk insights and performance data to revise surveillance frequencies within an SFCP, allowing for licensee control of the surveillance frequencies. This methodology would support a proposed change to a licensee's TSs by relocating surveillance frequencies to a licensee-controlled document, allowing those frequencies to be revised in accordance with NEI 04-10, incorporated into the Administrative Controls of the TSs.

The NRC staff found that the industry methodology contained in NEI 04-10, provides adequate guidance for proposed changes to be reviewed and approved by an IDP with the panel membership and qualifications specified in NEI 04-10. The methodology requires that the evaluation by the IDP consider vendor recommendations, performance history, maintenance practices, and committed industry codes and standards. The guidance methodology further requires the review of codes and standards to include those revisions both committed to in the licensing basis and the current revision of that standard, document the review, and provide technical justification for any proposed STI differences with the committed standards. The methodology also requires an assessment of any potential conditioning, such as lubrication or contact wiping, inadvertently provided by the original more frequent surveillance test intervals.

NEI 04-10 methodology places limits on how often a given STI could be changed using the proposed methodology as well as set criteria to return to a more frequent STI upon multiple time-related failures at the new STI. The NRC staff finds the methodology acceptable.

The NRC staff finds that the proposed implementing methodology of NEI 04-10 satisfies the key principles of risk-informed decision making applied to changes to TSs as delineated in RG 1.177 and RG 1.174, in that:

- The proposed change meets current regulations;
- The proposed change is consistent with defense-in-depth philosophy;

- The proposed change maintains sufficient safety margins;
- Increases in risk resulting from the proposed change are small and consistent with the Commission's Safety Goal Policy Statement; and
- The impact of the proposed change is monitored with performance measurement strategies.

The NRC staff, therefore, finds that NEI 04-10, Revision 0, is acceptable for referencing by licensees proposing to amend their TSs to establish an SFCP, provided that the following conditions are satisfied:

1. The licensee submits documentation with regard to PRA technical adequacy consistent with the requirements of RG 1.200, Section 4.2.

2. When a licensee proposes to use PRA models for which NRC-endorsed standards do not exist, the licensee submits documentation which identifies the quality characteristics of those models, consistent with RG 1.200, Sections 1.2 and 1.3. Otherwise, the licensee identifies and justifies the methods to be applied for assessing the risk contribution for those sources of risk not addressed by PRA models.

5.0 REFERENCES

1. Letter from A. Pietrangelo, NEI, to T. Tjader, NRC, NEI 04-10, Draft Revision 1, "Risk-Informed Method for Control of Surveillance Frequencies," dated February 3, 2005 (Agencywide Documents and Management System (ADAMS) Accession No. ML062370355).

2. Letter from T. Tjader, NRC, to B. Bradley, NEI, Request for Additional Information RE: NEI 04-10, dated April 12, 2005 (ADAMS Accession No. ML051010252).

3. Letter from T. Tjader, NRC, to B. Bradley, NEI, Request for Additional Information RE: NEI 04-10, dated October 20, 2005 (ADAMS Accession No. ML052920825).

4. Letter from T. Kobetz, NRC, to B. Bradley, NEI, Request for Additional Information RE: NEI 04-10, dated June 6, 2006 (ADAMS Accession No. ML061520205).

5. Letter from A. Pietrangelo, NEI, to T. Tjader, NRC, Response to RAIs and NEI 04-10, Draft Revision 2, "Risk-Informed Method for Control of Surveillance Frequencies," dated December 20, 2005 (ADAMS Accession No. ML053550473).

6. Letter from B. Bradley, NEI, to T. Kobetz, NRC, Response to RAIs and NEI 04-10, Final Revision 0, "Risk-Informed Method for Control of Surveillance Frequencies," dated July 28, 2006 (ADAMS Accession No. ML062120081).

7. Letter from B. Bradley, NEI, to T. Kobetz, NRC, Reissuance of NEI 04-10, Final Revision 0, "Risk-Informed Method for Control of Surveillance Frequencies," dated August 21, 2006 (ADAMS Accession No. ML062570410).

8. Regulatory Guide 1.174, "An Approach for Using Probabilistic Risk Assessment in Risk-informed Decisions on Plant-Specific Changes to the Licensing Basis," NRC, July 1998 (ADAMS Accession No. ML003740133).

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Date: September 28, 2006