ENCLOSURE 11

Point Beach Units 1 and 2
License Amendment Request to Revise Technical Specifications
to Adopt Risk Informed Completion Times TSTF-505, Revision 2,
"Provide Risk-Informed Extended Completion Times - RITSTF Initiative 4b"

Monitoring Program

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1.0 Purpose

Section 4.0, Item 12 of the NRC Final Safety Evaluation (SE) (Reference 1) for NEI 06-09-Rev. 0, “Risk-Informed Technical Specifications Initiative 4b, Risk-Managed Technical Specifications (RMTS) Guidelines” (Reference 2), requires that the license amendment request (LAR) provide a description of the implementing and monitoring program as described 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”, Revision 1 (Reference 3), and NEI 06-09 Rev. 0-A. (Note that Revision 2 of RG 1.174 (Reference 4) was issued by the NRC in May 2011 which made editorial changes to the applicable section referenced in the NRC SE for Section 4.0, Item 12).

This enclosure provides a description of the process applied to govern and monitor calculation of cumulative risk impact in support of the Risk-Informed Completion Time (RICT) Program, specifically the calculation of cumulative risk of extended Completion Times (CTs). Calculation of the cumulative risk for the RICT Program is discussed in Step 14 of Section 2.3.1 and Step 7.1 of Section 2.3.2 of NEI 06-09 Rev 0-A. General requirements for a Performance Monitoring Program for risk-informed applications are discussed in Element 3 of the RG 1.174, Revision 2.

2.0 Revision Summary

Initial issuance.

3.0 Evaluation

3.1 Description of Monitoring Program

The RICT Program will require calculation of cumulative risk impact at least every refueling cycle, not to exceed 24 months, consistent with the guidance in NEI 06-09, Revision 0-A (Reference 2). For the assessment period under evaluation, data will be collected for the risk increase associated with each application of an extended CT for both core damage frequency (CDF) and large early release frequency (LERF), and the total risk will be calculated by summing all risk associated with each RICT application. This summation is the change in CDF or LERF above the zero maintenance baseline levels during the period of operation in the extended CT (i.e., beyond the front-stop CT). The change in risk will be converted to average annual values.

The total average annual change in risk for extended CTs will be compared to the guidance of RG 1.174, Figures 4 and 5, acceptance guidelines for CDF and LERF, respectively. If the actual annual risk increase is acceptable (i.e., not in Region I of Figures 4 and 5 of RG 1.174), then RICT Program implementation is acceptable for the assessment period. Otherwise, further assessment of the cause of exceeding the acceptance guidelines of RG 1.174 and implementation of any necessary corrective actions to ensure future plant operation is within the guidelines will be conducted under the corrective action program.

The evaluation of cumulative risk will also identify areas for consideration, such as:

- RICT applications that dominated the risk increase
- Risk contributions from planned vs. emergent RICT applications
- Risk management actions (RMA) implemented but not credited in the risk calculations

- Risk impact from applying RICT to avoid multiple shorter duration outages

Based on a review of the considerations above, corrective actions will be developed and implemented as appropriate. These actions may include:

- Administrative restrictions on the use of RICTs for specific high-risk configurations
- Additional RMAs for specific configurations
- Rescheduling planned maintenance activities
- Deferring planned maintenance to shutdown conditions
- Use of temporary equipment to replace out-of-service systems, structures or components (SSC)
- Plant modifications to reduce the risk impact of future planned maintenance configurations

In addition to impacting cumulative risk, implementation of the RICT Program may potentially impact the unavailability of SSCs. The existing Maintenance Rule (MR) monitoring programs under 10 CFR 50.65(a)(1) and (a)(2) provide for evaluation and disposition of unavailability impacts which may be incurred from implementation of the RICT Program. The SSCs in the scope of the RICT Program are also in the scope of the MR. This allows the use of the MR Program for monitoring of equipment unavailability and any associated impact to operational safety.

The monitoring program for the MR, along with the specific assessment of cumulative risk impact described above, serve as the Implementation and Monitoring Program for the RICT Program as described in Element 3 of RG 1.174 and NEI 06-09.

4.0 References

1. Letter from the NRC to NEI, “Final Safety Evaluation for Nuclear Energy Institute (NEI)Topical Report (TR) NEI 06-09, ‘Risk-Informed Technical Specifications Initiative 4B, Risk-Managed Technical Specifications (RMTS) Guidelines’ (TAC No. MD4995)”, dated May 17, 2007 (ADAMS Accession No. ML071200238).
2. NEI Topical Report NEI 06-09, “Risk-Informed Technical Specifications Initiative 4b, Risk-Managed Technical Specifications (RMTS) Guidelines”, Revision 0-A, dated October 2012 (ADAMS Accession No. ML12286A322).
3. NRC Regulatory Guide 1.174, “An Approach for Using Probabilistic Risk Assessment in Risk-Informed Decisions on Plant-Specific Changes to the Licensing Basis”, Revision 1, dated November 2002 (ADAMS Accession No. ML023240437).
4. NRC Regulatory Guide 1.174, “An Approach for Using Probabilistic Risk Assessment in Risk-Informed Decisions on Plant-Specific Changes to the Licensing Basis”, Revision 2, dated May 2011 (ADAMS Accession No. ML100910006)

ENCLOSURE 12

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Risk Management Action Examples

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1.0 Introduction

This enclosure describes the process for identification and implementation of Risk Management Actions (RMA) applicable during extended Completion Times (CT) and provides examples of RMAs. RMAs will be governed by plant procedures for planning and scheduling maintenance activities. The procedures will provide guidance for the determination and implementation of RMAs when entering the Risk-Informed Completion Time (RICT) Program consistent with the guidance provided in Nuclear Energy Institute (NEI) 06-09-A, “Risk-Informed Technical Specifications Initiative 4b, Risk-Managed Technical Specifications (RMTS) Guidelines”, Revision 0 (Reference 1)..

2.0 Revision Summary

Initial Issuance.

3.0 Evaluation

3.1 RESPONSIBILITIES

For planned entries into the RICT Program, the Work Week Coordinator is responsible for developing the RMAs with assistance from Operations, Probabilistic Risk Assessment (PRA) Group, and Engineering. Operations is responsible for approval and implementation of RMAs. For emergent entry into extended CTs, Operations is also responsible for developing the RMAs.

3.2 PROCEDURAL GUIDANCE

For planned maintenance activities, implementation of RMAs will be required if it is anticipated that the risk management action time (RMAT) will be exceeded. For emergent activities, RMAs must be implemented if the RMAT is reached. Also, if an emergent event occurs requiring recalculation of an RMAT already in place, the procedure will require a reevaluation of the existing RMAs for the new plant configuration to determine if new RMAs are appropriate. These requirements of the RICT Program are consistent with the guidance of NEI 06-09-A.

For emergent entry into a RICT, if the extent of condition is not known, RMAs related to the success of redundant and diverse structures, systems, or components (SSCs) and reducing the likelihood of initiating events relying on the affected function will be developed and implemented to address the increased likelihood of a common cause event.

RMAs will be implemented in accordance with fleet and site procedures (e.g., References 2) no later than the time at which an incremental core damage probability (ICDP) of 1E-6 is reached, or no later than the time when an incremental large early release probability (ILERP) of 1E-7 is reached. If, as the result of an emergent condition, the instantaneous core damage frequency (ICDF) or the instantaneous large early release frequency (ILERF) exceeds 1E-3 per year or 1E-4 per year, respectively, RMAs are also required to be implemented. These requirements are consistent with the guidelines of NEI 06-09-A.

By determining which SSCs are most important from a CDF or LERF perspective for a specific plant configuration, RMAs may be created to protect these SSCs. Similarly,

knowledge of the initiating event or sequence contribution to the configuration-specific CDF or LERF allows development of RMAs that enhance the capability to mitigate such events. The guidance in NUREG-1855, “Guidance on the Treatment of Uncertainties Associated with PRAs in Risk-Informed Decision Making” (Reference 3), and EPRI TR-1026511, “Practical Guidance on the Use of PRA in Risk-Informed Applications with a Focus on the Treatment of Uncertainty” (Reference 4), will be used in examining PRA results for significant contributors for the configuration, to aid in identifying appropriate compensatory measures (e.g., related to risk-significant systems that may provide diverse protection or important support systems).

If the planned activity or emergent condition includes an SSC that is identified to impact fire PRA, as identified in the current On Line Risk Monitor, fire PRA specific RMAs associated with that SSC will be implemented per the current plant procedure.

It is possible to credit RMAs in RICT calculations, to the extent the associated plant equipment and operator actions are modeled in the PRA, however, such quantification of RMAs is neither required nor expected by NEI 06-09-A. Nonetheless, if RMAs will be credited to determine RICTs, the procedure instructions will be consistent with the guidance in NEI 06-09-A.

NEI 06-09-A classifies RMAs into the three categories described below:

1) Actions to increase risk awareness and control, Level 1 RMAs.

- Discuss planned maintenance activity with operating shift and obtain operator awareness and approval of planned evolution.
- Conduct pre-job briefing of maintenance personnel, emphasizing risk aspects of planned maintenance evolution.
- Request the system engineer to be present for the maintenance activity, or for applicable portions of the activity.
- Consider any performance degradations of in service accident mitigation equipment.
- Posting equipment as "guarded."
- Perform an aggregate review of equipment failure on safety system performance.

2) Actions to reduce the duration of maintenance activities, Level 2 RMAs.

- Pre-stage parts and materials
- Walk-down clearance order and maintenance activity prior to conducting maintenance.
- Acquire additional personnel; ensure adequate support personnel are available.
- Conduct training on mockups to familiarize maintenance personnel with the activity.
- Perform maintenance around the clock.
- Establish contingency plan to restore unavailable equipment rapidly if needed

3) Actions to minimize the magnitude of the risk increase, Level 3 RMAs.

- Minimize other work in areas that could affect initiators [such as reactor protection and safeguards racks, switchyard, EDG rooms, switchgear rooms] to decrease the frequency of initiating events that are mitigated by the safety function served by the unavailable SSC.
- Minimize other work in areas that could affect other redundant systems, such that there is enhanced likelihood of the availability of the safety functions at issue served by the SSCs in those areas.

- Establish alternate success paths for performance of the safety function of the unavailable SSC. (note: equipment used to establish these alternate success paths need not necessarily be within the overall scope of the maintenance rule).
- Establish other compensatory measures.
- Eliminate the overlap of two or more activities that compound risk impact.
- Identify priority equipment to return to available status using the online risk monitor (OLRM) computer program.

3.3 EXAMPLES

Examples of RMAs that may be considered for specific plant configurations for RICT Program entry for TS 3.8 are given below:

1) TS 3.8.1, Condition A, Example: 1X-03, High Voltage Station Auxiliary Transformer
   a) Actions to increase risk awareness and control.
      i) Brief the on-shift operations crew concerning the unit activities, including any compensatory measures established
      ii) Guard equipment relied upon for offsite power, e.g., 2X-03, High Voltage Station Auxiliary Transformer, and associated breakers
      iii) Perform walkdowns of mitigative equipment, e.g., Gas Turbine, Diesel Generators, Battery Chargers, and pumps to validate standby/readiness condition
   b) Actions to reduce the duration of maintenance activities.
      i) Create a schedule for the specific evolution to ensure resource availability
      ii) Confirm parts availability
   c) Actions to minimize the magnitude of the risk increase.
      i) Defer maintenance or testing that affects mitigative equipment
      ii) Implement 10 CFR 50.65(a)(4) fire-specific RMAs, as required
      iii) Confirm suppression and detection systems are functional and fire barriers are intact in applicable fire zones
      iv) Minimize transient combustibles in applicable fire zones
      v) Prohibit hot work and minimize switching operations in applicable fire zones
2) TS 3.8.1, Condition B, Example: 2X-04, Low Voltage Station Auxiliary Transformer, or
   TS 3.8.1, Condition C, Example: 2A-03 and 2A-04, 4.16 KV Bus Switchgear, or
   TS 3.8.1, Condition D, Example: 2A-03, 4.16 KV Bus Switchgear
   a) Actions to increase risk awareness and control.
      i) Brief the on-shift operations crew concerning the unit activities, including any compensatory measures established
      ii) Guard equipment relied upon for providing electrical power to remaining Unit 2 buses
      iii) Perform walkdowns of mitigative equipment, e.g., Diesel Generators, Battery Chargers, and pumps to validate standby/readiness condition
   b) Actions to reduce the duration of maintenance activities.

i) Create a schedule for the specific evolution to ensure resource availability

ii) Confirm parts availability

c) Actions to minimize the magnitude of the risk increase.

i) Defer maintenance or testing that affects mitigative equipment

ii) Implement 10 CFR 50.65(a)(4) fire-specific RMAs, as required

iii) Confirm suppression and detection systems are functional and fire barriers are intact in applicable fire zones

iv) Minimize transient combustibles in applicable fire zones

v) Prohibit hot work and minimize switching operations in applicable fire zones

3) TS 3.8.1, Condition F, Example: 1A-03, 4.16 KV Bus Switchgear, and G-01/G-02, Emergency Diesel Generators

a) Actions to increase risk awareness and control.

i) Brief the on-shift operations crew concerning the unit activities, including any compensatory measures established

ii) Guard equipment relied upon for providing electrical power to remaining Unit 1 and 2 buses

iii) Perform walkdowns of mitigative equipment, e.g., Diesel Generators, Battery Chargers, and pumps to validate standby/readiness condition

b) Actions to reduce the duration of maintenance activities.

i) Create a schedule for the specific evolution to ensure resource availability

ii) Confirm parts availability

c) Actions to minimize the magnitude of the risk increase.

i) Defer maintenance or testing that affects mitigative equipment

ii) Implement 10 CFR 50.65(a)(4) fire-specific RMAs, as required

iii) Confirm suppression and detection systems are functional and fire barriers are intact in applicable fire zones

iv) Minimize transient combustibles in applicable fire zones

v) Prohibit hot work and minimize switching operations in applicable fire zones

4.0 References

1. NEI Topical Report NEI 06-09-A, “Risk-Informed Technical Specifications Initiative 4b, Risk-Managed Technical Specifications (RMTS) Guidelines”, Revision 0, dated October 2012 (ADAMS Accession No. ML12286A322)

2. NEE Procedure, OP-SR-110-1001, "Risk Management Actions For The Risk-Informed Completion Time Program"

3. NRC NUREG-1855, “Guidance on the Treatment of Uncertainties Associated with PRAs in Risk-Informed Decision Making”, Revision 1, dated March 2017 (ADAMS Accession No. ML17062A466).

4 EPRI Technical Report TR-1026511, “Practical Guidance on the Use of PRA in Risk-Informed Applications with a Focus on the Treatment of Uncertainty”, dated December 2012