

ENCLOSURE 11

License Amendment Request

**Callaway Unit No. 1
Renewed Facility Operating License NPF-30
NRC Docket No. 50-483**

**Revise Technical Specifications to Adopt Risk-Informed Completion Times
TSTF-505, Revision 2, "Provide Risk-Informed Extended Completion Times -
RITSTF Initiative 4b."**

Monitoring Program

1.0 INTRODUCTION

Section 4.0, Item 12, of the NRC Final Safety Evaluation (Reference 1) for NEI 06-09-A (Reference 2) requires that the license amendment request provide a description of the implementation and monitoring program as described in Regulatory Guide (RG) 1.174, Revision 1 (Reference 3), and NEI 06-09-A, Revision 0 (Reference 2). Note that RG 1.174, Revision 2 (Reference 4), issued by the NRC in May 2011, made editorial changes to the applicable section referenced in the NRC Safety Evaluation 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-A. General requirements for a Performance Monitoring Program for risk-informed applications are discussed in Element 3 of the RG 1.174, Revision 2 (Reference 4).

2.0 DESCRIPTION OF THE MONITORING PROGRAM

The Risk-Informed Completion Time (RICT) Program requires the calculation of the cumulative risk impact at least every refueling cycle, not to exceed 24 months, as set forth in NEI 06-09, Revision 0 (Reference 2). For each assessment period under evaluation, data will be collected for each of the risk increases associated with the application of the RICT Program (i.e., periods in which an extended completion time (CT) beyond the front-stop CT is invoked) and summed. This will be done for both core damage frequency (CDF) and large early release frequency (LERF). The data of interest is the change in CDF and LERF (Δ CDF and Δ LERF, respectively) above the zero-maintenance baseline levels for the durations of operation in the extended CT. The calculated delta-risk is 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, Revision 2, Figures 4 and 5 (Reference 4), 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, Revision 2, (Reference 4)), 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, Revision 2 (Reference 4) 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 assessment will raise some points for consideration for each evaluation period, including but not limited to the following:

- RICT applications that dominate the annual risk increase.
- Relative contributions of planned and unplanned (i.e., emergent) RICT applications.
- Risk management actions (RMA) implemented but not credited in the risk calculations.

- Risk of using a RICT versus not using a RICT and instead using multiple shorter system, structure, or component (SSC) outages.
- Reduction in overall risk levels through improvements to SSC reliability and availability due to improved maintenance strategies allowed through the RICT program.

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

- Administrative restrictions on RICT use 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 SSCs.
- Plant modifications to reduce 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 Maintenance Rule (MR) monitoring programs under 10 CFR 50.65 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 which are also in the scope of the MR allows the use of the MR Program.

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, Revision 1 (Reference 3) and NEI 06-09-A (Reference 2).

3.0 REFERENCES

1. U.S. Nuclear Regulatory Commission (NRC) Letter from Jennifer M. Golder to Biff Bradley (Nuclear Energy Institute [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'," May 17, 2007 (ADAMS Accession No. ML071200238).
2. Nuclear Energy Institute Topical Report NEI 06-09-A, "Risk-Informed Technical Specifications Initiative 4b, Risk-Managed Technical Specifications (RMTS) Guidelines," Revision 0, October 12, 2012 (ADAMS Accession No. ML12286A322).
3. 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, November 2002.
4. 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, May 2011.