

## RAI BWROG Topical NEDC-33046 LERF Assessment

1. A Tier 3 program ensures that while a CIV is in an LCO condition, additional activities will not be performed that could further degrade the capability of the plant to respond to a condition the inoperable CIV or system was designed to mitigate, and as a result, increase plant risk beyond that assumed by the LTR analysis. Tier 3 programs, as implemented by the maintenance rule of 10 CFR 50.65(a)(4) during CIV maintenance are to: (1) ensure that additional maintenance does not increase the likelihood of an initiating event intended to be mitigated by the out-of-service equipment, (2) evaluate the effects of additional equipment out-of-service during CIV maintenance activities that would adversely impact CIV CT risk such as from redundant systems or components, and (3) evaluate the impact of maintenance on equipment or systems assumed to remain operable by the CIV CT analysis.

The staff is concerned that configuration risk management as implemented under the maintenance rule is inadequate to evaluate the risk impact of CIVs in maintenance or repair such that the assumptions of NEDC-33046 remain valid. The extension of the CTs for CIVs generally does not have a significant impact on CDF but does impact LERF/ICLERP (containment isolation). The TS allow multiple condition entry for CIVs but the topical report analyses are based on a single PCIV CT and therefore cumulative risk must also be evaluated for multiple PCIV LCOs. Plant TIER 3 programs that are based on the maintenance rule generally do not provide a quantitatively or qualitatively assessment of LERF. NEDC-33046 provides limited guidance on performing a TIER 3 LERF analysis either for single or multiple CIV CTs. Quantitative risk assessment is not required by the maintenance rule and in general the TIER 3 assessment is done with only a level 1 CDF analysis. Since the extension of a CIV CT mainly impacts LERF/ICLERP it is the staff's concern that the evaluation of CIVs in a TIER 3 configuration risk management program is limited in that the configuration risk assessment may be incomplete for CIVs in maintenance or repair (only a quantitative or qualitative CDF assessment with a limited qualitative LERF/ICLERP assessment).

A review of the NEI Guidance 93-01, revision 2, Section 11.3.7.1 as endorsed by RG 1.182 states that qualitative methods is an acceptable approach for establishing risk management actions for (a)(4) assessments in general. Section 11.3.7.2 provides guidance on establishing action thresholds based in part on the EPRI PSA applications guide EPRI-TR-105396. NEI-93-01 guidance states that an acceptable alternative for (a)(4) implementation would include establishing ICDP and ILERP risk management action thresholds. NEI-93-01 also states that due to differences in plant type and design, there is acknowledged variability in baseline core damage frequency and large early release frequency. Further, there is variability in containment performance that may impact the relationship between baseline core damage frequency and baseline large early release frequency for a given plant or class of plants. Finally 93-01 states that therefore, the determination of the appropriate method or combination of methods as discussed above (as presented in 93-01), and the corresponding quantitative risk management action thresholds are plant unique activities.

The topical report NEDC-33046 implementation of RG 1.177 Tier 3 guidelines generally implies the assessment of risk with respect to CDF. However, the proposed CIV CT impacts containment isolation and consequently LERF as well as CDF. Therefore, a licensee's CRMP, including those implemented under the maintenance rule of 10 CFR 50.65(a)(4), must be enhanced to include a LERF methodology/assessment and must be documented in a licensee's plant-specific submittal (see RG 1.174 Section 2.3.7.2 for key components of a CRMP) Provide a discussion on the LERF methodology to be employed by NEDC-33046 TIER 3

assessments on a plant specific basis as part of topical report NEDC-33046 implementation.

2. To ensure the applicability of NEDC-33046 to a licensee's plant, additional information on PRA quality is required by the staff in the following areas.

1. The plant-specific PRA reflects the as-built, as-operated plant.
2. Applicable PRA updates including IPE /IPEEE findings.
3. Conclusions of the peer review including any facts and observations (A,B, and C) applicable to the proposed CIV extended CTs.
4. PRA quality assurance programs/procedures.
5. PRA adequacy and completeness with respect to evaluating the proposed CIV CT extension risk and applicability to the plant specific submittal.
6. RG 1.200, "An Approach for Determining the Technical Adequacy of Probabilistic Risk Assessment Results for Risk-Informed Activities," for trial use. Although intended for trial use in a pilot program to finalize staff guidance on PRA quality, guidance is provided to address PRA technical adequacy that licensees may find useful in the application of NEDC-33046.

Provide a discussion on the PRA quality assessment as part of topical report NEDC-33046 implementation for the proposed application and TIER 3 evaluation.