ISSUE RELATED TO EXTERNAL HAZARD SCREENING FOR 4B

Regulatory Basis

All associated risk informed evaluation guidance (RG 1.174, RG 1.200, RG 1.177, ASME/ANS RA-Sa-2009, and NEI 06-09) state that all internal and external hazard risk should be included in the risk results which are compared to the acceptance guidelines. Both the total baseline and the change in risk from which a risk-informed completion time is calculated are used in RICT decision making. When all hazard risk models are unavailable, an acceptable alternative to developing a PRA as summarized in RG 1.174 is that, "[t]he contribution of the out-of-scope portions of the model to the change in metric may be addressed by bounding analyses, detailed analyses, or by a demonstration that the change has no impact on the unmodeled contributors to risk." Generally, internal events and fire PRAs are expected. Evaluations beyond seismic margins analysis are expected for NTTF-2 SPRA plants.

Enclosure 4 of the TSTF-505 Model Application template is titled, "Information Supporting Justification of Excluding Sources of Risk not Addressed by the PRA Models." The enclosure includes introductory text and a table with all of the external hazards and how each was addressed in support of the RICT program. Although title implies that only excluded external hazards will be discussed, the enclosure also includes information on how unmodelled hazards may be included in the RICT calculations.

Issue summary

The SE on NEI 06-09 Section 4.0 Limitations and Condition number (6) clarifies that, "[t]he LAR will provide the plant-specific total CDF and total LERF to confirm that these are less than 10-4/year and 10-5/year, respectively. NEI 06-09 Section 3.3.5 External Events Consideration, clarifies that external hazards impact on configuration risk should be addressed for each RICT calculation Therefore, the contribution to risk from unmodelled hazards must be dispositioned for 1) the total baseline risk and 2) for each RICT calculation.

1) Total baseline CDF and LERF estimate. RG 1.200 generally states that a hazard can be screened out of the baseline PRA consistent with the ASME/ANS Standard screening guidelines. The IPEEE study results should be acceptable to support screening if the evaluations are updated to include any plant or hazard changes.
2) RICT Calculation. Some applications appear to conclude that the external hazard will not be important to the configuration risk if the hazard was screened out of the baseline PRA. However, there may be situations where out the hazard may be important in a configuration risk and RICT even though the baseline risk can be screened out consistent with the ASME/ANS PRA Standard. Hazards screened out of the baseline risk do not necessarily have a negligible impact on all RICT estimates because (1) equipment that was relied on to satisfying frequency based screening guidelines may be unavailable during a RICT or (2) the screening was based on meeting SRP design criteria specified as a design basis hazard magnitude and protected equipment that is not associated with a frequency.