

ENCLOSURE 1

MFN 08-693

Implementation of Methods Limitations - NEDC-33173P

By NRC letter dated January 17, 2008, the NRC issued their Safety Evaluation (SE) regarding GEH Licensing Topical Report (LTR) NEDC-33173P (IMLTR). During subsequent phone calls with the NRC, GEH discussed its planned implementation of certain Limitations and Conditions documented in Section 9 of the SE. GEH understood from these discussions that the NRC agreed with GEH's planned implementation. The following summarizes the discussions for each limitation.

NRC SE Limitation 3 Power-to-Flow Ratio

Plant-specific EPU and expanded operating domain applications will confirm that the core thermal power to core flow ratio will not exceed 50 MWt/Mlbm/hr at any statepoint in the allowed operating domain. For plants that exceed the power-to-flow value of 50 MWt/Mlbm/hr, the application will provide power distribution assessment to establish that neutronic methods axial and nodal power distribution uncertainties have not increased.

GEH Implementation

The Limitation should read:

Plant-specific EPU and expanded operating domain applications will confirm that the core thermal power to core flow ratio will not exceed 50 MWt/Mlbm/hr at the low flow point at rated power (eg, EPU: 100% Power/99% Flow) in the allowed operating domain. Plant-specific license applications for M+ that use NEDC-33173P will include confirmation that the core thermal power to core flow ratio does not exceed 50 MWt/Mlbm/hr at the high power point corresponding to the minimum flow point (e.g., 81% Power/55% Flow) and the low flow point corresponding to the maximum power (e.g., 100% Power/80% Flow) allowed in the MELLLA+ operating domain. For plants that exceed the power-to-flow value of 50 MWt/Mlbm/hr at the aforementioned points, the application will provide power distribution assessment to establish that neutronic methods axial and nodal power distribution uncertainties have not increased.

The limitation should not be treated as operational constraint since the purpose of the 50 MWt/Mlbm/hr value was to characterize the plant in terms of power and flow. This core power-to-flow ratio is used to ensure consistency with GEH's operational experience and database. The utility license application will demonstrate compliance with the limitation. Plant operation should not be controlled using the limitation. As an example, if a plant utilizing the IMLTR has to de-rate for some period of time, such as a heat exchanger out of service, or some other activity that would result in operation down the power flow map, the 50 MWt/Mlbm/hr limit should not be a restriction on plant operation.

However, if the licensee intends to reach full licensed power in stages over long period of time (e.g., over different refueling cycles), then the license application should address the

limitation for each of the stages. As an example, if a license application was for 120% of CLTP, and licensed power would be reached over 3 cycles, 100%, 115% and 120% to allow for completion of plant modifications, then compliance with the limitation should be documented for each of the stages.

NRC SE Limitation 8 ECCS-LOCA 2

The ECCS-LOCA will be performed for all statepoints in the upper boundary of the expanded operating domain, including the minimum core flow statepoints, the transition statepoint as defined in Reference 2 and the 55 percent core flow statepoint. The plant-specific application will report the limiting ECCS-LOCA results as well as the rated power and flow results. The SRLR will include both the limiting statepoint ECCS-LOCA results and the rated conditions ECCS-LOCA results.

GEH Implementation

Limitation 8 is applicable to MELLLA+ license applications only. Further, more descriptive limitations addressing ECCS LOCA analysis are provided in the NRC SE for MELLLA+ LTR, NEDC-33006P. Those limitations, repeated below, require that the 55 percent CF MELLLA+ statepoint and/or the transition statepoint must be either bounding or consistent with cycle-specific off-rated limits. GEH considers that implementation of Limitations 12.10a and 12.10b of the M+ LTR to satisfy the intent of Limitation 8 of the IMLTR.

NRC SE Limitation 12.10a for NEDC-33006P

The plant-specific application will provide the 10 CFR Part 50, Appendix K, and the nominal PCTs calculated at the rated EPU power/rated CF, rated EPU power/minimum CF, at the low-flow MELLLA+ boundary (Transition Statepoint). For the limiting statepoint, both the upper bound and the licensing PCT will be reported. The M+SAR will justify why the transition statepoint ECCS-LOCA response bounds the 55 percent CF statepoint. The M+SAR will provide discussion on what power/flow combination scoping calculations were performed to identify the limiting statepoints in terms of DBA-LOCA PCT response for the operation within the MELLLA+ boundary. The M+ SAR will justify that the upper bound and licensing basis PCT provided is in fact the limiting PCT considering uncertainty applications to the non-limiting statepoints.

NRC SE Limitation 12.10b for NEDC-33006P

LOCA analysis is not performed on cycle-specific basis; therefore, the thermal limits applied in the M+SAR LOCA analysis for the 55 percent CF MELLLA+ statepoint and/or the transition statepoint must be either bounding or consistent with cycle-specific off-rated limits. The COLR and the SRLR will contain confirmation that the off-rated limits assumed in the ECCS-LOCA analyses bound the cycle-specific off-rated limits calculated for the MELLLA+ operation. Every future cycle reload shall confirm that the cycle-specific off-rated thermal limits applied at the 55 percent CF

and/or the transition statepoints are consistent with those assumed in the plant-specific ECCS-LOCA analyses.

17. Steady-State 5 Percent Bypass Voiding

The instrumentation specification design bases limit the presence of bypass voiding to 5 percent (LRPM levels). Limiting the bypass voiding to less than 5 percent for long-term steady operation ensures that instrumentation is operated within the specification. For EPU and MELLLA+ operation, the bypass voiding will be evaluated on a cycle-specific basis to confirm that the void fraction remains below 5 percent at all LRPM levels when operating at steady-state conditions within the MELLLA+ upper boundary. The highest calculated bypass voiding at any LRPM level will be provided with the plant-specific SRLR.

GEH Implementation

This limitation is applicable to both EPU and M+ operating domains. The phrase 'when operating at steady-state conditions within the MELLLA+ upper boundary,' should be read as 'when operating at steady-state conditions within the licensed operating domain.'

19. Void-Quality Correlation 1

For applications involving PANCEA/ODYN/ISCOR/TASC for operation at EPU and MELLLA+, an additional 0.01 will be added to the OLMCPR, until such time that GE expands the experimental database supporting the Findlay-Dix void-quality correlation to demonstrate the accuracy and performance of the void-quality correlation based on experimental data representative of the current fuel designs and operating conditions during steady-state, transient, and accident conditions.

GEH Implementation

The 0.01 increase in the OLMCPR is to address higher void fraction initial conditions for fast transients resulting in void collapse and, therefore, is only applicable above the stretch power uprate power level or above the MELLLA boundary (MELLLA+ conditions). Therefore, the phrase '... an additional 0.01 will be added to the OLMCPR...', will be read as, '...an additional 0.01 will be added to the OLMCPR for conditions above the stretch power uprate power level or above the MELLLA boundary (MELLLA+ conditions)...' Further, to be conservative, the 0.01 OLMCPR adder will not be used in establishing the stability setpoints.