June 20, 2016

Mr. Jerald G. Head
Senior Vice President, Regulatory Affairs
GE-Hitachi Nuclear Energy
P.O. Box 780 M/C A-18
Wilmington, NC 28401

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION REGARDING REVIEW OF LICENSING TOPICAL REPORT NEDE-33005P AND NEDO-33005, "TRACG APPLICATION FOR EMERGENCY CORE COOLING SYSTEMS/ LOSS-OF-COOLANT ACCIDENT ANALYSES FOR BWR/2-6" (TAC NO. ME5405)

Dear Mr. Head:

By letter dated January 27, 2011, GE Hitachi Nuclear Energy Americas LLC, submitted for U.S. Nuclear Regulatory Commission (NRC) staff review Licensing Topical Reports NEDE-33005P and NEDO-33005, "Licensing Topical Report TRACG Application for Emergency Core Cooling Systems/Loss-of-Coolant-Accident Analyses for BWR/2-6" (Agencywide Documents Access and Management System Accession No. ML110280323).

Upon review of the information provided, the NRC staff has determined that additional information is needed to complete the review. Enclosed with this letter is a Request for Additional Information (RAI). On June 8, 2016, James Harrison, GEH Vice President, Fuels Licensing, Regulatory Affairs, and I agreed that the NRC staff will receive your response to the enclosed RAI questions within 7 days of receipt of this letter.

If you have any questions regarding the enclosed RAI questions, please contact me at (301) 415-1002.

Sincerely,

/RA/

Joseph A. Golla, Project Manager
Licensing Processes Branch
Division of Policy and Rulemaking
Office of Nuclear Reactor Regulation

Project No. 710

Enclosure:
As stated

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Senior Vice President, Regulatory Affairs
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OFFICE OF NUCLEAR REACTOR REGULATION

REQUEST FOR ADDITIONAL INFORMATION

REVIEW OF LICENSING TOPICAL REPORT NEDE-33005P AND NEDO-33005, "LICENSING TOPICAL REPORT TRACG APPLICATION FOR EMERGENCY CORE COOLING SYSTEMS/ LOSS-OF-COOLANT ACCIDENT ANALYSES FOR BWR/2-6" (TAC NO. ME5405)

101) In its review, the NRC staff has identified several issues with the description of the decay heat modeling approach provided in the TRACG-LOCA Licensing Topical Report (LTR). Please address the following:

- Describe the historical source of the decay heat model and explain how it has been adapted for use within TRACG-LOCA. Provide plots (or reference such plots within the LTR) comparing decay heat as a function of time between the current and prior models to illustrate the evolution.
- Explain how the decay heat is perturbed in the statistical analysis. Include examples reflective of production safety analysis, including a description of attributes important to characterizing the decay heat as applied to various limiting and average channel groupings.
- Correct in-text inconsistencies in the LTR, particularly on Pages 2-8 and 5-33.
- NEDE-30996P-A, as referenced in the LTR Table 2.5-1, has no Appendix B. Please explain.

102) During the course of the NRC staff review, GEH has revised its approach to addressing initial conditions, particularly the modeling of initial bundle power distribution. The relevant request for additional information responses and revised LTR text do not provide a sufficiently complete description as to enable the NRC staff to determine that the revised modeling approach (including adjustments to the level of detail of modeling for the core, to the approach for including a variety of limiting bundle characteristics, and to accounting for variability in the core spray distribution) provides an acceptable, best-estimate representation of "relevant factors such as the actual total power, actual peaking factors, and actual fuel conditions," as recommended in Regulatory Position 3.1 of Regulatory Guide 1.157. Please provide a description of the minimum number of hot CHAN components required for use in production TRACG-LOCA safety analysis, and explain why additional hot CHAN components would be included. Provide examples and relevant core operating limit curves to illustrate the analytic method.