

September 29, 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 (GEH), 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. On September 22, 2016, James Harrison, GEH Vice President, Fuels Licensing, Regulatory Affairs, and I agreed that the NRC staff will receive your response to the enclosed request for additional information (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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ADAMS Accession No.: ML16238A058; *concurred via e-mail **NRR-106**

OFFICE	NRR/DPR/PLPB	NRR/DPR/PLPB*	NRR/DSS/SNPB*	NRR/DPR/PLPB	NRR/DPR/PLPB
NAME	JGolla	DHarrison	JDean	KHsueh	JGolla
DATE	9/26/2016	9/22/2016	9/26/2016	9/27/2016	9/29/2016

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GE-Hitachi Nuclear Energy Americas
cc:

Project No. 710

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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)**

103. In response to prior request for additional information (RAI) questions 66 and 89, GE-Hitachi Nuclear Energy Americas LLC (GEH) provided justification for its proposed approach of analyzing uncertainty using at least three statistical samples, each containing 59 cases. The NRC staff does not accept the GEH justification that this approach provides the high-probability results required by Title 10 of the *Code of Federal Regulations* 50.46. In particular, because the method is used to determine high-probability results for three different critical safety parameters, an approach based on order statistics should identify an upper quantile, but should do so with high confidence. The high confidence is required so that the variability associated with using quasi-random samples to infer upper quantiles is either minimized or conservatively taken into account. Thus, in identifying a basis for a specified sample size, consideration of tri-variate coverage and the use of tolerance intervals are considered by the NRC staff to be acceptable approaches. Provide a statistical sampling basis that estimates an upper tolerance limit and provides tri-variate coverage. If the approach is proposed to allow other than the first-ranked order statistic as the upper tolerance limit, please also clearly delineate the approach for setting the sample size and number of rejected order statistics, providing information to demonstrate that sample sizes are set prior to initiation of production statistical analysis.
104. Provide additional information to justify the TRACG-LOCA modeling of rewet phenomena. In particular, show the sensitivity of the peak cladding temperature and equivalent cladding reacted to variations in the Shumway correlation-predicted rewet temperature *and to variations in the uncertainty associated with the quench front model*. Include discussion of limiting boiling water reactor transients as well as to appropriate integral effects test.

Enclosure