

ENCLOSURE 1

MFN 10-176

Comment Summary Table

Non-Proprietary Information

**Comment Summary for Draft Safety Evaluation for GE Hitachi Nuclear Energy Americas
 Topical Report (TR) NEDC-33173P, Supplement 3 “Applicability of GE Methods to
 Expanded Operating Domains – Supplement for GNF2 Fuel,” (TAC No. ME1815)**

Location	Comment
Section 1.0 Pg K-2 and Section 3.2.2.5.3 Pg K-19	The verbiage regarding the status of the PRIME review should be updated to reflect the current approved status. The highlighted portions deserve reconsideration.
Section 3.2.2.4 Pg K-14	Generic Editorial. Use of square brackets vs. parentheses, e.g.,ECCS [emergency core cooling system]....
Section 3.2.2.8 Pg K-20	Suggest adding 06 to the acronym for TGBLA in the last paragraph.
Section 3.4.3 Pg K-27	Correct spelling of homogenous to homogeneous.
Sections 3.5.3, 3.5.4, and 3.5.5 Pg K-35	Suggest adding clarifying expression “at steady state conditions” as noted in the markup.
Section 3.5.5 Pg K-36	Last Paragraph. Suggest corrections regarding the BSP as follows and as included in the markup. Current: The BSP determines an exclusion region in the power-to-flow map similar to Option I-D and EIA. Proposed: The BSP determines a scram region in the power-to-flow map similar to the exclusion region in Option I-D and EIA.
Section 3.5.6 Pg K-36	The first and second paragraphs seek to explain the design of the DSS-CD in general terms by comparing it to Option III. It may be better to describe the DSS-CD design directly. We suggest replacing the first and second paragraph with something like the following. The Confirmation Density Algorithm (CDA) is the licensing basis protection function of the DSS-CD. The CDA is designed to recognize a developing coherent instability and initiate control rod insertion before the power oscillations increase much above the noise level. The CDA capability of early detection and suppression of instability events is achieved by relying on the successive confirmation period element of Period Based Detection (PBDA). The CDA employs an amplitude OPRM signal discriminator to minimize unnecessary spurious reactor scrams from neutron flux oscillations at or close to the Oscillation Power Range Monitor (OPRM) signal noise level. The CDA identifies a confirmation density (CD), which is the fraction of operable OPRM cells in an OPRM channel that reach a target successive oscillation period confirmation count. When the CD exceeds a preset number of OPRM cells, and any of the confirming OPRM cell signals reaches or exceeds the amplitude discriminator setpoint, an OPRM channel trip signal is generated. The amplitude discriminator setpoint is generically provided in the DSS-CD Licensing Topical Report or can be established as a plant-specific parameter that is set to bound the inherent plant-specific noise. The DSS-CD Backup Stability Protection (BSP) methodology describes two BSP options that are based on selected elements from three distinct constituents: (a) manual; (b) automated; and (c) BSP boundary. The two BSP options are: Option 1: Consists of the BSP Manual Regions, BSP Boundary and associated operator actions. Option 2: Consists of the Automated BSP (ABSP) Scram Region, as implemented by the APRM flow-biased scram setpoint and associated rod-block setpoints, and associated operator actions. For BSP Option 1, the reactor power is reduced below the BSP Boundary so that two-recirculation pump trip does not result in operation inside the Exclusion Region. For BSP

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	Option 2, a scram is automatically generated if the reactor enters the Exclusion Region. Both BSP Options rely on calculations to demonstrate that instabilities outside the Exclusion Region are not likely. The sample Technical Specifications (TS) in the DSS-CD LTR delineate specific implementation requirements for both BSP Options when the OPRM system is declared inoperable.
Section 5 Pg K-45	The date for Reference 2 should be the date of the final SE which is July 21, 2009. The ML number may need to be changed as well.
Section 5 Pg K-45	Reference 9 appears to be an internal draft of the Amendment 32 SE. It should be changed to the final SE which is dated July 30, 2009. The ML number may need to be changed as well.