

This letter forwards proprietary information in accordance with 10 CFR 2.390. The balance of this letter may be considered non-proprietary upon removal of Attachment 4.

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Energy



NINE MILE POINT
NUCLEAR STATION

December 13, 2013

U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

ATTENTION: Document Control Desk

SUBJECT: Nine Mile Point Nuclear Station, Unit 2
Renewed Facility Operating License No. NPF-69
Docket No. 50-410

Nine Mile Point Nuclear Station License Amendment Request to Relocate the Pressure and Temperature Limit Curves to the Pressure and Temperature Limits Report – Supplemental Information in Response to NRC Request for Additional Information and Clarification of RAI EVIB-6 (TAC No. MF0345)

REFERENCE: (a) Letter from K. Langdon (NMPNS) to Document Control Desk (NRC), dated November 21, 2012, License Amendment Request Pursuant to 10 CFR 50.90: Relocation of Pressure and Temperature Limit Curves to the Pressure and Temperature Limits Report
(b) Letter from P. Swift (NMPNS) to Document Control Desk (NRC), dated November 4, 2013, Nine Mile Point Nuclear Station License Amendment Request to Relocate the Pressure and Temperature Limit Curves to the Pressure and Temperature Limits Report – Supplemental Information in Response to NRC Request for Additional Information

Nine Mile Point Nuclear Station, LLC (NMPNS) hereby transmits supplemental information requested by the NRC in support of a previously submitted license amendment request (LAR) to Nine Mile Point Unit 2 (NMP2) Renewed Facility Operating License NPF-69. The initial request, dated November 21, 2012 (Reference a), proposed to modify Technical Specification (TS) Section 3.4.11, "RCS Pressure and Temperature (P/T) Limits," by replacing the existing reactor vessel heatup and cooldown rate limits and the pressure and temperature (P/T) limit curves with references to the Pressure and Temperature Limits

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Report (PTLR). Other associated TS changes would also be incorporated. Supplemental information was submitted on November 4, 2013 (Reference b).

The supplemental information, provided in Attachment 1 to this letter, responds to the requests for additional information (RAIs) that were provided in an email from the NRC to NMPNS on November 6, 2013, Additional Follow-Up RAI, MF0345, LAR Re: Revising and Relocating PT Limit Curves to PTLR. A follow-up email from the NRC to NMPNS on November 13, 2013 requested further clarification of the response to RAI EVIB-6 submitted on November 4, 2013 (Reference b). A subsequent teleconference was held with the NRC staff on November 14, 2013 and provided clarification of the RAI and email request from November 13, 2013.

As agreed to during the teleconference, a revision to the proposed changes to new TS Section 5.6.7 is provided as Attachment 1 to this letter. This revised new Section 5.6.7 replaces the proposal previously submitted as the last page of Attachment 1 to Reference (b). The remaining TS changes submitted in Attachment 1 to Reference (a) are not changed. The change to the new Section 5.6.7 wording is to document the approved methods used by NMP2 for calculating the fluence used to determine the Adjusted Reference Temperature (ART) included in the PTLR.

The supplemental information to respond to the November 13, 2013 email requesting clarification of RAI EVIB-6 submitted on November 4, 2013 (Reference b), was prepared by General Electric Hitachi Nuclear Energy Americas LLC (GEH). The clarification of RAI EVIB-6 is provided in Attachment 2 (non-proprietary) and Attachment 4 (proprietary). The affidavit from GEH detailing the reasons for the request to withhold the proprietary information is provided in Attachment 3. Attachment 4 is considered to contain proprietary information exempt from disclosure pursuant to 10 CFR 2.390. Therefore, on behalf of GEH, NMPNS hereby makes application to withhold this attachment from public disclosure in accordance with 10 CFR 2.390(b)(1).

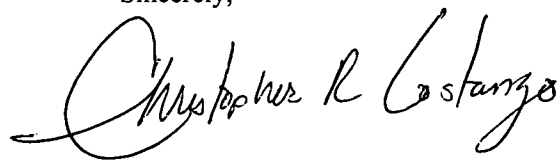
As requested during phone discussions setting up the teleconference held on November 14, 2013, the revised NMP2 PTLR, Revision 0 (Draft B) provided as Attachment 2 to Reference (b) replaces the initial draft NMP2 PTLR submitted as Attachment 3 to Reference (a).

This supplemental information does not affect the No Significant Hazards Determination analysis provided by NMPNS in Reference (a). Pursuant to 10 CFR 50.91(b)(1), NMPNS has provided a copy of this supplemental information to the appropriate state representative. This letter contains no new regulatory commitments.

Should you have any questions regarding the information in this submittal, please contact Everett (Chip) Perkins, Director Licensing, at (315) 349-5219.

I declare under penalty of perjury that the foregoing is true and correct. Executed on December 13, 2013.

Sincerely,

A handwritten signature in black ink, appearing to read "Christopher R. Costanzo". The signature is fluid and cursive, with the first name "Christopher" written in a large, looping script, followed by "R." and "Costanzo".

Document Control Desk
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CRC/KJK

- Attachments:
1. Response to NRC Request for Additional Information and revised TS Section 5.6.7
 2. Response to November 13, 2013 Email Request Clarifying RAI EVIB-6 (Non-Proprietary)
 3. Affidavit from GE-Hitachi Nuclear Energy Americas LLC (GEH) Justifying Withholding Proprietary Information Contained in Attachment 4
 4. Response to November 13, 2013 Email Request Clarifying RAI EVIB-6 (Proprietary)

cc: Regional Administrator, NRC
Project Manager, NRC
Resident Inspector, NRC
A. L. Peterson, NYSERDA (without Attachment 4)

ATTACHMENT 1

**RESPONSE TO NRC REQUEST FOR ADDITIONAL INFORMATION
AND REVISED TS SECTION 5.6.7**

**Nine Mile Point Nuclear Station, LLC
December 13, 2013**

ATTACHMENT 1
RESPONSE TO NRC REQUEST FOR ADDITIONAL INFORMATION
AND REVISED TS SECTION 5.6.7

By letter dated November 21, 2012, Nine Mile Point Nuclear Station, LLC (NMPNS) proposed to modify Nine Mile Point Unit 2 (NMP2) Technical Specification (TS) Section 3.4.11, "RCS Pressure and Temperature (P/T) Limits," by replacing the existing reactor vessel heatup and cooldown rate limits and the pressure and temperature (P/T) limit curves with references to the Pressure and Temperature Limits Report (PTLR). Other associated TS changes would also be incorporated. This attachment provides supplemental information in response to the NRC request for additional information that was provided in an email from the NRC to NMPNS on November 6, 2013.

The NRC question is repeated (in italics), followed by the NMPNS response.

NRC Question

Based on its review of the November 4, 2013, submission, the NRC staff has determined that the section of the revised PTLR, which states:

"The appendix B Adjusted Reference Temperature (ART) is defined based on a conservative extrapolation for up to 32 EFPY. The neutron fluence used for the ART was verified conservative per the NMP2 plant specific Reg. Guide 1.190 methods documented in Reference 6.2, approved in Reference 6.3 and 6.10," is not consistent with Section 4.2.1.2, "Fluence," of NEDC-33178P-A, which states that "It is noted that this report does not include development or licensing of vessel fluence methods, which are covered by other LTRs. It is assumed that such fluence methods would be utilized to develop the necessary and appropriate inputs for use in the P-T curve development methodology outlined in this report."

The licensee's use of a "conservative extrapolation," which does not specify how the extrapolation was performed, and subsequent verification of the conservatism using a RG 1.190-adherent method, is a plant-specific change to the methodology that the licensee proposes to reference in TS. Therefore, the NRC does not agree with licensee response to RAI 6, "This approach is fully consistent with NEDO-33178-A... which states that the input for fluence will be based on an approved RG 1.190 fluence method." The licensee's input is not based on such a method; rather, as the above quote from the PTLR (in blue) shows, it is verified using such a method.

The NRC staff will review and consider approval of such an approach as a plant-specific exception to NEDC-33178P-A. The staff notes that the licensee will calculate the fluence for determining the ART using either (1) values determined using an NRC-approved, RG 1.190-adherent method, or (2) a fluence estimate, which the licensee has verified as conservative, using an NRC-approved, RG 1.190-adherent method.

The NRC staff has determined that the NMP2 disposition for fluence is different from every BWR precedent in that it introduces "an NRC-approved RG 1.190 fluence monitoring program and reviews actual fluence on a routine basis," and proposes that, "The fluence projections [in the PTLR] have been confirmed to be conservative..." (Page 2 of Enclosure to LAR). BWR Precedential amendments generally state which methods were used to determine the fluence value on which the ART calculations were based explicitly, without mention of a fluence monitoring program or verification effort.

Therefore, the proposed TS 5.6.7.b, in this LAR, will require the insertion of a note indicating that the analytical methods contain a plant-specific exception, approved by the NRC in its safety evaluation approving the proposed amendment. The licensee may wish to format the citation as follows:

NEDC-33178P-A, Revision 1, "General Electric Methodology for Development of Reactor Pressure Vessel Pressure-Temperature Curves," dated June 2009, with noted exception for reactor vessel fluence

ATTACHMENT 1
RESPONSE TO NRC REQUEST FOR ADDITIONAL INFORMATION
AND REVISED TS SECTION 5.6.7

calculations, as approved by NRC Safety Evaluation dated [Date would be supplied by NRC upon issuance of amendment].

Response

The proposed NMP2 TS section 5.6.7.b wording is, "The licensee will calculate the fluence for determining the adjusted reference temperature using either; (1) values determined using an NRC-approved, RG 1.190-adherent method, or (2) a fluence estimate, which the licensee has verified as conservative, using an NRC-approved, RG 1.190-adherent method."

The following revised New Section 5.6.7 replaces the proposal previously submitted as the last page of Attachment 1 in the original November 21, 2012 LAR submittal.

INSERT 2 (for TS page 5.6-4; New Section 5.6.7)

5.6.7 Reactor Coolant System (RCS) Pressure and Temperature Limits Report (PTLR)

- a. RCS pressure and temperature limits for heatup, cooldown, low temperature operation, criticality, and system leakage and hydrostatic testing as well as heatup and cooldown rates shall be established and documented in the PTLR for the following:
 - 1. Limiting Condition for Operation 3.4.11, "RCS Pressure and Temperature (P/T) Limits."
 - 2. Surveillance Requirement 3.4.11, "Minimum Reactor Vessel Temperature for Pressurization."
- b. The analytical methods used to determine the RCS pressure and temperature limits shall be those previously reviewed and approved by the NRC, specifically those described in the following documents:
 - 1. NEDC-33178P-A, Revision 1, "General Electric Methodology for Development of Reactor Pressure Vessel Pressure-Temperature Curves," dated June 2009. The licensee will calculate the fluence for determining the adjusted reference temperature using either; (1) values determined using an NRC-approved, RG 1.190-adherent method, or (2) a fluence estimate, which the licensee has verified as conservative, using an NRC-approved, RG 1.190-adherent method.
- c. The PTLR shall be provided to the NRC upon issuance for each reactor vessel fluence period and for any revision or supplement thereto.

ATTACHMENT 2

RESPONSE TO NOVEMBER 13, 2013 EMAIL REQUEST CLARIFYING

RAI EVIB-6

(NON-PROPRIETARY)

This attachment provides supplemental information from Enclosure 2 to GEH letter GE-PPO-1GYEF-KGI-724, in response to the NRC request for additional information that was provided in an email from the NRC to NMPNS on November 13, 2013; specifically, RAI EVIB – 6. The NRC question is repeated (in italics), followed by the NMPNS response.

(1 page attached)

Enclosure 2
GE-PPO-1GYEF-KG1-724

Non-Proprietary Information – Class I (Public)
Page 1 of 1

Background

By letter dated November 21, 2012, Nine Mile Point Nuclear Station, LLC (NMPNS) proposed to modify Nine Mile Point Unit 2 (NMP2) Technical Specification (TS) Section 3.4.11, "RCS Pressure and Temperature (P/T) Limits," by replacing the existing reactor vessel heatup and cooldown rate limits and the pressure and temperature (P/T) limit curves with references to the Pressure and Temperature Limits Report (PTLR). Other associated TS changes would also be incorporated. This attachment provides supplemental information in response to the NRC request, provided in an email from the NRC to NMPNS on November 13, 2013, to clarify the response to RAI EVIB-6 previously submitted on November 4, 2013.

The NRC question is repeated (in italics), followed by the NMPNS response.

Clarification request for RAI EVIB 6

The licensee's response indicates they used the same copper data as was used for Duane Arnold, plus some additional data, to estimate the copper content for the NMP2 WLI nozzle. The NMP2 WLI nozzle is SA-508, Class 1 Material. The Duane Arnold PTLR does not indicate the material grade of the Duane Arnold WLI nozzle. Footnote (b) to table 4-4 of the Duane Arnold PTLR seems to apply to both the N2 and N16 nozzle, and the copper content for both was determined to be 0.18 %. The Duane Arnold FSAR indicates the material for the N2 and N16 nozzles is SA-508 Class 2.

If this is correct, how is the copper and nickel data for SA-508 Class 2, applicable to SA-508, Class 1 material?

Clarification of RAI EVIB 6

Available CMTRs for SA508 Class 1 materials were reviewed; [[
]]. Mean + 1 sigma calculations for the [[
]]

As an illustration, [[
were combined with [[
sigma for these [[
that the SA508 [[
]] example
]] data points. The result for Mean + 1
]]; this is presented to demonstrate

]] data points.

ATTACHMENT 3

**AFFIDAVIT FROM GE-HITACHI NUCLEAR ENERGY AMERICAS LLC
(GEH) JUSTIFYING WITHHOLDING PROPRIETARY INFORMATION
CONTAINED IN ATTACHMENT 4**

**Nine Mile Point Nuclear Station, LLC
December 13, 2013**

GE-Hitachi Nuclear Energy Americas LLC

AFFIDAVIT

I, **Peter M. Yandow**, state as follows:

- (1) I am the Manager, NPP/Services Licensing, Regulatory Affairs, GE-Hitachi Nuclear Energy Americas LLC (GEH), and have been delegated the function of reviewing the information described in paragraph (2) which is sought to be withheld, and have been authorized to apply for its withholding.
- (2) The information sought to be withheld is contained Enclosure 1 of GEH letter, GE-PPO-1GYEF-KG1-724, "GEH Response to NMP2 RAI EVIB-6 NRC Clarification Request," dated December 5, 2013. The GEH proprietary information in Enclosure 1, which is entitled "Clarification of RAI EVIB-6," is identified by a dotted underline inside double square brackets. [[This sentence is an example^{3}]]. In each case, the superscript notation ^{3} refers to Paragraph (3) of this affidavit, which provides the basis for the proprietary determination.
- (3) In making this application for withholding of proprietary information of which it is the owner or licensee, GEH relies upon the exemption from disclosure set forth in the *Freedom of Information Act* ("FOIA"), 5 U.S.C. §552(b)(4), and the *Trade Secrets Act*, 18 U.S.C. §1905, and NRC regulations 10 CFR 9.17(a)(4), and 2.390(a)(4) for trade secrets (Exemption 4). The material for which exemption from disclosure is here sought also qualifies under the narrower definition of trade secret, within the meanings assigned to those terms for purposes of FOIA Exemption 4 in, respectively, Critical Mass Energy Project v. Nuclear Regulatory Commission, 975 F.2d 871 (D.C. Cir. 1992), and Public Citizen Health Research Group v. FDA, 704 F.2d 1280 (D.C. Cir. 1983).
- (4) The information sought to be withheld is considered to be proprietary for the reasons set forth in paragraphs (4)a and (4)b. Some examples of categories of information that fit into the definition of proprietary information are:
 - a. Information that discloses a process, method, or apparatus, including supporting data and analyses, where prevention of its use by GEH's competitors without a license from GEH constitutes a competitive economic advantage over other companies;
 - b. Information that, if used by a competitor, would reduce its expenditure of resources or improve its competitive position in the design, manufacture, shipment, installation, assurance of quality, or licensing of a similar product;
 - c. Information that reveals aspects of past, present, or future GEH customer-funded development plans and programs, resulting in potential products to GEH;
 - d. Information that discloses trade secret or potentially patentable subject matter for which it may be desirable to obtain patent protection.

GE-Hitachi Nuclear Energy Americas LLC

- (5) To address 10 CFR 2.390(b)(4), the information sought to be withheld is being submitted to NRC in confidence. The information is of a sort customarily held in confidence by GEH, and is in fact so held. The information sought to be withheld has, to the best of my knowledge and belief, consistently been held in confidence by GEH, not been disclosed publicly, and not been made available in public sources. All disclosures to third parties, including any required transmittals to the NRC, have been made, or must be made, pursuant to regulatory provisions for proprietary or confidentiality agreements or both that provide for maintaining the information in confidence. The initial designation of this information as proprietary information, and the subsequent steps taken to prevent its unauthorized disclosure, are as set forth in the following paragraphs (6) and (7).
- (6) Initial approval of proprietary treatment of a document is made by the manager of the originating component, who is the person most likely to be acquainted with the value and sensitivity of the information in relation to industry knowledge, or who is the person most likely to be subject to the terms under which it was licensed to GEH. Access to such documents within GEH is limited to a "need to know" basis.
- (7) The procedure for approval of external release of such a document typically requires review by the staff manager, project manager, principal scientist, or other equivalent authority for technical content, competitive effect, and determination of the accuracy of the proprietary designation. Disclosures outside GEH are limited to regulatory bodies, customers, and potential customers, and their agents, suppliers, and licensees, and others with a legitimate need for the information, and then only in accordance with appropriate regulatory provisions or proprietary and/or confidentiality agreements.
- (8) The information identified in paragraph (2), above, is classified as proprietary because it contains the detailed GEH methodology for pressure-temperature curve analysis for the GEH Boiling Water Reactor (BWR). These methods, techniques, and data along with their application to the design, modification, and analyses associated with the pressure-temperature curves were achieved at a significant cost to GEH.

The development of the evaluation processes along with the interpretation and application of the analytical results is derived from the extensive experience and information databases that constitute major GEH assets.

- (9) Public disclosure of the information sought to be withheld is likely to cause substantial harm to GEH's competitive position and foreclose or reduce the availability of profit-making opportunities. The information is part of GEH's comprehensive BWR safety and technology base, and its commercial value extends beyond the original development cost. The value of the technology base goes beyond the extensive physical database and analytical methodology and includes development of the expertise to determine and apply

GE-Hitachi Nuclear Energy Americas LLC

the appropriate evaluation process. In addition, the technology base includes the value derived from providing analyses done with NRC-approved methods.

The research, development, engineering, analytical and NRC review costs comprise a substantial investment of time and money by GEH. The precise value of the expertise to devise an evaluation process and apply the correct analytical methodology is difficult to quantify, but it clearly is substantial. GEH's competitive advantage will be lost if its competitors are able to use the results of the GEH experience to normalize or verify their own process or if they are able to claim an equivalent understanding by demonstrating that they can arrive at the same or similar conclusions.

The value of this information to GEH would be lost if the information were disclosed to the public. Making such information available to competitors without their having been required to undertake a similar expenditure of resources would unfairly provide competitors with a windfall, and deprive GEH of the opportunity to exercise its competitive advantage to seek an adequate return on its large investment in developing and obtaining these very valuable analytical tools.

I declare under penalty of perjury that the foregoing affidavit and the matters stated therein are true and correct to the best of my knowledge, information, and belief.

Executed on this 5th day of December 2013.



Peter M. Yandow
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Regulatory Affairs
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