

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 3.

Sam Belcher
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CENG

a joint venture of



NINE MILE POINT
NUCLEAR STATION

October 28, 2010

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

ATTENTION: Document Control Desk

SUBJECT: Nine Mile Point Nuclear Station
Unit No. 2; Docket No. 50-410

Supplemental Information Regarding Nine Mile Point Nuclear Station, Unit No. 2 –
Re: The License Amendment Request for Extended Power Uprate Operation (TAC
No. ME1476) – Licensing Basis Peak Clad Temperature

REFERENCE: (a) Letter from K. J. Polson (NMPNS) to Document Control Desk (NRC), dated
May 27, 2009, License Amendment Request (LAR) Pursuant to 10 CFR 50.90:
Extended Power Uprate

Nine Mile Point Nuclear Station, LLC (NMPNS) hereby transmits supplemental information in support of a previously submitted request for amendment to Nine Mile Point Unit 2 (NMP2) Renewed Operating License (OL) NPF-69. The request, dated May 27, 2009 (Reference a), proposed an amendment to increase the power level authorized by OL Section 2.C.(1), Maximum Power Level, from 3467 megawatts-thermal (MWt) to 3988 MWt. On September 20, 2010, the NRC verbally requested that NMPNS define the method utilized to derive the Licensing Basis Peak Clad Temperature (PCT) of 1540°F. Attachments 1 and 3 provide the requested information.

Attachment 3 is considered to contain proprietary information exempt from disclosure pursuant to 10 CFR 2.390. Therefore, on behalf of GE-Hitachi Nuclear Energy Americas LLC (GEH), NMPNS hereby makes application to withhold this attachment from public disclosure in accordance with 10 CFR 2.390(b)(1). An affidavit from GEH detailing the reason for the request to withhold the proprietary information is provided in Attachment 2.

There are no new regulatory commitments identified in this submittal.

AODI
MRK

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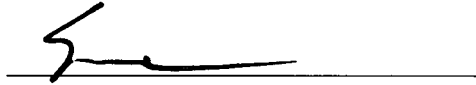
Should you have any questions regarding the information in this submittal, please contact J. J. Dosa, Director Licensing, at (315) 349-5219.

Very truly yours,



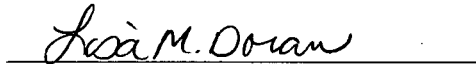
STATE OF NEW YORK :
: TO WIT:
COUNTY OF OSWEGO :

I, Sam Belcher, being duly sworn, state that I am Vice President-Nine Mile Point, and that I am duly authorized to execute and file this response on behalf of Nine Mile Point Nuclear Station, LLC. To the best of my knowledge and belief, the statements contained in this document are true and correct. To the extent that these statements are not based on my personal knowledge, they are based upon information provided by other Nine Mile Point employees and/or consultants. Such information has been reviewed in accordance with company practice and I believe it to be reliable.



Subscribed and sworn before me, a Notary Public in and for the State of New York and County of Oswego, this 28 day of October, 2010.

WITNESS my Hand and Notarial Seal:


Notary Public

My Commission Expires:

9/12/2013
Date

Lisa M. Doran
Notary Public in the State of New York
Oswego County Reg. No. 01DO8029220
My Commission Expires 9/12/2013

SB/STD

Attachments:

1. Summary of Derivation of Licensing Basis Peak Clad Temperature (Non-Proprietary)
2. Affidavit Justifying Withholding Proprietary Information from GE-Hitachi Nuclear Energy Americas LLC
3. Summary of Derivation of Licensing Basis Peak Clad Temperature (Proprietary)

cc: NRC Regional Administrator, Region I
NRC Resident Inspector
NRC Project Manager
A. L. Peterson, NYSERDA (w/o Attachment 3)

ATTACHMENT 1

SUMMARY OF DERIVATION OF LICENSING BASIS PEAK CLAD TEMPERATURE (NON-PROPRIETARY)

Certain information, considered proprietary by GE-Hitachi Nuclear Energy Americas LLC, has been deleted from this Attachment. The deletions are identified by double square brackets.

ATTACHMENT 1
SUMMARY OF DERIVATION OF LICENSING BASIS PEAK CLAD TEMPERATURE
(NON-PROPRIETARY)

On September 20, 2010, the NRC verbally requested that Nine Mile Point Nuclear Station (NMPNS) define the methodology for deriving the Nine Mile Point Unit 2 Licensing Basis Peak Clad Temperature (PCT) of 1540°F.

Background

On December 23, 2009, NMPNS submitted the SAFER/GESTR report to the NRC as Attachment 6 (non-proprietary version) and Attachment 16 (proprietary version) (Reference 1). Section 5.4.1 of the SAFER/GESTR report describes the difference between the most limiting Appendix K PCT and the Licensing Basis PCT as follows:

“The Licensing Basis PCT for Nine Mile Point-2 is calculated for GE14 fuel based on the [above] Appendix K PCT and the use of SAFER/GESTR-LOCA licensing methodology approved by NRC (Reference 5). Nine Mile Point-2 unique variable uncertainties, including backflow leakage, ECCS signal, stored energy, gap pressure, and ADS time delay, were evaluated specifically for GE14 fuel to determine plant-specific adders.”

Reference 5 in the quoted paragraph refers to the following:

Letter from C. O. Thomas (NRC) to J. F. Quirk (GE), *Acceptance for Referencing of Licensing Topical Report NEDE-23785P, Revision 1, Volume III (P), “The GESTR-LOCA and SAFER Models for the Evaluation of the Loss-of-Coolant Accident,”* June 1, 1984.

Additional details on improvements made in the SAFER methodology are in NEDC-32950P (Reference 2).

Methodology

The methodology to determine the plant specific Licensing Basis PCT is as follows:

- 1) Per the Interim Methods Licensing Topical Report, NEDC-33173P (References 3 and 4) and NEDC-32950P (Reference 2), several power/flow points are evaluated to identify the worst possible condition for the previously determined plant specific single active failure and limiting break location. Also, power distribution effects are investigated and used to determine the limiting PCT result with the evaluation model.
- 2) After the limiting power/flow point is identified, the reported PCT for compliance is built up from the nominal assumption PCT to the Appendix K PCT. As noted above, an “ADDER” is applied to account for the identified additional and plant specific uncertainty terms (backflow leakage, ECCS signal, stored energy, gap pressure, and ADS time delay) per NEDC-23785P (Reference 5).
- 3) A “rounding up” is then applied to account for model resolution (i.e., significant digits).

ATTACHMENT 1
SUMMARY OF DERIVATION OF LICENSING BASIS PEAK CLAD TEMPERATURE
(NON-PROPRIETARY)

The following provides how the reported 1540°F Licensing Basis PCT was derived for NMP2:

- 1) The limiting power/flow calculation for EPU condition, applying Appendix K assumptions, determined the PCT to be $[[\quad]^{(3)}]^\circ\text{F}$ as reported in Table 2.8-4 of Attachment 11 of Reference 6.
- 2) This value is modified to account for the identified additional and plant specific uncertainty terms. This resulted in $\text{PCT} = [[\quad]^{(3)}]^\circ\text{F} + \text{ADDER} ([[\quad]^{(3)}]^\circ\text{F}) = [[\quad]^{(3)}]^\circ\text{F}$; and
- 3) The value is conservatively rounded up to account for model resolution to three significant digits to arrive at the reported Licensing Basis PCT of 1540°F. This value is then compared to the 10 CFR 50.46 Acceptance Criterion to ensure compliance.

References

1. Letter from T. Lynch, Nine Mile Point Nuclear Station LLC, to U.S. NRC Document Control Desk, "Response to Request for Additional Information Regarding Nine Mile Point Nuclear Station, Unit No. 2 - Re: License Amendment Request for Extended Power Uprate Operation," dated December 23, 2009.
2. GE Nuclear Energy, "Compilation of Improvements to GENE's SAFER ECCS-LOCA Evaluation Model," NEDC-32950P, January 2000.
3. GE Nuclear Energy, "Applicability of GE Methods to Expanded Operating Domains," NEDC-33173P, February 2006.
4. Letter from T. B. Blount, (NRC) to J. G. Head (GEH), "Final Safety Evaluation for GE Hitachi Nuclear Energy Americas, LLC Licensing Topical Report NEDC-33173P, 'Applicability Of GE Methods To Expanded Operating Domains' (TAC No. MD0277)," July 21, 2009.
5. Letter from C. O. Thomas (NRC) to J. F. Quirk (GE), *Acceptance for Referencing of Licensing Topical Report NEDE-23785P, Revision 1, Volume III (P), "The GESTR-LOCA and SAFER Models for the Evaluation of the Loss-of-Coolant Accident,"* June 1, 1984.
6. Letter from K. Polson, Nine Mile Point Nuclear Station LLC to U.S. NRC Document Control Desk, "License Amendment Request (LAR) Pursuant to 10 CFR 50.90: Extended Power Uprate," dated May 27, 2009.

ATTACHMENT 2

**AFFIDAVIT JUSTIFYING WITHHOLDING
PROPRIETARY INFORMATION FROM
GE-HITACHI NUCLEAR ENERGY AMERICAS LLC**

GE-Hitachi Nuclear Energy Americas LLC

AFFIDAVIT

I, **James F. Harrison**, state as follows:

- (1) I am the Vice President, Regulatory Affairs, Fuel Licensing, GE-Hitachi Nuclear Energy Americas LLC (GEH). I 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 in Enclosure 1 of GEH letter, GE-PPO-1GYEF-KG1-557, Garold Carlisle (GEH) to Theresa Darling (Constellation Energy Nuclear Group), "Transmittal of GEH Response to NRC Question on Licensing Basis PCT," dated October 11, 2010. The proprietary information in Enclosure 1 entitled, "Summary of Derivation of Licensing Basis Peak Clad Temperature - Proprietary," 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 that 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 USC Sec. 552(b)(4), and the Trade Secrets Act, 18 USC Sec. 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 F2d 871 (DC Cir. 1992), and Public Citizen Health Research Group v. FDA, 704 F2d 1280 (DC 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 license from GEH constitutes a competitive economic advantage over GEH and/or other companies.
 - b. Information that, if used by a competitor, would reduce their expenditure of resources or improve their 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, that may include potential products of GEH.
 - d. Information that discloses trade secret and/or potentially patentable subject matter for which it may be desirable to obtain patent protection.
- (5) To address 10 CFR 2.390(b)(4), the information sought to be withheld is being submitted to the 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 or proprietary and/or confidentiality agreements 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 results of the GEH methodology for analysis performed in support of the Nine Mile Point-2 Extended Power Uprate (EPU) license application. Development of the EPU methodology and supporting analysis techniques and information and their application to the design, modification, and processes were achieved at a significant cost to GEH.

The development of the methodology along with the interpretation and application of the analytical results is derived from the extensive experience database that constitutes a major GEH asset.

- (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 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 11th day of October 2010.



James F. Harrison
Vice President, Regulatory Affairs
Fuel Licensing
GE-Hitachi Nuclear Energy Americas LLC
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james.harrison@ge.com