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.

Thomas A. Lynch
Plant General Manager

P.O. Box 63
Lycoming, New York 13093
315.349.5205
315.349.1321 Fax

CENG
a joint venture of
Constellation Energy · EDF

NINE MILE POINT
NUCLEAR STATION

October 8, 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) – Update to License Amendment Request

REFERENCES: (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

(b) Letter from S. Belcher (NMPNS) to Document Control Desk (NRC), dated February 19, 2010, Response to Request for Additional Information Regarding Nine Mile Point Nuclear Station, Unit No. 2 – Re: The License Amendment Request for Extended Power Uprate Operation (TAC No. ME1476)

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. NMPNS is updating the NMP2 Extended Power Uprate (EPU) License Amendment Request (LAR) to reflect:

1. A revision to the peak containment pressure analysis.

2. The elimination of a proposed modification to add swing bus capability to feedwater pumps 2FWS-P1A and P1B.

3. The elimination of a proposed modification to change valve trim to the Hydrogen Water Chemistry system.

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.

A001
NRR

By letter dated February 19, 2010 (Reference b), NMPNS provided responses to NRC Requests for Additional Information (RAIs). In the response to RAI D14, NMPNS stated:

> "NMPNS is currently evaluating the potential impact to the NMP2 EPU LAR from SC09-05 [GE-Hitachi Nuclear Energy Americas LLC (GEH) Safety Communication] through the NMPNS corrective action program. Should there be an impact, NMPNS will communicate the results to NRC."

NMPNS has completed its evaluation of GEH SC09-05, and concluded that there is an impact to the EPU LAR. Attachment 1 provides a summary of the revised peak containment pressure analysis. It establishes that the peak containment pressure will remain below the containment design pressure of 45 psig and that no change is required to the peak calculated containment internal pressure (P_a) (39.75 psig) established in NMP2 Technical Specification 5.5.12.b. The revised analysis does not impact the analyses associated with the initial containment pressure peak, hydrodynamic loads, and the peak drywell to wetwell differential pressure (delta-P). The revised peak containment pressure analysis modifies assumptions regarding the:

- Emergency Core Cooling System (ECCS) lineup and initiation times; and
- Initial drywell relative humidity.

In addition, NMPNS has eliminated the following proposed modifications from the EPU scope:

1. Add swing bus capability for feedwater pumps 2FWS-P1A and P1B.
2. Change valve trim to the Hydrogen Water Chemistry system.

The EPU LAR (Reference a) included these modifications in the list of EPU modifications in Attachment 6, and the swing bus modification was discussed in Sections 2.3.3 and 2.3.4 of Attachments 3 and 11 as follows:

- Section 2.3.3 – "Two additional 13.8 kV breakers will be added to support a modification to add swing bus capability for operational flexibility for feedwater pumps 2FWS-P1A and P1B;" and
- Section 2.3.4 – "There will be small DC [Direct Current] load changes in the non-safety related batteries (two additional indication lights on each battery) due to a proposed modification to add swing bus capability for operational flexibility for feedwater pumps 2FWS-P1A and P1B. This DC load addition is negligible compared to the existing margin in both non-safety related batteries and associated battery chargers."

The elimination of these modifications from the EPU scope has no impact on any analysis or conclusions relative to the capability of NMP2 to operate at EPU conditions. The EPU analyses did not take any credit for the swing bus capability for feedwater pumps 2FWS-P1A and P1B or the change to the valve trim to the Hydrogen Water Chemistry system.

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.

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

Very truly yours,

Tlynch

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

I, Thomas A. Lynch, being duly sworn, state that I am the Plant General Manager, and that I am duly authorized to execute and file this submittal on behalf of Nine Mile Point Nuclear Station, LLC. To the best of my knowledge and belief, the statements contained in this response 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.

Tlynch

Subscribed and sworn before me, a Notary Public in and for the State of New York and County of Oswego, this 8 day of October, 2010.

WITNESS my Hand and Notarial Seal:

Lisa M. Doran
Notary Public

My Commission Expires:

9/12/2013
Date

TAL/STD

Lisa M. Doran
Notary Public in the State of New York
Oswego County Reg. No. 01DO6029220
My Commission Expires 9/12/2013

Attachments:

1. Summary of Revised Peak Containment Pressure Analysis (Non-Proprietary)
2. Affidavit Justifying Withholding Proprietary Information from GE-Hitachi Nuclear Energy Americas LLC
3. Summary of Revised Peak Containment Pressure Analysis (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 REVISED PEAK CONTAINMENT PRESSURE ANALYSIS (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 REVISED PEAK CONTAINMENT PRESSURE ANALYSIS
(NON-PROPRIETARY)

Introduction

Nine Mile Point Nuclear Station, LLC (NMPNS) has revised the containment peak pressure utilized to support the Nine Mile Point Unit 2 (NMP2) Extended Power Uprate (EPU) License Amendment Request. The revision was necessary to:

1. Address the impact of the GE-Hitachi Nuclear Energy Americas LLC (GEH) Safety Communication SC09-05, "M3CPT Under Prediction of Peak containment Pressure," on the post-Loss of Coolant Accident (LOCA) containment peak pressure analysis performed for EPU.

2. Change the EPU containment peak pressure evaluation Emergency Core Cooling System (ECCS) assumptions to match:

   a. ECCS lineup assumption utilized in the peak containment pressure analysis discussed in Updated Safety Analysis Report (USAR) Section 6.2.1.1.3; and

   b. ECCS initiation times presented in USAR Table 6.3-1.

3. Change the EPU peak pressure analysis initial condition regarding drywell relative humidity to match the assumption utilized in the License Amendment Request regarding Average Power Range Monitor/Rod Block Monitor/Technical Specifications/Maximum Extended Load Line Limit Analysis (ARTS/MELLLA) submitted on March 30, 2007 (Accession Number ML070950197), and approved by the NRC in NMP2 License Amendment No. 123 issued on February 27, 2008 (Accession Number ML080230230).

The analysis establishes that the peak containment pressure will remain below the containment design pressure of 45 psig and that no change is required to the peak calculated containment internal pressure (P_a) (39.75 psig) established in NMP2 Technical Specification 5.5.12.b. It does not impact the analyses associated with the initial containment pressure peak, hydrodynamic loads, and the peak drywell to wetwell differential pressure (delta-P).

Background

The current licensing basis short term peak containment pressure is based on the original design basis LOCTVS code as described in the USAR Section 6.2.1.1.3. The power uprate to 3467 megawatts-thermal (MWt) implemented in the 1995 time frame applied GE methods (M3CPT code) and concluded that the original 3323 MWt LOCTVS results remained conservative. The original P_a was defined using the LOCTVS code with initial conditions that were representative of typical BWR expected normal operating conditions. This is established in USAR Table 6.2-9, which defines the original drywell initial conditions for the primary containment peak pressure analysis as:

1. Drywell temperature of 135°F.

2. Drywell relative humidity of 40%.

3. Suppression pool temperature of 90°F.

In addition, Section 8.1 of Appendix 6C of the NMP2 USAR establishes that the peak containment pressure based on the worst combination of initial conditions must be below the containment pressure design limit of 45 psig. It states:

> "The pressure and temperature prediction is generally based on conservative analysis and is below the design limit; therefore, nominal values present no safety consequences. However, a LOCA analysis was performed based on the worst combination of initial conditions allowed by the Technical Specifications. Even for the worst combination of initial conditions, the peak drywell pressure is below the design limit."

On March 30, 2007 NMPNS submitted a License Amendment Request regarding ARTS/MELLLA (Accession Number ML070950197). Section 8.2 of Attachments 5 and 7 of this License Amendment Request defined the initial containment conditions used in the DBA-LOCA short-term containment pressure/temperature response analysis as a:

1. Drywell temperature of 105°F.

2. Drywell relative humidity of 40%.

3. Suppression pool temperature of 90°F.

These initial conditions were identical to those assumed in the USAR, with the exception that a colder initial drywell temperature was used based on current plant normal operating drywell conditions.

The NRC issued the ARTS/MELLLA License Amendment (NMP2 License Amendment No. 123) on February 27, 2008 (Accession Number ML080230230). The NRC's supporting Safety Evaluation Report (SER) states:

> "The licensee stated that the initial containment conditions used in the DBA-LOCA short-term containment pressure/temperature response analysis are identical to those assumed in the current design basis DBA-LOCA short-term containment response analysis [Ref. 21] with the single exception that an initial drywell temperature of 135 °F was assumed in the current analysis whereas an initial drywell temperature of 105 °F is assumed in the MELLLA analysis. The licensee was requested in an NRC Staff RAI [Request for Additional Information], to assure that drywell accident pressure would not exceed design pressure if initial drywell temperature were to be lower than 105 °F."

Impact of GEH Safety Communication SC09-05 on the EPU Post-LOCA Peak Pressure Analysis

GEH Safety Communication (SC) 09-05 identifies an issue related to the peak calculated Design Basis Accident (DBA) - LOCA drywell pressure for NMP2 obtained from the results of a M3CPT short-term analysis of the DBA-LOCA. The M3CPT code has been applied to determine the impact of EPU conditions post-LOCA on the peak containment pressure in the NMP2 EPU License Amendment Request submitted to the NRC on May 27, 2009 consistent with the approach previously used for the stretch uprate to 3467 MWt implemented in 1995.

GEH SC09-05 concludes:

> "...M3CPT conservatively predicts the NMP2 early DBA-LOCA drywell pressure response and remains the appropriate code for calculating the initial NMP2 DBA-LOCA drywell pressure peak. However, the M3CPT code should not have been used to predict the NMP2 DBA-LOCA maximum drywell pressure, which occurs with the secondary drywell pressure peak at the end of the blowdown period."

Specifically, the M3CPT simulation of the containment response did not model gravity induced settling of break liquid in the drywell airspace. GEH SC09-05 provides the following explanation:

> "In the M3CPT computer simulation, transfer of drywell break liquid to the suppression pool occurs only in the vent flow from the drywell to the suppression pool that is driven by the drywell-to-wetwell differential pressure. During the early DBA-LOCA blowdown period, when vent flow rates are high, this modeling is conservative since M3CPT prediction results in higher drywell pressure due to the presence of liquid in the vent flow. This maximizes the drywell pressure response during this early DBA-LOCA period. The results from M3CPT during the early DBA-LOCA blowdown period are therefore considered conservative. This conservatism in the M3CPT vent flow model is described and identified in M3CPT License Topical Report NEDO-10320, "The General Electric Pressure Suppression Containment Analytical Model," April 1971. However, in reviewing the results of M3CPT analyses recently performed for the NMP2 EPU project, it was discovered that the M3CPT modeling can produce the holdup of a significant quantity of relatively warm break liquid in the drywell atmosphere near the end of the blowdown period when the calculated vent flow is small or intermittent. The holdup of water in the drywell reduces the break liquid mass and energy transferred to the suppression pool. This reduces the calculated suppression pool volume, which minimizes compression of the wetwell airspace volume and also lowers the vent submergence. The holdup of drywell break liquid and reduction in liquid transfer to the suppression pool also lowers the calculated suppression pool temperature which in turn reduces the calculated wetwell and drywell pressure due to a reduction of the wetwell vapor pressure and wetwell airspace temperature. These effects, due to drywell holdup of break liquid, produce an under-prediction of the DBA-LOCA peak drywell pressure if the calculated peak drywell pressure occurs near the end of the DBA-LOCA blowdown period when low vent flow conditions occur."

For NMP2, the maximum drywell pressure occurs with the secondary drywell pressure peak at the end of the blowdown period. As noted in GEH SC09-05, the M3CPT methods are non-conservative for the peak occurring at the end of the blowdown. GEH SC09-05 establishes that this peak is unique to NMP2. It states:

> "The NMP2 containment design has a vent area to break area ratio that is at least 20% larger than seen for other Mark II plants that reduces the first peak. It is also among the Mark II plants with a relatively large drywell-to wetwell volume ratio that increases the second peak due to increased transfer of non-condensible gas from the drywell to the wetwell. While all Mark II's have a similar double peak, the GEH evaluation has concluded that for other Mark II's the increase in the second peak is not sufficient to make the second peak limiting relative to the M3CPT prediction of the first peak."

The impact of GEH SC09-05 on the predicted NMP2 DBA-LOCA maximum drywell pressure was evaluated with the GOTHIC code (Version 7.2b). GOTHIC is applied to address this issue because it includes an NRC reviewed and accepted gravity induced settling droplet model. This modeling capability

makes it well suited to address the GEH SC09-05 M3CPT deficiency. The NRC has previously approved the use of GOTHIC to model peak containment pressure as established in:

- NRC Safety Evaluation Reports supporting the Kewaunee Nuclear Power Plant issued on September 10, 2001 (Accession Number ML012490176), September 29, 2003 (Accession Number ML032681050), and February 27, 2004 (Accession Number ML040430633); and

- NRC Safety Evaluation Report for License Amendment No. 222 to Renewed Facility Operating License No. DPR-40 for the Fort Calhoun Station, Unit No. 1 issued on November 5, 2003 (Accession No. ML033100290).

The GOTHIC methods applied in this calculation are consistent with the GOTHIC recommended modeling guidelines for LOCA containment analysis and are consistent with the GOTHIC methods accepted by the NRC in containment peak pressure calculations. The key features of the GOTHIC model which differ from the M3CPT methods are the application of: 1) non-thermal equilibrium within the drywell and suppression chamber, 2) heat sinks with the GOTHIC direct default condensation heat transfer model, and 3) the GOTHIC drop model.

Application of the GOTHIC (7.2b) code, together with a conservative set of assumptions and the drop model, is an appropriate method to resolve the GEH safety communication. GOTHIC is not utilized for any other aspect of the containment short term pressure response. The GOTHIC analysis applies the mass energy release from M3CPT and duplicates the ECCS flows based on the M3CPT assumptions (which ensure these critical inputs are identical). GEH SC09-05 considers M3CPT to be valid for the containment pressure peak that occurs at 21 seconds. The GOTHIC prediction of peak drywell pressure is conservative for the first peak which effectively establishes conservative initial conditions for the resolution of the SC09-05 deficiency in M3CPT. As noted in the table, the GOTHIC model features described above reduce the impact of EPU on the second peak.

Method	Pressure Peaks (psia @ seconds) – 135°F/40%/90°F			Power Level	Figures
	Vent Clearing Peak	1st Peak (Blowdown Transition)	2nd Peak (End of Blowdown)		
M3CPT	36.00 @ 1.44	49.90 @ 20.7	50.84 @ 147	CLTP	Figure 1
GOTHIC 7.2b	35.96 @ 1.25	51.18 @ 20.7	51.71 @ 148	CLTP	Figure 1
M3CPT	35.94 @ 1.44	50.24 @ 20.2	51.96 @ 149	EPU	Figure 2
GOTHIC 7.2b	35.95 @ 1.25	51.35 @ 21.2	51.87 @ 152	EPU	Figure 2

With regards to the hydrodynamic containment loads evaluation, GEH SC09-05 states:

> "The M3CPT code was used to perform DBA-LOCA containment loads evaluations for NMP2 to assess the impact of changes in reactor operation (e.g., ARTS/MELLLA) on the pool swell and Condensation Oscillation (CO) load. The effect of drywell liquid holdup on the M3CPT calculated

containment response is cumulative and occurs during the late stages of the DBA-LOCA period when vent flows are small or intermittent. The M3CPT code, when applied in a load definition or load evaluation function, calculates the containment response that occurs concurrent with the DBA-LOCA load being evaluated. These loads occur early in the DBA-LOCA blowdown period when M3CPT predicted vent flows are relatively high, and liquid carry over with the vent flow is also high. Therefore, the effects of drywell liquid holdup on the M3CPT containment response prediction used in the NMP2 DBA-LOCA containment loads evaluation is minimal and does not impact the results or conclusions derived from the containment loads evaluations. It is therefore concluded that the NMP2 DBA-LOCA containment loads evaluated based on M3CPT predictions are valid and not affected by this safety concern."

Change in ECCS Flow Lineup and Initiation Times

During the analysis to resolve GEH SC09-05, NMPNS noted that the second peak was sensitive to the ECCS lineup and assumptions. The EPU containment peak pressure evaluation ECCS assumptions are changed to match the ECCS lineup assumption utilized in the peak containment pressure analysis as discussed in USAR Section 6.2.1.1.3 and the ECCS initiation times presented in USAR Table 6.3-1. The change in ECCS assumptions does result in a small increase in peak pressure, approximately 0.6 psi higher, as compared to the M3CPT ECCS assumptions used previously for the EPU evaluation.

Change in Initial Condition Assumption regarding Drywell Relative Humidity

The NMP2 EPU License Amendment Request submitted to the NRC on May 27, 2009, contained an analysis to establish the peak calculated containment internal pressure (P_a) for the design basis LOCA. It utilized the following initial conditions:

- Drywell temperature - 105°F - This value represents the conservative lower bound operating temperature.

- Drywell relative humidity - 20% - This value was chosen to be a conservative lower bound, because margin existed between P_a and the calculated value. It did not represent the relative humidity during normal operation.

- Suppression pool temperature - 90°F – This value was chosen to be consistent with the maximum allowed value established in NMP2 Technical Specification Limiting Condition for Operation 3.6.2.1.a.

NMPNS determined that it would be appropriate to revise the assumption regarding drywell relative humidity to be representative of the normal operating condition. As stated in the response to NRC RAI F11 submitted on December 23, 2009 (Accession Number ML100190072), the licensing basis containment peak calculated pressure assumes nominal operating drywell conditions, and the worst combination of initial conditions is evaluated relative to the margin to the structural design allowable of 45 psig.

The revised NMP2 EPU peak containment analysis to establish P_a utilizes the following initial conditions:

- Drywell temperature – 105°F;

- Drywell relative humidity – 40%; and
- Suppression pool temperature – 90°F.

These initial conditions are consistent with the initial conditions utilized in the NMPNS License Amendment Request submitted on March 30, 2007. The NRC issued the ARTS/MELLLA License Amendment (NMP2 License Amendment No. 123) on February 27, 2008 (Accession Number ML080230230).

In addition, the initial conditions utilized in the revised peak containment pressure analysis were confirmed to bound normal operating conditions. Normal operating conditions were established by a statistical analysis. The normal drywell and suppression pool temperatures were derived by:

1. Reviewing plant operating data from April 2005 through March 2010.
2. Determining the mean and standard deviation.
3. Applying this data to define the normal operating conditions.

The mean value and standard deviation for the drywell temperature and suppression pool temperature were:

- Mean drywell temperature is 110°F (σ = 0.65°F); and
- Mean suppression pool temperature is 78°F (σ = 2.39°F)

From the above data:

- The lower bound (i.e., 97.5% of the time, the drywell temperature will be higher) drywell operating temperature was determined to be 108.7°F; and
- The upper bound suppression pool temperature is 83°F.

The response to NRC RAI F11 submitted on December 23, 2009 (Accession Number ML100190072) addresses the impact of EPU on the drywell operating temperature. It states:

> "The current typical 100% power drywell average temperature is approximately 110°F and the evaluation of the impact of EPU on the drywell operating temperature is calculated to be less than a 1°F increase. Therefore, the small increase in normal drywell operating temperature has no impact on the peak containment analysis pressure."

Summary of Results

The table below provides the results of the revised EPU peak containment analysis incorporating the changes associated with the resolution of GEH SC09-05, modifying the ECCS lineup, and revising the assumption regarding the initial drywell relative humidity.

Method & Case ID	Initial Conditions (Note 1)	Pressure Peaks (psia @ seconds)			P_a or Design Limit (psia)	Figure #
		Vent Clearing	1st Peak (blowdown transition)	2nd Peak (end of blowdown)		
GOTHIC Case 2A	110/40/90	36.02 @ 1.23	53.33 @ 21.25	53.73 @ 148	54.45	---
GOTHIC Case 2B	**105/40/90**	**36.24 @ 1.22**	**53.68 @ 21.25**	**54.20 @ 147**	**54.45**	**Figure 3**
GOTHIC Case 2	107/48/83	36.23 @ 1.23	53.02 @ 21.25	53.64 @ 148	54.45	Figure 3
GOTHIC Case 3	**70/20/90**	**36.62 @ 1.20**	**56.13 @ 21.26**	**56.78 @ 143**	**59.7**	**Figure 4**

Note 1: Drywell temperature (°F) / drywell relative humidity (%) / Wetwell (air & pool) temperatures (°F).

An analysis was performed to ensure that the drywell accident pressures would not exceed design pressure based on the worst combination of initial conditions. GOTHIC Case 3 establishes that the calculated peak containment pressure at the USAR lower bound conditions of drywell temperature of 70°F, drywell relative humidity of 20%, and suppression pool temperature of 90°F is lower than the containment pressure design value of 45 psig (59.7 psia).

An analysis was performed to ensure that the value of P_a established in NMP2 Technical Specification 5.5.12.b of 39.75 psig (54.45 psia) continues to be met:

- GOTHIC Case 2B utilizes lower bound initial conditions of drywell temperature of 105°F, drywell relative humidity of 40%, and suppression pool temperature of 90°F.

- GOTHIC Case 2 utilizes a drywell temperature of 107°F (conservative lower bound on the 108.7 °F), drywell relative humidity of 48%, and suppression pool temperature of 83° based on operating plant data review. This case demonstrates the margin with respect to a 97.5 percentile case at 100% power normal operating conditions.

- GOTHIC Case 2A utilizes the initial conditions of drywell temperature of 110°F (mean drywell temperature), drywell relative humidity of 40%, and suppression pool temperature of 90°F. This establishes the sensitivity on drywell temperature while maintaining the other initial conditions at the same values as GOTHIC Case 2B.

Conclusions

The EPU peak containment pressure is less than the 45 psig design pressure at the USAR lower bound conditions of drywell temperature of 70°F, drywell relative humidity of 20%, and suppression pool temperature of 90°F.

The EPU peak calculated containment internal pressure for EPU conditions is less than the P_a value of 39.75 psig established in NMP2 Technical Specification 5.5.12.b at the initial conditions of drywell temperature of 105°F, drywell relative humidity of 40%, and suppression pool temperature of 90°F, which bounds the normal operating conditions.

Changes to the NMP2 EPU License Amendment Request dated May 27, 2009

The revised peak containment pressure analysis results in changes to Sections 2.2.4.1 and 2.6.1, Table 2.6-1, and Figure 2.6-7 of Attachments 3 and 11 of the NMP2 EPU License Amendment Request dated May 27, 2009.

Section 2.2.4.1 of Attachments 3 and 11 of the NMP2 EPU License Amendment Request dated May 27, 2009 states:

> "Tests that measure containment isolation valve leak rates (Type C tests) are performed using the Technical Specification value for Pa of 39.75 psig. From the containment analysis at the EPU conditions, the peak containment pressure is 52.9 psia (38.2 psig) for a LOCA (PUSAR Section 2.6.1). Because the containment peak pressure for EPU is lower than the Technical Specification Pa, the current test criterion bounds the peak LOCA containment pressure for the proposed EPU. Thus, the leak rate testing requirements for containment isolation valves are not impacted by the proposed EPU."

The revised containment analysis (GOTHIC Case 2B) determined that the peak containment pressure was 54.2 psia (39.5 psig). This value is lower than the value of P_a established in NMP2 Technical Specification 5.5.12.b of 39.75 psig (54.45 psia).

Section 2.6.1 of Attachments 3 and 11 of the NMP2 EPU License Amendment Request dated May 27, 2009 states:

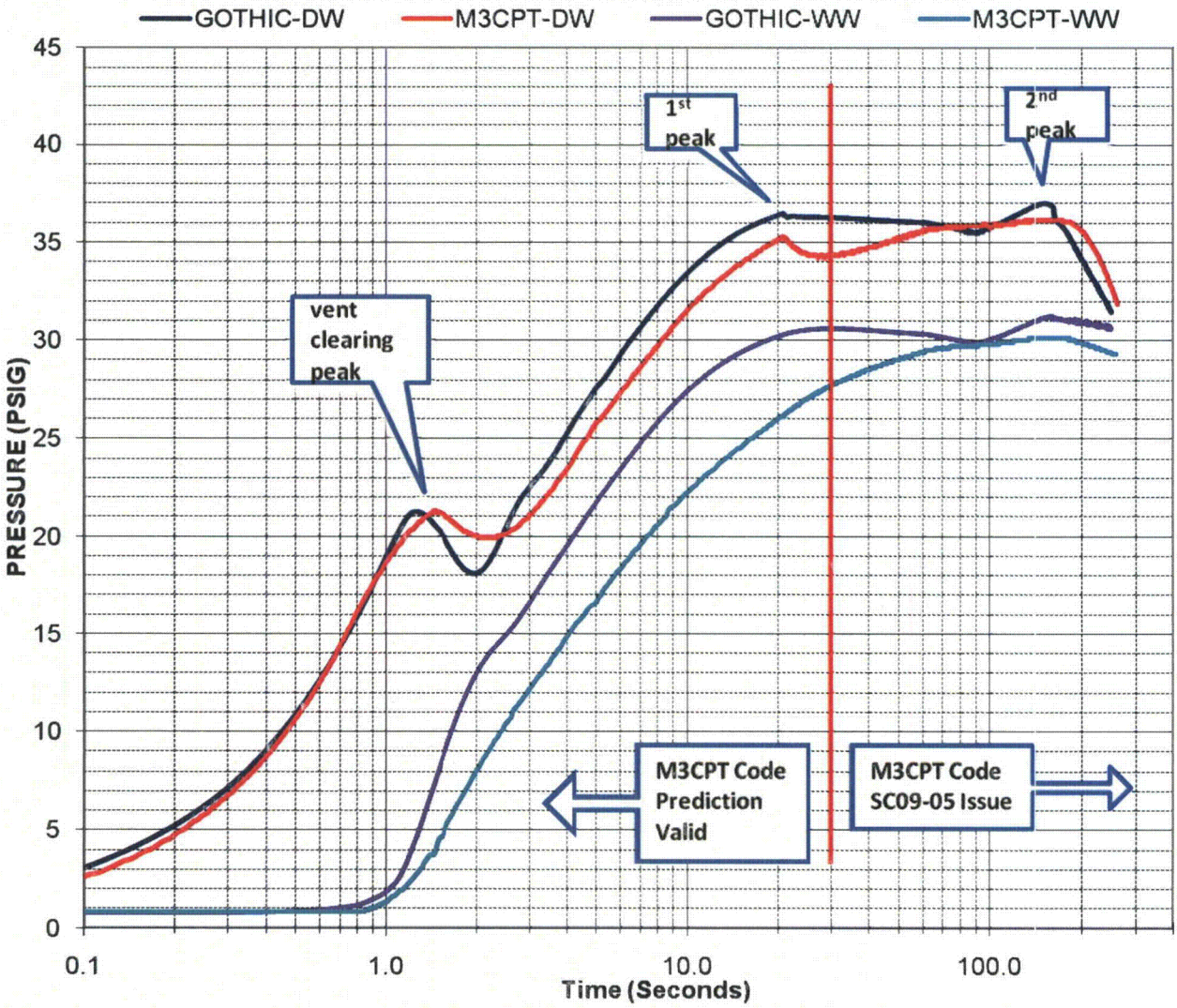
> "The analyses of containment pressure and temperature responses, as described in Section 2.6.1.1, were performed in accordance with RG 1.49 and ELTR1 using GEH codes and models. The M3CPT code was used to model the Short-Term containment pressure and temperature response. The modeling used in the M3CPT analyses is described in References 40 and 41. References 40 and 41 describe the basic containment analytical models used in GEH codes..."

The M3CPT code is no longer utilized to determine the second pressure peak; however, the M3CPT code is utilized to provide the mass and energy release input to the GOTHIC code. The GOTHIC code (Version 7.2b) is utilized to determine the peak containment pressure for the second peak. Additionally, the M3CPT analysis continues to be utilized to determine the initial containment pressure peak, hydrodynamic loads and the peak drywell to wetwell differential pressure (delta-P).

Table 2.6-1 of Attachments 3 and 11 of the NMP2 EPU License Amendment Request dated May 27, 2009 identifies that the peak drywell and wetwell pressures for the design basis LOCA EPU with the EPU model as 52.9 and 47.1 psia respectively. The revised containment analysis (GOTHIC Case 3) determined that the peak drywell and wetwell pressures are 56.78 and 51.2 psia. The EPU peak containment pressure is less than the 59.7 psia (45 psig) design pressure.

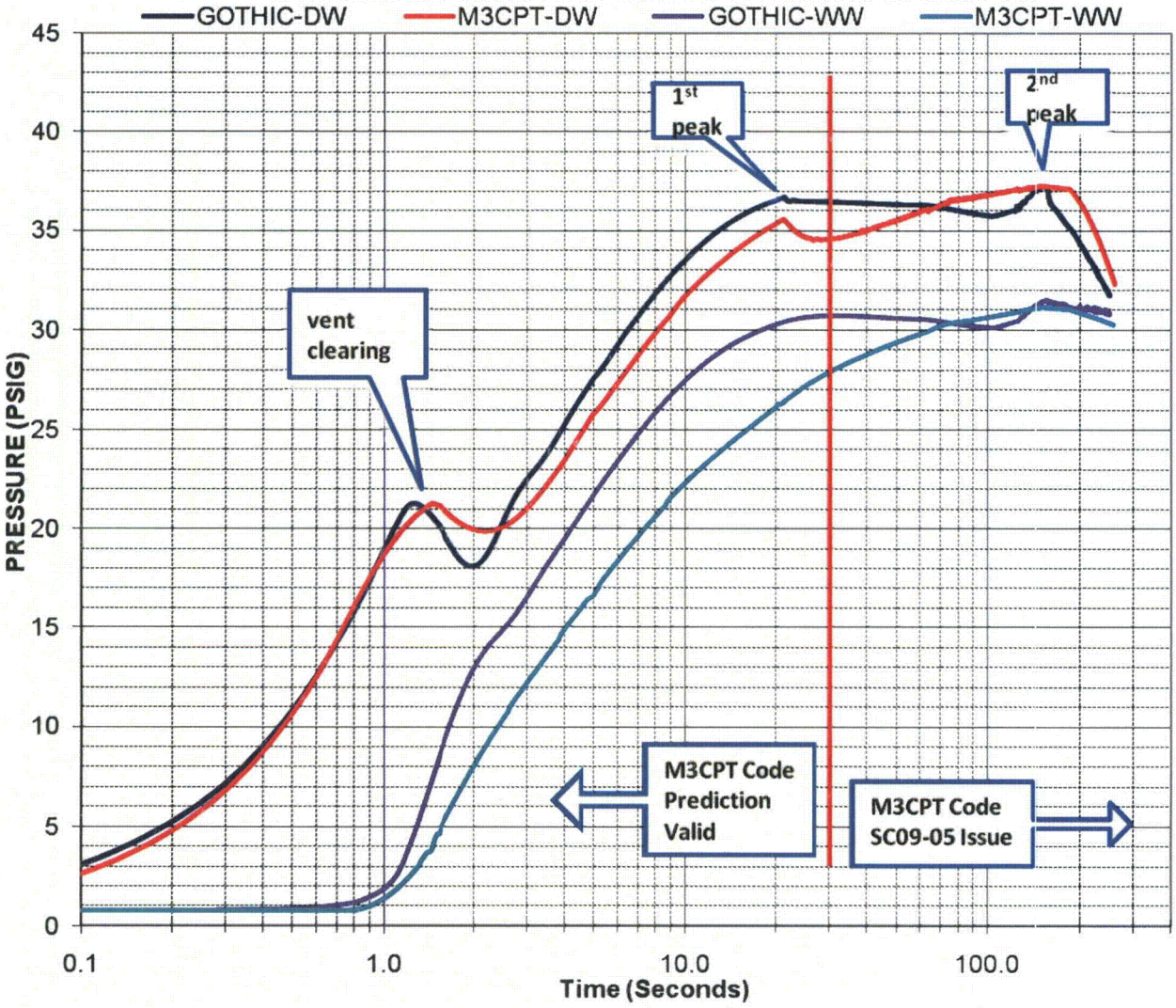
Figure 2.6-7 of Attachments 3 and 11 of the NMP2 EPU License Amendment Request dated May 27, 2009 is replaced by Figures 3, 4, and 5 of this submittal. Figure 5 of this submittal shows the Short-Term M3CPT pressure profile used for dynamic loadings. Figures 3 and 4 show the Extended Short-Term GOTHIC pressure profiles used for containment peak pressure analyses.

FIGURE - 1 - Case 1B - CLTP - PRESSURE COMPARISON
GOTHIC/M3CPT(UNCORRECTED)
100 MICRON WITH SUPERHEAT & DW/WW in NON-TE



Note: The red vertical line implies that the M3CPT Code SC09-05 issue begins at 30 seconds. This is an approximation. The issue does not have a specific start time, but it is judged to occur after the time shown in the figure.

FIGURE - 2 - Case 1A - EPU - PRESSURE COMPARISON
GOTHIC/M3CPT(UNCORRECTED)
100 MICRON WITH SUPERHEAT & DW/WW in NON-TE



Note: The red vertical line implies that the M3CPT Code SC09-05 issue begins at 30 seconds. This is an approximation. The issue does not have a specific start time, but it is judged to occur after the time shown in the figure.

FIGURE 3 - CASE 2 & 2B - EPU GOTHIC PRESSURE RESPONSE - 105/40/90 VS. 107/48/83

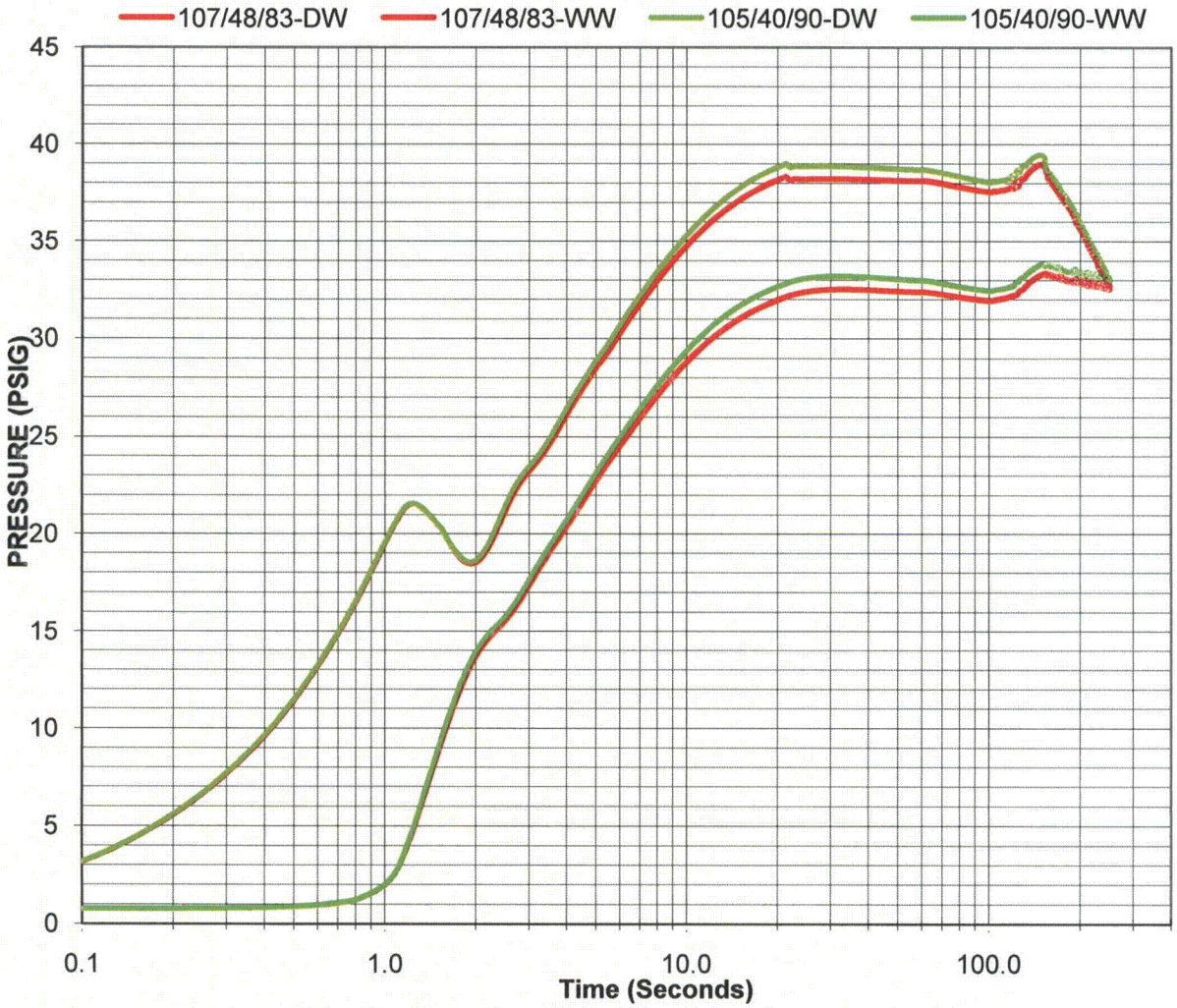


FIGURE 4 - CASE 3 - EPU PRESSURE RESPONSE (70/20/90)

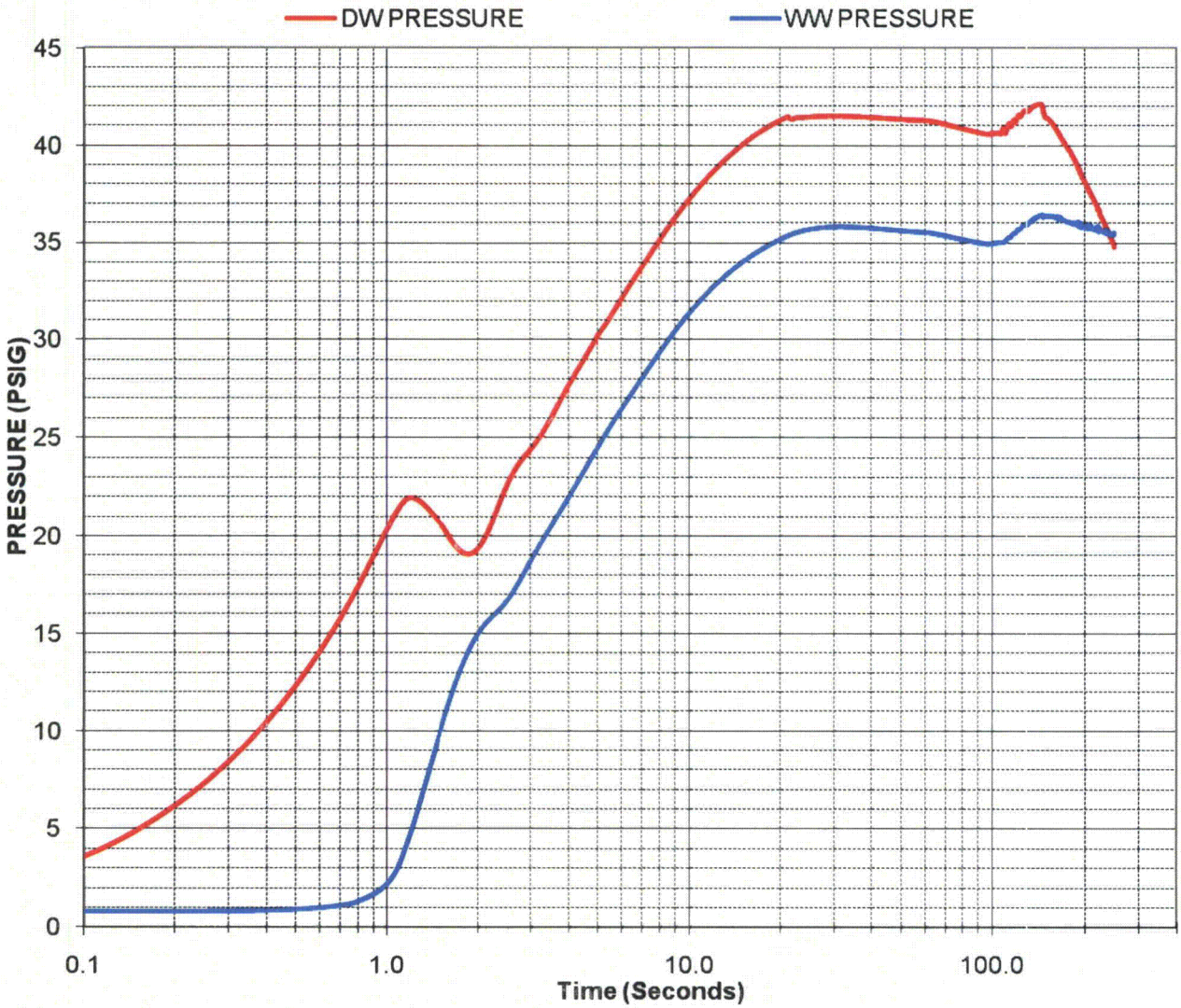


FIGURE 5 – EPU Short-Term DBA-LOCA Containment Pressure (M3CPT) Response

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ATTACHMENT 2

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

Nine Mile Point Nuclear Station, LLC
October 8, 2010

GE-Hitachi Nuclear Energy Americas LLC

AFFIDAVIT

I, Edward D. Schrull, state as follows:

(1) I am the Vice President, Regulatory Affairs, Services 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 GEH letter, GE-PPO-1GYEF-KG1-555, "Transmittal of FTR 0400 Figure 3-1," dated October 6, 2010. The proprietary information in Enclosure 1 entitled, "Final Task Report 0400 Figure 3-1 – Proprietary," is identified by a dotted underline inside double square brackets. [[This sentence is an example.{3}]]. Figure 3-1 that contains the GEH proprietary information is identified with double square brackets before and after the object. 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 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 results of an analysis performed by GEH to support Nine Mile Point Unit 2's Extended Power Uprate (EPU) license application. This analysis is part of the GEH EPU and LOCA methodologies. Development of the EPU methodology and the 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 evaluation methodology along with the interpretation and application of the analytical results is derived from the extensive experience database that constitutes a major GEH asset.

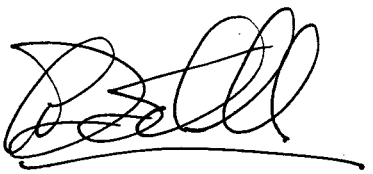
(9) Public disclosure of the information sought to be withheld is likely to cause substantial harm to GEH's competitive position and foreclose or reduce the availability of profit-making opportunities. The information is part of GEH's comprehensive BWR safety and technology base, and its commercial value 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 6th day of October 2010.



Edward D. Schrull
Vice President, Regulatory Affairs
Services Licensing
GE-Hitachi Nuclear Energy Americas LLC
3901 Castle Hayne Rd.
Wilmington, NC 28401
edward.schrull@ge.com