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PSEG
Nuclear LLC

June 24, 2010

10 CFR 50.90

LR-N10-0217

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

Hope Creek Generating Station
Facility Operating License No. NPF-57
NRC Docket No. 50-354

Subject: **Supplemental Safety Analysis Report Information - License Amendment Request (H09-01) Supporting the Use of Co-60 Isotope Test Assemblies (Isotope Generation Pilot Project)**

References: (1) Letter from PSEG to NRC, "License Amendment Request Supporting the Use of Co-60 Isotope Test Assemblies (Isotope Generation Pilot Project)," dated December 21, 2009

(2) Letter from PSEG to NRC, "Response to Request for Additional Information - License Amendment Request (H09-01) Supporting the Use of Co-60 Isotope Test Assemblies (Isotope Generation Pilot Project)," dated May 11, 2010

(3) Letter from PSEG to NRC, "Response to Request for Additional Information - License Amendment Request (H09-01) Supporting the Use of Co-60 Isotope Test Assemblies (Isotope Generation Pilot Project)," dated June 10, 2010

In Reference 1, PSEG Nuclear LLC (PSEG) submitted a license amendment request (H09-01) for the Hope Creek Generating Station (HCGS). Specifically, the proposed change would modify License Condition 2.B.(6) and create new License Conditions 1.J and 2.B.(7) as part of a pilot program to irradiate Cobalt (Co)-59 targets to produce Co-60. In addition to the proposed license condition changes, the proposed change would also modify Technical Specification (TS) 5.3.1, "Fuel Assemblies," to describe the specific Isotope Test Assemblies (ITAs) being used.

In References 2 and 3, PSEG submitted responses to an NRC Request for Additional Information (RAI) on the license amendment request. References 2 and 3 identified that an Errata and Addendum (E&A) to the Safety Analysis Report supporting the Isotope Generation Pilot Project, NEDC-33529P (Attachment 3 of Reference 1), would be subsequently provided. Attachment 1 to this letter provides an errata and addenda sheet for NEDC-33529P and the associated revised pages documenting changes discussed in References 2 and 3.

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NRR

Attachment 1 to this letter provides information which GEH considers to be proprietary. The proprietary information is identified by bracketed text. GEH requests that the proprietary information in Attachment 1 be withheld from public disclosure, in accordance with the requirements of 10 CFR 2.390, "Public inspections, exemptions, requests for withholding," paragraph (a)(4). A signed affidavit supporting this request is provided in Attachment 2 to this letter. Attachment 3 to this letter provides a nonproprietary version of Attachment 1 (changes to NEDO-33529, originally provided as Attachment 4 of Reference 1).

PSEG has reviewed the information supporting a finding of no significant hazards consideration that was provided in Reference 1. The additional information provided in this submittal does not affect the bases for concluding that the proposed license amendment does not involve a significant hazards consideration. No new regulatory commitments are established by this submittal.

If you have any questions or require additional information, please do not hesitate to contact Mr. Jeff Keenan at (856) 339-5429.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on 6/24/10
(Date)

Sincerely,

John F. Perry
Site Vice President
Hope Creek Generating Station

Attachments (3)

S. Collins, Regional Administrator - NRC Region I
R. Ennis, Project Manager - USNRC
NRC Senior Resident Inspector - Hope Creek
P. Mulligan, Manager IV, NJBNE
Commitment Coordinator – Hope Creek
PSEG Commitment Coordinator - Corporate

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Attachment 2
GE-Hitachi Affidavit for Withholding Portions of Errata and Addenda for Hope Creek ITA Safety Analysis Report NEDC-33529P

GE-Hitachi Nuclear Energy Americas LLC

AFFIDAVIT

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

(1) I am Vice President, Fuel Licensing, Regulatory Affairs, 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 Errata and Addenda Sheet, E & A Number 1 to NEDC-33529P, *Safety Analysis Report to Support Introduction of GE14i Isotope Test Assemblies (ITAs) in Hope Creek Generating Station*, Revision 0, dated June 10, 2010. The proprietary information in E & A Number 1 to NEDC-33529P, *Safety Analysis Report to Support Introduction of GE14i Isotope Test Assemblies (ITAs) in Hope Creek Generating Station*, Revision 0, dated June 10, 2010, is identified by a [[dotted underline inside double square brackets$^{\{3\}}$]]. 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 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 qualify 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, 975F2d871 (DC Cir. 1992), and Public Citizen Health Research Group v. FDA, 704F2d1280 (DC Cir. 1983).

(4) Some examples of categories of information which 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 other companies;

b. Information which, if used by a competitor, would reduce his expenditure of resources or improve his competitive position in the design, manufacture, shipment, installation, assurance of quality, or licensing of a similar product;

c. Information which reveals aspects of past, present, or future GEH customer-funded development plans and programs, resulting in potential products to GEH;

d. Information which discloses patentable subject matter for which it may be desirable to obtain patent protection.

The information sought to be withheld is considered to be proprietary for the reasons set forth in paragraphs (4)a. and (4)b. above.

(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, no public disclosure has been made, and it is not available in public sources. All disclosures to third parties, including any required transmittals to NRC, have been made, or must be made, pursuant to regulatory provisions or proprietary agreements which provide for maintenance of the information in confidence. Its initial designation as proprietary information, and the subsequent steps taken to prevent its unauthorized disclosure, are as set forth in paragraphs (6) and (7) following.

(6) Initial approval of proprietary treatment of a document is made by the manager of the originating component, the person most likely to be acquainted with the value and sensitivity of the information in relation to industry knowledge, or subject to the terms under which it was licensed to GEH. Access to such documents within GEH is limited on 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 agreements.

(8) The information identified in paragraph (2), above, is classified as proprietary because it contains detailed results including the process and methodology for the design and analysis of the GE14i Isotope Test Assembly. The GE14i Isotope Test Assembly has been developed at a significant cost to GEH.

The development of the GE14i Isotope Test Assembly 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.

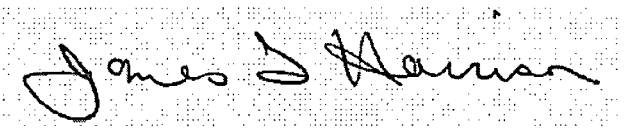
The precise value of the expertise to devise an evaluation process and apply the correct analytical methodology is difficult to quantify, but it clearly is substantial.

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 10th day of June 2010.



James F. Harrison
Vice President, Fuel Licensing, Regulatory Affairs
GE-Hitachi Nuclear Energy Americas LLC

LR-N10-0217

Attachment 3
Errata and Addenda for Hope Creek ITA Safety Analysis Report NEDO-33529
(Non-Proprietary)

HITACHI GE Hitachi Nuclear Energy

Errata and Addenda Sheet

Applicable to: Hope Creek Generating Station (HCGS) **E&A Number 1**

Publication No.: NEDC-33529P Revision 0 **Date:** June 10, 2010
NEDO-33529 Revision 0

Title: Safety Analysis Report to Support Introduction of GE14i Isotope Test Assemblies (ITAs) in Hope Creek Generating Station

Issue Date: December 2009

Note: The corrected pages for the NEDC document are followed by the corrected pages for the NEDO document.

Item	(Section, Page, Paragraph, Line)	Corrections And Additions (Supplied As Replacement Pages)
1.	Table 3-1 Page 33	Expanded table to include references for each of the methodologies.
2.	Section 4.3.1 Page 52 and 52-A	Updated discussion to use the RADTRAD analysis methodology and release fraction sensitivity studies that were performed. Also included the percent increases in accident TEDE values for CRDA rather than the percent increases in thyroid and whole body doses.
3.	Section 4.3.4 Page 53	Corrected an error in the text stating that the HCGS EPU LOCA source term did not include the Co-60 isotope. Text now states that the HCGS licensing basis source term does consider Co-60.
4.	Section 4.3.4 Page 53 and 54	Updated discussion to use the RADTRAD analysis methodology and release fraction sensitivity studies that were performed. Also included the percent increases in accident TEDE values for LOCA rather than the percent increases in thyroid and whole body doses.
5.	Section 4.3.4 Page 54	Removed numerical licensing basis LOCA dose results and replaced with a qualitative statement saying they are within regulatory limits. The HCGS LOCA dose calculation and associated UFSAR sections are undergoing revision for reasons unrelated to GE14i ITA introduction. Results and conclusions of the GE14i evaluation are unchanged.
6.	Section 4.7.1 Pages 66, 66-A, and 67	Corrected values for incident flux and integrated dose to the SFP wall due to revised calculations. Also, added clarifying language regarding the methods used for the evaluation of the spent fuel pool effects from introduction of GE14i fuel.
7.	Section 6 Pages 82 and 83	Added References 20 through 35 in response to expansion of Table 3-1, and added References 36 and 37 in response to the expanded discussion in Sections 4.3.1 and 4.3.4.

Table 3-1 Summary of GNF Methods Applicability to GE14i

Methodology	Analysis Code	Version	Supported	Reference
Nuclear	TGBLA	06	X	3, 20
	PANAC	11	X	
Thermal Hydraulic	ISCOR	09	X	21
Safety Limit MCPR	GESAM	02	X	22, 23, 24
Transient Analyses	ODYNM	10	X	25, 26, 27
	TASC	03	X	28
Stability	ISCOR	09	X	21
	PANAC	11	X	3, 20
	ODYSY	05	X	29
	TRACG	04	X	30
ATWS	TASC	03	X	28
	ODYNM	10	X	31
Thermal-Mechanical	GSTRM	07	X	32, 33
ECCS-LOCA	LAMB	08	X	34
	TASC	03	X	28
	SAFER	04	X	35

The fast pressurization events in combination with licensed flexibility and EOOS options will be evaluated as part of the reload transient analysis for HCGS Cycle 17. The GE14i transient analysis results will be summarized in the Supplemental Reload Licensing Report (SRLR) for HCGS Cycle 17.

4.3 Evaluation of Design Basis Accidents

The HCGS Design Basis Accidents (DBAs) to be evaluated are identified in Chapter 15 of the HCGS Updated Final Safety Analysis Report (UFSAR). The Control Rod Drop Accident (CRDA), Main Steam Line Break (MSLB) accident outside containment, Fuel Handling Accident (FHA), and Loss-of-Coolant Accident (LOCA) are licensed under 10 CFR 50.67 utilizing Alternate Source Term (AST) methodology per Regulatory Guide (RG) 1.183.

4.3.1 Control Rod Drop Accident

The HCGS licensing basis CRDA analyzed in Reference 36 assumes a failure of 850 rods (8x8 fuel). The mass fraction of fuel in the damaged rods that reaches or exceeds the initiation temperature of fuel melting is estimated to be 0.77%. Fuel reaching melt conditions is assumed to release 100% of the noble gas inventory and 50% of the iodine inventory. [[

]] Therefore, the licensing basis CRDA radiological analysis is not impacted by the introduction of 12 GE14i assemblies at HCGS.

As described in Reference 9, compliance with licensing limits governing CRDA is assured through adherence to the Banked Position Withdrawal Sequence (BPWS). The associated analyses have generically demonstrated large margin to licensing limits governing acceptable enthalpy insertions. The BPWS analyses demonstrated that the characteristic control rod worth associated with limiting rods in a BPWS sequence are low as compared to that required to challenge the 280 cal/gm fuel design limit. The reactivity characteristics of GE14i are similar to GE14; therefore, the introduction of 12 GE14i assemblies at HCGS will have negligible effects on the existing CRDA margin. In addition to similar fuel reactivity characteristics, the impact on the rod worths is constrained by other design factors such as shutdown margin and in-sequence rod worths.

4.3.2 Main Steam Line Break Accident

The HCGS licensing basis MSLB analyzed in Section 15.6.4 of the HCGS UFSAR assumes no fuel damage occurs as a result of the event. [[

]] Therefore, the licensing basis MSLB radiological analysis is not impacted by the introduction of 12 GE14i assemblies at HCGS.

4.3.3 Fuel Handling Accident

The existing GE14 fuel handling accident analysis takes the available potential energy from a dropped fuel assembly and calculates the number of failed fuel rods, assuming the rods fail by 1% strain in compression using a number of conservative assumptions. Given the reduced weight of the GE14i fuel assembly, the potential energy from a dropped fuel assembly is reduced and the resulting number of failed rods is also reduced.

The HCGS licensing basis FHA is analyzed in Section 15.7.4 of the HCGS UFSAR. The licensing basis FHA postulates that an irradiated 8x8 fuel bundle is dropped 32.95 feet onto the reactor core and fails 124 rods. Of the failed rods, 8% of the I-131, 10% of the Kr-85, 5% of the other noble gases and halogen inventories, and 12% of the alkali metal inventory of the damaged rods are released from the rods. All other particulates are retained by the water.

Reference 1 documents that radiological consequences from a FHA involving the GE14 design are bounded by consequences from a FHA involving the 8x8 fuel design. [[

]] Therefore, the licensing basis FHA radiological analysis is not impacted by the introduction of 12 GE14i assemblies at HCGS.

4.3.4 Loss-of-Coolant Accident (LOCA)

The HCGS LOCA source term was previously evaluated in Reference 37. The impact of 12 GE14i assemblies on the HCGS licensing basis LOCA source term and radiological consequences was evaluated.

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The introduction of 12 GE14i bundles at HCGS presents no significant impact on the AST LOCA source term.

4.4 Thermal-Mechanical Evaluation

Thermal-mechanical characteristics of GE14i cobalt isotope rods were evaluated. For the GE14i cobalt isotope rods, thermal-mechanical evaluations were performed [[

]] The failure modes considered are the same as for a fuel rod (Reference 2): internal melting and loss of cladding integrity. These evaluations demonstrate that the internal geometry (no melting) and cladding integrity is maintained for the cobalt isotope rods during steady-state operation and anticipated operational occurrences (AOOs). In particular, the following conclusions have been made:

bundles is followed to minimize the effect of gamma heating on the SFP concrete walls. Irradiated fuel storage procedures shall be modified to specify that the GE14i bundles be stored at least four feet from the SFP walls. With the four foot distance requirement in effect, there is no limitation on the amount of time a GE14i bundle may remain in the SFP.

The introduction of GE14i fuel to the HCGS SFP was evaluated for three effects.

- In order to examine the effect of the additional heat from the Co-60 decay, the extra radiation from the cobalt isotope rods was conservatively added to the radiation in a "normal" GE14 bundle. No credit was taken for the removal of [[ ]] fuel rods in each bundle.

- In order to examine the effect of increased gamma radiation on the concrete walls of the SFP, a GE14i bundle was modeled with ORIGEN 2.1 and MCNP to determine the magnitude of gamma radiation incident on the SFP wall and the energy absorbed by the concrete of the wall.

- In order to examine the effect of GE14i bundles on the SFP water chemistry, the cleanup portion of the Fuel Pool Cooling and Cleanup (FPCC) system was considered.

The additional heat from the Co-60 decay is insignificant when compared to the total heat from a normal refueling discharge. The additional heat added by 12 GE14i bundles in an offload is [[ ]] after shutdown over that of an offload of all GE14 fuel. The current heat load calculated for refueling conditions from HCGS is 17.2 MBTU/hr, representing a margin of approximately 9.6% under the FPCC system heat removal capacity of 19 MBTU/hr. Adding [[ ]] The small amount of extra heat added by the cobalt isotope rods poses no additional risk of SFP local boiling over that previously analyzed.

The gamma radiation effect on the SFP walls was evaluated for the case that the GE14i bundle is placed one and four feet from the SFP wall 24 hours after shutdown. In the GE14i analysis, no credit was taken for shielding provided by the spent fuel and racks in the outer rows; however, water, the stainless steel liner, and bundle self-shielding were credited.

Per ANSI/ANS-6.4-2006, "Nuclear Analysis and Design of Concrete Radiation Shielding for Nuclear Power Plants," concrete gamma heating is negligible below incident fluxes of 10^{10} MeV/(cm^2-sec). The maximum energy deposition rate due to a GE14i bundle placed one foot from the SFP walls 24 hours after shutdown is approximately 1.0×10^{11} MeV/(cm^2-sec), so concrete heating effects would need to be considered. At four feet, the energy deposition rate is 2.4×10^{8} MeV/(cm^2-sec), so no further gamma heating evaluation is necessary.

Per NUREG/CR-6927, "Primer on Durability of Nuclear Power Plant Reinforced Concrete Structures – A Review of Pertinent Factors," February 2007, long-term concrete degradation

may begin with a total integrated gamma dose of approximately 10^{10} Rads. The time to reach a total integrated dose of 10^{10} Rads from a GE14i assembly placed in the SFP one foot and four feet from the wall is approximately [[ ]] and [[ ]] years respectively, without taking into account any decay of the Co-60 or fission products from the bundle's 24 hour post-shutdown activity. Therefore, if the bundle is stored at least four feet from the SFP wall, the time to reach an integrated dose that could cause a concern is greater than the life of the plant.

The HCGS spent fuel storage procedures shall be modified to specify that the GE14i bundles be stored at least four feet from the SFP walls. With the four foot distance

requirement in effect, there is no limitation on the amount of time a GE14i bundle may remain in the SFP.

The GE14i rods are clad with the same material as the GE14 rods so that there will be no appreciable difference in the corrosion products from GE14i versus GE14. Therefore, there will be no adverse effect on the cleanup portion of the FPCC system or on SFP water chemistry.

4.7.2 Environmental Dose Considerations

An evaluation was performed on the effects of dose from cobalt isotope rods on refueling equipment. For the refueling equipment, the dose rate from gamma radiation contained within each cobalt isotope rod is 0.02403E-3 R/hr. For all [[ ]] cobalt isotope rods in a single GE14i bundle, the dose rate would be less than 0.5 mR/hr. This is the dose rate calculated at the water surface with the top of the fuel submerged 8 feet below, whereas the refueling bridge is approximately 10 feet above the water surface. Eight feet is as close to the water surface as allowed by the fuel handling equipment (HCGS UFSAR Chapter 9). Consequently, the dose rate is even lower on the bridge due to the additional air gap.

Using the above dose rate as the worst case, the dose accumulation on the refueling equipment during a refueling outage of approximately 7-day duration would be less than 0.1 R. The 7-day value is a conservative estimate for transporting fuel that is normally stored at the bottom of the fuel pool. This radiation dose is well below the radiation threshold of all materials and electronic components. The radiation threshold is defined as the lowest radiation dose that induces permanent change in a measured property of a material and the first detectable change in a property of a material due to the effect of radiation.

In general, the refueling equipment may contain synthetic organic materials, inorganic materials, metals and electronic components. Of the above materials, Teflon TFE has the lowest dose threshold which is in the 2E+4 R range. All others are greater than 1E+5 R. With regard to electronic components, some integrated circuits have damage thresholds in the 200 R range. As such, a radiation dose of less than 0.1 R is insignificant compared to the radiation threshold of all materials and components.

This total conservative dose for a 7-day exposure is well below the radiation threshold of the materials in the refueling equipment. This level will not affect the functionality of the materials or the components in the refueling equipment. Therefore, the GE14i fuel introduction will not have any impact on the refueling equipment.

14. GE Nuclear Energy, "GE Nuclear Energy Quality Assurance Program Description," NEDO-11209-04A, Revision 8, March 31, 1989.

15. US NRC, "Control of Heavy Loads at Nuclear Power Plants, Resolution of Generic Technical Activity A-36," NUREG-0612, 1980.

16. GE Nuclear Energy, "Methodology and Uncertainties for Safety Limit MCPR Evaluations," NEDC-32601-P-A, August 1999.

17. Amendment No. 160 to Facility Operating License No. NPF-57, PSEG Nuclear LLC, Hope Creek Generating Station.

18. Thomas B. Blount (NRC) to Jerry 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.

19. C.O. Thomas (NRC) to J. S. Charnley (GE), "Acceptance for Referencing of Licensing Topical Report NEDE-24011-P-A Amendment 7 to Revision 6, GE Standard Application for Reactor Fuel," March 1, 1985.

20. GE Nuclear Energy, "Steady State Nuclear Methods," NEDE-30130-P-A, April 1985.

21. The ISCOR code is not approved by name. However, the SER supporting approval of NEDE-24011-P Rev. 0 by the May 12, 1978 letter from D. G. Eisenhut (NRC) to R. Gridley (GE) finds the models and methods acceptable, and mentions the use of a digital computer code. The referenced digital computer code is ISCOR. The use of ISCOR to provide core thermal-hydraulic information in reactor internal pressure differences, Transient, ATWS, Stability, and LOCA applications is consistent with the approved models and methods."

22. GE Nuclear Energy, "Methodology and Uncertainties for Safety Limit MCPR Evaluations," NEDC-32601P-A, August 1999.

23. GE Nuclear Energy, "Power Distribution Uncertainties for Safety Limit MCPR Evaluation," NEDC-32694P-A, August 1999.

24. GE Nuclear Energy, NEDE-24011-P-A on Cycle Specific Safety Limit MCPR (TAC Nos. M97490, M99069 and M97491), March 11, 1999, Amendment 25.

25. GE Nuclear Energy, "Qualification of the One-Dimensional Core Transient Model (ODYN) for BWRs," NEDO-24154-A, Volume 1, August 1986.

26. GE Nuclear Energy, "Qualification of the One-Dimensional Core Transient Model (ODYN) for BWRs," NEDO-24154-A, Volume 2, August 1986.

27. GE Nuclear Energy, "Qualification of the One-Dimensional Core Transient Model (ODYN) for BWRs," NEDE-24154-P-A, Volume 3, August 1986.

28. GE Nuclear Energy, "TASC–03A – A Computer Program for Transient Analysis of a Single Channel," NEDC–32084P–A, Revision 2, July 2002.

29. GE Nuclear Energy, "ODYSY Application for Stability Licensing Calculations," NEDC–32992P–A, July 2001.

30. GE Nuclear Energy, "Reactor Stability Detect and Suppress Solutions Licensing Basis Methodology for Reload Application," NEDO–32465A, August 1996.

31. GE Nuclear Energy, "Qualification of the One-Dimensional Core Transient Model for Boiling Water Reactors," NEDC-24154-P-A, Supplement 1 - Volume 4, Revision 1, February 2000.

32. C.O. Thomas (NRC) to J. S. Charnley (GE), "Acceptance for Referencing of Licensing Topical Report NEDE-24011-P Amendment 7 to Revision 6, 'General Electric Standard Application for Reactor Fuel'," March 1, 1985.

33. C. O. Thomas (NRC) to J. S. Charnley (GE), "Acceptance For Referencing of Licensing Topical Report NEDE-24011-P-A-6, Amendment 10, 'General Electric Standard Application for Reactor Fuel'," May 28, 1985.

34. GE Nuclear Energy, "General Electric Company Analytical Model for Loss-of-Coolant Analysis in Accordance with 10 CFR 50 Appendix K," NEDE-20566-P-A, Volumes 1-3, September 1986.

35. GE Nuclear Energy, "The GESTR-LOCA and SAFER Models for the Evaluation of the Loss-of-Coolant Accident," NEDE-23785-1-PA, Volumes II and III, Revision 1, October 1984.

36. Calculation H-1-CG-MDC-1795, Revision 5, "Control Rod Drop Accident Radiological Consequences," June 2007.

37. Calculation H-1-ZZ-MDC-1880, Revision 3, "Post-LOCA EAB, LPZ and CR Doses," September 2009.