PSEG Nuclear LLC
P.O. Box 236, Hancocks Bridge, New Jersey 08038-0236

PSEG
Nuclear LLC

SEP 26 2008

10 CFR 50.46

LR-N08-0221

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

HOPE CREEK GENERATING STATION
FACILITY OPERATING LICENSE NO. NRF-57
DOCKET NO. 50-354

Subject: 10CFR50.46 REPORT

Pursuant to the requirements of 10 CFR 50.46, PSEG Nuclear LLC (PSEG) hereby reports changes in the application of the Emergency Core Cooling System (ECCS) evaluation models for the Hope Creek Generating Station. 10 CFR 50.46(a)(3)(ii) requires licensees to report at least annually each change to or error discovered in evaluation models used for calculating ECCS performance and the estimated effect on the limiting ECCS analysis. For significant changes or errors, licensees are required to submit a 30 day report and include a proposed schedule for providing a reanalysis or taking other action necessary to show compliance with 10 CFR 50.46 requirements. This letter and its attachments satisfy the annual reporting requirement.

For the current operating cycle, the Hope Creek core contains a mixture of Westinghouse SVEA-96+ and GE 14 fuel.

There are no regulatory commitments contained in this correspondence.

If you have any questions regarding this submittal, please contact Mr. Philip J. Duca at (856) 339-1640.

Sincerely

John F. Perry
Plant Manager – Hope Creek

Attachment 1 – 10 CFR 50.46 Report
Attachment 2 – 10 CFR 50.46 Report Assessment Notes

A002
NRR

C Mr. S. Collins, Administrator - Region I
U. S. Nuclear Regulatory Commission
475 Allendale Road
King of Prussia, PA 19406

Mr. R. Ennis, Project Manager - Hope Creek
U. S. Nuclear Regulatory Commission
Mail Stop 08B3
Washington, DC 20555-0001

USNRC Senior Resident Inspector - Hope Creek (X24)

Mr. P. Mulligan, Manager IV
Bureau of Nuclear Engineering
PO Box 415
Trenton, New Jersey 08625

Attachment 1
10 CFR 50.46 Report
Page 1

Hope Creek Generating Station 10 CFR 50.46 Report
Peak Cladding Temperature Rack-up Sheets

PLANT NAME:	Hope Creek Generating Station
ECCS EVALUATION MODEL:	SAFER/GESTR-LOCA
REPORT REVISION DATE:	9/16/2008
CURRENT OPERATING CYCLE:	15 (See note 1)

ANALYSIS OF RECORD

Evaluation Model: The GESTR-LOCA and SAFER Models for the Evaluation of the Loss-of-Coolant Accident, Volume III, SAFER/GESTR Application Methodology, NEDE-23785-1-PA, General Electric Company, Revision 1, October 1984.

Calculations: "SAFER/GESTR-LOCA Loss-of-Coolant Accident Analysis for Hope Creek Generating Station," NEDC-33153P, Revision 1, GE Nuclear Energy, September 2004.

Fuel: SVEA-96+ and GE14
Limiting Fuel Type – Licensing Basis PCT: SVEA-96+
Limiting Single Failure: Battery
Limiting Break Size and Location: Double-Ended Guillotine in a Recirculation Suction Pipe

Fuel Type:	**SVEA-96+**	**GE14**
Reference PCT	**1540 °F**	**1370 °F**

MARGIN ALLOCATION

A. PRIOR LOCA MODEL ASSESSMENTS

10 CFR 50.46 Report Dated June 1, 2004 (See note 2)	ΔPCT = 0°F	ΔPCT = 0°F
10 CFR 50.46 Report Dated September 29, 2006 (See note 3)	ΔPCT = 0°F	ΔPCT = 0°F
10 CFR 50.46 Report Dated September 28, 2007 (See note 4)	ΔPCT = 0°F	ΔPCT = 0°F
Net PCT	**1540 °F**	**1370 °F**

B. CURRENT LOCA MODEL ASSESSMENTS

None (see note 5)	ΔPCT = 0°F	ΔPCT = 0°F
Total PCT change from current assessments	$\Sigma\Delta PCT = 0°F$	$\Sigma\Delta PCT = 0°F$
Cumulative PCT change from current assessments	$\Sigma \lvert \Delta PCT \rvert = 0°F$	$\Sigma \lvert \Delta PCT \rvert = 0°F$
Net PCT	**1540 °F**	**1370 °F**

Hope Creek Generating Station 10 CFR 50.46 Report
Peak Cladding Temperature Rack-up Sheets

PLANT NAME:	Hope Creek Generating Station
ECCS EVALUATION MODEL:	SAFER/GESTR-LOCA
REPORT REVISION DATE:	9/16/2008
CURRENT OPERATING CYCLE:	15 (Extended Power Uprate)

ANALYSIS OF RECORD

Evaluation Model: The GESTR-LOCA and SAFER Models for the Evaluation of the Loss-of-Coolant Accident, Volume III, SAFER/GESTR Application Methodology, NEDE-23785-1-PA, General Electric Company, Revision 1, October 1984.

Calculations: "SAFER/GESTR-LOCA Loss-of-Coolant Accident Analysis for Hope Creek Generating Station at Power Uprate," NEDC-33172P, GE Energy, Nuclear, March 2005.

Fuel: SVEA-96+ and GE14
Limiting Fuel Type – Licensing Basis PCT: SVEA-96+
Limiting Single Failure: Battery
Limiting Break Size and Location: Double-Ended Guillotine in a Recirculation Suction Pipe

Fuel Type:	**SVEA-96+**	**GE14**
Reference PCT	**1540 °F**	**1380 °F**

MARGIN ALLOCATION

A. PRIOR LOCA MODEL ASSESSMENTS

None (see note 1)	ΔPCT = 0°F	ΔPCT = 0°F
Net PCT	**1540 °F**	**1380 °F**

B. CURRENT LOCA MODEL ASSESSMENTS

Impact of Top Peaked Power Shape on Small Break LOCA Analysis (see note 6)	ΔPCT = 0°F	ΔPCT = 0°F
Total PCT change from current assessments	∑ΔPCT = 0°F	∑ΔPCT = 0°F
Cumulative PCT change from current assessments	∑ |ΔPCT| = 0°F	∑ |ΔPCT| = 0°F
Net PCT	**1540 °F**	**1380 °F**

Attachment 2
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Attachment 2
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Hope Creek Generating Station 10 CFR 50.46 Report
Assessment Notes

1. Since the last annual report, Hope Creek implemented an extended power uprate (EPU) on May 16, 2008. The PCT rack-up in Attachment 1 Page 2 reflects PCT reporting information from the time of the last annual report (September 28, 2007) to the implementation of the extended power uprate. The extended power uprate PCT rack-up and analysis of record reporting information is provided in Attachment 1 Page 3.

   [Pre-EPU Reference: "SAFER/GESTR-LOCA Loss-of-Coolant Accident Analysis for Hope Creek Generating Station," NEDC-33153P, Revision 1, GE Nuclear Energy, September 2004.]

   [EPU Reference: "SAFER/GESTR-LOCA Loss-of-Coolant Accident Analysis for Hope Creek Generating Station at Power Uprate," NEDC-33172P, GE Energy, Nuclear, March 2005.]

2. Prior LOCA Model Assessment

   A 10 CFR 50.46 report for Hope Creek was submitted on June 1, 2004. Subsequent to this report and with the startup of cycle 13 in November 2004, Hope Creek discharged all GE9B fuel and implemented GE14 fuel. The Referenced LOCA analysis was implemented as analysis of record for GE14 fuel and SVEA-96+ fuel.

   [Reference: "SAFER/GESTR-LOCA Loss-of-Coolant Accident Analysis for Hope Creek Generating Station," NEDC-33153P, Revision 1, GE Nuclear Energy, September 2004.]

3. Prior LOCA Model Assessment

   In the referenced letter to the NRC, the impact of a GE postulated new heat source applicable to the LOCA event was reported. This heat source is due to recombination of hydrogen and excess oxygen drawn into the vessel from containment during core heatup. The PCT impact for all fuel types was 0°F. The referenced letter also reported the impact of the top peak axial power shape on the small break LOCA. The impact of the top peak axial power shape on the licensing basis PCT was zero degree for both GE 14 fuel and SVEA-96+ fuel for Hope Creek.

   [Reference: Letter (LR-N06-0401) from Michael Jesse (PSEG) to U.S. NRC, "10 CFR 50.46 Report."]

4. No current LOCA model assessments reported for 2007.

   [Reference: Letter (LR-N07-0261) from Michael Gaffney (PSEG) to U.S. NRC, "10 CFR 50.46 Report."]

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Hope Creek Generating Station 10 CFR 50.46 Report
Assessment Notes

5. Current LOCA Model Assessment

   None

6. The impact of the top peak axial power shape on the licensing basis PCT was zero degrees for both GE 14 fuel and SVEA-96+ fuel for Hope Creek. The large break LOCA remains limiting for the licensing basis PCT.

   [Reference: Supplemental Reload Licensing Report for Hope Creek Unit 1 Reload 14 Cycle 15 EPU, 0000-0078-1947-SRLR, Revision 3, August 2008, Section 16.]