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PSEG
Nuclear LLC

10 CFR 50.46

LR-N15-0203

SEP 2 8 2015

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

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

Subject: 2015 Annual 10 CFR 50.46 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. In accordance with 10 CFR 50.46(a)(3)(ii), licensees are required 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. This letter and its attachments satisfy the annual reporting requirement.

For the current operating cycle, the Hope Creek core consists of GE14 fuel assemblies and GE14i fuel assemblies (there are 12 GE14i Isotope Test Assemblies in the Cycle 20 core; the remainder are GE14).

There are no regulatory commitments in this correspondence.

If you have any questions regarding this submittal, please contact Frank Safin at (856) 339-1937.

Sincerely,

Eric S. Carr
Plant Manager - Hope Creek

pjd

Attachment 1: Hope Creek Generating Station 10 CFR 50.46 Report - Peak Cladding Temperature Rack-up Sheet
Attachment 2: Hope Creek Generating Station 10 CFR 50.46 Report - Assessment Notes

cc: Mr. Daniel H. Dorman, Regional Administrator - USNRC Region I

Mr. Thomas J. Wengert, USNRC Project Manager - Hope Creek

Mr. Justin Hawkins, USNRC Senior Resident Inspector - Hope Creek (X24)

Mr. Patrick Mulligan, Manager IV, NJ Bureau of Nuclear Engineering

Mr. Thomas MacEwen, Hope Creek Commitment Coordinator (H02)

Mr. Lee Marabella, Corporate Commitment Coordinator (N21)

Attachment 1

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

PLANT NAME:	Hope Creek Generating Station
ECCS EVALUATION MODEL:	SAFER/GESTR-LOCA
REPORT REVISION DATE:	9/22/2015
CURRENT OPERATING CYCLE:	20

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: GE14 and GE14i
Limiting Fuel Type – Licensing Basis PCT: GE14/GE14i
Limiting Single Failure: Battery
Limiting Break Size and Location: Double-Ended Guillotine in a Recirculation Suction Pipe

Fuel Type:	GE14	GE14i
Reference PCT	**1380 °F**	**1380 °F**

Attachment 1

MARGIN ALLOCATION

A. PRIOR LOCA MODEL ASSESSMENTS

	GE14	GE14i
Impact of Top Peaked Power Shape on Small Break LOCA Analysis (see Assessment Note 1)	ΔPCT = 0°F	ΔPCT = 0°F
2011-02: Impact of database error for heat deposition on the Peak Cladding Temperature (PCT) for 10 x 10 fuel bundles (see Assessment Note 1)	ΔPCT = 45°F	ΔPCT = 45°F
2011-03: Impact of updated formulation for gamma heat deposition to channel wall for 9 x 9 and 10 x 10 fuel bundles (see Assessment Note 1)	ΔPCT = 5°F	ΔPCT = 5°F
2012-01: PRIME Fuel Properties Implementation for Fuel Rod T/M Performance, replacing GESTR Fuel Properties (see Assessment Note 1)	ΔPCT = 45°F	ΔPCT = 45°F
2014-01: SAFER04A E4-Maintenance Update Changes. (see Assessment Note 1)	ΔPCT = 0°F	ΔPCT = 0°F
2014-02: SAFER04A E4–Mass Non-Conservatism. (see Assessment Note 1)	ΔPCT = 10°F	ΔPCT = 10°F
2014-03: SAFER04A E4-Minimum Core DP Model. (see Assessment Note 1)	ΔPCT = 20°F	ΔPCT = 20°F
2014-04: SAFER04A E4-Bundle/Lower Plenum CCFL Head. (see Assessment Note 1)	ΔPCT = -20°F	ΔPCT = -20°F
Net PCT	**1485 °F**	**1485 °F**

B. CURRENT LOCA MODEL ASSESSMENTS

	GE14	GE14i
None. (see Assessment Note 2)		
Total PCT change from current assessments	$\sum \Delta PCT = 0°F$	$\sum \Delta PCT = 0°F$
Cumulative PCT change for current assessments	$\sum \lvert \Delta PCT \rvert = 0°F$	$\sum \lvert \Delta PCT \rvert = 0°F$
Net PCT	**1485 °F**	**1485 °F**

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

1. Prior LOCA Model Assessments

Letters, LR-N08-0221 and LR-N11-0275, reported the impact of the top peaked axial power shape on the small break LOCA for GE14 and GE14i fuel for Hope Creek.

Letter LR-N11-0275 reported the impact of the database error for heat deposition on the Peak Cladding Temperature (PCT) for 10 x 10 fuel bundles and the impact of updated formulation for gamma heat deposition to channel wall for 9 x 9 and 10 x 10 fuel bundles as applicable to Hope Creek GE14 and GE14i fuel.

Letter LR-N13-0210 reported the impact of PRIME Fuel Properties Implementation for Fuel Rod T/M Performance, replacing GESTR Fuel Properties.

Letter LR-N14-0211 reported the impact of Evaluation Model changes or errors associated with SAFER04A E4-Maintenance Update Changes, E4-Mass Non-Conservatism, E4-Minimum Core DP Model, and E4-Bundle/Lower Plenum CCFL Head.

2. Current LOCA Model Assessments

No new assessments since the last 10 CFR 50.46 Report transmitted in Letter, LR-N14-0211.