



10 CFR 50.90

LR-N07-0029
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February 16, 2007

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: Supplement to License Amendment Request for Extended Power Uprate

Reference: 1) PSEG letter LR-N06-0286, Request for License Amendment: Extended Power Uprate, September 18, 2006

In Reference 1, PSEG Nuclear LLC (PSEG) requested an amendment to Facility Operating License NPF-57 and the Technical Specifications (TS) for the Hope Creek Generating Station (HCGS) to increase the maximum authorized power level to 3840 megawatts thermal (MWt).

Attachment 4 to Reference 1, NEDC-33076P, Rev. 2, "Safety Analysis Report for Hope Creek Constant Pressure Power Uprate," included the results of the evaluation performed to demonstrate safe shutdown capability in compliance with the requirements of 10 CFR 50 Appendix R for extended power uprate (EPU) conditions. PSEG has revised the analysis of the Appendix R fire event for both current licensed thermal power (CLTP) and EPU to reflect a plant modification and a change in the time assumed for initiation of suppression pool cooling. A description of the analysis and the results are provided in Attachment 1 to this letter.

PSEG has determined that the information contained in this letter and attachments does not alter the conclusions reached in the 10CFR50.92 no significant hazards analysis previously submitted.

Attachment 1 contains information that General Electric Company (GE) considers to be proprietary. GE hereby requests that the proprietary information be withheld from public disclosure in accordance with the provisions of 10 CFR 2.390 and 9.17. An affidavit

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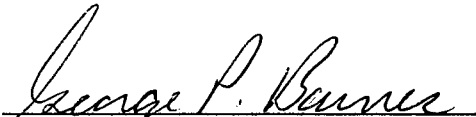
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supporting this request is included with Attachment 1. Attachment 2 is a redacted version of Attachment 1 with the GE proprietary material removed and is suitable for public disclosure.

Should you have any questions regarding this submittal, please contact Mr. Paul Duke at 856-339-1466.

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

Executed on 2/16/07
(date)


George P. Barnes
Site Vice President – Hope Creek

Attachments (2)

cc: S. Collins, Regional Administrator – NRC Region I
R. Ennis, Project Manager - Hope Creek, USNRC
NRC Senior Resident Inspector - Hope Creek
K. Tosch, Manager IV, NJBNE

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

Supplement to Request for License Amendment
Extended Power Uprate

In Reference 1, PSEG Nuclear LLC (PSEG) requested an amendment to Facility Operating License NPF-57 and the Technical Specifications (TS) for the Hope Creek Generating Station (HCGS) to increase the maximum authorized power level to 3840 megawatts thermal (MWt). Attachment 4 to Reference 1 included the results of the evaluation performed to demonstrate safe shutdown capability in compliance with the requirements of 10 CFR 50 Appendix R for extended power uprate (EPU) conditions.

PSEG has revised the analysis of the Appendix R fire event for both current licensed thermal power (CLTP) and EPU to reflect a plant modification and a change in the time assumed for initiation of suppression pool cooling.

Previously, the Reactor Water Cleanup (RWCU) system blowdown isolation valves were disabled during plant operation by removing power to the valves to protect against the effect of a spurious opening and a loss of inventory event. De-energizing these valves limited plant operators' capability to quickly control reactor pressure vessel (RPV) level after a scram. The modification permits these valves to remain energized during plant operation. The Appendix R analysis was revised to account for inventory loss through a failed open blowdown valve, limited by a breakdown orifice installed upstream.

The Appendix R fire event analysis described in Attachment 4 to Reference 1 assumed that suppression pool cooling (SPC) would be initiated 20 minutes after the start of the event. The assumed time for SPC initiation was increased to 60 minutes for the reanalysis.

The description of the analysis and the results below replace section 6.7.1, "10 CFR 50 Appendix R Fire Event" and Table 6-4, "Hope Creek Appendix R Fire Event Evaluation Results" in Attachment 4 to Reference 1. Changes from the information provided in Reference 1 are marked by a revision bar in the margin.

Errata & Addenda No. 1, for NEDO-33076, Safety Analysis Report for Hope Creek Constant Pressure Power Uprate, January 5, 2007

6.7.1 10 CFR 50 Appendix R Fire Event

A plant-specific evaluation was performed to demonstrate safe shutdown capability in compliance with the requirements of 10 CFR 50 Appendix R assuming CPPU conditions. The limiting Appendix R fire event was analyzed assuming CLTP and CPPU. The fuel heatup analysis was performed using the

SAFER/GESTR-LOCA analysis model. The containment analysis was performed using the SHEX model. This evaluation determined the effect of CPPU on fuel cladding integrity, reactor vessel integrity, and containment integrity as a result of the fire event.

The major operator actions for a limiting postulated Appendix R fire event using Remote Shutdown System (RSS) are described below:

- 1) One stuck SRV opens at time zero and remains open throughout the event;
- 2) RCIC injection occurs at 10 minutes by operator action from remote shutdown panel;
- 3) Suppression pool cooling is initiated at 60 minutes by operator action;
- 4) At 60 minutes, when the vessel pressure reaches 80 psig, the vessel water level is raised to the main steam line elevation using one RHR pump in LPCI mode. Alternate shutdown cooling is initiated when a SRV(s) is held open to allow water to flow to the suppression pool.

The above scenarios were developed based on the descriptions in the Hope Creek UFSAR and plant shutdown procedures.

The results of the Appendix R evaluation for CLTP and CPPU provided in Table 6-4 demonstrate that the fuel cladding integrity, reactor vessel integrity and containment integrity are maintained and that sufficient time is available for the operator to perform the necessary actions. No changes are necessary to the equipment required for safe shutdown for the Appendix R event. One train of systems remains available to achieve and maintain safe shutdown conditions from either the main control room or the remote shutdown panel. Therefore, CPPU has no adverse effect on the ability of the systems and personnel to mitigate the effects of an Appendix R fire event, and satisfies the requirements of Appendix R with respect to achieving and maintaining safe shutdown in the event of a fire.

Table 6-4

Hope Creek Appendix R Fire Event Evaluation Results

	CLTP ⁽¹⁾	CPPU ⁽¹⁾	App. R Criteria
Cladding Heatup (PCT) (°F) ⁽²⁾	589	591	≤ 1500
Operator Action Time to Start RCIC (minute)	10	10	(3)
Primary System Pressure (psig) ⁽⁴⁾	1112.1	1119.9	≤ 1375
Primary Containment Pressure (psig)	9.3	11.1	≤ 62
Drywell Airspace Temperature (°F)	300.2	300.3	≤ 340
Suppression Pool Bulk Temperature (°F)	195.5	206.3	≤ 310
Net Positive Suction Head ⁽⁵⁾	Yes	Yes	Adequate for system using designated water source

(1) [[

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(2) Initial steady-state fuel temperature

(3) To maintain the core covered.

(4) [[

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(5) NPSH demonstrated adequate, see Section 4.2.6.

References:

1. PSEG letter LR-N06-0286, Request for License Amendment: Extended Power Uprate, September 18, 2006