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PSEG
Nuclear LLC

JUN 18 2018

10CFR50.73

LR-N18-0060

United States Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-001

Hope Creek Generating Station Unit 1
Renewed Facility Operating License No. NPF-57
Docket No. 50-354

Subject: Licensee Event Report 2018-001-00, Operations With A Potential To Drain The Reactor Vessel (OPDRV) Without Secondary Containment.

In accordance with 10 CFR 50.73(a)(2)(i)(B), PSEG Nuclear LLC is submitting Licensee Event Report (LER) Number 2018-001-00, "Operations With a Potential To Drain the Reactor Vessel (OPDRV) Without Secondary Containment."

If you have any questions or require additional information, please contact Mr. Thomas MacEwen at (856) 339-1097.

There are no regulatory commitments contained in this letter.

Sincerely,

Edward T. Casulli
Plant Manager
Hope Creek Generating Station

ttm

Attachment: Licensee Event Report 2018-001-00

cc: Mr. Daniel Dorman, Regional Administrator – Region I, NRC
Mr. Jim Kim, Project Manager - US NRC
Mr. Justin Hawkins, NRC Senior Resident Inspector – Hope Creek (X24)
Mr. Patrick Mulligan, Manager IV, NJBNE
Mr. Thomas MacEwen, Hope Creek Commitment Tracking Coordinator (H02)
Mr. Lee Marabella, Corporate Commitment Tracking Coordinator (N21)

NRC FORM 366 (02-2018) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB: NO. 3150-0104 EXPIRES: 03/31/2020

LICENSEE EVENT REPORT (LER)

(See Page 2 for required number of digits/characters for each block)

(See NUREG-1022, R.3 for instruction and guidance for completing this form http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1022/r3/)

1. Facility Name	2. Docket Number	3. Page
Hope Creek Generating Station	05000-354	1 OF 4

4. Title

Operations With A Potential To Drain The Reactor Vessel (OPDRV) Without Secondary Containment

5. Event Date			6. LER Number			7. Report Date			8. Other Facilities Involved	
Month	Day	Year	Year	Sequential Number	Rev No.	Month	Day	Year	Facility Name	Docket Number
										05000
04	19	2018	2018	-001	-00	06	18	2018	Facility Name	Docket Number
										05000

9. Operating Mode	11. This Report is Submitted Pursuant to the Requirements of 10 CFR §: *(Check all that apply)*			
5	☐ 20.2201(b)	☐ 20.2203(a)(3)(i)	☐ 50.73(a)(2)(ii)(A)	☐ 50.73(a)(2)(viii)(A)
	☐ 20.2201(d)	☐ 20.2203(a)(3)(ii)	☐ 50.73(a)(2)(ii)(B)	☐ 50.73(a)(2)(viii)(B)
	☐ 20.2203(a)(1)	☐ 20.2203(a)(4)	☐ 50.73(a)(2)(iii)	☐ 50.73(a)(2)(ix)(A)
	☐ 20.2203(a)(2)(i)	☐ 50.36(c)(1)(i)(A)	☐ 50.73(a)(2)(iv)(A)	☐ 50.73(a)(2)(x)
10. Power Level	☐ 20.2203(a)(2)(ii)	☐ 50.36(c)(1)(ii)(A)	☐ 50.73(a)(2)(v)(A)	☐ 73.71(a)(4)
	☐ 20.2203(a)(2)(iii)	☐ 50.36(c)(2)	☐ 50.73(a)(2)(v)(B)	☐ 73.71(a)(5)
0	☐ 20.2203(a)(2)(iv)	☐ 50.46(a)(3)(ii)	☐ 50.73(a)(2)(v)(C)	☐ 73.77(a)(1)
	☐ 20.2203(a)(2)(v)	☐ 50.73(a)(2)(i)(A)	☐ 50.73(a)(2)(v)(D)	☐ 73.77(a)(2)(ii)
	☐ 20.2203(a)(2)(vi)	☒ 50.73(a)(2)(i)(B)	☐ 50.73(a)(2)(vii)	☐ 73.77(a)(2)(iii)
		☐ 50.73(a)(2)(i)(C)	☐ Other (Specify in Abstract below or in NRC Form 366A	

12. Licensee Contact for this LER

Licensee Contact	Telephone Number (Include Area Code)
Thomas MacEwen, Principal Nuclear Engineer	856-339-1097

13. Complete One Line for each Component Failure Described in this Report

Cause	System	Component	Manufacturer	Reportable To ICES	Cause	System	Component	Manufacturer	Reportable To ICES
X	BO	RV	C710	N	X	BO	RV	C710	N

14. Supplemental Report Expected	15. Expected Submission Date	Month	Day	Year
☐ Yes (If yes, complete 15. Expected Submission Date) ☒ No				

Abstract (Limit to 1400 spaces, i.e., approximately 14 single-spaced typewritten lines)

From April 19 through April 29, 2018, with Hope Creek Generating Station (HCGS) in a planned refueling outage and the reactor cavity flooded in OPCON 5, HCGS performed operations with a potential to drain the reactor vessel (OPDRV) without an operable secondary containment. These operations are prohibited by Technical Specification (TS) 3.6.5.1; however, NRC guidance provided in Enforcement Guidance Memorandum (EGM) 11-003, Revision 3, allowed the implementation of interim actions as an alternative to full compliance. These actions were compiled in a plant procedure for controlling OPDRV activities performed at HCGS during Refueling Outages.

Three OPDRV activities were planned activities that were completed under the guidance of plant procedures and confirmed to have low safety significance based on the interim actions taken. Since these actions were deliberate, no cause determination was necessary. One OPDRV activity was not planned and occurred as a result of equipment failure. Consistent with the guidance provided in EGM 11-003, Revision 3, HCGS submitted a license amendment request on September 22, 2017, to adopt a Technical Specification Task Force (TSTF) traveler associated with generic resolution of this issue.

These conditions are being reported in accordance with 10 CFR 50.73(a)(2)(i)(B) as a condition prohibited by TS.

1. FACILITY NAME	2. DOCKET NUMBER	3. LER NUMBER		
		YEAR	SEQUENTIAL NUMBER	REV NO.
Hope Creek Generating Station	05000-354	2018	- 001	- 00

NARRATIVE

PLANT AND SYSTEM IDENTIFICATION

General Electric – Boiling Water Reactor (BWR/4)*
Reactor Pressure Vessel (AC) – EIIS Identifier {AC/RPV}
Secondary Containment (NG) – EIIS Identifier {NG}
Residual Heat Removal System – EIIS Identifier {BO}
*Energy Industry Identification System {EIIS} codes and component function identifier codes appear as {SS/CCC}

IDENTIFICATION OF OCCURRENCE

Event Dates: April 19, April 21, April 25 and April 29, 2018
Discovery Dates: April 19, April 21, April 25 and April 29, 2018

CONDITIONS PRIOR TO OCCURRENCE

Hope Creek was shut down for Refueling Outage H1R21 in Operational Condition (OPCON) 5 – Refueling Operations.

DESCRIPTION OF OCCURRENCE

From April 19 through April 29, 2018, with Hope Creek Generating Station (HCGS) in a planned refueling outage and the reactor cavity flooded in OPCON 5, HCGS performed operations with a potential to drain the reactor vessel (OPDRV) without an operable secondary containment {NG}. These operations are prohibited by Technical Specification (TS) 3.6.5.1, "Secondary Containment Integrity." The NRC recognized that such activities may need to be performed during refueling outages while activities were underway with the Boiling Water Reactor Owners Group (BWROG) to formulate acceptable generic changes to the BWSR Technical Specifications (TS). NRC guidance provided in Enforcement Guidance Memorandum (EGM) 11-003, Revision 3, "Enforcement Guidance Memorandum on Dispositioning Boiling Water Reactor Licensee Noncompliance with Technical Specification Containment Requirements During Operations With a Potential for Draining the Reactor Vessel," dated January 15, 2016, allowed the implementation of specific interim actions, as an alternative to full compliance with TS, while the improvements in the TS are under development with the BWROG. The required interim actions specified in the EGM were incorporated into plant procedure OP-HC-108-102, "Management of Operations with the Potential to Drain the Reactor Vessel." This procedure was then utilized on these occasions as listed in Tables 1 and 2, during Refueling Outage (H1R21). Secondary Containment was restored to an operable status on April 29, 2018 at 07:30 EDT. With secondary containment operable, the enforcement guidance in EGM 11-03 was no longer applicable.

Table 1 — HCGS Planned OPDRVs Performed April 2018

Activity / Duration	Start	End
Replacement of Control Rod Drive Mechanisms (CRDM)	April 19, 2018 at 04:55 EDT	April 19, 2018 at 21:00 EDT
Replacement of Local Power Range Monitors	April 21, 2018 at 04:05 EDT	April 21, 2018 at 17:09 EDT
Cavity let down via Reactor Water Clean Up (RWCU) system	April 29, 2018 at 04:16 EDT	April 29, 2018 at 07:30 EDT*

Table 2 — HCGS Unplanned OPDRV Performed April 2018

Activity / Duration	Start	End
Residual Heat Removal system relief valve leakage	April 25, 2018 at 19:10 EDT	April 29, 2018 at 07:30 EDT*

* Secondary Containment operability restored

CAUSE OF EVENT

Implementation of EGM 11-003, Revision 3, interim actions during the HCGS refueling outage (H1R21) was a planned activity for the activities listed in Table 1, above. As such, no cause determination was performed for these activities.

On April 25, 2018, with the A RHR subsystem providing shutdown cooling, it was discovered that two relief valves in the A RHR system were leaking past the seat resulting in an approximate 8 gpm flow path from the reactor cavity to the suppression pool. The condition was subsequently determined to be an OPDRV without secondary containment operable. The guidance of EGM 11-03 was reviewed and it was determined that the condition met the requirements of plant procedure OP-HC-108-102, "Management of Operations with the Potential to Drain the Reactor Vessel," and no additional compensatory measures were required. The condition was recorded in the control room narrative log as an OPDRV.

SAFETY CONSEQUENCES AND IMPLICATIONS

The OPDRVs discussed in this report were performed during the HCGS refueling outage (H1R21) and were accomplished using the interim actions provided by the NRC in EGM 11-003, Revision 3. For these events, HCGS adhered to the NRC plain language meaning of OPDRV activities that could potentially result in draining or siphoning the RPV water level below the top of fuel. HCGS also met the requirements that specify the minimum makeup flow rate and water inventory based on OPDRV activities with long drain down times. Further, an adequate defense-in-depth was maintained to minimize the potential for the release of fission products with secondary containment not operable by (a) monitoring RPV level to identify the onset of a loss of inventory event; (b) maintaining the capability to isolate the potential leakage paths; (c) prohibiting Mode 4 (cold shutdown) OPDRV activities; and (d) prohibiting movement of irradiated fuel with the spent fuel storage pool gates removed in Mode 5. All other Mode 5 TS requirements for activities were followed. Since these compensatory measures were properly implemented, an adequate level of safety was provided during the OPDRV activities described in this report. Based on this information, the performance of these OPDRV activities were determined to have a low safety significance.

PREVIOUS EVENTS

A review of Licensee Event Reports and the corrective action program for the past three years identified the following previous similar concurrences:

- LER 2015-002-11, dated June 10, 2015, reported OPDRV activities during the 2015 refueling outage (H1R19). Interim actions in accordance with Revision 2 of the EGM were applied. No corrective actions were stated.
- LER 2016-004-00, dated December 20, 2016, reported OPDRV activities during the 2016 refueling outage (H1R20). Interim actions in accordance with Revision 3 of the EGM were applied. No corrective actions were stated.

LICENSEE EVENT REPORT (LER)
CONTINUATION SHEET

(See NUREG-1022, R.3 for instruction and guidance for completing this form http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1022/r3/)

1. FACILITY NAME	2. DOCKET NUMBER	3. LER NUMBER		
		YEAR	SEQUENTIAL NUMBER	REV NO.
Hope Creek Generating Station	05000-354	2018	- 001	- 00

NARRATIVE

CORRECTIVE ACTIONS

HCGS has submitted a license amendment request to adopt a Technical Specification Task Force (TTF) traveler associated with generic resolution of this issue.

One of the two leaking relief valves was replaced during H1R21. The second relief valve is scheduled for replacement during the next refueling outage.

COMMITMENTS

This LER contains no regulatory commitments