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LR-N04-0578

PSEG Nuclear LLC

U. S. Nuclear Regulatory Commission
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LER 354/04-011-00
HOPE CREEK GENERATING STATION
FACILITY OPERATING LICENSE NO. NPF-57
DOCKET NO. 50-354

This Licensee Event Report entitled "Control Room Emergency Filtration Inoperable Longer Than Technical Specification Allowed Outage Time" is being submitted pursuant to the requirements of 10CFR50.73(a)(2)(i)(B).

Sincerely,

James Hutton
Plant Manager – Hope Creek

Attachment

BJT

C Distribution
LER File 3.7

IE22

NRC FORM 366 (6-2004) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB: NO. 3150-0104 EXPIRES: 06/30/2007

Estimated burden per response to comply with this mandatory collection request: 50 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the Records and FOIA/Privacy Service Branch (T-5 F52), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by Internet e-mail to Infocollects@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0104), Office of Management and Budget, Washington, DC 20503. If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

LICENSEE EVENT REPORT (LER)

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

1. FACILITY NAME	2. DOCKET NUMBER	3. PAGE
Hope Creek Generating Station	05000354	1 OF 3

4. TITLE

Control Room Emergency Filtration Inoperable Longer Than Technical Specification Allowed Outage Time

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
10	21	2004	2004	- 011 -	00	12	20	2004	FACILITY NAME	DOCKET NUMBER

9. OPERATING MODE

4

10. POWER LEVEL

0

11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR§: *(Check all that apply)*

- ☐ 20.2201(b)
- ☐ 20.2201(d)
- ☐ 20.2203(a)(1)
- ☐ 20.2203(a)(2)(i)
- ☐ 20.2203(a)(2)(ii)
- ☐ 20.2203(a)(2)(iii)
- ☐ 20.2203(a)(2)(iv)
- ☐ 20.2203(a)(2)(v)
- ☐ 20.2203(a)(2)(vi)
- ☐ 20.2203(a)(3)(i)
- ☐ 20.2203(a)(3)(ii)
- ☐ 20.2203(a)(4)
- ☐ 50.36(c)(1)(i)(A)
- ☐ 50.36(c)(1)(ii)(A)
- ☐ 50.36(c)(2)
- ☐ 50.46(a)(3)(ii)
- ☐ 50.73(a)(2)(i)(A)
- ☒ 50.73(a)(2)(i)(B)
- ☐ 50.73(a)(2)(i)(C)
- ☐ 50.73(a)(2)(ii)(A)
- ☐ 50.73(a)(2)(ii)(B)
- ☐ 50.73(a)(2)(iii)
- ☐ 50.73(a)(2)(iv)(A)
- ☐ 50.73(a)(2)(v)(A)
- ☐ 50.73(a)(2)(v)(B)
- ☐ 50.73(a)(2)(v)(C)
- ☐ 50.73(a)(2)(v)(D)
- ☐ 50.73(a)(2)(vii)
- ☐ 50.73(a)(2)(viii)(A)
- ☐ 50.73(a)(2)(viii)(B)
- ☐ 50.73(a)(2)(ix)(A)
- ☐ 50.73(a)(2)(x)
- ☐ 73.71(a)(4)
- ☐ 73.71(a)(5)
- ☐ OTHER

Specify in Abstract below or in NRC Form 366A

12. LICENSEE CONTACT FOR THIS LER

FACILITY NAME	TELEPHONE NUMBER (Include Area Code)
Brian Thomas, Licensing Engineer	856-339-2022

13. COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT

CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX

14. SUPPLEMENTAL REPORT EXPECTED

☒ YES *(If yes, complete 15. EXPECTED SUBMISSION DATE)* ☐ NO

15. EXPECTED SUBMISSION DATE

MONTH	DAY	YEAR
02	28	2005

ABSTRACT *(Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines)*

On October 21, 2004, the 'A' control room emergency filtration (CREF) train tripped on low flow after receiving a start signal from the Loss of Coolant Accident (LOCA) sequencer during the performance of Loss of Offsite Power (LOP)/LOCA surveillance testing of the 'C' emergency diesel generator (EDG). As a result, the 'A' CREF train was declared inoperable. The CREF train is required to run following a LOCA or a LOCA in conjunction with a LOP (LOP/LOCA). It was determined that the 'A' CREF fan flow controller response upon restoration from a loss of power was extremely slow, which resulted in the demand signal from the controller not driving the flow control damper open fast enough to allow system flow to exceed the low flow setpoint. A review of the 'B' CREF train fan flow controller was performed. Based upon this review, the 'B' CREF train was conservatively declared inoperable.

The cause of the CREF fans not being able to restart after a LOP/LOCA signal is still under investigation. A supplemental LER will be submitted by February 28, 2005, to include the results of the completed cause investigation and associated corrective actions.

This event is being reported in accordance with 10CFR50.73(a)(2)(i)(B), as "a condition which was prohibited by technical specifications."

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TEXT (If more space is required, use additional copies of NRC Form 366A) (17)

PLANT AND SYSTEM IDENTIFICATION

General Electric – Boiling Water Reactor (BWR/4)

Control Room Emergency Filtration (CREF) System – EIIS Identifier {VI}*

*Energy Industry Identification System {EIIS} codes and component function identifier codes appear as {SS/CCC}

IDENTIFICATION OF OCCURRENCE

Discovery Date: October 21, 2004

CONDITIONS PRIOR TO OCCURRENCE

Hope Creek was in OPERATIONAL CONDITION 4 (COLD SHUTDOWN) at 0% Reactor Power at the time of discovery. There was no equipment out of service that contributed to this event.

DESCRIPTION OF OCCURRENCE

On October 21, 2004, the 'A' control room emergency filtration (CREF) {VI} train tripped on low flow after receiving a start signal from the Loss of Coolant Accident (LOCA) sequencer during the performance of Loss of Offsite Power (LOP)/LOCA surveillance testing of the 'C' emergency diesel generator (EDG). As a result, the 'A' CREF train was declared inoperable. The CREF train is required to run following a LOCA or a LOCA in conjunction with a LOP (LOP/LOCA).

Troubleshooting was conducted which determined that the 'A' CREF train ran normally with no LOP or LOCA signal present. However, during a simulated LOP/LOCA the 'A' CREF fan was not able to clear the low flow fan trip setpoint. It was determined that the fan flow controller response upon restoration from a loss of power was extremely slow, which resulted in the demand signal from the controller not driving the flow control damper open fast enough to allow system flow to exceed the low flow setpoint.

A review of the 'B' CREF train fan flow controller settings was performed. Based upon this review, the 'B' CREF train was conservatively declared inoperable.

A review of the previous fan controller setpoints was performed and determined that the 'A' CREF train had the current as found settings installed between September 2002 and July 2004. The 'B' CREF train has had the current settings installed since April 2003.

This event is being report in accordance with 10CFR50.73(a)(2)(i)(B), as "a condition which was prohibited by technical specifications." Hope Creek Technical Specification 3/4.7.2 states that "with one control room emergency filtration subsystem inoperable, restore the inoperable subsystem to OPERABLE status within 7 days."

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CAUSE OF OCCURRENCE

The cause of the CREF fans not being able to restart after a LOP/LOCA signal is still under investigation. Upon completion of the cause investigation, this LER will be supplemented by February 28, 2005.

PREVIOUS OCCURRENCES

A review of LERs for prior similar occurrences will be performed upon completion of the cause investigation.

SAFETY CONSEQUENCES AND IMPLICATIONS

There were no safety consequences associated with this event.

The 'A' CREF fan was determined to not be capable of clearing the low flow fan trip setpoint during a LOP/LOCA. As a result of a review of the 'B' CREF train settings, the 'B' CREF train was conservatively declared inoperable. However, testing of the trains with the as-found controller setpoints had demonstrated that the fans would have started during a LOCA without a LOP present. The fans were also capable of being manually started from the Control Room. In accordance with the design basis dose analysis for a LOCA event, control room operator radiological doses as evaluated in the analysis would not be exceeded if the control room envelope (CRE) is initially isolated and a CREF train is started within the first 30 minutes of the LOCA to pressurize the CRE. With the as-found fan controller settings, the CREF train would have isolated the control room envelope, the fan would have tripped on low flow, but the operators were capable of re-starting the CREF train within 30 minutes from the control room.

A review of this event determined that a Safety System Functional Failure (SSFF) has not occurred as defined in Nuclear Energy Institute (NEI) 99-02. Since the CREF trains were capable of mitigating the consequences of a LOP/LOCA in accordance with the design basis dose analysis this event did not impact the ability to mitigate the consequences of an accident.

CORRECTIVE ACTION

Currently, Hope Creek is in the 12th Refueling Outage. The 'A' and 'B' CREF trains will be restored to operable status prior to entering Operational Conditions 1, 2 or 3 in accordance with the requirements of the Hope Creek Technical Specifications.

Additional corrective actions will be identified upon completion of the cause investigation.

COMMITMENTS

A supplemental LER will be submitted by February 28, 2005.