



Serial: HNP-10-134
10 CFR 50.73

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

SHEARON HARRIS NUCLEAR POWER PLANT, UNIT 1
DOCKET NO. 50-400/RENEWED LICENSE NO. NPF-63
LICENSEE EVENT REPORT 2010-005-00

Ladies and Gentlemen:

The enclosed Licensee Event Report (LER) 2010-005-00 is submitted in accordance with 10 CFR 50.73, paragraph (a)(2)(i)(B) as a condition prohibited by the plant Technical Specifications and paragraph (a)(2)(v)(D) as a condition that could have prevented the fulfillment of a safety function needed to mitigate the consequences of an accident. This report describes an event in which an inadequate operating procedure resulted in the required number of Operable Emergency Core Cooling System Trains being less than that required by Technical Specifications due to two Residual Heat Removal header isolation valves being de-energized. In accordance with 10 CFR 50.73(a) requirements, this LER is submitted within 60 days following discovery of the event.

This document contains no Regulatory Commitments.

Please refer any questions regarding this submittal to Mr. John Caves, Supervisor - Licensing/Regulatory Programs, at (919) 362-3137.

Sincerely,

Kelvin Henderson
Plant General Manager
Harris Nuclear Plant

KH/kab

Enclosure

cc: Mr. J. D. Austin, NRC Sr. Resident Inspector, HNP
Mrs. B. L. Mozafari, NRC Project Manager, HNP
Mr. L. A. Reyes, NRC Regional Administrator, Region II

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LICENSEE EVENT REPORT (LER)
(See reverse for required number of
digits/characters for each block)

4. TITLE

Emergency Core Cooling System (ECCS) Inoperable for Greater than Time Allowed by Technical Specifications

12. LICENSEE CONTACT FOR THIS LER13. COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT

14. SUPPLEMENTAL REPORT EXPECTED

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

On November 9, 2010, 1RH-25, Residual Heat Removal (RHR) Header 'A' Isolation Valve to Charging Safety Injection Pump (CSIP) Suction, and 1RH-63, RHR Header 'B' Isolation Valve to CSIP Suction, were both de-energized as a result of performing Operating Procedure OP-111, Section 7.2, Restoring the RHR System to Emergency Core Cooling System (ECCS) Mode. This caused both trains of ECCS to be inoperable. The plant was in Mode 4 with one train of ECCS required to be operable. It was not recognized that both trains of ECCS were inoperable. Transition from Mode 4 to Mode 3 occurred while in this condition. In Mode 3 both Trains of ECCS were required to be operable. These conditions are prohibited by the Harris Nuclear Plant (HNP) Technical Specifications and are reportable under 10 CFR Part 50.73 (a)(2)(i)(B). They are also reportable under 10 CFR Part 50.73(a)(2)(v)(D). The root cause is that OP-111, Section 7.2.2 had incorrect steps that required the breakers for 1RH-25 and 1RH-63 be opened. The primary contributing cause is a lack of human performance tool usage by operators performing OP-111. Immediate corrective actions included promptly closing 1RH-25 and 1RH-63 circuit breakers and following operating procedure lineup checks. Additionally, OP-111, Residual Heat Removal System, was revised to correct the steps that required the breakers for 1RH-25 and 1RH-63 be open in Section 7.2.2.

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NARRATIVE

Energy Industry Identification System (EIIS) codes are identified in the text within brackets [].

EVENT DESCRIPTION

Coming out of Refueling Outage 16 (RFO-16), the plant entered Mode 4 on November 8, 2010 at 14:14, at which time valves 1RH-25 and 1RH-63 were energized. The Reactor Coolant System (RCS) [AB] temperature band was 330-345 degrees F. The RCS pressure band was 475-525 psig. Operating Procedure OP-111, Residual Heat Removal [BP], Section 7.2 was performed and the power to valves 1RH-25 and 1RH-63 was removed at 01:16 on November 9, 2010. This caused both trains of ECCS [BQ] to be inoperable. With both trains of ECCS inoperable, the plant entered Mode 3 at 02:46 on November 9, 2010. Shift Turnover occurred at 06:00 and at 18:00 on November 9, 2010. Main Control Board walk downs did not identify that 1RH-25 and 1RH-63 were deenergized. An operator on duty in the Main Control Room noticed that the indicating lights for 1RH-25 and 1RH-63 were off. At approximately 23:25 on November 9, 2010, the breakers for 1RH-25 and 1RH-63 were closed and the valves energized. Technical Specification 3.0.3 was exited. No other safety system response occurred due to this condition. Both trains of ECCS were inoperable for approximately 23 hours.

CAUSE OF EVENT

The root cause is that Operating Procedure OP-111, Section 7.2.2 had incorrect steps that required the breakers for 1RH-25 and 1RH-63 be opened. The primary contributing cause is a lack of Human Performance Tool usage (Questioning Attitude, Pre-Job Brief) by the Operators performing OP-111.

SAFETY SIGNIFICANCE

Two trains of ECCS were inoperable for approximately 23 hours with the plant in Modes 4 and 3 due to valves 1RH-25 and 1RH-63 being de-energized. There were no actual safety significant consequences as a result of this event. No events occurred that required the use of the ECCS. If a design basis event had occurred while the breakers for 1RH-25 and 1RH-63 were open Operations would not have been able to align the CSIP pumps for recirculation from the main control room. Operator actions would have been required to close the breakers for these valves. This would have delayed aligning the CSIP pumps for recirculation mode. At the time of the condition, the plant was not critical and starting up after a 40 day refueling outage, so the decay heat load is minimal. In addition, the time in the condition was less than a day, most of which was during the heatup from mode 4 to normal operating temperature and pressure. If there was a LOCA during this period, EOP-GUIDE-1, step 59.c. directs the control room to "Perform a brief on EPP-010, TRANSFER TO COLD LEG RECIRCULATION, to prepare for transfer to cold leg recirculation." This step would likely occur prior to reaching the threshold for transferring to cold leg recirculation and would likely alert the operator that the valves did not have power. In conclusion, the risk significance of the condition was minimal due to the actual plant conditions. However, the event could have been more significant if the plant were operating at power with significant power history.

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NARRATIVE

PREVIOUS SIMILAR EVENTS

LER-2006-02-00, During Refueling Outage 13 (RFO-13), a rebuilt York Compressor was installed on the A Chiller for the 'A Essential Services Chilled Water (ESCW) system. To connect the rebuilt compressor, personnel reinstalled and reconnected the linkage between the compressor pre-rotation vane (PRV) shaft and the PRV motor. The root cause of this event was a technically inadequate maintenance procedure. This did not prevent the recurrence because the current issue involved an operating procedure rather than the conduct of maintenance.

CORRECTIVE ACTIONS

Immediate Corrective Actions

- 1RH-25 and 1RH-63 circuit breakers were promptly closed and the entry into Technical Specification 3.0.3 was exited. (11/9/2010)
- Operating Procedure "OP" lineup checks were performed. (11/10/2010)
- OP-111 was revised to remove the error that caused the breakers to be opened. (11/10/2010)

Planned Corrective Actions

- Complete Operations training on Human Performance