



Ernest J. Kapopoulos, Jr.  
Plant General Manager  
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Progress Energy Carolinas, Inc.

July 30, 2012  
Serial: HNP-12-084

10 CFR 50.73

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

Shearon Harris Nuclear Power Plant, Unit 1  
Docket No. 50-400 / Renewed Facility Operating License No. NPF-63

Subject: Licensee Event Report 2012-002-00

Ladies and Gentlemen:

Carolina Power & Light Company submits the enclosed Licensee Event Report (LER) 2012-002-00 in accordance with 10 CFR 50.73. This report describes a condition where two overcurrent protection devices had not been tested per Technical Specifications and resulted in missed surveillances. This LER is submitted within 60 days following discovery of the condition in accordance with 10 CFR 50.73(a)(2)(i)(B). The management review and assessment of the completed root cause evaluation is ongoing. This LER will be supplemented if appropriate based upon that ongoing review.

This document contains no regulatory commitments. Please refer any questions regarding this submittal to Dave Corlett at (919) 362-3137.

Sincerely,

A handwritten signature in black ink, appearing to read 'Ernest J. Kapopoulos, Jr.', written in a cursive style.

Enclosure: LER 2012-002-00

cc: Mr. J. D. Austin, NRC Sr. Resident Inspector, HNP  
Ms. A. T. Billoch Colón, NRC Project Manager, HNP  
Mr. V. M. McCree, NRC Regional Administrator, Region II

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

**1. FACILITY NAME**  
Shearon Harris Nuclear Power Plant, Unit 1

**2. DOCKET NUMBER**  
05000400

**3. PAGE**  
1 of 4

**4. TITLE**  
Missed surveillance resulting in inoperable containment penetration overcurrent protection devices

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
05	31	2012	2012	002	00	07	30	2012	None	

<b>9. OPERATING MODE</b>  5	<b>11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §:</b> (Check all that apply)									
	<input type="checkbox"/> 20.2201(b)	<input type="checkbox"/> 20.2203(a)(3)(i)	<input type="checkbox"/> 50.73(a)(2)(i)(C)	<input type="checkbox"/> 50.73(a)(2)(vii)						
<b>10. POWER LEVEL</b>  000	<input type="checkbox"/> 20.2201(d)	<input type="checkbox"/> 20.2203(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(ii)(A)	<input type="checkbox"/> 50.73(a)(2)(viii)(A)						
	<input type="checkbox"/> 20.2203(a)(1)	<input type="checkbox"/> 20.2203(a)(4)	<input type="checkbox"/> 50.73(a)(2)(ii)(B)	<input type="checkbox"/> 50.73(a)(2)(viii)(B)						
	<input type="checkbox"/> 20.2203(a)(2)(i)	<input type="checkbox"/> 50.36(c)(1)(i)(A)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(ix)(A)						
	<input type="checkbox"/> 20.2203(a)(2)(ii)	<input type="checkbox"/> 50.36(c)(1)(ii)(A)	<input type="checkbox"/> 50.73(a)(2)(iv)(A)	<input type="checkbox"/> 50.73(a)(2)(x)						
	<input type="checkbox"/> 20.2203(a)(2)(iii)	<input type="checkbox"/> 50.36(c)(2)	<input type="checkbox"/> 50.73(a)(2)(v)(A)	<input type="checkbox"/> 73.71(a)(4)						
	<input type="checkbox"/> 20.2203(a)(2)(iv)	<input type="checkbox"/> 50.46(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(v)(B)	<input type="checkbox"/> 73.71(a)(5)						
<input type="checkbox"/> 20.2203(a)(2)(v)	<input type="checkbox"/> 50.73(a)(2)(i)(A)	<input type="checkbox"/> 50.73(a)(2)(v)(C)	<input type="checkbox"/> OTHER							
<input type="checkbox"/> 20.2203(a)(2)(vi)	<input checked="" type="checkbox"/> 50.73(a)(2)(i)(B)	<input type="checkbox"/> 50.73(a)(2)(v)(D)	Specify in Abstract below or in NRC Form 366A							

**12. LICENSEE CONTACT FOR THIS LER**

FACILITY NAME: John Doorhy, Senior Licensing Specialist  
TELEPHONE NUMBER (Include Area Code): 919.362.2137

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

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX
X	AB	RLY	AGASTAT	N	X	PZR	BKR	ITE GOULD	N

**14. SUPPLEMENTAL REPORT EXPECTED**  
 YES (If yes, complete 15. EXPECTED SUBMISSION DATE)  NO

**15. EXPECTED SUBMISSION DATE**

MONTH	DAY	YEAR

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

An investigation in May 2012 revealed that surveillance tests for containment penetration overcurrent protection devices had not been properly scheduled. Testing was performed on the components with missed surveillances over the next several weeks. On May 31, 2012, the breaker for Pressurizer Heater Bank C could not be tested due to a broken handle, which precluded demonstration of acceptable performance. Subsequently, on June 2, the B Reactor Coolant Pump overcurrent protection timing relay did not meet acceptance criteria for its surveillance test. Missed surveillances are required to be reported if subsequent testing does not demonstrate acceptable results.

Root and Contributing Causes to the missed surveillances are historical in nature resulting from activities in the 1980s and 1990s. An extent of condition evaluation resulted in the testing of 30 breakers and six timing relays, with all but the subject two components described above passing the subsequent surveillance testing. The two components that did not pass subsequent testing were replaced and tested satisfactorily.

Completed corrective actions include replacement and satisfactory testing of the breaker and relay. Planned corrective actions include revising impacted plant procedures and design documents.

**LICENSEE EVENT REPORT (LER)  
CONTINUATION SHEET**

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		2012 – 002 – 00			

**NARRATIVE**

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

**Event Description**

An investigation in May 2012 revealed that surveillance tests for containment penetration overcurrent protection devices had not been properly scheduled and had not been performed as required by Technical Specification (TS) 4.8.4.1. Testing was performed on the components with missed surveillances over the next several weeks. On May 31, 2012, the Harris Nuclear Plant was in Mode 5 with the Reactor Coolant System [AB] at 100 to 105 degrees F and depressurized. The breaker [BKR] for Pressurizer Heater Bank C could not be tested due to a broken handle, which precluded demonstration of acceptable performance. Subsequently on June 2, 2012, the B Reactor Coolant Pump (RCP) [P] overcurrent protection timing relay [RLY] did not meet acceptance criteria for its surveillance test. An extent of condition evaluation resulted in the testing of 30 breakers and six timing relays, with all but the subject two components described above passing the subsequent surveillance testing. Missed surveillances are required to be reported if subsequent testing does not demonstrate acceptable results. The failure of the two overcurrent protection devices to pass their overdue surveillances constitutes missed surveillances and are reportable per 10 CFR 50.73(a)(2)(i)(B). Following discovery of the missed surveillances, the two overcurrent protective devices were replaced and tested satisfactorily.

**Cause of Failures**

Procedures were developed in the late 1980's to implement surveillance requirements. MST-E0048, RCP 1A-SN, 1B-SN, 1C-SN Current Relay Calibration was written to implement Surveillance Requirement 4.8.4.1.a.1.a (Channel Calibration of RCP relays). Timing relays (2-50F) for RCP breakers were inadvertently left out of MST-E0048 resulting in not performing a required surveillance.

The root and primary contributing cause was determined to be historical in that the subject overcurrent protection devices were never added to the surveillance test procedure when it was developed. In addition, some inconsistencies were identified in a number of plant documents which led to confusion on the testing requirements for the overcurrent protection devices.

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**NARRATIVE**

**Safety Consequences**

Both safety related and non-safety related containment penetrations are protected against overcurrent. Primary and backup overcurrent protection meets the requirements of IEEE 279-1971 with regard to testing and independence. As part of the plant's maintenance procedures, circuit breakers are inspected and tested periodically, based on vendor recommendations and/or industry standards. Testing includes manually operating and/or electrically tripping circuit breakers and calibration of associated relays. In all cases, the penetration circuit protection has been designed so that the primary and back-up disconnecting devices can each limit the maximum current at the containment penetration to a value less than that required for thermal damage to the penetration conductor.

There were no adverse safety consequences as result of this event. During the time the missed surveillance was identified, the plant was shut down and in Mode 5 (Cold Shutdown) for a refueling outage. There were 36 overcurrent protective devices that missed their surveillance. The two that could not pass (either could not be tested or failed the acceptance criteria) their surveillance test were replaced and tested.

For the RCP relay, there is redundancy in the breaker circuitry so a loss of function did not occur.

**Corrective Actions**

Completed Corrective Actions

- The breaker and relay were replaced and tested satisfactorily.
- A comprehensive review was performed on Tech Spec 3/4.8.4.1 surveillance requirements.
- Surveillance procedure MST-E0048 was revised to add the subject overcurrent protection devices.

Planned Corrective Actions

- Calculation 0030-PKR, Electrical Penetration Protection (Reg. Guide 1.63) will be revised to correct the identified discrepancies.
- Plant Procedure PLP-106, Technical Specification Equipment List Program and Core Operating Limits Report will be revised to correct the identified discrepancies.

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**NARRATIVE**

**Previous Similar Events**

A review of LERs for the previous five years did not identify any missed surveillance events.

**Commitments**

This report contains no regulatory commitments.