



DEC 17 2007

Serial: HNP-07-174  
10 CFR 50.73

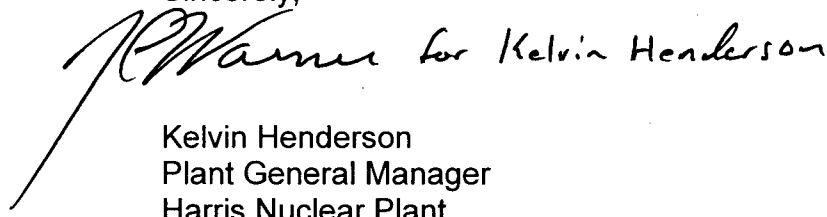
U.S. Nuclear Regulatory Commission  
ATTN: NRC Document Control Desk  
Washington, DC 20555

SHEARON HARRIS NUCLEAR POWER PLANT UNIT 1  
DOCKET NO. 50-400/LICENSE NO. NPF-63  
LICENSEE EVENT REPORT 2007-004-00

Ladies and Gentlemen:

The enclosed Licensee Event Report 2007-004-00 is submitted in accordance with 10 CFR 50.73. This report describes bare conductors on 'B' Steam Generator wide range level Barton transmitter as identified via the 10 CFR Part 21 process. Please refer any questions regarding this submittal to Mr. Dave Corlett, Supervisor - Licensing/Regulatory Programs, at (919) 362-3137.

Sincerely,

A handwritten signature in black ink that reads "K. Warner for Kelvin Henderson". The signature is written in a cursive style and is positioned above the typed name and title.

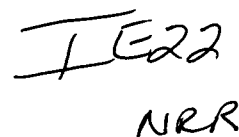
Kelvin Henderson  
Plant General Manager  
Harris Nuclear Plant

KH/khv

Enclosure

cc: Mr. P. B. O'Bryan, NRC Sr. Resident Inspector  
Ms. M. G. Vaaler, NRC Project Manager  
Mr. V. M. McCree, NRC Regional Administrator

Progress Energy Carolinas, Inc.  
Harris Nuclear Plant  
P. O. Box 165  
New Hill, NC 27562

Handwritten initials "JE22" in black ink, with "NRR" written below them.

<b>NRC FORM 366</b> (9-2007)		<b>U.S. NUCLEAR REGULATORY COMMISSION</b>			APPROVED BY OMB: NO. 3150-0104		EXPIRES: 08/31/2010												
<b>LICENSEE EVENT REPORT (LER)</b>  (See reverse for required number of digits/characters for each block)										Estimated burden per response to comply with this mandatory collection request: 80 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.									
<b>1. FACILITY NAME</b> Harris Nuclear Plant - Unit 1					<b>2. DOCKET NUMBER</b> 05000400			<b>3. PAGE</b> 1 OF 3											
<b>4. TITLE</b> Bare Conductors on 'B' Steam Generator Wide Range Level Barton Transmitter as Identified via 10 CFR Part 21 Process																			
<b>5. EVENT DATE</b>			<b>6. LER NUMBER</b>			<b>7. REPORT DATE</b>			<b>8. OTHER FACILITIES INVOLVED</b>										
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REV. NO.	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER									
10	19	2007	2007	- 004 -	00	12	17	2007	N/A	05000									
									FACILITY NAME	DOCKET NUMBER									
									N/A	05000									
<b>9. OPERATING MODE</b>  5		<b>11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR§: (Check all that apply)</b>																	
		<input type="checkbox"/> 20.2201(b)		<input type="checkbox"/> 20.2203(a)(1)		<input type="checkbox"/> 20.2203(a)(2)(i)		<input type="checkbox"/> 20.2203(a)(2)(ii)		<input type="checkbox"/> 20.2203(a)(2)(iii)									
		<input type="checkbox"/> 20.2201(d)		<input type="checkbox"/> 20.2203(a)(2)(iv)		<input type="checkbox"/> 20.2203(a)(2)(v)		<input type="checkbox"/> 20.2203(a)(2)(vi)		<input type="checkbox"/> 20.2203(a)(3)(i)									
		<input type="checkbox"/> 20.2203(a)(3)(ii)		<input type="checkbox"/> 20.2203(a)(4)		<input type="checkbox"/> 50.36(c)(1)(i)(A)		<input type="checkbox"/> 50.36(c)(1)(ii)(A)		<input type="checkbox"/> 50.36(c)(2)									
		<input type="checkbox"/> 20.2203(a)(2)(i)		<input type="checkbox"/> 50.46(a)(3)(ii)		<input type="checkbox"/> 50.73(a)(2)(i)(A)		<input checked="" type="checkbox"/> 50.73(a)(2)(i)(B)		<input type="checkbox"/> 50.73(a)(2)(i)(C)									
		<input type="checkbox"/> 50.73(a)(2)(ii)(A)		<input type="checkbox"/> 50.73(a)(2)(ii)(B)		<input type="checkbox"/> 50.73(a)(2)(ii)(C)		<input type="checkbox"/> 50.73(a)(2)(iii)		<input type="checkbox"/> 50.73(a)(2)(iv)(A)									
		<input type="checkbox"/> 50.73(a)(2)(iv)(A)		<input type="checkbox"/> 50.73(a)(2)(v)(A)		<input type="checkbox"/> 50.73(a)(2)(v)(B)		<input type="checkbox"/> 50.73(a)(2)(v)(C)		<input type="checkbox"/> 50.73(a)(2)(v)(D)									
		<input type="checkbox"/> 50.73(a)(2)(v)(B)		<input type="checkbox"/> 50.73(a)(2)(v)(C)		<input type="checkbox"/> 50.73(a)(2)(v)(D)		<input type="checkbox"/> 50.73(a)(2)(vii)		<input type="checkbox"/> 50.73(a)(2)(viii)(A)									
		<input type="checkbox"/> 50.73(a)(2)(viii)(B)		<input type="checkbox"/> 50.73(a)(2)(ix)(A)		<input type="checkbox"/> 50.73(a)(2)(x)		<input type="checkbox"/> 73.71(a)(4)		<input type="checkbox"/> 73.71(a)(5)									
		<input type="checkbox"/> OTHER		Specify in Abstract below or in NRC Form 366A															
<b>12. LICENSEE CONTACT FOR THIS LER</b>																			
FACILITY NAME Dave Corlett, Supervisor - Licensing/Regulatory Programs								TELEPHONE NUMBER (Include Area Code) (919) 362-3137											
<b>13. COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT</b>																			
CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX										
<b>14. SUPPLEMENTAL REPORT EXPECTED</b> <input type="checkbox"/> YES (If yes, complete 15. EXPECTED SUBMISSION DATE)					<input checked="" type="checkbox"/> NO														
					<b>15. EXPECTED SUBMISSION DATE</b>			MONTH	DAY	YEAR									
<b>ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines)</b>																			
<p>At 18:00 on October 19, 2007, while replacing connector assemblies in response to a 10 CFR Part 21 Nuclear Industry Advisory (NIA) issued by PRIME Measurements and Nuclear Regulatory Commission (NRC) Information Notice (IN) 2006-14, Harris Nuclear Plant (HNP) personnel identified bare conductors on the field side pigtail at the epoxy interface of the connector assembly of Barton transmitter LT-487 (Steam Generator 'B' wide range level indication). The connector assembly associated with LT-487 is required to provide a moisture tight seal between the electrical enclosure and the postulated harsh post-accident environmental conditions. Moisture present at the pigtail conductors could short or result in spurious operation of the transmitter. The wire insulation at this interface should have been embedded into the epoxy, preventing the exposure of any bare conductor. The root cause of this issue is a defect in the manufacturing process of the transmitter connector assembly.</p> <p>Actions taken at the HNP to date to mitigate the impact of the faulty manufacturing process included replacing fourteen of the eighteen affected connectors. The four remaining connectors will be replaced at the next opportunity. The affected connectors were installed at the time of plant construction, and the defect was identified on only one of the fourteen connectors replaced. There was no other inoperable equipment that contributed to this event, and the connectors were never subjected to the postulated harsh, post-accident environment.</p>																			

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

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		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
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NARRATIVE

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

I. DESCRIPTION OF EVENT

At 18:00 on October 19, 2007, while replacing connector assemblies in response to a Nuclear Industry Advisory (10 CFR Part 21) issued by PRIME Measurements LLC and Nuclear Regulatory Commission (NRC) Information Notice (IN) 2006-14, Harris Nuclear Plant (HNP) personnel identified bare conductors on the field side pigtail at the epoxy interface of the connector assembly associated with Barton transmitter LT-487 [LT], Steam Generator 'B' wide range level indication [JB]. At the time of the event, the plant was shutdown in mode 5 with a temperature band of 185-195 degrees and a pressure band of 325-350 psig. There was no other inoperable equipment that contributed to this event, and Barton transmitter LT-487 has not experienced a failure to date.

PRIME Measurements LLC ("PRIME"), formally Barton Instrument Systems & ITT Barton, manufactured model 763, 763A and 764 pressure and pressure differential transmitters that included an electrical connector assembly, welded to the bottom of the electronics housing. The external lead wires enter the electronics enclosure through a hermetic seal called a connector assembly. The external lead wires are soldered to the glass sealed pins of the hermetic seal. Epoxy potting is used to structurally support the soldered wire connections and establish a seal to protect the solder connections from shorting, which could be caused by an electrically conductive accident environment that results from an Environmental Qualification (EQ) Design Basis Accident that includes a pressure spike and steam.

PRIME identified that their model number 763, 763A and 764 transmitter electrical assembly pigtails (field side) could be configured with bare conductor exposed at the connector assembly wire/epoxy interface. This condition constitutes an unqualified (untested) configuration that could result in a conductor to conductor or conductor to ground short when exposed to a moisture environment. Upon identification of the potential for this unqualified configuration, PRIME issued an NIA to the nuclear industry and the NRC issued IN 2006-14.

Nuclear Condition Reports were written at HNP to investigate, evaluate and correct any unqualified connector assemblies. Engineering Change (EC) 66510 was developed to resolve the 10 CFR Part 21 issue concerning the defective Barton model transmitters assemblies and replace those located in the Reactor Containment Building (RCB) [NH]. Fourteen out of the scheduled eighteen transmitter connector assemblies were replaced during RFO-14. Only one of the fourteen replaced transmitters, LT-487, had this exposed wiring defect. The four remaining transmitters will be replaced at the next opportunity.

This is being reported as a condition prohibited by Technical Specifications in accordance with 10 CFR 50.73.

II. CAUSE OF EVENT

The cause of this issue was a defect in the manufacturing process of the transmitter connector assembly that was identified via the 10 CFR Part 21 process and impacts several nuclear utilities. The degradation was due to a fabrication deficiency at the vendor site. Specifically, the transmitter conductors were not imbedded sufficiently into the epoxy.

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NARRATIVE

III. SAFETY SIGNIFICANCE

This event is not significant because the Steam Generator 'B' wide range level transmitter did not fail. This event is reportable based on the fact that the transmitter was installed during initial plant construction and the HNP Technical Specifications require any inoperable wide range Steam Generator level transmitter channel to be restored to operable status within forty eight hours. As such, this issue is reportable in accordance with 10 CFR 50.73(a)(2)(i)(B) as a condition prohibited by Technical Specifications.

Actual Safety Consequences:

This condition is not considered a significant degradation of plant safety since there was not a Loss of Coolant Accident requiring Post Accident Monitoring [IP] of equipment during the time frame the transmitter connector assembly was installed.

Potential Safety Consequences:

This condition does not pose a significant degradation to plant safety. The wide range Post Accident Monitoring indication is defined as a Regulatory Guide (RG) 1.97, type 'D' variable. HNP specific RG 1.97 commitments state that the specific LT-487 design function may be supplemented by the redundant narrow range transmitters on Steam Generator 'B'. HNP has replaced all the connector assemblies associated with all Steam Generator 'B' narrow range transmitters. No bare conductors were identified on the removed connectors. Therefore, the Steam Generator 'B' narrow range transmitters were available as supplemental indication. The HNP specific RG 1.97 commitments also state that additional diversity to the LT-487 indication is available by use of steam line pressure and auxiliary water flow indications. Therefore, in the event that LT-487 indication was lost or provided inaccurate indication, plant operators would have had the stated supplemental / diverse means necessary to allow them to take any actions appropriate to maintain the plant in a safe condition.

IV. PREVIOUS SIMILAR EVENTS

This condition is historical and a one-time event identified via a 10 CFR Part 21 notification.

V. CORRECTIVE ACTIONS

The root cause of this issue is a defect in the manufacturing process of the transmitter connector assembly. This was identified via the 10 CFR Part 21 process and impacts several nuclear utilities.

Actions taken at the HNP to mitigate the impact of the faulty manufacturing process included replacing fourteen of the eighteen identified faulty connectors during RFO-14. Deferral of the four remaining transmitters to RFO-15 is not considered significant based on successful modification of fourteen transmitters. A minimum of three transmitters on each steam generator have been modified and all three pressurizer transmitters have been modified. Therefore, it is reasonable to expect that all Reactor trip or ESF actuations that are provided by the transmitters will be available during post accident conditions.

VI. COMMITMENTS

This document contains no new regulatory commitments.