



Fort Calhoun Station
P.O. Box 550,
Fort Calhoun, NE 68023

LIC-09-0052
August 3, 2009

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

Reference: Docket No. 50-285

Subject: Licensee Event Report 2009-002 Revision 0 for the Fort Calhoun Station

Please find attached Licensee Event Report 2009-002, Revision 0, dated August 3, 2009. This report is being submitted pursuant to 10CFR50.73(a)(2)(i)(B). The following commitment is contained in this submittal:

Appropriate station documents will be revised to clearly establish management expectations to verify the safety classification of replacement components. This will be completed by November 1, 2009. (AR 43565)

If you should have any questions, please contact me.

Sincerely,

Jeffrey A. Reinhart
Site Vice President

JAR / epm

Attachment:

E. E. Collins, NRC Regional Administrator, Region IV

A. B. Wang, NRC Senior Project Manager

J. C. Kirkland, NRC Senior Resident Inspector

INPO Records Center

LEAD
NRR 4171

LICENSEE EVENT REPORT (LER)

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

Estimated burden per response to comply with this mandatory collection request: 80 hrs. 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.

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4. TITLE
Technical Specification Violation due to Installation of an Unqualified Part in a Radiation Monitor

5. EVENT DATE			6. LER NUMBER			7. REPORT DATE			8. OTHER FACILITIES INVOLVED	
MONTH	DAY	YEAR	YEAR	SEQUENTI AL NUMBER	REV NO	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
4	14	2009	2009	- 002 -	00	08	03	2009	FACILITY NAME	05000
									FACILITY NAME	05000

9. OPERATING MODE 01	11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (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)						
10. POWER LEVEL 100	<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 Erick Matzke	TELEPHONE NUMBER (include Area Code) 402-533-6855
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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 <input type="checkbox"/> YES (If yes, complete 15. EXPECTED SUBMISSION DATE) <input checked="" type="checkbox"/> NO	15. EXPECTED SUBMISSION DATE	MONTH	DAY	YEAR
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ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines)

A non-qualified relay was mistakenly installed in the pump control unit of a process radiation monitor on November 21, 2008. This condition was discovered on April 13, 2009, during review of work to replace a pump control relay for a different monitor. In response to this discovery, the non-qualified relay was replaced with a qualified K1 relay on April 14, 2009. During the time that the non-qualified relay was installed, RM-062 (Auxiliary Building Vent Stack Radiation Monitor) and RM-051 (Containment Noble Gas Radiation Detector) were inoperable at the same time in violation of TS 2.15, Instrumentation and Control Systems.

The root cause was determined to be that management expectations are not clearly established to verify the safety classification of replacement components as required by the station's maintenance work control procedure.

Appropriate station documents will be revised to clearly establish management expectations to verify the safety classification of replacement components. This will be completed by November 1, 2009.

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NARRATIVE

BACKGROUND

Technical Specification (TS) 2.0.1 reads as follows:

(1) In the event a Limiting Condition for Operation and/or associated action requirements cannot be satisfied because of circumstances in excess of those addressed in the specification, the unit shall be placed in at least HOT SHUTDOWN within 6 hours, in at least subcritical and < 300°F within the next 6 hours, and in at least COLD SHUTDOWN within the following 30 hours, unless corrective measures are completed that permit operation under the permissible action requirements for the specified time interval as measured from initial discovery or until the reactor is placed in an Operating Mode in which the specification is not applicable. Exceptions to these requirements shall be stated in the individual specifications.

TS reads as follows 2.15(1) and (3) read as follows:

The operability, permissible bypass, and Test Maintenance and Inoperable bypass specifications of the plant instrument and control systems shall be in accordance with Tables 2-2 through 2-5.

(1) In the event the number of channels of a particular system in service falls one below the total number of installed channels, the inoperable channel shall be placed in either the bypassed or tripped condition within one hour if the channel is equipped with a key operated bypass switch, and eight hours if jumpers or blocks must be installed in the control circuitry. The inoperable channel may be bypassed for up to 48 hours from time of discovering loss of operability; however, if the inoperability is determined to be the result of malfunctioning RTDs or nuclear detectors supplying signals to the high power level, thermal margin/low pressurizer pressure, and axial power distribution channels, these channels may be bypassed for up to 7 days from time of discovering loss of operability. If the inoperable channel is not restored to OPERABLE status after the allowable time for bypass, it shall be placed in the tripped position or, in the case of malfunctioning RTDs or linear power nuclear detectors, the reactor shall be placed in hot shutdown within 12 hours. If active maintenance and/or surveillance testing is being performed to return a channel to active service or to establish operability, the channel may be bypassed during the period of active maintenance and/or surveillance testing. This specification applies to the high rate trip-wide range log channel when the plant is at or above 10-4% power and is operating below 15% of rated power.

(3) In the event the number of channels on a particular engineered safety features (ESF) or isolation logic subsystem in service falls below the limits given in the columns entitled "Minimum Operable Channels" or "Minimum Degree of Redundancy," except as conditioned by the column entitled "Permissible Bypass Conditions," sufficient channels shall be restored to OPERABLE status within 48 hours so as to meet the minimum limits or the reactor shall be placed in a hot shutdown condition within the following 12 hours; however, operation can continue without containment ventilation isolation signals available if the ventilation isolation valves are closed. If after 24 hours from time of initiating a hot shutdown procedure sufficient channels have not been restored to OPERABLE status, the reactor shall be placed in a cold shutdown condition within the following 24 hours.

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EVENT DESCRIPTION

On November 21, 2008, Work Request (WR) 129600 was initiated because the sample pump for process radiation monitors RM-050/051 (containment particulate and noble gas) tripped off during restoration from a surveillance test. The WR was converted to Work Order (WO) 324091-01. This WO was prepared by a maintenance planner. The system engineer reviewed and approved the WO. This work order authorized instrument and control technicians to replace the K1 and K2 relays in the pump control unit of RM-050/051-P (radiation monitor sample pump for RM-050/051). Two replacement parts were obtained for WO 324091-01; K1 relay (non-qualified) and K2 relay (qualified).

WO 324091-01 was created for component RM-050/051-P (sample pump). The information contained in the Equipment/Component panels in Passport (an equipment database) indicates the relay is a qualified safety class component. Drawing 801498-001 (Interconnection Diagram for RM-050) was listed in the documents section of the work order. This drawing is not stamped as indicating there were qualified components on the drawing. In addition, relay K1 does not appear as a specific component in Passport. With this information, the maintenance planner could not determine the qualification classification for the relays directly from Passport. When confronted with conflicting or incomplete information as to whether the item should be considered qualified, the maintenance planner contacted a system engineer for assistance. The system engineer reviewed design documents and consulted with the maintenance planner and an instrument and control technician. Based on this review/consultation, the safety classification of the K1 relay was incorrectly determined to be non-qualified. As directed, the instrument and control technician installed a non-qualified replacement for the qualified K1 relay in the pump control unit of RM-050/051-P later in the day on November 21, 2008.

On April 13, 2009, this condition was discovered by the system engineer while reviewing a WO to replace a pump control relay for RM-052 (Containment/Vent Stack Radiation Monitor). It was documented with condition report 2009-1770. In response to this discovery, the non-qualified K1 relay was replaced with a qualified K1 relay on April 14, 2009.

On May 29, 2009, it was discovered that the condition documented in CR 2009-1770 may be reportable under 10 CFR 50.73 because RM-062 (Auxiliary Building Vent Stack Radiation Monitor) and RM-051 (Containment Noble Gas Radiation Detector) were inoperable at the same time in violation of TS 2.15, Instrumentation and Control Systems. On June 3, 2009, it was determined that in fact TS 2.15 had been violated for failure to take actions when having RM-051 and RM-062 both inoperable for approximately 17 days (March 29 – April 14, 2009) during which time several containment pressure reductions were performed. On April 12, 2009, at 1302, all three monitors were inoperable while a containment pressure reduction was in progress. The containment pressure reduction was secured at 1311, as required by TS 2.0.1. This event is being reported pursuant to 10 CFR50.73 (a)(2)(i)(B).

CONCLUSION

A root cause analysis was performed to determine why a non-qualified replacement for the K1 relay was installed in the control circuit for the pump for radiation monitor RM-050/051 per WO 324091-01. The root cause was determined to be management expectations are not clearly established to verify the safety classification of replacement components as required by Standing Order M-101, Maintenance Work Control. A thorough review of plant operating experience was conducted and it was determined that this was an isolated event.

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NARRATIVE

CORRECTIVE ACTIONS

Immediate Corrective Actions

The non-qualified K1 relay was replaced with a qualified K1 relay on April 14, 2009.

Long Term Corrective Actions

Appropriate station documents will be revised to clearly establish management expectations to verify the safety classification of replacement components. This will be completed by November 1, 2009.

SAFETY SIGNIFICANCE

RM-052 is a swing monitor that can be used as a back-up to RM-051 when RM-051 is out of service. During the period that the non-qualified relay was installed in RM-051 (November 21, 2008, to April 14, 2009), RM-052 was out of service 7 times for a total of about 27 days. During the approximately 17 days when RM-052 was the only operable monitor, RM-051 was functioning and monitoring the containment atmosphere with the unqualified part installed. If a loss of coolant accident had occurred at this time, either RM-051 or RM-052 would likely have responded to the event and initiated a ventilation isolation actuation signal (VIAS) as required.

TS 2.15 requires that at least two of three radiation monitors must be OPERABLE to initiate a containment high radiation signal to VIAS. The margin of safety was reduced during the times that either RM-052 or RM-062 was inoperable. This would have reduced the number of operable monitors to only 1 of the 3 radiation monitors available to perform the engineered safety feature initiation function. On April 12, 2009, at 1302, all three monitors were inoperable while a containment pressure reduction was in progress. The containment pressure reduction was secured at 1311, as required by TS 2.0.1. While the requirements for safety related equipment were not met for this brief period of time it is likely that the unqualified component would have operated as designed and the required safety function of isolating the containment would have occurred. In addition the probability of a design basis accident occurring during this brief period was very low. Therefore this event has very little impact on the health and safety of the public.

SAFETY SYSTEM FUNCTIONAL FAILURE

This event does not result in a safety system functional failure in accordance with NEI-99-02.

PREVIOUS SIMILAR EVENTS

LER 2006-002 "Inadequate Design Control Results in Potentially Insufficient Auxiliary Feedwater Flow," documents a similar event in that, an unqualified power supply was used for a component that had an impact on the flow capability of the safety related auxiliary feedwater system.