

LICENSEE EVENT REPORT (LER)

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1) Susquehanna Steam Electric Station - Unit 2	DOCKET NUMBER (2) 0 5 0 0 0 3 8 8	PAGE (3) 1 OF 0 3
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TITLE (4)
RHR Shutdown Cooling Isolation - Unplanned ESF Actuation

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)		
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAMES		DOCKET NUMBER(S)
1	0	2 6 9 2 9 2	0	0 5	0 0	1	1 2 5 9 2				0 5 0 0 0

OPERATING MODE (9) 4	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)									
POWER LEVEL (10) 0 10 0	20.402(b)	<input checked="" type="checkbox"/>	20.405(c)	<input type="checkbox"/>	50.73(a)(2)(iv)	<input type="checkbox"/>	73.71(b)	<input type="checkbox"/>		
	20.405(a)(1)(i)	<input type="checkbox"/>	50.36(c)(1)	<input type="checkbox"/>	50.73(a)(2)(v)	<input type="checkbox"/>	73.71(c)	<input type="checkbox"/>		
	20.405(a)(1)(ii)	<input type="checkbox"/>	50.36(c)(2)	<input type="checkbox"/>	50.73(a)(2)(vii)	<input type="checkbox"/>	OTHER (Specify in Abstract below and in Text, NRC Form 366A)	<input type="checkbox"/>		
	20.405(a)(1)(iii)	<input type="checkbox"/>	50.73(a)(2)(i)	<input type="checkbox"/>	50.73(a)(2)(viii)(A)	<input type="checkbox"/>				
	20.405(a)(1)(iv)	<input type="checkbox"/>	50.73(a)(2)(ii)	<input type="checkbox"/>	50.73(a)(2)(viii)(B)	<input type="checkbox"/>				
	20.405(a)(1)(v)	<input type="checkbox"/>	50.73(a)(2)(iii)	<input type="checkbox"/>	50.73(a)(2)(x)	<input type="checkbox"/>				

LICENSEE CONTACT FOR THIS LER (12)

NAME Harrison Lloyd, Jr. - Power Production Engineer	TELEPHONE NUMBER 7 1 7 5 4 2 - 3 9 1 7
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COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS

SUPPLEMENTAL REPORT EXPECTED (14)

YES (If yes, complete EXPECTED SUBMISSION DATE) NO

EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR

ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single-space typewritten lines) (16)

On October 26, 1992, with Unit 2 in Condition 4, an unplanned ESF actuation occurred during modification and testing activities in the Containment Isolation System. A lead was inadvertently grounded causing a fuse to blow and resulting in power loss in the isolation logic. The power loss caused the RHR Shutdown Cooling Inboard isolation valve and injection valve to close resulting in a temporary loss of shutdown cooling. The lead was properly landed, the blown fuse replaced and shutdown cooling was returned to service. This event was determined to be reportable per 10CFR50.73(a)(2)(iv) as an unplanned ESF actuation. There were no safety consequences as a result of this event. The cause of this event was inadvertent grounding of an improperly terminated lead causing the power fuse to blow. Physical difficulty and inadequate accessibility contributed to the inadvertent grounding. We are evaluating our program with regards to working on energized schemes in certain systems and plant conditions as well as clarification of type of work activities allowed under specific types of work authorizing documents. Should this review result in changes which warrant an update, such an update will be provided.

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TEXT CONTINUATION

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		YEAR 9 2	SEQUENTIAL NUMBER - 0 0 5	REVISION NUMBER - 0 0			

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

DESCRIPTION OF EVENT

On October 26, 1992 at 1050 hours, with Unit 2 in Condition 4 following refueling, an unplanned Engineered Safety Feature actuation occurred while attempting to land a lead in the Containment Isolation logic (EIIS Code: JM). The lead was inadvertently grounded blowing a fuse in the logic scheme. The loss of logic power deenergized a relay which caused the Residual Heat Removal (RHR) (EIIS Code: BO) Shutdown Cooling inboard isolation valve and the RHR Injection valve to close which in turn caused the operating RHR pump to trip. The Limiting Condition for Operation action statement for shutdown cooling not in operation was entered at 1058 hours. Operations personnel entered Off-Normal procedure ON-249-001, "Loss of Shutdown Cooling Mode". The required Emergency Notification System (ENS) notification was completed. The subject lead was landed and the blown fuse was replaced. The isolation was reset and shutdown cooling was restored to service at 1141 hours and the LCO cleared. Reactor coolant temperature increased 5°F (107°F to 112°F) during the time that shutdown cooling was out of service.

CAUSE OF EVENT

Prior to the occurrence of the isolation, modification and testing activities were in progress in the Containment Isolation system. The modification activity involved relocating leads to change the isolation setpoint of a containment isolation valve. This activity was being performed in parallel with Primary Containment Isolation System surveillance testing because system status during testing allowed a convenient point at which to perform the modification. During testing, a lead in the scheme to be modified was noted to be not terminated. The lead was in contact with the proper termination point and was completing the circuit but it was not under the screw of the termination point. After proper review and investigation, steps were taken to initiate the work activity to re-land the lead. The termination point included two wires, one already landed and the unlanded lead. To make the termination, the landed lead had to be lifted and both leads placed on the termination screw. The work took place in a very physically limited space and while attempting to make the termination, one wire slipped out of the electrician's (utility, non-licensed) hand and grounded against a relay retaining strap causing the fuse to blow. The cause of the event was inadequate accessibility making it physically difficult to successfully perform. A contributing factor was that the job was not planned for every possible failure when working on energized

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scheme. A review of possible effects of performing the activity was completed but inadvertent grounding and resulting blown fuse was not considered as a possible failure.

The cause of the lead not being terminated could not be positively determined. A document search of all activities associated with this terminal point was performed. The only activity identified was a modification installed in 1984. This is considered an isolated occurrence and improvements to our modification program since that time provide adequate assurance that this assessment is proper. Proper operation of the system during this time period indicates the circuit was functional with the non-landed lead. Had a misoperation occurred it would have resulted in the system performing its safety function which is isolation of the associated containment isolation valve.

CORRECTIVE ACTION

The non-landed lead was properly terminated and the modification work completed. The remaining portion of the Containment Isolation Surveillance testing was completed thus satisfying post-modification operability testing as well as Technical Specification required surveillance testing. We are evaluating our work authorization program for clarification in the following areas: 1) Working energized schemes in certain systems (e.g. ECCS, ESF) depending on plant conditions; 2) Intended use of corrective maintenance and modification work authorizations for activities such as the non-landed lead encountered in this event. Should this review result in changes which warrant an update, such an update will be provided.

ADDITIONAL INFORMATION

Failed Component Identification: N/A

Previous Similar Events:

Docket No. 50-388 LER 91-001-00 Inadvertent isolation of Shutdown Cooling Mode of RHR.

Docket No. 50-388 LER 92-004-00 Unplanned ESF Actuation RHR Shutdown Cooling Isolation.