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 FACIL: 50-387 Susquehanna Steam Electric Station, Unit 1, Pennsylvania 05000387
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 RECIP. NAME RECIPIENT AFFILIATION

SUBJECT: LER 89-008; on 890227, unplanned ESF actuation occurred when power to control logic for several valves interrupted.
W/8 ltr.

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 TITLE: 50.73 Licensee Event Report (LER), Incident Rpt, etc.

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LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Susquehanna Steam Electric Station - Unit 1	DOCKET NUMBER (2) 0 5 0 0 0 3 1 8 7	PAGE (3) 1 OF 0 1 3
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TITLE (4)
Unplanned ESF Actuation - Incorrect Fuse Removed for Protective Blocking

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)
0 2	2 7	8 9	8 9	0 0 8	0 0 0	0 3	2 8	8 9			0 5 0 0 0

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

LICENSEE CONTACT FOR THIS LER (12)					
NAME R.R. Wehry, Power Production Engineer - Compliance				TELEPHONE NUMBER 7 1 1 7 5 4 2 - 1 3 1 6 6 4	

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)				EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
<input type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE) <input checked="" type="checkbox"/> NO							

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

On February 27, 1989, with Unit 1 operating at 100% power, an unplanned ESF actuation occurred when power to control logic for several containment isolation valves was inadvertently interrupted and the valves automatically closed. The affected valves supply chilled water to 'A' and 'B' Reactor Recirculation Pump Motor Coolers.

The power interruption occurred when an improper fuse was removed for protective blocking purposes under the station's permit and tag program. Although the correct fuse number was identified on the request for protective blocking, the control panel number was incorrectly identified and the required reviews of the equipment release and permit and tag programs failed to identify the error.

The isolation valve response was per design. The incident was reviewed with all involved personnel, stressing the need for thorough review of all work-related documents. Additionally, the Nuclear Training Group has been requested to develop a refresher course on electrical print reading as part of the continuing operator requalification training program.

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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

DESCRIPTION OF EVENT

On February 27, 1989, with Unit 1 operating at 100% power, an unplanned ESF actuation occurred when the outboard containment isolation valves (EIIS Code: JM) on the Reactor Building Chilled Water (RBCW; EIIS Code: KM) supply to and return from the 'A' Reactor Recirculation Pump (RRP; EIIS Code: AD) motor cooler and the inboard containment isolation valves on the RBCW supply to and return from the 'B' RRP motor cooler automatically closed. The incident occurred when an incorrect fuse was removed as protective blocking for the purpose of performing Appendix R modification work on the 'A' Emergency Switchgear Room Cooler Discharge Damper (EIIS Code: VA). The incorrect fuse which was removed supplies power to the isolation logic for the RBCW valves mentioned above. As a result, when the fuse was removed, the power interruption caused the RBCW valves to automatically close. The RBCW system response was per design.

CAUSE OF EVENT

The unplanned ESF actuation event was attributed to an incorrect protective blocking request by the work group (utility - non-licensed) and failure of personnel (both utility - licensed and non-licensed) involved in the Equipment Release Form (ERF) and protective permit and tag review process to identify the error.

Appendix R modification work was to be performed which involved rerouting of a cable from the 'A' Emergency Switchgear Room Cooler Discharge Damper, HDM-17630A. The electrical scheme diagram for the damper motor power supply (fuse FU-1A in 480 VAC motor control center (EIIS Code: ED) cubicle 1B217022) is "enveloped" by the electrical scheme diagram for the damper indication circuit, which is fed by 120 VAC from Panel 1C681. The fuse which was intended to be removed as protective blocking for the modification work is fuse FU-1A in cubicle 1B217022. The work group planner, while preparing the request for protective blocking, mis-read the electrical print and requested, instead, fuse FU-1A in Panel 1C681. Fuse FU-1A in Panel 1C681 provides power to the isolation logic for the RBCW containment isolation valves. The individual, from the same work group, who performed the protective blocking review of the prepared request, failed to identify the error. The review performed by Operations also failed to identify the error. Thus, the protective permit was written with the incorrect panel location specified for fuse FU-1A and the fuse was subsequently removed as specified on the permit, resulting in the ESF actuation.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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

REPORTABILITY/ANALYSIS

This event was determined reportable per 10CFR50.73(a)(2)(iv) in that an unplanned ESF actuation occurred when the RBCW outboard containment isolation valves for the 'A' RRP motor cooler supply and return and the RBCW inboard containment isolation valves for the 'B' RRP motor cooler supply and return automatically closed. The RBCW system response to the event was per design. The operator replaced the fuse and the valves were reopened following resetting of the isolation logic. No increase in RRP motor temperatures were observed for either pump. There were no safety consequences or compromise to public health or safety as a result of this unplanned ESF actuation.

CORRECTIVE ACTIONS

Following isolation verification, the fuse was replaced by the operator. The isolation logic for the subject valves was reset and the valves were reopened. The incident was reviewed by each group with the personnel involved. The reviews stressed the need for thorough review of all documents associated with the work evolution. The Nuclear Training Group has been requested to develop a refresher course on electrical print reading as part of the continuing operator requalification training program. This was considered to be an isolated incident and not indicative of any generic problems in the equipment release / protective permit and tag processes at Susquehanna.

ADDITIONAL INFORMATION

Licensee Event Report 87-016-00 described an unplanned ESF actuation which occurred when an incorrect fuse was removed as a result of confusion over fuse labeling and position within a control cabinet.



Pennsylvania Power & Light Company

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March 28, 1989

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

SUSQUEHANNA STEAM ELECTRIC STATION
LICENSEE EVENT REPORT 89-008-00
FILE R41-2
PLAS - 359

Docket No. 50-387
License No. NPF-14

Attached is Licensee Event Report 89-008-00. This event was determined reportable per 10CFR50.73(a)(2)(iv) in that an unplanned Engineered Safety Feature (ESF) actuation occurred when power to the control logic for several containment isolation valves was inadvertently interrupted and the valves automatically closed.

R.G. Byram
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RRW/mjm

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