

# ACCELERATED DISTRIBUTION DEMONSTRATION SYSTEM

## REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 9103290194      DOC. DATE: 91/03/26      NOTARIZED: NO      DOCKET #  
 FACIL: 50-388 Susquehanna Steam Electric Station, Unit 2, Pennsylv      05000388  
 AUTH. NAME      AUTHOR AFFILIATION  
 LLOYD, H.      Pennsylvania Power & Light Co.  
 STANLEY, H.G.      Pennsylvania Power & Light Co.  
 RECIPIENT NAME      RECIPIENT AFFILIATION

SUBJECT: LER 91-003-00: on 910226, isolation logic relay operation prohibited by Tech Spec. Caused by contact chattering in relay K3C relay out of adjustment. Defective relay replaced & logic channel tested satisfactorily. W/910326 ltr.

DISTRIBUTION CODE: IE22T      COPIES RECEIVED: LTR 1 ENCL 1 SIZE: 5  
 TITLE: 50.73/50.9 Licensee Event Report (LER), Incident Rpt, etc.

NOTES: LPDR 1 cy Transcripts. 05000388

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Pennsylvania Power & Light Company

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March 26, 1991

U.S. Nuclear Regulatory Commission  
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SUSQUEHANNA STEAM ELECTRIC STATION  
LICENSEE EVENT REPORT 91-003-00  
FILE R41-2  
PLAS -476

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Docket No. 50-388  
License No. NPF-22

Attached is Licensee Event Report 91-003-00. This report is being made pursuant to 10CFR50.73(a)(2)(i)(B), in that Susquehanna Unit 2 was in an operating condition prohibited by the Technical Specifications while testing was performed on a relay in the Main Steam Isolation Valve isolation logic following replacement of the relay. This condition was cleared once the isolation logic was restored to operable status.

  
H.G. Stanley  
Superintendent of Plant - Susquehanna

HL/mjm

cc: Mr. T. T. Martin  
Regional Administrator, Region I  
U.S. Nuclear Regulatory Commission  
475 Allendale Road  
King of Prussia, PA 19406

Mr. G. S. Barber  
Sr. Resident Inspector  
U.S. Nuclear Regulatory Commission  
P.O. Box 35  
Berwick, PA 18603-0035

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IE22

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   4
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TITLE (4)  
Isolation Logic Relay - Operation Prohibited by Technical Specification During Retest

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	6	9	1	9	1	0	0	3	0	0	0	0	0	0	0
0	2	2	6	9	1	9	1	0	0	3	0	0	0	0	0	0	0

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)

OPERATING MODE (9) 1	20.402(b)	20.405(c)	50.73(a)(2)(iv)	73.71(b)
POWER LEVEL (10) 0   9   5	20.405(a)(1)(i)	50.38(c)(1)	50.73(a)(2)(v)	73.71(c)
	20.405(a)(1)(ii)	50.38(c)(2)	50.73(a)(2)(vii)	OTHER (Specify in Abstract below and in Text, NRC Form 366A)
	20.405(a)(1)(iii)	X 50.73(a)(2)(i)	50.73(a)(2)(viii)(A)	
	20.405(a)(1)(iv)	50.73(a)(2)(ii)	50.73(a)(2)(viii)(B)	
	20.405(a)(1)(v)	50.73(a)(2)(iii)	50.73(a)(2)(ix)	

LICENSEE CONTACT FOR THIS LER (12)

NAME Harrison Lloyd, Jr. - Power Production Engineer	TELEPHONE NUMBER AREA CODE: 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 February 26, 1991 with Unit 2 operating at 95% power, the "Main Steam Isolation Valve Logic A/C Initiated" alarm was received in the Control Room. Investigation revealed the cause to be chattering contacts in a relay in the isolation logic. The affected channel was placed in the tripped condition as required by Technical Specification. The relay was reworked in place but tested unsatisfactorily followed by relay replacement and satisfactory test. In both cases (rework and replacement), the affected channel had to be taken out of the tripped condition to allow surveillance testing. With the channel taken out of the tripped condition, the ACTION Statement was no longer being met and thus Technical Specification 3.0.3 was entered which constituted operation prohibited by Technical Specifications since they do not recognize or allow this action (i.e. resetting Technical Specification imposed trips for performance of post-maintenance required surveillance testing). The relay was found to be out of adjustment which was the cause of the contact chattering. This event was determined to be reportable per 10CFR50.73(a)(2)(i)(B) as an operation prohibited by Technical Specifications. There were no safety consequences or compromise since only one channel of one division of the isolation logic was affected. All other isolation functions remained operable throughout the time period. We are evaluating our preventive maintenance program as to the need for improvement of relay preventive maintenance.

LICENSEE EVENT REPORT (LER)  
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 60.0 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)  Unit 2 Susquehanna Steam Electric Station	DOCKET NUMBER (2)  0   5   0   0   0   3   8   8	LER NUMBER (6)			PAGE (3)	
		YEAR 9   1	SEQUENTIAL NUMBER -   0   0   3	REVISION NUMBER -   0   0	0   2	OF 0   4

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

DESCRIPTION OF EVENT

On February 26, 1991, with Unit 2 in Condition 1 at 95% power, the "Main Steam Isolation Valve Logic A/C Initiated" alarm (EIIS Code: JM) was received in the Control Room, accompanied by the 'C' MSIV isolation logic light extinguishing. After verifying that this was not a valid signal by observation of plant parameters, the operator (utility, licensed) attempted to reset the logic but the logic would not reset. This condition resulted in a "quarter isolation" of the logic system. During investigation personnel noted chattering contacts in relay K3C (main steam line high flow) which caused relay K7C (MSIV Logic 'C' Actuation) to de-energize (logic actuated). The affected channel was declared inoperable and was placed in the tripped condition as required by Technical Specification 3.3.2 Action Statement b. Maintenance personnel (utility, non-licensed) burnished contacts in relay K3C and the relay appeared to be functioning properly. In order to perform to post-maintenance required surveillance, the affected channel had to be reset (i.e. - taken out of the tripped condition). With the channel taken out of the tripped condition, the ACTION Statement was no longer met and as a result, Technical Specification 3.0.3 was entered.

During performance of the surveillance test, the procedurally imposed trip could not be reset which again called into question the operability of the logic channel. LCO 3.3.2 action b was re-entered and the decision was made to replace relay K3C. Following relay replacement, the affected channel had to be reset again in order to perform the post-replacement required surveillance and Tech Spec 3.0.3 was entered for the second time. The surveillance test was then completed successfully.

These entries into Technical Specification 3.0.3 constituted operation prohibited by the the Technical Specification since they do not recognize or allow this action of removing Technical Specification imposed trips from the tripped condition for performance of post-maintenance surveillance testing. In each case, the duration of the condition was approximately one hour.

CAUSE OF EVENT

The cause of the contact chattering in relay K3C was that the relay was out of adjustment. This was determined by bench testing K3C after removal. The chattering contact in relay K3C caused relay K7C to de-energize (drop-out) and the resultant logic channel trip.

LICENSEE EVENT REPORT (LER)  
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 500 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.

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

REPORTABILITY/ANALYSIS

This event was determined to be reportable per 10CFR50.73(a)(2)(i)(B), in that Technical Specification 3.3.2 action b., was not met while an isolation logic relay was being tested. The affected isolation trip channel had to be reset (i.e. - quarter isolation cleared) to allow surveillance testing to restore OPERABILITY of the relay/channel. As Technical Specifications does not recognize or allow this action, LCO 3.0.3 was entered. This 3.0.3 entry constituted operation prohibited by the Technical Specification (NUREG 1022, Supp. 1, item 2.4).

Taking the channel out of the tripped condition did not create a significant degradation in our ability to protect the health and safety of the public and/or plant personnel since only one of two channels in the Division 1 trip system was inoperable. The other channel in the Division 1 trip system and both channels of the Division 2 trip system, as well as all other isolation functions were operable while this condition existed. During the replacement testing of the relay, Division 2 of the MSIV isolation logic was operable as well as all other isolation functions. This event would not have been more significant at any other operating condition.

When the relay was removed from service, its associated channel was placed in the tripped condition. Once the relay was replaced, the trip had to be reset to facilitate testing necessary to ensure it would provide the required trip function. The action statement was not met only during the time period that the defective instrument was being tested. This time period was approximately one hour for each testing evolution.

In accordance with guidance provided in NUREG 1022, Supplement 1 item 14.1 and 10CFR50.4(d); the required submission date for this report was determined to be 03/28/91.

CORRECTIVE ACTION

The defective relay (K3C) was replaced and the logic channel was tested satisfactorily. The removed relay was bench tested and was found to be out of adjustment. We are evaluating our preventive maintenance program as to the need for additional preventive maintenance for relays of this type.

Concerning entry into Limiting Condition for Operation 3.0.3, the Technical Specifications contain no provision for allowing an isolation trip signal, imposed due to action requirements, to be reset to allow performance of Technical Specification required surveillances needed to restore the instrument

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

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 60.0 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.

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		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
		9   1	-   0   0   3	-   0   0	0   4	OF 0   4

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

to OPERABLE status. Such provisions are considered necessary and will be pursued as a change to our Technical Specification.

ADDITIONAL INFORMATION

Failed Component Identification: N/A

Previously Reported Events with similar results but with dissimilar causes:

Docket No. 50-387 LER 90-009 Failed Reactor Pressure Switch - Operation Prohibited by Technical Specification during Retest

Docket No. 50-387 LER 91-001 Isolation Pressure Switch - Operation Prohibited by Technical Specification during Retest.