

# CATEGORY 1

## REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 9610070220      DOC. DATE: 96/10/02      NOTARIZED: NO      DOCKET #  
 FACIL: 50-388 Susquehanna Steam Electric Station, Unit 2, Pennsylv      05000388  
 AUTH. NAME      AUTHOR AFFILIATION  
 KICHLINE, R.D.      Pennsylvania Power & Light Co.  
 KUCZYNSKI, G.J.      Pennsylvania Power & Light Co.  
 RECIP. NAME      RECIPIENT AFFILIATION

SUBJECT: LER 96-008-01: on 961124, LCO 3.0.3 was required for Unit 2 & this also constitutes a condition prohibited by TS. Caused by lack of formal guidance to determine if TS are impacted by a MOD. LCO 3.0.3 action was entered for Unit 2. W/961002 ltr.

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SUSQUEHANNA STEAM ELECTRIC STATION  
LICENSEE EVENT REPORT 50-388/93-008-01  
PLAS - .681                      FILE R41-2

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

Attached is Licensee Event Report 93-008-01. This report is a supplement to Licensee Event Report 93-008-00, which was made pursuant to 10CFR50.73(a)(2)(i)(B), in that Susquehanna Unit 2 was in a condition prohibited by the plant's Technical Specifications due to the discovery that the Unit 2 93% degraded grid auxiliary load shed signal to Unit 1 had not been tested, per the Technical Specifications, following completion of a plant modification during the Unit 1 7th refueling outage. This caused an entry into LCO ACTION 3.0.3 on Unit 2 as a result thereof. This supplement identifies the corrective actions taken to prevent recurrence.

  
G. J. Kuczynski  
Plant Manager - Susquehanna SES

Attachment

cc: Mr. H. J. Miller  
Regional Administrator  
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P.O. Box 35  
Berwick, PA 18603-0035

*IEED/1*

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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)  
Condition Prohibited By Plant's Technical Specifications Section 4.3.3 and 3.0.3

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	2	4 9   3 9   3	0	0   8	0   1	1	0	0   2 9   6	SSES - Unit 1		0   5   0   0   0   3   8   7

OPERATING MODE (9) 1

POWER LEVEL (10) 1 0 0

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 1: (Check one or more of the following) (11)

<input type="checkbox"/> 20.402(b)	<input type="checkbox"/> 20.405(c)	<input type="checkbox"/> 50.73(a)(2)(v)	<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)(vi)	OTHER (Specify in Abstract below and in Text, NRC Form 368A)
<input checked="" type="checkbox"/> 20.405(a)(1)(iii)	<input checked="" type="checkbox"/> 50.73(a)(2)(i)	<input type="checkbox"/> 50.73(a)(2)(vii)(A)	
<input type="checkbox"/> 20.405(a)(1)(iv)	<input type="checkbox"/> 50.73(a)(2)(ii)	<input type="checkbox"/> 50.73(1)(2)(vii)(B)	
<input type="checkbox"/> 20.405(a)(1)(v)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(v)	

(LICENSEE CONTACT FOR THIS LER (12))

NAME: Robert D. Kichline, Project Licensing Specialist

TELEPHONE NUMBER: AREA CODE 6 1 0 7 7 4 - 7 7 0 5

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRRDS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRRDS

SUPPLEMENTAL REPORT EXPECTED (14)

YES (If yes, complete EXPECTED SUBMISSION DATE)  NO

EXPECTED SUBMISSION DATE (15)

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

On November 24, 1993 with Unit 2 in Condition 1 at 100% power and Unit 1 defueled in Condition 5 at 0% power, a review of degraded grid modifications and post-modification testing completed during the Unit 1 7th refueling outage was being performed. During this review it was discovered that the Unit 2 93% degraded grid auxiliary load shed signal to the Unit 1 auxiliary load shed circuitry had not been tested following completion of circuitry modifications during the current Unit 1 7th refueling outage. This resulted in Unit 2 having been operated in a condition prohibited by the Technical Specifications in that the portion of the 93% 4.16 KV ESS Bus undervoltage protection scheme which ties to Unit 1 had not been declared OPERABLE. Furthermore, since all four Unit 2 4.16 KV ESS Buses were affected, entry into LCO 3.0.3 was required for Unit 2 and this also constitutes a condition prohibited by the Technical Specifications. The cause of the event was related to programmatic deficiencies associated with the modification process. Actions to prevent recurrence include: a review of two modification procedures to assure appropriate involvement of System Engineering personnel in the modification process; issuance of a procedure to provide guidance to system engineers on their role and responsibilities during the modification process; a revision to a modification design specification that requires evaluation of Technical Specification impacts (not only Technical Specification changes) as a specific design consideration; and training that emphasizes the importance of Technical Specification reviews as part of the modification process.

NRC FORM 368a (6-89)	U.S. NUCLEAR REGULATORY COMMISSION	APPROVED OMB NO. 3159-0104 EXPIRES: 4/30/92 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.
<b>LICENSEE EVENT REPORT (LER) TEXT CONTINUATION</b>		

<b>FACILITY NAME (1)</b>  Unit 2  Susquehanna Steam Electric Station	<b>DOCKET NUMBER (2)</b>  0   5   0   0   0   3   8   8	<b>LER NUMBER (6)</b>	<b>PAGE (3)</b>															
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YEAR		SEQUENTIAL NUMBER		REVISION NUMBER														
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TEXT (if more space is required, use additional NRC Form 368A's) (17)

**DESCRIPTION OF EVENT**

On November 24, 1993, with Unit 2 in Condition 1 at 100% power and Unit 1 defueled in Condition 5 at 0% power, a review of 4.16 KV Engineered Safety System (ESS) (EIS Code: EB) degraded grid modifications and post-modification testing completed during the Unit 1 7th refueling outage was being performed. During this review it was discovered that the Unit 2 93% degraded grid auxiliary load shed signal to the Unit 1 auxiliary load shed circuitry had not been tested following completion of circuitry modifications during the current Unit 1 7th refueling outage. This resulted in Unit 2 having been operated in a condition prohibited by the Technical Specifications in that the portion of the 93% 4.16 KV ESS bus undervoltage protection scheme which ties to Unit 1 had not been declared OPERABLE. Furthermore, since all four Unit 2 4.16 KV ESS buses were affected, entry into Limiting Condition for Operations (LCO) 3.0.3 was required for Unit 2 and this also constitutes a condition prohibited by the Technical Specifications.

**CAUSE OF EVENT**

An Event Review Team (ERT) was formed to investigate the cause of this event and other administrative deficiencies that were identified during review of the degraded grid modification implementation and post-modification testing. Two root causes were identified by the ERT. Both relate to programmatic concerns associated with the modification process. One root cause concerns the lack of formal guidance to determine if Technical Specifications (other than a Technical Specification change) are impacted by a modification. The second root cause concerns the degree of involvement by engineers that have systems affected by a modification.

**REPORTABILITY/ANALYSIS**

This event was determined reportable per 10CFR50.73(a)(2)(i)(B) in that Unit 2 was operated in a condition prohibited by the plant's Technical Specification (noncompliance with OPERABILITY requirements for a LCO per Technical Specification 4.0.3) in that the portion of its 93% 4.16 KV ESS bus undervoltage protection scheme which ties to the Unit 1 auxiliary load shed circuit had not been tested per Technical Specification Surveillance Requirements 4.3.3.1 and 4.3.3.2 to verify it OPERABLE, following completion of modification Design Change Package (DCP) 92-9029A-D during the current Unit 1 7th refueling outage. This rendered the operability of the Unit 2 auxiliary load shed scheme for the 4.16 KV ESS buses as indeterminate. Furthermore, since all four Unit 2 4.16 KV ESS buses were affected, entry into LCO 3.0.3 was required for Unit 2. Entry into LCO 3.0.3 also constitutes a condition prohibited by the plant's Technical Specifications and is reportable per 10CFR50.73(a)(2)(i)(B).

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

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Susquehanna Steam Electric Station	0 5 0 0 0 3 8 8	9 3	—	0 0 8	—	0 1	3	OF	4	

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

There were no safety consequences or compromise to public health or safety as a result of this event. Upon discovery of the untested portion of the load shed scheme, LCO 3.0.3 was entered on Unit 2. Technical Specification Surveillance Requirement 4.0.3 allows delay of LCO Action requirements for up to 24 hours to complete the surveillance when the allowable outage time limits of the ACTION requirements are less than 24 hours, as is the case with LCO 3.0.3 ACTION. Since there are two 100% redundant circuits provided for the Unit 2 LOCA signal to Unit 1 plant auxiliary load shed scheme, failure of both circuits would be required to result in a loss of a safety system needed to mitigate the consequences of an accident on Unit 2. The surveillance testing successfully completed within the 24 hour allowable time period of Technical Specification 4.0.3 confirmed that both circuits had been functional prior to the discovery on 11/24/93 that testing had not been completed and would have performed their intended safety design function had they been called upon to do so. The circuits were verified OPERABLE and LCO 3.0.3 on Unit 2 was cleared.

In accordance with guidance provided in NUREG 1022, Supplement 1 Item 14.1, the required submission date for this report was determined to be 12/24/93.

**CORRECTIVE ACTIONS**

Upon discovery of the untested portions of the plant auxiliary load shed scheme, LCO 3.0.3 ACTION was entered for Unit 2. Testing of the circuits was completed within the 24 hour allowable time frame of Technical Specification 4.0.3 and LCO 3.0.3 was cleared.

An Event Review Team (ERT) was formed to determine the root cause(s) of this event as well as other additional administrative problems that were identified following a review of the plant degraded grid modification implementation and related post-modification testing.

The resulting corrective actions are as follows:

- The "Technical Specification Impact" design consideration applicability sheet was revised to emphasize and clarify actions to be taken by the design engineers to determine if Technical Specifications are impacted by a modification.
- A unit of Continuing Engineering training, that addresses Technical Specification impacts related to modifications, was conducted that emphasized the importance of the Technical Specification review during the modification process.

LICENSEE EVENT REPORT (LER)  
TEXT CONTINUATION

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FACILITY NAME (1)  Unit 2  Susquehanna Steam Electric Station	DOCKET NUMBER (2)  0   5   0   0   0   3   8   8	LER NUMBER (8)						PAGE (3)		
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TEXT (If more space is required, use additional NRC Form 366A's) (17)

- A review of the modification installation kickoff meeting (IKM) functional instruction was performed to determine if it adequately addresses the modification review guidelines and requirement for system engineers to support the IKM. No revisions to the procedure were necessary.
- A review of the Nuclear Department Administrative Procedure that controls the Susquehanna DCP modification installation process was performed to determine if it adequately addresses the involvement of site engineers in the modification process. It was determined that the Nuclear Department Administrative Procedure did not need any revisions. An additional procedure was issued to provide guidance regarding the system engineer's role and responsibility during the modification process.

**ADDITIONAL INFORMATION**

Failed Component Identification: Not applicable.

Previous Similar Events:

Docket No. 50-387, LER 90-008-00 Required Instrumentation Surveillances Not Performed

Docket No. 50-387, LER 91-012-00 Valves Not Surveillance Tested - Operation Prohibited by Technical Specifications