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MAY 0 4 2004

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Mail Stop O-P1-17
Washington, DC 20555

SUSQUEHANNA STEAM ELECTRIC STATION
LICENSEE EVENT REPORT 50-387/2004-002-00
LICENSE NO. NPF-14
PLA-5751 **Docket No. 50-387**

Attached is Licensee Event Report (LER) 50-387/2004-002-00. This event was determined to be reportable per 10 CFR 50.73(a)(2)(v)(D), for a condition that could have prevented the fulfillment of a safety function. In addition, this event is reportable in accordance with 10 CFR 50.73(a)(2)(i)(B), for a condition prohibited by Technical Specifications.

On March 9, 2004, it was identified that on March 5, 2004, the Unit 1 'A' and 'B' loops of the Emergency Service Water (ESW) system were inoperable for approximately one hour. On March 5, 2004, maintenance personnel erroneously removed a blank flange from the 'B' loop of ESW while the 'A' loop was already isolated to support the installation of a plant modification. Because this condition was not discovered until March 9, 2004, several actions were not taken as required by Technical Specifications.

This event resulted in no actual adverse consequences to the health and safety of the public. No commitments are associated with this LER.

Richard L. Anderson
Vice President – Nuclear Operations

Attachment

IE22

cc: Mr. H. J. Miller
Regional Administrator
U.S. Nuclear Regulatory Commission
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Mr. S. L. Hansell
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NRC FORM 366 (7-2001) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB NO. 3150-0104 EXPIRES 7-31-2004

Estimated burden per response to comply with this mandatory information collection request: 50 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the Records Management Branch (T-6 E6), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to bjs1@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 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.

LICENSEE EVENT REPORT (LER)

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

1. FACILITY NAME	2. DOCKET NUMBER	3. PAGE
Susquehanna Steam Electric Station - Unit 1	05000387	1 OF 4

4. TITLE

Loss of Safety Function due to Both Loops of Emergency Service Water Being Inoperable

5. EVENT DATE			6. LER NUMBER			7. REPORT DATE			8. OTHER FACILITIES INVOLVED	
MO	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REV NO	MO	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
									SSES, Unit 2	05000388
03	09	2004	2004	- 002 -	00	05	04	2004	FACILITY NAME	DOCKET NUMBER

9. OPERATING MODE	5
10. POWER LEVEL	0

11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check all that apply)

20.2201(b)	20.2203(a)(3)(ii)	50.73(a)(2)(ii)(B)	50.73(a)(2)(ix)(A)
20.2201(d)	20.2203(a)(4)	50.73(a)(2)(iii)	50.73(a)(2)(x)
20.2203(a)(1)	50.36(c)(1)(i)(A)	50.73(a)(2)(iv)(A)	73.71(a)(4)
20.2203(a)(2)(i)	50.36(c)(1)(ii)(A)	50.73(a)(2)(v)(A)	73.71(a)(5)
20.2203(a)(2)(ii)	50.36(c)(2)	50.73(a)(2)(v)(B)	OTHER
20.2203(a)(2)(iii)	50.46(a)(3)(ii)	50.73(a)(2)(v)(C)	Specify in Abstract below or in NRC Form 366A
20.2203(a)(2)(iv)	50.73(a)(2)(i)(A)	X 50.73(a)(2)(v)(D)	
20.2203(a)(2)(v)	X 50.73(a)(2)(i)(B)	50.73(a)(2)(vii)	
20.2203(a)(2)(vi)	50.73(a)(2)(i)(C)	50.73(a)(2)(viii)(A)	
20.2203(a)(3)(i)	50.73(a)(2)(ii)(A)	50.73(a)(2)(viii)(B)	

12. LICENSEE CONTACT FOR THIS LER

NAME	TELEPHONE NUMBER (Include Area Code)
Brenda W. O'Rourke - Nuclear Regulatory Affairs	(570) 542-1791

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			15. EXPECTED SUBMISSION DATE	MONTH	DAY	YEAR
YES (If yes, complete EXPECTED SUBMISSION DATE).	X	NO				

16. ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines)

On March 9, 2004, it was identified that both the Unit 1 'A' and 'B' loops of the Emergency Service Water (ESW) system were inoperable for a period of approximately one hour on March 5, 2004. On March 5, 2004, at 0100 hours, maintenance personnel erroneously removed a blank flange in the Unit 1 'B' loop of ESW instead of the 'A' loop of ESW, which was already isolated to support the U113RO outage. This resulted in a loss of safety function for the ESW system. In addition, several other systems important to safety were affected. Because the condition was not discovered until March 9, 2004, several required Technical Specification (TS) actions were not taken. As such, this LER is being submitted in accordance with 10 CFR 50.73(a)(2)(v)(D) and (a)(2)(i)(B) for a loss of safety function and for a condition prohibited by TS, respectively.

The cause of this event was attributed to human performance. No pre-job brief or energy control process brief was conducted with the maintenance personnel (Crew B) assigned to assist the original maintenance personnel (Crew A) in removing the blank flange in the 'A' loop of the ESW system. In addition, a less than adequate turnover was provided by Crew A to Crew B. PPL performed a risk assessment which concluded that there was no risk impact to either Unit 1 or Unit 2 since the ESW system remained capable of supplying water to necessary heat loads on both units and common.

Expectations and coaching were provided to appropriate maintenance personnel. Lessons learned will be incorporated into PPL's Human Performance / Work Standards training for plant personnel. Improvement in this area has been recognized by PPL and is one of the station's key initiatives for 2004.

1. FACILITY NAME	2. DOCKET NUMBER	6. LER NUMBER			3. PAGE
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Susquehanna Steam Electric Station - Unit 1	05000387	2004	- 002 -	00	2 of 4

17. NARRATIVE *(If more space is required, use additional copies of NRC Form 366A)*

CONDITIONS PRIOR TO EVENT

Unit 1 - Mode 5, 0 percent Rated Thermal Power
Unit 2 - Mode 1, 100 percent Rated Thermal Power

EVENT DESCRIPTION

On March 9, 2004, it was identified that both the Unit 1 'A' and 'B' loops of the Emergency Service Water (ESW) [EIIS Code: BI] system were inoperable for a period of approximately one hour on March 5, 2004.

On March 5, 2004, at 0100 hours, maintenance personnel erroneously removed a blank flange (at valve 111131) in the Unit 1 'B' loop of ESW to the Turbine Building Closed Cooling Water (TBCCW) [EIIS Code: KB] heat exchanger instead of the 'A' loop at valve 111130. The 'A' loop was already isolated to support the installation of a plant modification. Subsequent investigation concluded that both the 'A' and 'B' loops of ESW were inoperable for a period of approximately one hour from the time the blank flange bolts were loose until the time the associated ESW piping was re-assembled at approximately 0200 hours. During the time the flange was unbolted, the 'B' loop of ESW system was no longer seismically qualified. As a result, a loss of safety function existed for the ESW system for the one hour time period. With the Unit 1 'A' and the 'B' loops of ESW being inoperable, the operability of both the 'A' and 'B' Control Structure (CS) Chillers (which are common to Unit 1 and 2) [EIIS Code: VI] was impacted since the ESW system provides cooling water to the CS chillers. In addition, the operability of the Control Room Emergency Outside Air Supply (CREOAS) system, the Control Room Floor cooling system, the CS HVAC system and the Emergency Switchgear Room cooling [EIIS Code: VA] system was also impacted.

At the time this event occurred on March 5, 2004, Unit 1 was in Mode 5 with fuel movement in progress. Unit 1 Technical Specification (TS) 3.7.3, Action F.1 states that with both CREOAS subsystems inoperable during irradiated fuel movement, immediately suspend movement of irradiated fuel assemblies in the secondary containment. In addition, with the Unit 1 Control Room Floor cooling system inoperable, TS 3.7.4, Action E.1 also requires immediate suspension of fuel movement. Because these conditions were not identified until March 9, 2004, TS 3.7.3, Action F and TS 3.7.4, Action E.1 were not taken as required by Technical Specifications.

On March 5, 2004, Unit 2 was in Mode 1. Unit 2 TS 3.7.3, Action E.1 requires entry into TS 3.0.3 when both CREOAS subsystems are inoperable in Modes 1, 2, or 3. In addition, with the Unit 2 Control Room Floor cooling system inoperable, TS 3.7.4, Action D.1 also requires entry into TS 3.0.3 when the system is inoperable in Modes 1, 2, or 3. However, because these conditions were not identified until March 9, 2004, Unit 2 TS 3.7.3, Action E.1 and TS 3.7.4, Action D.1 were not taken.

Based on the above, this LER is being submitted in accordance with 10 CFR 50.73(a)(2)(v)(D), for an event or condition that resulted in a loss of safety function. The loss of safety function existed on March 5, 2004 for approximately one hour when both the 'A' and 'B' loops of the ESW system were inoperable. This LER is also being submitted in accordance with 10 CFR 50.73(a)(2)(i)(B) for a condition prohibited by Technical Specifications.

1. FACILITY NAME	2. DOCKET NUMBER	6. LER NUMBER			3. PAGE
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Susquehanna Steam Electric Station - Unit 1	05000387	2004	- 002 -	00	3 of 4

17. NARRATIVE *(If more space is required, use additional copies of NRC Form 366A)*

CAUSE OF EVENT

The cause of this event was attributed to human performance. No pre-job brief or energy control process (ECP) brief was conducted with the maintenance personnel (Crew B) assigned to assist the original maintenance personnel (Crew A) in removing the blank flange at valve 111130 in the 'A' loop of the ESW system. In addition, a less than adequate turnover was provided by Crew A to Crew B.

ANALYSIS / SAFETY SIGNIFICANCE

Actual Consequences:

Unit 2 TS LCO 3.0.3 applied for the one-hour time period when the blank flange in the 'B' loop of the ESW system was un-bolted and the 'A' loop of ESW was isolated to support plant modifications. During this event, the 'B' loop ESW supply to the Unit 2 loads remained functional since there was at least one closable isolation valve (111103) and one anchor point (i.e., the ground) between the blank flange and the ESW piping to the Unit 2 loads. In addition, although the 'A' loop of ESW was inoperable, only the 'A' loop ESW supply to the Unit 1 loads was inoperable. The 'B' loop ESW supply to the Unit 2 loads remained functional. As such, the 'A' and 'B' loops of ESW to the Unit 2 loads remained fully functional at all times. No unavailability or maintenance rule functional failures were involved.

During this event, the ESW supply to the diesel generators (DGs) also remained operable because there was at least one closable isolation valve (111103) in the 'B' loop of ESW between the DGs and the blank flange and one anchor point (i.e., the ground) between the blank flange and the ESW piping. There was no impact to the 'A' loop ESW supply to the DGs since the 'A' loop of ESW was isolated downstream of the DGs to support plant modifications.

PPL performed a risk assessment which concluded that there was no risk impact to either Unit 1 or Unit 2 since the ESW system remained capable of supplying water to necessary heat loads on both units and common.

Potential Consequences:

If the ESW system had been in operation while maintenance personnel were removing the incorrect flange in the 'B' loop, it is unlikely they would have been able to remove the blank flange due to system pressure (assuming leakage past closed valve HV-11143B had pressurized the section of pipe). Previous operating experience has shown that leakage from valve HV-11143B has been negligible. In the event that the ESW system had started while maintenance was removing the incorrect flange, leakage from the open pipe would have been minimal since the section of pipe between the blank flange and closed valve HV-11143B was not pressurized and any leakage out of the flange would be limited to leakage past valve HV-11143B.

In accordance with TS, an LCO was entered for the 'B' loop of ESW since the system piping is not analyzed if a seismic event had occurred during the one-hour time period. The portion of the 4-inch pipe (where the blank flange was located) that was vulnerable to a seismic break was approximately 3 inches

1. FACILITY NAME	2. DOCKET NUMBER	6. LER NUMBER			3. PAGE
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Susquehanna Steam Electric Station - Unit 1	05000387	2004	- 002	- 00	4 of 4

17. NARRATIVE *(If more space is required, use additional copies of NRC Form 366A)*

ANALYSIS / SAFETY SIGNIFICANCE (continued)

of ASME III, safety-related, seismic Class 1 pipe. As previously stated, the blank flange was unbolted between closed valve HV-11143B and check valve 111131. At the time of this event, valve HV-11143B was maintaining the ESW pressure boundary. In addition, the physical arrangement of the ESW system piping in this area leaves valve HV-11143B cantilevered about 12 inches from the 12-inch diameter HRC-101 pipe ('B' loop ESW supply). This, in conjunction with the guide at the floor penetration for the pipe and the anchor approximately 10 feet above the take off for HV-11143B, precludes the failure of the 4-inch or the 12-inch ESW piping during a seismic event.

Based upon the above discussion, the actual and potential safety significance of this event was minimal. There was no impact to the health and safety of the public.

CORRECTIVE ACTIONS

The corrective actions that have been completed are:

- Expectations and coaching were provided to the appropriate maintenance personnel.
- The blank flange in the 'A' loop of ESW (at valve 111130) was removed in accordance with plant procedures. The blank flange at valve 111131 in the 'B' loop of ESW was determined not to require reinstallation, since there was no leakage past closed valve HV-11143B.

The key corrective actions to be completed are:

- Incorporate lessons learned into the PPL Human Performance / Work Standards training for plant personnel. The need for improvement in this area has been recognized by PPL and is one of the key initiatives for 2004.
- Incorporate this event into continuing training for mechanical and electrical maintenance personnel.

PREVIOUS SIMILAR EVENTS

None