

August 31, 2009

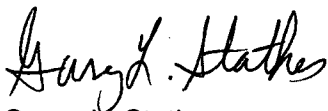
U. S. Nuclear Regulatory Commission
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Peach Bottom Atomic Power Station (PBAPS) Unit 3
Facility Operating License No. DPR-56
NRC Docket No. 50-278

Subject: Licensee Event Report (LER) 3-09-04

This LER reports a condition prohibited by Technical Specifications involving the inoperability of a High Pressure Service Water Subsystem. In accordance with NEI 99-04, the regulatory commitment contained in this correspondence is to restore compliance with the regulations. The specific methods that are planned to restore and maintain compliance are discussed in the LER. If you have any questions or require additional information, please do not hesitate to contact us.

Sincerely,



Garey L. Stathes
Plant Manager
Peach Bottom Atomic Power Station

GLS/djf/IR 938565

Attachment

cc: S. J. Collins, US NRC, Administrator, Region I
F. L. Bower, US NRC, Senior Resident Inspector
R. R. Janati, Commonwealth of Pennsylvania
S. Grey, State of Maryland
P. Steinhauer, PSE&G, Financial Controls and Co-owner Affairs
INPO Records Center

CCN: 09-61

JE22
NIR

LICENSEE EVENT REPORT (LER)

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

Estimated burden per response to comply with this mandatory collection request: 80 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the Records and FOIA/Privacy Service Branch (T-5 F52), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to infocollects@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 an 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.

1. FACILITY NAME Peach Bottom Atomic Power Station, Unit 3	2. DOCKET NUMBER 05000278	3. PAGE 1 OF 4
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4. TITLE
Inoperable Ventilation Fan Results in Condition Prohibited by Technical Specifications

5. EVENT DATE			6. LER NUMBER			7. REPORT DATE			8. OTHER FACILITIES INVOLVED	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REV. NO.	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
04	20	2009	09	04	00	08	31	2009		05000
									FACILITY NAME	DOCKET NUMBER
										05000

9. OPERATING MODE 1	11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: <i>(Check all that apply)</i>							
10. POWER LEVEL 100 %	<input type="checkbox"/> 20.2201(b)	<input type="checkbox"/> 20.2203(a)(3)(i)	<input type="checkbox"/> 50.73(a)(2)(i)(C)	<input type="checkbox"/> 50.73(a)(2)(vii)				
	<input type="checkbox"/> 20.2201(d)	<input type="checkbox"/> 20.2203(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(ii)(A)	<input type="checkbox"/> 50.73(a)(2)(viii)(A)				
	<input type="checkbox"/> 20.2203(a)(1)	<input type="checkbox"/> 20.2203(a)(4)	<input type="checkbox"/> 50.73(a)(2)(ii)(B)	<input type="checkbox"/> 50.73(a)(2)(viii)(B)				
	<input type="checkbox"/> 20.2203(a)(2)(i)	<input type="checkbox"/> 50.36(c)(1)(i)(A)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(ix)(A)				
	<input type="checkbox"/> 20.2203(a)(2)(ii)	<input type="checkbox"/> 50.36(c)(1)(ii)(A)	<input type="checkbox"/> 50.73(a)(2)(iv)(A)	<input type="checkbox"/> 50.73(a)(2)(x)				
	<input type="checkbox"/> 20.2203(a)(2)(iii)	<input type="checkbox"/> 50.36(c)(2)	<input type="checkbox"/> 50.73(a)(2)(v)(A)	<input type="checkbox"/> 73.71(a)(4)				
<input type="checkbox"/> 20.2203(a)(2)(iv)	<input type="checkbox"/> 50.46(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(v)(B)	<input type="checkbox"/> 73.71(a)(5)					
<input type="checkbox"/> 20.2203(a)(2)(v)	<input type="checkbox"/> 50.73(a)(2)(i)(A)	<input type="checkbox"/> 50.73(a)(2)(v)(C)	<input type="checkbox"/> OTHER					
<input type="checkbox"/> 20.2203(a)(2)(vi)	<input checked="" type="checkbox"/> 50.73(a)(2)(i)(B)	<input type="checkbox"/> 50.73(a)(2)(v)(D)	Specify in Abstract below or in NRC Form 366A					

12. LICENSEE CONTACT FOR THIS LER

FACILITY NAME PBAPS Unit 3, James Armstrong, Regulatory Assurance Manager	TELEPHONE NUMBER <i>(Include Area Code)</i> 717-456-3351
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13. COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX
D	LE	51	C770	Y					

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

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

On 8/17/09, Engineering personnel determined that one Unit 3 High Pressure Service Water (HPSW) / Emergency Service Water (ESW) ventilation subsystem was rendered inoperable as a result of preventive maintenance performed on 4/13/09 for the motor control center breaker assembly for the 3B HPSW/ESW Pump Room Ventilation Supply Fan. This condition existed until 7/5/09 when repairs were made to a motor starter contactor / thermal overload relay connection. This occurrence was considered as a condition prohibited by Technical Specifications (TS) since the inoperable HPSW/ESW ventilation subsystem resulted in one Unit 3 HPSW subsystem being considered to be inoperable for a time period greater than allowed by TS. The underlying cause of this condition was that the associated maintenance procedure for preventive maintenance performed on 4/13/09 did not provide clear direction for torquing the connection. The motor starter mechanism / thermal overload relay was repaired on 7/5/09. The associated maintenance procedure is being revised. There were no actual safety consequences associated with this condition.

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NARRATIVE

Unit Conditions Prior to the Event

Unit 3 was in Mode 1 and operating at 100% of rated thermal power when this event occurred. The event is considered to have occurred on 4/20/09 (i.e., the point of time that the Technical Specification Required Action expired for one inoperable High Pressure Service Water (EIS: BI) subsystem being inoperable. Unit 3 remained in Mode 1 throughout the duration of this event. There were no other structures, systems or components out of service that contributed to this event.

Description of the Event

On 8/17/09, Engineering personnel determined that one Unit 3 High Pressure Service Water (HPSW) / Emergency Service Water (ESW) ventilation subsystem (EIS: LE) was rendered inoperable as a result of preventive maintenance performed on 4/13/09 for the motor control center breaker assembly (EIS: 6) for the 3B HPSW/ESW Pump Room Ventilation Supply Fan. The Engineering evaluation was performed as a result of the findings contained in an equipment cause evaluation that was approved on 8/11/09. The cause evaluation was performed in response to two trips of the 3B HPSW/ESW Pump Room Ventilation Supply Fan (EIS: FAN) that occurred on 7/3/09 and 7/4/09. These trips were a result of actuation of the thermal overload relay assembly (EIS: 51). The cause evaluation had determined that inadequate torque had been applied to the machine screws of the solid link connection between the motor starter contactor and the thermal overload assembly. The 'B' phase of this connection was discolored indicating an overheating condition. This inadequately torqued connection caused a high resistance connection that led to actuation of the thermal overload relay.

Repairs were initiated promptly to resolve this condition and the 3B HPSW/ESW Pump Room Ventilation Fan was returned to an operable condition on 7/5/09 by approximately 1120 hours.

Requirements for the Report:

The Technical Requirements Manual (TRM) Section 3.11, Engineered Safeguards (ES) Compartment Cooling and Ventilation requires that one subsystem of HPSW be immediately declared inoperable if one HPSW/ESW ventilation subsystem is inoperable. Therefore, one subsystem of HPSW was considered to be inoperable from the time period of 4/13/09 (completion of preventive maintenance) to 7/5/09 (restoration of the 3B HPSW/ESW Pump Room Ventilation Supply Fan to an operable status). Technical Specification (TS) Limiting Condition for Operation (LCO) 3.7.1, High Pressure Service Water System requires that two HPSW systems be operable. Condition A of TS 3.7.1 requires that if one HPSW subsystem is inoperable, then the HPSW subsystem must be restored to an operable status within 7 days. Because the degraded condition was not known, the inoperable HPSW subsystem was not returned to an operable status by 4/20/09. Therefore, it was determined that this condition was

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Description of the Event, continued

prohibited by TS and is being submitted pursuant to 10CFR 50.73(a)(2)(i)(B). Similarly, since TS 3.6.2.3, Residual Heat Removal (RHR) Suppression Pool Cooling and TS 3.6.2.4, RHR Suppression Pool Spray (EISS: BO) require that a HPSW pump be capable of providing cooling to the RHR heat exchanger, Condition A of TS 3.6.2.3 and 3.6.2.4 (for one subsystem inoperable) were also affected by this condition.

Analysis of the Event

There were no actual safety consequences associated with this event. There were no plant design events during the period of exposure (4/13/09 to 7/5/09) that required operation of the Unit 3 HPSW system.

The Unit 3 HPSW/ESW Pump Room Ventilation system consists of two independent subsystems. Each subsystem has one supply fan and one exhaust fan and each subsystem is capable of performing the heat removal design requirement. The ventilation system is required to support the TS required HPSW and ESW systems by maintaining an acceptable operating environment for the four HPSW pumps and one ESW pump that are located in the Unit 3 portion of the safety related pump structure. This ventilation system removes heat generated by equipment operation during normal operation and following design basis events. The TRM requires that one HPSW subsystem be declared inoperable if one HPSW/ESW ventilation subsystem is inoperable. If both HPSW/ESW ventilation subsystems are inoperable, then the TRM requires the declaration of both HPSW subsystems and one ESW subsystem to be inoperable.

The objective of the HPSW system is to provide a reliable supply of cooling water for RHR under post-accident conditions. This includes supporting the Suppression Pool Cooling, Suppression Pool Spray, Drywell Spray and Shutdown Cooling modes of RHR for various design basis events.

Had a design basis event occurred during the time period of exposure (4/13/09 to 7/5/09), the redundant train of HPSW/ESW Pump Room Ventilation was operable and could have provided adequate cooling in the HPSW/ESW Pump Room to allow for proper operation of the HPSW Pumps and ESW Pump. Therefore, there was no actual loss of safety function involved with this event. This event is not considered risk significant.

Additionally, although the 3B HPSW/ESW Pump Room ventilation subsystem was considered inoperable since 4/13/09, it is reasonable to assume that the 3B HPSW/ESW Pump Room ventilation subsystem operated without incident on occasions when a Unit 3 HPSW pump was operated. The longest run of a Unit 3 HPSW subsystem occurred for approximately 30 hours in June 2009. Therefore, during the period of exposure, the 3B HPSW/ESW Pump Room ventilation subsystem is judged to have had some capability to perform its design function.

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NARRATIVE

Analysis of the Event, continued

However, it could not be assured that if a design basis event occurred during the period of exposure (i.e., 4/13/09 to 7/5/09) that the 3B HPSW/ESW Pump Room Ventilation Supply Fan could have operated for a time period long enough to support the longer term cooling requirements of the HPSW system.

Cause of the Event

The 3B HPSW/ESW Pump Room Ventilation Supply Fan tripped due to inadequate torque applied to the connection of the motor starter contactor and the thermal overload assembly by site maintenance personnel (utility, non-licensed). As-found inspections identified that there existed discoloration (i.e., heating) of the 'B' phase solid link connection point. This inadequately torqued connection caused a high resistance connection that led to actuation of the thermal overload relay. The underlying cause of this condition was that the associated maintenance procedure did not provide clear direction for torquing the connection. Specifically, the associated procedure step directed two actions in one step and did not require a peer check of the torque that was applied to the connection.

The Eaton Corporation supplied the motor starter mechanism (A200, NEMA Size 2).

Corrective Actions

The motor starter mechanism / thermal overload relay was repaired including the appropriate torquing of the connections between the motor starter mechanism and the thermal overload relay. Appropriate breaker testing was performed and the equipment was restored to an operable status on 7/5/09.

Other motor starter mechanism / thermal overload relays that were worked on during the same time period as the 3B HPSW/ESW Pump Room Ventilation Supply Fan were checked for proper torque and no similar concerns were identified. Additional extent of condition reviews are planned.

The applicable maintenance procedure is being upgraded to ensure clear control and verification of the torquing of the motor starter mechanism / thermal overload relay connections.

Lessons learned from this event were shared with the maintenance staff.

Previous Similar Occurrences

There were no previous LERs identified involving inadequate torquing.