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10CFR 50.73

February 10, 2006

U. S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, DC 20555-0001

Peach Bottom Atomic Power Station (PBAPS) Units 2 & 3  
Facility Operating License Nos. DPR-44 and DPR-56  
NRC Docket Nos. 50-277 & 50-278

Subject: Licensee Event Report (LER) 2-05-03

This LER reports a condition prohibited by Technical Specifications involving an inoperability of the E-2 Emergency Diesel Generator. 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,



Joseph P. Grimes  
Plant Manager  
Peach Bottom Atomic Power Station

JPG/djf/IR 437007

## Attachment

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

CCN 06-14002

JE22

# 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: 50 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.

<b>1. FACILITY NAME</b> Peach Bottom Atomic Power Station Units 2 and 3	<b>2. DOCKET NUMBER</b> 05000 277	<b>3. PAGE</b> 1 OF 4
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**4. TITLE**  
E-2 Emergency Diesel Generator Technical Specification Required Actions not Performed

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
12	22	2005	05	- 03 -	0	2	10	2006	PBAPS Unit 3	05000 278
									FACILITY NAME	DOCKET NUMBER
										05000

<b>9. OPERATING MODE</b>  1	<b>11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR§:</b> (Check all that apply)			
<b>10. POWER LEVEL</b>  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 Units 2 & 3, James Mallon, Regulatory Assurance Manager	TELEPHONE NUMBER (Include Area Code) 717-456-3351
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**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

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

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

On 12/27/05 at approximately 2030 hours, while preparing for a surveillance test of the E-2 EDG, an Equipment Operator identified that approximately 10 gallons of water had previously leaked in the vicinity of the E-2 EDG cooling subsystem. The leakage was determined to be pump shaft packing leakage associated with the E-2 EDG Air Coolant Auxiliary Pump. The leak rate was later determined to be approximately 10 gallons per hour, but existed only when the E-2 EDG was operating. This leak rate resulted in inoperability of the E-2 EDG. It was determined that the E-2 EDG Air Coolant Auxiliary Pump had been returned to service on 12/22/05 following the pump packing maintenance Post-Maintenance Test (PMT). However, as a result of weaknesses in the PMT, the high rate of pump shaft packing leakage was not identified. As a result of the unknown inoperability on 12/22/05, the Required Actions for Technical Specification 3.8.1, Condition B for one EDG being inoperable were not performed. It was determined that a condition prohibited by Technical Specifications occurred when Required Actions B.2 and B.4.1/B.4.2 were not performed. The unknown inoperability of the E-2 EDG between 12/22/05 and 12/27/05 was the result of a less than adequate PMT when the Air Coolant Auxiliary Pump was returned to service on 12/22/05. The Air Coolant Auxiliary Pump was removed from service, thereby allowing the E-2 EDG to be declared operable on 12/28/05 at approximately 1815 hours. There were no actual safety consequences associated with this event.

**LICENSEE EVENT REPORT (LER)**

FACILITY NAME (1)	DOCKET (2)	LER NUMBER (6)			PAGE (3)
Peach Bottom Atomic Power Station, Units 2 & 3	05000277	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	2 OF 4
		05	03	00	

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

Unit Conditions at the Time of the Event

Units 2 and 3 were both in Mode 1 operating at approximately 100% rated thermal power. The E-2 Emergency Diesel Generator (EDG) (EHS: EK) Air Coolant Auxiliary Pump (OBP164) (EHS: P) had just been returned to service at the time of the event (12/22/05). There were no structures, systems or components out of service that contributed to this event.

Description of the Event

On 12/27/05 at approximately 2030 hours, while preparing for a surveillance test of the E-2 EDG, an Equipment Operator identified that approximately 10 gallons of water had previously leaked in the vicinity of the E-2 EDG cooling subsystem. The surveillance test was planned to be performed following earlier EDG operation that occurred within the time period of 1520 to 1655 hours on 12/27/05 to support a Post-Maintenance Test (PMT) on the E-2 EDG. The PMT was planned to ensure proper EDG operation following planned maintenance to an E-2 EDG exhaust manifold gasket. The E-2 EDG was declared inoperable and removed from service earlier on 12/27/05 at approximately 0530 hours to perform this planned maintenance and was not yet declared operable when the leakage was discovered at 2030 hours.

Following the identification of the leak on 12/27/05, the EDG continued to be declared inoperable due to the cooling subsystem leakage. The leakage was determined to be pump shaft packing leakage associated with the E-2 EDG Air Coolant Auxiliary Pump. The leak rate was later determined to be approximately 10 gallons per hour, but would have only occurred when the EDG is operating. This leakage condition resulted in inoperability of the E-2 EDG. The water discovered in the vicinity of the E-2 EDG cooling system leaked from the pump packing during the period of time when the EDG was operated earlier that day.

Subsequently, it was determined that the E-2 EDG Air Coolant Auxiliary Pump had been recently returned to service on 12/22/05 following pump shaft packing maintenance post-maintenance testing. However, as a result of weaknesses in the PMT, the high rate of pump shaft packing leakage was not identified. The PMT only checked the leak rate without the EDG in operation. Without the EDG in operation, the leak rate was insignificant. However, the high rate of pump shaft packing leakage would only occur while the E-2 EDG was operating. Therefore, for the period of time between 12/22/05 and 12/27/05 the E-2 EDG was unknowingly inoperable as a result of the pump packing leakage. This leakage would result in depletion of the jacket cooling water inventory if the EDG operated for an extended time period.

This report is being submitted pursuant to 10CFR 50.73(a)(2)(i)(B) to report a condition prohibited by Technical Specifications. As a result of the unknown inoperability that existed between 12/22/05 and 12/27/05, the Required Actions for Technical Specification 3.8.1, Condition B for one EDG being inoperable were not performed. It was determined that a condition prohibited by Technical Specifications occurred as a result of Required Actions B.2 and B.4.1/B.4.2 not being performed. These Required Actions involve the performance of checks to ensure that offsite power circuits are available and that a common cause does not exist on the other EDGs. Otherwise, an entry into Condition G would have been required resulting in actions to initiate plant shut downs for Units 2 and 3. Other Required Actions (B.1, B.3, B.5) were bounded by plant conditions and did not involve a condition prohibited by Technical Specifications.

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FACILITY NAME (1)	DOCKET (2)	LER NUMBER (6)			PAGE (3)
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		05	- 03	- 00	

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

Description of the Event, continued

The associated Technical Specification Condition B Required Actions were appropriately completed during the 12/27-28/05 time period after the E-2 EDG was declared inoperable for planned exhaust manifold gasket maintenance. The Air Coolant Auxiliary Pump was removed from service, thereby allowing the E-2 EDG to be declared operable on 12/28/05 at approximately 1815 hours.

Analysis of the Event

There were no actual safety consequences associated with this event. There were no events during the 12/22/05 to 12/27/05 time period that required operation of the EDGs.

There are four EDGs that comprise the on-site standby AC power source for Units 2 and 3. In the event of loss of the normal offsite power for Units 2 and 3, the EDGs power the safety related AC buses (EIS: BU) to ensure design basis event mitigation and safe shutdown of the units.

The E-2 EDG cooling subsystem provides cooling to the E-2 EDG including the engine itself and the engine intake air subsystem. The Air Coolant Auxiliary Pump (OBP164) provides cooling to heat exchangers that cool intake air used for the EDG. However, the Air Coolant Auxiliary Pump (OBP164) that was leaking is a backup pump to the engine driven Air Coolant Pump (OBP380) which is the primary pump used for this function. The air coolant subsystem reduces the temperature of the combustion air after the air leaves the turbocharger and before it enters the engine. The Air Coolant Auxiliary Pump is not required for EDG operability. The engine driven Air Coolant Pump was operable throughout the time period. However, the leak from the Air Coolant Auxiliary Pump could have resulted in the EDG not being able to perform its safety function if the EDG was operating for extended periods of time. The leak rate was estimated at approximately 10 gallons per hour. It is estimated that if actions were not taken to terminate the leak by isolating the Air Coolant Auxiliary Pump, EDG operation could only be assured for approximately 5 hours.

If a design basis event occurred during the time period of non-compliance (12/22/05 to 12/27/05), the E-2 EDG would have appropriately started and been loaded in accordance with design requirements. Although not credited for operability, it is probable that an equipment operator would have noticed the leak and taken actions to either isolate the leak or provide makeup water to the EDG coolant system. If this action did not occur and the EDG became unavailable, the redundant EDGs would have been operable and available to power equipment required to mitigate design events.

The non-performance of Technical Specification 3.8.1, Condition B, Required Actions B.2 and B.4.1/B.4.2 were not consequential. These required Actions involve the performance of checks to ensure that offsite power circuits are available and that a common cause does not exist on the other EDGs. During this time period, the offsite power circuits were operable. There were no common causes associated with the other three EDGs.

This event is not considered risk significant.

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

Cause of the Event

The unknown inoperability of the E-2 EDG between 12/22/05 and 12/27/05 was the result of a less than adequate PMT when the Air Coolant Auxiliary Pump was returned to service on 12/22/05. The PMT that was performed consisted of running the pump without the EDG in operation. This PMT was not adequate since additional seal water pressure is applied to the packing area when the EDG is in operation. The seal water pressure is provided by the E-2 EDG engine-driven Jacket Coolant Pump. This engine-driven pump is not in operation unless the EDG is operating. Had the EDG being running during the PMT, appropriate packing adjustments / repairs could have been promptly initiated.

The human performance aspects of not ensuring an appropriate PMT for the Air Coolant Auxiliary Pump maintenance are being reviewed in accordance with the Corrective Action Program.

Corrective Actions

The associated Technical Specification Condition B Required Actions were appropriately completed during the 12/27-28/05 time period when the E-2 EDG was declared inoperable.

The Air Coolant Auxiliary Pump was removed from service and the E-2 EDG was declared operable on 12/28/05 at approximately 1815 hours.

Appropriate PMT testing will be developed and performed prior to returning the Air Coolant Auxiliary Pump to service.

Additional assessment and appropriate corrective actions concerning human performance work practices will be further assessed as part of the Corrective Action Program.

Previous Similar Occurrences

There were no previous LERs identified involving a condition prohibited by Technical Specifications caused by less than adequate post-maintenance testing.