



**PECO ENERGY**

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Document Control Desk  
U. S. Nuclear Regulatory Commission  
Washington, DC 20555

Docket No. 50-278

**SUBJECT: Licensee Event Report**  
**Peach Bottom Atomic Power Station - Unit 3**

This LER concerns a Technical Specification violation when the Unit 3 Containment Sump Pumps were not automatically operating.

Reference: Docket No. 50-278  
Report Number: 3-95-004  
Revision Number: 00  
Discovery Date: 10/28/95  
Report Date: 11/27/95  
Facility: Peach Bottom Atomic Power Station  
1848 Lay Road, Delta, PA 17314

This LER is being submitted pursuant to the requirements of 10 CFR 50.73 (a)(2)(i)(B).

Sincerely,

GDE/GAJ:gaj

enclosure

- cc: R. A. Burricelli, Public Service Electric & Gas
- R. R. Janati, Commonwealth of Pennsylvania
- INPO Records Center
- T. T. Martin, US NRC, Administrator, Region I
- R. I. McLean, State of Maryland
- W. L. Schmidt, US NRC, Senior Resident Inspector
- A. F. Kirby III, DelMarVa Power
- H. C. Schwemm, VP - Atlantic Electric

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CCN 95-14096

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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.

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TITLE (4)  
Drywell Floor Drain and Equipment Sump Pump Technical Specification Violation

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)
10	28	95	95	004	00	11	27	95		0   5   0   0   0
										0   5   0   0   0

OPERATING MODE (9) N	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5 (Check one or more of the following) (11)									
POWER LEVEL (10) 11010	20.402(b)		20.405(c)		50.73(a)(2)(iv)		73.71(b)			
	20.405(a)(1)(i)		50.36(c)(1)		50.73(a)(2)(v)		73.71(c)			
	20.405(a)(1)(ii)		50.36(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)(ii)		50.73(a)(2)(viii)(A)					
	20.405(a)(1)(iv)		50.73(a)(2)(iii)		50.73(a)(2)(viii)(E)					
20.405(a)(1)(v)		50.73(a)(2)(iii)		50.73(a)(2)(x)						

LICENSEE CONTACT FOR THIS LER (12)									
NAME Anthony J. Wasong, Manager-Experience Assessment							TELEPHONE NUMBER 7   1   7   4   5   6   -   1   0   1   4		
							AREA CODE		

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

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

On 10/28/95, it was discovered that the Drywell (D/W) Floor Drain and Equipment Drain Sump Pumps were not operating in the automatic mode. Further investigation revealed that this was due to a problem with the newly installed control circuits. This condition resulted in a violation of the Tech Specs because the actual containment sump collection and flow data was not monitored and recorded every four hours. The cause of the event was that both the Floor and Equipment Drain Sump Pumps were not operating in the automatic mode due to a sizing problem in the newly installed control circuit resistors. These control circuits have resistors in the level sensing logic. Resistors of an incorrect size were installed as a result of misleading information in the manufacturer's documentation. The resistors recommended by the manufacturer that were designed for a water medium did not function properly for the D/W Floor and Equipment Drain Sump Pumps. Another size resistor needed to be installed which was different than the resistor size that was specified by the manufacturer. After discovery of the event, the sump pump control circuit resistors were replaced to restore the automatic mode of operation. The pertinent information from the event will be provided to the appropriate station personnel. No previous similar events have been identified.

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

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.

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

Requirements of the Report

This report is submitted pursuant to 10 CFR 50.73 (a)(2)(i)(B) as a result of a Technical Specification (Tech Spec) violation when the Primary Containment Sump Pumps were not operating in automatic thus not allowing the four hour Surveillance Requirement to be properly satisfied.

Unit Conditions at Time of Event

Unit 3 was in the "RUN" mode at 100% of thermal reactor (EII:EA) power. There were no systems, structures, or components that were inoperable that contributed to the event.

Description of the Event

On 10/23/95 at 2237 hours, the Drywell (D/W) Floor Drain Sump Pumps were removed from service to support the replacement of the sump pump switching control circuit. The existing control circuit was obsolete. Therefore, the control circuit was replaced with a new unit. Instrument & Control (I&C) Maintenance technicians tested the new circuit using a jumper which simulated a high sump level condition. This verified satisfactory pump and circuit operation. A Post Maintenance Test (PMT) was also initiated for Operations to verify normal Floor Drain pump out rates per Surveillance Test ((ST)-O-020-560-3) "REACTOR COOLANT LEAKAGE TEST" after the pumps were unblocked. This was done to confirm integrated system operability. The D/W Floor Drain Sump Pumps were unblocked and returned to service on 10/25/95 at 2113 hours.

On 10/26/95 at 0545 hours, the D/W Equipment Drain Sump Pumps were removed from service to support similar replacement of the sump pump switching control circuits. With the D/W Equipment Drain Sump Pumps out of service, normal input to the Equipment Sump would be expected to eventually spill over to the D/W Floor Drain Sump through a connection between the two sumps. Two automatic pump outs did occur between 1200 and 2000 hours on 10/26/95, however, no others occurred during the duration of the work on the D/W Equipment Drain Sump Pumps. The control circuits for the D/W Equipment Drain Sump Pumps were replaced and tested using a jumper similar to the previous Floor Drain test. A PMT was then initiated to Operations to verify normal Equipment Drain pump out rates per ST-O-020-560-3. This equipment was subsequently unblocked and returned to service on 10/27/95 at 1603 hours.

On 10/28/95 at 2000 hours, during the review of the D/W Sump Pump monitoring ST and as part of the D/W Equipment Floor Drain PMT, it was discovered that the D/W Floor Drain and Equipment Drain Sump Pumps were not operating in the automatic mode.

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

Further investigation revealed that this was due to a problem with the newly installed control circuits. Tech Spec 4.6.C.1 specifies that "Reactor coolant system leakage shall be determined by the primary containment (Drywell) sump collection and flow monitoring system and recorded every 4 hours or less". It was determined that the D/W Sump Pump out data collected between 0800 hours on 10/26/95 and 2000 hours on 10/28/95 was not a valid measurement of containment leakage due to the sump pump level control circuit problem. Therefore, this condition resulted in a violation of the Tech Specs because the actual containment sump collection and flow data was not monitored and recorded every four hours.

After discovery of the event, troubleshooting identified that resistors in the level sensor's logic were not properly sized. Subsequently, the sump pump control circuit resistors were replaced to restore the automatic mode of operation.

Cause of the Event

The cause of the event was that both the Floor and Equipment Drain Sump Pumps were not operating in the automatic mode due to a sizing problem in the newly installed control circuit resistors. These control circuits have resistors in the level sensing logic. Resistors of an incorrect size were installed as a result of misleading information in the manufacturer's documentation. The resistors recommended by the manufacturer that were designed for a water medium did not function properly for the D/W Floor and Equipment Drain Sump Pumps. Another size resistor needed to be installed which was different than the resistor size that was specified by the manufacturer. The installed resistors made the circuit less sensitive to low conductivity water. It is suspected that the D/W Floor Drain Sump Pumps worked twice on 10/26/95 as a result of having high conductivity water in the D/W Floor Drain Sump. Eventually, after low conductivity water from the D/W Equipment Drain Sump spilled over and mixed in with water from the D/W Floor Drain, the change in conductivity of the water was reduced causing the circuit to no longer sense actual water level. In addition to the above, adequacy of the process used to declare the D/W Floor Drain Sump Pumps operable will be evaluated.

Analysis of the Event

No actual safety consequences occurred as a result of this event.

The consequences of not recording the Primary Containment sump collection and flow data over this time period are considered minimal due to the fact that the actual containment pump out data, reviewed after the event, contained no indications of unusual containment leakages and did not exceed Tech Spec limitations. During the time that the

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TEXT (If more space is required, use additional NRC Form 350A's) (17)

data was missed, the D/W Atmospheric Radiation Monitor (DARM) was operable to monitor the D/W atmosphere. The DARM provides supporting information to that provided by the Reactor Coolant Leakage Monitoring system. Although there is no direct correlation between the radioactivity monitor indication and the leakage rate because of the uncertainties regarding coolant activity levels, source of leakage, and background radiation levels, the radioactivity monitor would provide an early warning of a major leak. In the event of a large leak, the containment pressure and reactor vessel water level monitors were available to rapidly alert the operators.

Corrective Actions

After discovery of the event, troubleshooting identified that resistors in the level sensor's logic were not properly sized. Subsequently, the sump pump control circuit resistors were replaced to restore the automatic mode of operation.

D/W Floor Drain and Equipment Drain resistor sizing will be documented in revisions to applicable electrical prints. In addition, the documentation for other station sump pumps with similar configurations will be updated to reference use of the proper resistor.

The pertinent information from the event will be provided to the appropriate Station Engineering personnel.

Adequacy of the process used to declare the D/W Floor Drain Sump Pumps operable will be evaluated and corrective actions will be taken as appropriate based on the results of the evaluation.

Previous Similar Events

No previous similar LERs have been identified which involved the improper sizing of resistors for these or similar applications.