NRC Form 366
(9-83)

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 3150-0104
EXPIRES: 8/31/85

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
Peach Bottom Atomic Power Station - Unit 2	0 5 0 0 0 2 7 7	1 OF 0 3

TITLE (4)
Standby Gas Treatment System Operability

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)
0 4	2 7	8 4	8 4	- 0 0 8	- 0 0	0 5	2 9	8 4		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 §: (Check one or more of the following) (11)			
POWER LEVEL (10)	0 8 0	20.402(b)	20.405(c)	50.73(a)(2)(iv)	73.71(b)
		20.405(a)(1)(i)	50.36(c)(1)	X 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)(i)	50.73(a)(2)(viii)(A)	
		20.405(a)(1)(iv)	50.73(a)(2)(ii)	50.73(a)(2)(viii)(B)	
		20.405(a)(1)(v)	50.73(a)(2)(iii)	50.73(a)(2)(x)	

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER
B. L. Clark, Senior Engineer - Special Projects	AREA CODE 2 1 5 8 4 1 - 5 0 1 7

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	
X	J M	P S V	A 4 9 9	Y							

SUPPLEMENTAL REPORT EXPECTED (14)		EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
X YES (If yes, complete EXPECTED SUBMISSION DATE)	NO		0 6	1 5	8 4

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

Abstract: 2-84-08

On April 27, 1984, the Standby Gas Treatment (SBGT) system was manually started to deinert the Unit 2 drywell. Solenoid Valve, SV-00009, failed to properly operate preventing the 'A' fan inlet and outlet dampers from opening. The failed solenoid on the 'A' fan was replaced and the SBGT system was placed in service to continue deinerting operations.

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Peach Bottom Atomic Power Station Unit 2	0 5 0 0 0 2 7 7	8 4	— 0 0 8	— 0 0	0 2 OF 0 3

Description of the Event:

On April 27, 1984, Unit 2 was operating at 80% power coasting down to begin the end of cycle 6 outage. At 6:00 p.m., the 'A' fan of the SBGT system was manually started to commence the drywell deinerting; however, no flow was achieved using the 'A' fan because both the inlet and outlet dampers failed to open.

The Peach Bottom Units 2 & 3 SBGT system consists of an 'A' and a 'B' filter assembly, and three fans, 'A', 'B', and 'C' ducted in parallel to the filter assemblies. The 'A' fan is utilized for Unit 2, with 'B' as a standby, and the 'C' fan is utilitzed for Unit 3 with the 'B' fan as a standby.

Consequences of the Event:

As a result of an investigation into the consequences of the SV-0009 failure, it was determined that the potential existed for a single failure to have prevented the fulfillment of the safety function of the SBGT system.

If, on the date of the occurrence, a Group III isolation had occurred on Unit 2, the 'A' SBGT system fan would have started automatically, but there would have been no flow and the 'B' SBGT system fan would not have received the low 'A' fan differential pressure signal to start due to the orientation of the differential pressure switch sensing lines.

The high and low sensing taps of the differential pressure switch are piped between the dampers to the inlet and outlet of the 'A' fan to prove flow. With the dampers closed and the fan running, the switch would have sensed a differential pressure preventing the 'B' fan from automatically starting.

Cause of the Event:

The inlet and outlet dampers on the SBGT system fans are actuated by pneumatic operators. Each fan has a 120V.AC 3-way Asco solenoid valve (Catalog Number HT8320A83) which is normally energized, and wired into the fan control circuit. When the SBGT system is actuated, the solenoids pass a pneumatic signal to open the inlet and outlet dampers. When the 'A' fan was manually started, solenoid valve, SV-0009, failed to operate and the dampers remained closed.

If the SBGT had been automatically started, 'B' fan would not have received a standby start signal from the 'A' fan differential pressure switch because the low and high pressure taps for the switch are located within the inlet and outlet dampers. With the 'A' fan running and these dampers closed, the differential pressure switch would have measured a differential between the inlet and outlet of the fan indicating that there was 'A' fan flow, thus inhibiting the automatic 'B' fan start.

Corrective Actions:

The defective solenoid on the 'A' fan was replaced, the system was satisfactorily tested and placed in service at 2:20 a.m. on April 28, 1984. The defective solenoid was inspected by station personnel. There were no visible causes for the failure. The solenoid will be given to the Electrical Engineering Division for further analysis to determine the cause of failure.

The standby start differential pressure switches on the 'A' and 'C' fans will be replaced with a flow sensor using a duct pitot tube. An engineering evaluation is being performed to determine optimum positioning of the sensors in the SBGT system ductwork to ensure proper flow sensing. It is expected that this will be completed by June 20, 1984, with the subsequent modification complete within four weeks after that.

Until such time that the solenoid failure analysis and flow sensor modification are completed, a daily routine test of the operability of the SBGT system fans inlet and outlet dampers will be performed.

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May 29, 1984

Docket No. 50-277

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

SUBJECT: Licensee Event Report

This LER concerns the failure of a solenoid valve in the Standby Gas Treatment System on Peach Bottom Unit 2.

Reference:	Docket No. 50-277
Report Number:	2-84-08
Revision Number:	00
Event Date:	April 27, 1984
Report Date:	May 29, 1984
Facility:	Peach Bottom Atomic Power Station RD #1, Box 208, Delta, PA 17314

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

Very truly yours,

R. H. Logue
Superintendent
Nuclear Services

cc: Dr. Thomas E. Murley, Administrator
Region I, USNRC

Mr. A. R. Blough
Site Inspector

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