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August 8, 2001

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

Docket No. 50-277, 50-278
SUBJECT: Licensee Event Report, Peach Bottom Atomic Power Station Unit 2 and 3

This LER reports an invalid specified system actuation and a safety system functional failure during a loss of a normal offsite power source. The LER is being submitted pursuant to the requirements of 10CFR50.73(a)(2)(iv)(A), 10CFR50.73(a)(2)(v)(D), and 10CFR50.73(a)(2)(vii).

Reference:	Docket No.	50-277, 50-278
Report Number:	2-01-001	
Revision Number:	00	
Event Date:	06/18/00	
Report Date:	08/08/01	

Facility: Peach Bottom Atomic Power Station Unit 2 & 3
1848 Lay Road, Delta, PA 17314-9032

Sincerely,

Gordon L. Johnston, Plant Manager

GLJ/scb

enclosure

cc: PSE&G, Financial Controls and Co-owner Affairs
R. R. Janati, Commonwealth of Pennsylvania
INPO Records Center
H. J. Miller, US NRC, Administrator, Region I
R. I. McLean, State of Maryland
A. C. McMurtray, US NRC, Senior Resident Inspector
A. F. Kirby III, DelMarVa Power

CCN 01-14077

IE22

NRC FORM 366 (1-2001)

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB NO. 3150-0104 EXPIRES 6-30-2001

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)

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
Peach Bottom Atomic Power Station, Unit 2	05000 277	1 OF 4

TITLE (4)

Loss of Offsite Power Source Results in Specified System Actuation and Safety System Functional Failure.

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)	
MO	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REV NO	MO	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
06	18	01	01	0 0 1	00	08	17	01	Unit 3	05000 278
									FACILITY NAME	DOCKET NUMBER

OPERATING MODE (9)	1
POWER LEVEL (10)	100

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

	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)	x	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 Specify in Abstract below or in NRC Form 366A
	20.2203(a)(2)(iii)		50.46(a)(3)(ii)		50.73(a)(2)(v)(C)		
	20.2203(a)(2)(iv)		50.73(a)(2)(i)(A)	x	50.73(a)(2)(v)(D)		
	20.2203(a)(2)(v)		50.73(a)(2)(i)(B)	x	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)		

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER (Include Area Code)
Steven C. Beck - Regulatory Assurance	(717) 456-3243

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX

SUPPLEMENTAL REPORT EXPECTED (14)			EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
YES (If yes, complete EXPECTED SUBMISSION DATE).	X	NO				

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

On June 18, 2001 at approximately 0315 hours, the 343SU-E offsite power source experienced an electrical fault causing it to trip. Two emergency 4160 VAC buses on both Units 2 and 3 transferred to their respective alternate power supply (2SU-E offsite power source). As a result, an invalid actuation of primary containment isolation valves in multiple systems occurred as expected for the loss of power.

After the affected emergency buses transferred to the 2SU-E emergency power source, the operating crew entered procedure "Response to a Loss of #343 Off-site Startup Source." The procedure directed the crew to "flag" all "tripped" breaker control switches to their actual position; however, it did not address the alternate breaker control switches. This resulted in the normal power supply (tripped) breaker control switches being taken to open and the alternate power supply breaker control switch being left in the open position (with actual breaker position being closed). With both the normal and alternate breaker control switches in the open position, an interlock would have prevented the emergency diesel generator associated with two emergency 4160 VAC buses on each unit from automatically supplying power to their respective bus in the event of a loss of offsite power/LOCA. This condition existed for approximately three hours, when the operating crew took the control switch for the alternate power supply breaker to the closed position.

FACILITY NAME (1)	DOCKET (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Peach Bottom Atomic Power Station, Unit 2 & 3	05000277 05000278	01	-- 001 --	00	2 OF 4

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

Unit Conditions Prior to the Event

Both Unit 2 and 3 were in Mode 1 and operating at approximately 100% rated thermal power when the event occurred. There were no other structures, systems or components out of service that contributed to this event.

Description of the Event

On June 18, 2001 at approximately 0315 hours, the 343SU-E offsite power source (EIIS:FK)experienced an electrical fault causing it to trip. Two emergency 4160 VAC buses on both Units 2 and 3 transferred to their respective alternate power supply (2SU-E offsite power source). As a result, an invalid actuation of primary containment isolation valves in multiple systems occurred as expected for the loss of power.

The invalid actuation of primary containment isolation valves occurred in the following systems on both Units 2 and 3 (EIIS:JM): Reactor Water Cleanup, Drywell Equipment and Floor Drain isolation valves, Nitrogen Supply to the Drywell, and the TIP purge valve. All systems responded as expected for a loss of power and were restored to their normal configuration by the operating crew. An unplanned, invalid actuation of a specified system meets the reporting requirements of 10CFR50.73(a)(2)(iv).

After the affected emergency buses transferred to the 2SU-E emergency power source, the operating crew entered procedure "Response to a Loss of #343 Off-site Startup Source." The procedure directed the crew to "flag" all "tripped" breaker control switches to their actual position; however it did not address the alternate breaker control switches. This resulted in the normal power supply (tripped) breaker control switches being taken to open and the alternate power supply breaker control switches being left in the open position (with actual breaker position being closed). With both the normal and alternate breaker control switches in the open position, an interlock would have prevented the emergency diesel generator (EIIS:EK) associated with two emergency 4160 VAC buses on each unit from automatically supplying power to their respective buses in the event of a loss of offsite power/LOCA. This condition existed for approximately three hours, when the operating crew took the control switch for the alternate breaker to the closed position.

Peach Bottom has four emergency buses per Unit. As a result of the procedure deficiency, two of four emergency buses per unit would not have automatically received power from their respective emergency diesel generators in the event of a loss of offsite power.

The inability of two emergency diesel generators to automatically provide power to their respective emergency buses could have prevented the fulfillment of a safety function to mitigate the consequences of a Loss of Offsite Power/Loss of Coolant Accident. This LER is being submitted pursuant to the requirements of 10CFR50.73(a)(2)(v)(D) and 10CFR50.73(a)(2)(vii).

FACILITY NAME (1)	DOCKET (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Peach Bottom Atomic Power Station, Unit 2 & 3	05000277 05000278	01	-- 001 --	00	3 OF 4

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

Analysis of the Event

Each unit had diesel generators available to two of four emergency buses. Each emergency bus supplies power to both a RHR and a Core Spray pump. In the event of a Loss Of Offsite Power concurrent with a Design Basis Loss of Coolant Accident, each unit would have had one completely operable loop of both core spray and RHR to supply cooling water flow to the reactor. Additionally, emergency and abnormal operating procedures would have directed the operating crew to restore power to any buses that were de-energized. Bus restoration could have been performed by matching the breaker switch "flag" on the alternate power supply breakers to actual breaker position. Once the "flag" was matched the diesel generators would have supplied power to their respective buses.

This event resulted in a minimal change in core damage frequency. The condition existed for approximately three hours when the operating crew recognized the discrepancy and properly aligned the breaker control switches. This event did not impact the initiating event cornerstone or the barrier cornerstone; however, since the emergency diesel generators are mitigating systems, the mitigating system cornerstone was affected. Each unit had two available diesel generators at all times and some credit may be given for the recovery of the inoperable trains based on the ability of the operating crew to restore function in a timely manner.

Cause of the Event

The cause of the loss of 343SU-E offsite power source, which resulted in several invalid specified system actuations, was a raccoon coming in contact with an insulator, which caused a phase-to-ground trip on the bus.

The cause of the loss of safety function of two emergency diesel generators per unit was a latent procedural error, which directed the operator to align the breaker control switches for tripped breakers, only. This created a condition in the diesel generator logic, which would have prevented the diesel generator from automatically supplying power to its respective bus. This affected two of four emergency buses on each unit.

Corrective Action Completed

Further investigation determined that this particular procedural deficiency existed in three different procedures that provide direction for responding to the loss of an offsite power source. All three procedures have been temporarily changed to require that both the tripped breaker and the closed breaker control switches be flagged to match breaker position.

FACILITY NAME (1)	DOCKET (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Peach Bottom Atomic Power Station, Unit 2 & 3	05000277 05000278	01	– 001 –	00	4 OF 4

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

Corrective Actions Planned

Permanent changes to the three procedures will be processed.

Previous Similar Occurrences

None