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 3	0 5 0 0 0 2 7 8	1 OF 0 3

TITLE (4)
Reactor Scram Due to APRM High Flux

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 2	0 9	8 4	8 4	- 0 0 5	- 0 0	0 3	0 7	8 4		0 5 0 0 0
										0 5 0 0 0

OPERATING MODE (9)		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)			
N		20.402(b)	20.405(c)	X 50.73(a)(2)(iv)	73.71(b)
POWER LEVEL (10)	0 9 2	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)	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	S R	C P L G	Z 0 1 0	Y							
X	T C	2	A 1 0 9	Y							

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 fifteen single-space typewritten lines) (16)

Abstract 3-84-05

On February 9, 1984, at 6:07 p.m., a runback and subsequent relay failure in the Main Turbine Electrohydraulic Control System (EHC) resulted in a Unit 3 reactor auto scram on high neutron flux.

With Unit 3 operating at about 92% power, the 3B reactor feed pump (RFP) turbine experienced high vibration. Manually tripping the reactor feedpump turbine caused an automatic runback of the recirculation pumps and the turbine EHC system. A faulty relay contact in the EHC system kept the closing circuit of the main turbine control valves energized which resulted in a reactor auto scram on high neutron flux.

The faulty EHC relay and a faulty reactor feedpump turbine coupling which was causing the vibration were replaced. A routine test will be instituted to functionally test this relay and the EHC runback logic each refueling outage.

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

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

Description of the Event:

On February 9, 1984, Peach Bottom Atomic Power Station, Unit 3, was operating at about 92% power. At approximately 6:00 p.m., the 3B reactor feed pump experienced high vibration. The reactor operator, in an effort to decrease the vibration, reduced flow through the pump. Vibration continued and the operator manually tripped the pump. The ensuing transient caused reactor water level to decrease.

With feedwater flow greater than 95% and reactor water level below plus 17 inches, recirculation pump and EHC runback signals were correctly initiated.

The EHC runback is designed to slowly pulse down the turbine load at approximately 1% per minute. An Agastat relay (Model 2432 PDC) failure caused the EHC system to runback at a rapid continuous rate. The main turbine bypass valves opened to compensate for the reduced turbine load. When all bypass valves were fully open and the control valves continued to close, a high neutron flux auto scram occurred at 6:07 p.m.

Consequences of the Event:

The Reactor Protection System functioned properly and the reactor successfully auto scrammed on high flux. Since the Reactor Protection System functioned properly and no design limits were exceeded, the safety consequences of this event are considered minimal.

Cause of the Event:

The cause of the event was the failure of an Agastat relay (Model 2432 PDC) in the turbine EHC runback logic.

The relay, if operating properly, should have decreased turbine load at approximately 1% per minute until feedwater flow was less than 95%. However, a contact within this relay remained closed after the EHC runback was initiated causing a runback at a much faster rate and preventing the runback from stopping when it was no longer needed. The cause of the 3B reactor feedpump vibration problem was a faulty Zurn coupling.

Corrective Actions:

The Agastat relay was replaced. A routine test has been written and will be instituted to functionally test this relay and the EHC runback logic each refueling outage.

The Zurn coupling on the 3B reactor feedpump turbine was replaced and the turbine was returned to satisfactory service.

PHILADELPHIA ELECTRIC COMPANY

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PHILADELPHIA, PA. 19101

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March 7, 1984

Docket No. 50-278

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

SUBJECT: Licensee Event Report

This LER deals with a reactor scram on APRM high flux caused by the failure of a relay in the turbine EHC runback logic.

Reference:	Docket No. 50-278
Report Number:	3-84-05
Event Date:	February 9, 1984
Report Date:	March 7, 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)(IV).

Very truly yours,

W. T. Ullrich
Superintendent
Nuclear Generation Division

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

Mr. A. R. Blough
Site Inspector

IE22
1/1