

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)

Turkey Point Unit 3

DOCKET NUMBER (2)

0 5 0 0 0 2 5 0

PAGE (3)

1 OF 02

TITLE (4)

Reactor Protection System Actuation - Turbine Runback

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)	
									N/A		0 5 0 0 0	
1	2	3	0	8	5	8	5	0	4	4	0 0 0 1 2 9 8 6	
OPERATING MODE (9)			THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR § (Check one or more of the following) (11):									
1			20.402(b)			20.406(e)			<input checked="" type="checkbox"/> 80.73(a)(2)(iv)			73.71(b)
POWER LEVEL (10)			20.405(a)(1)(i)			80.38(e)(1)			80.73(a)(2)(v)			73.71(c)
1 0 0			20.405(a)(1)(ii)			80.38(e)(2)			80.73(a)(2)(vi)			OTHER (Specify in Abstract below and in Text, NRC Form 365A)
			20.405(a)(1)(iii)			80.73(a)(2)(i)			80.73(a)(2)(vii)(A)			
			20.405(a)(1)(iv)			80.73(a)(2)(ii)			80.73(a)(2)(vii)(B)			
			20.405(a)(1)(v)			80.73(a)(2)(iii)			80.73(a)(2)(x)			

LICENSEE CONTACT FOR THIS LER (12)

NAME

TELEPHONE NUMBER

Randall D. Hart, Licensing Engineer

AREA CODE

3 0 5 2 4 5 - 2 9 1 0

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

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPDOS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPDOS
X	A	A	CL	W 1 2 0	N				

SUPPLEMENTAL REPORT EXPECTED (14)

☐ YES (If yes, complete EXPECTED SUBMISSION DATE)☒ NO

EXPECTED SUBMISSION DATE (15)

MONTH DAY YEAR

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

Event:

On December 30, 1985, while Unit 3 was at 100% power, a turbine runback occurred, when the rod position indicator (RPI) for rod control cluster assembly (RCCA) N-9 of shutdown bank "A" indicated that N-9 had dropped. The unit was stabilized at approximately 37% power. Stabilizing the unit was hampered by the fact that no actual dropped RCCA occurred. The control rods were placed in manual before any automatic insertion occurred and driven to their insertion limit in an attempt to match the reactor coolant system (RCS) average temperature (T_{ave}) with the RCS reference temperature (T_{ref}). At this point, emergency boration was initiated to help reduce core power and T_{ave} . Turbine power and reactor power were matched to help facilitate unit stabilization.

Cause of Event:

The cause of the RCCA drop signal was due to a failure of the primary detector coil in the RPI for N-9.

Corrective Actions:

- 1) Applicable plant procedures were used to verify that N-9 was still withdrawn at 228 steps.
- 2) The above corrective actions, along with further inspections revealed that the problem was an open primary detector coil in the RPI circuitry for N-9. Correction of this problem required the unit to be placed in cold shutdown. Plant Management elected to return the unit to full power with the input to the RPI system from RCCA N-9 simulated. A safety evaluation was prepared for this condition, and this evaluation concluded that operation with the signal from RCCA N-9 simulated was acceptable and met FSAR requirements, so long as the RPI runback selector switch was in the NIS/RPI position.
- 3) Plant Management decided that during the time that the RPI for N-9 was out of service, flux traces would be taken every eight hours to confirm that N-9 was still withdrawn at 228 steps.
- 4) The detector coil for N-9 was replaced on January 9, 1985, during a Unit 3 shutdown for other maintenance activities and declared back in service on January 14, 1986, after appropriate testing.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

APPROVED OMB NO. 3150-0104

EXPIRES: 8/31/85

FACILITY NAME (1) Turkey Point Unit 3	DOCKET NUMBER (2) 0 5 0 0 0 2 5 0	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
		8 5	0 4 4	0 0 0	2	OF	0 2

TEXT (If more space is required, use additional NRC Form 365A's) (17)

Event:

On December 30, 1985, at 2246, while Unit 3 was at 100% power, a turbine runback occurred, when the rod position indicator (RPI) for rod control cluster assembly (RCCA) N-9 of shutdown bank "A" indicated that N-9 had dropped. The unit was stabilized at approximately 37% power. Stabilizing the unit was hampered by the fact that no actual dropped RCCA occurred. The control rods were placed in manual before any automatic insertion occurred and driven to their insertion limit in an attempt to match the reactor coolant system (RCS) average temperature (T_{ave}) with the RCS reference temperature (T_{ref}). At this point, emergency boration was initiated to help reduce core power and T_{ave} . Turbine power and reactor power were matched to help facilitate unit stabilization. At 2305, an attempt was made to retrieve the dropped RCCA N-9, as per Off-Normal Operating Procedure (ONOP) 1609.1, Full Length RCCA Malfunction, but it was unsuccessful. At 0035 on December 31, 1985, flux traces were taken, which indicated that N-9 was still fully withdrawn and had not dropped. A stepping exercise of N-9 was performed as per ONOP 1608.1 along with a visicorder trace. These confirmed that N-9 was still withdrawn. Further investigations determined that the dropped RCCA signal came from an open primary coil in the RPI indication for N-9.

Cause of Event:

The cause of the RCCA drop signal was due to a failure of the primary detector coil in the RPI for N-9.

Analysis of Event:

Upon indication of a dropped RCCA from the RPI system, the turbine runback system initiated a turbine runback as designed. RCS and secondary system parameters responded as expected for this type of event. Based on the above, the health and safety of the public were not affected.

Corrective Actions:

- 1) Flux traces were taken according to Operating Procedure (OP) 12404.1, Normal Operation of Incore Movable Detector System and Power Distribution Surveillance, which indicated that N-9 was still withdrawn at 228 steps.
- 2) A radial flux tilt calculation was performed in accordance with Off-Normal Operating Procedure (ONOP) 12308.2, "Power Range Nuclear Instrumentation Verification of Upper, Lower, and Channel Deviation Alarms". This calculation verified that no core flux tilt existed.
- 3) A rod stepping exercise and visicorder trace were performed for N-9, as per ONOP 1608.1 and these confirmed that N-9 was still withdrawn at 228 steps.
- 4) The above corrective actions, along with further inspections revealed that the problem was an open primary detector coil in the RPI circuitry for N-9. Correction of this problem required the unit to be placed in cold shutdown. Plant Management elected to return the unit to full power with the input to the RPI system from RCCA N-9 simulated. A safety evaluation was prepared for this condition, and this evaluation concluded that operation with the signal from RCCA N-9 simulated was acceptable and met FSAR requirements, so long as the RPI runback selector switch was in the NIS/RPI position.
- 5) At 0315 on December 31, 1985, the turbine runback selector switch was placed in The RPI/NIS position.
- 6) Plant Management decided that during the time that the RPI for N-9 was out of service, flux traces would be taken every eight hours to confirm that N-9 was still withdrawn at 228 steps.
- 7) The detector coil for N-9 was replaced on January 9, 1985, during a Unit 3 shutdown for other maintenance activities. The RPI for N-9 was declared back in service at 0530 on January 14, 1986, upon satisfactory completion of OP 1604.9, "Reactor Full Length Control Rod System (CRDM) Test".

Additional Information:

The detector coil for the RPI system which failed was a Model KN-8805-12 coil, manufactured for Westinghouse by Magnetics, Inc.

Similar occurrences: LERs 250-83-005, 251-83-008, and 251-85-021.



JAN 29 1986

L-86-41

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

Gentlemen:

Re: Reportable Event 85-44
Turkey Point Unit 3
Date of Event: December 30, 1985
Reactor Protection System Action - Turbine Runback

The attached Licensee Event Report is being submitted pursuant to the requirements of 10 CFR to provide notification of the subject event.

Very truly yours,

A handwritten signature in dark ink, appearing to read "C. O. Woody", is written over the typed name.

C. O. Woody
Group Vice President
Nuclear Energy

COW/SAV:dh

Attachment

cc: Dr. J. Nelson Grace, Region II, USNRC
Harold F. Reis, Esquire
File 933.1
PNS-LI-86-28

IF22
1/1