

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Pilgrim Nuclear Power Station										DOCKET NUMBER (2) 0 5 0 0 0 2 9 3										PAGE (3) 1 OF 0 4																																																		
TITLE (4) Automatic Actuation of the Secondary Containment and Standby Gas Treatment Systems Due to Licensed Operator Error																																																																						
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 (3)																															
																													N/A										0 5 0 0 0 0																															
1			0			12				8			8			8			0			2			3				0			0			1			1			0				8			8			N/A										0 5 0 0 0 0									
OPERATING MODE (9)										THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5. (Check one or more of the following): (11)																																																												
N										20.402(a)										20.405(e)										X										50.73(a)(2)(iv)										73.71(b)																				
POWER LEVEL (10)										20.405(a)(1)(i)										50.38(e)(1)																				50.73(a)(2)(vi)										73.71(c)																				
0										0										0																				50.73(a)(2)(vii)																														
										20.405(a)(1)(ii)										50.38(e)(2)																				50.73(a)(2)(viii)																														
										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)(viii)(C)																														
										20.405(a)(1)(vi)										50.73(a)(2)(iv)																				50.73(a)(2)(viii)(D)																														
										20.405(a)(1)(vii)										50.73(a)(2)(v)																				50.73(a)(2)(viii)(E)																														
LICENSEE CONTACT FOR THIS LER (12)																																																																						
NAME																				TELEPHONE NUMBER																																																		
Douglas W. Ellis - Compliance Division Engineer																				5 0 8 7 4 7 - 1 1 6 1 0																																																		
COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)																																																																						
CAUSE			SYSTEM			COMPONENT				MANUFACTURER			REPORTABLE TO NRC			CAUSE			SYSTEM			COMPONENT				MANUFACTURER			REPORTABLE TO NRC																																									
SUPPLEMENTAL REPORT EXPECTED (14)																				EXPECTED SUBMISSION DATE (15)																																																		
YES () NO (X)																				MONTH DAY YEAR																																																		
ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single-space typewritten lines) (16)																																																																						
On October 12, 1988 at 2115 hours, a full Reactor Building Isolation Control System (RBIS) isolation signal occurred. The signal resulted in the automatic closing of the supply and exhaust ventilation dampers of the Secondary Containment System (SCS) and the automatic start of the SCS/Standby Gas Treatment System (SGTS). There were no component or system failures that caused this event or resulted from this event. The cause for the event was utility licensed operator error. Prior to and at the time of the event, a transfer of the source of power to some instrumentation panels was being made. After the first transfer, the affected RBIS Channel 'A' logic circuitry was not reset (operator error). The second transfer affected RBIS Channel 'B' logic circuitry that, coincident with the Channel 'A' logic (not reset), resulted in the event. The affected systems were restored to normal at approximately 2130 hours. Shift licensed operators are being retrained regarding the RPS and its power supplies. A possible modification to some alarm circuits has been identified. This event occurred during an outage while in cold shutdown. The reactor mode selector switch was in the SHUTDOWN position. The Reactor Vessel (RV) water temperature was 90 degrees Fahrenheit. The RV pressure was zero psig. The reactor power level was zero percent. This report was submitted pursuant to 10 CFR 50.73(a)(2)(iv). This event posed no threat to the health and safety of the public.																																																																						

PAGE 131

--	--	--

0 5 0 0 0 2 4 3 8 8 — 0 2 3 — 0 0 0 2 OF 0 4

EVENT DESCRIPTION	DATE	TIME	LOCATION	STATUS
...	...	...	...	...

On October 12, 1988 at 2115 hours, a full Reactor Building Isolation Control System (RBIS) isolation signal occurred. The signal resulted in the automatic closing of Trains 'A' and 'B' of the Secondary Containment System (SCS) supply and exhaust ventilation dampers and the automatic start of Train 'B' of the SCS/Standby Gas Treatment System (SGTS). Train 'A' of the SGTS did not start because it had been removed from standby service.

Initial licensed operator response included the following. The cause for the event was investigated. The SCS supply and exhaust ventilation fans were verified tripped. The RPS Channel 'B' scram signal was reset. The refuel floor radiation monitors were reset thereby clearing the RBIS trip signals. The SCS ventilation dampers were reopened. The 'B' Train of the SGTS was returned to normal standby status. The SCS supply and exhaust ventilation fans were restarted at approximately 2130 hours on October 12, 1988.

Failure and Malfunction Report 88-244 was written to document the event. Notification was made to the NRC Operations Center on October 12, 1988 at 2220 hours.

This event occurred during an extended outage while in cold shutdown with the following plant conditions. The reactor mode selector switch was in the SHUTDOWN position. The control rods were in the inserted position. The Reactor Vessel (RV) water temperature was 90 degrees Fahrenheit. The RV pressure was zero psig. The reactor power level was zero percent.

CAUSE

The root cause for the event was utility licensed operator error. Contributing to the error was a weakness in the Procedure (2.2.79, "Reactor Protection System") governing the activity being performed.

Prior to and at the time of the event, the power supplies to 120 VAC Bus 'A' and Bus 'B' of Panel C-511 were being transferred. The transfers were made by a utility licensed operator. The source of power to Bus 'A' of Panel C-511 was transferred from Bus B-10 (backup source) to the RPS Motor Generator Set 'A' (normal source). The transfer caused a momentary and expected loss of power to Panels C-910 (Bus 'A'), C-915 (RPS Channel 'A'), and C-937 (Bus 'A'). The momentary loss of power de-energized the coils of normally energized logic relays associated with RPS Channel 'A' and RBIS Channel 'A' (16A-K58A, -K58C, -K59A, -K59C). The RPS circuitry was reset per Procedure (2.2.79). However, the procedure did not contain operator actions for checking or resetting the Reactor Building refuel floor radiation monitors. Consequently, an RBIS Channel 'A' trip signal (refuel floor radiation monitor 'A' upscale) existed after resetting the RPS circuitry.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

APPROVED OMB NO. 3150-0104
EXPIRES 8-31-90

FACILITY NAME (1) Pilgrim Nuclear Power Station	DOCKET NUMBER (2) 0 5 0 0 0 2 9 3 8 8 - 0 2 3 - 0 0 0 3 OF 0 4	LER NUMBER (5)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			

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

Subsequently, the source of power to Panel C-511 Bus 'B' was transferred from the RPS Motor Generator Set 'B' (normal source) to Bus B-10 (backup source). The transfer was similar to the previous transfer and caused a momentary and expected loss of power to Panels C-910 (Bus 'B'), C-917 (RPS Channel 'B'), and C-937 (Bus 'B'). The momentary loss of power de-energized the coils of logic relays associated with RPS Channel 'B' and RBIS Channel 'B' (16A-K58B, -K58D, -K59B, -K59D). The coincident RBIS Channel 'A' trip signal (upscale) and Channel 'B' trip signals (upscale and downscale) resulted in the event.

There were no component or system failures that caused this event or resulted from this event.

CORRECTIVE ACTION

A critique of the event was conducted on October 13, 1988 at 1500 hours. The critique was attended by appropriate Operations Section personnel on shift at the time of the event. The critique was conducted to determine the cause and identify corrective action to reduce likelihood of a similar event.

Retraining of shift licensed operators has been scheduled and is being conducted regarding the RPS and its power supplies.

The procedure (2.2.79) has been reviewed and a revision has been initiated for improvement. The proposed revision provides a listing of applicable components to be checked as part of resetting an RPS scram signal(s).

An Engineering Service Request (88-824) has been written for a proposed modification to some of the Control Room annunciator acknowledgement circuitry. The ESR proposes a feature that would enable a Control Room operator to silence the audible portion of an alarm but allow the annunciator (visual) portion of the alarm to continue to flash until the alarm is acknowledged or reset. The feature was suggested by the Control Room operators during the critique.

SAFETY CONSEQUENCES

This event posed no threat to the health and safety of the public.

The RPS and RBIS logic circuitry is normally energized and is designed to become de-energized as a result of an appropriate signal(s), including a loss of power to the circuit(s).

The RPS Channel 'A' (and 'B') scram signal(s) generated was the designed and expected response to the (momentary) loss of power resulting from the respective power supply transfer.

The automatic closing of the SCS supply and exhaust ventilation dampers and automatic start of the SGTS was the designed response to the coincident RBIS Channel 'A' and 'B' trip (isolation) signals.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1)

DOCKET NUMBER (2)

LER NUMBER (3)

PAGE (3)

Pilgrim Nuclear Power Station

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

TEXT (If more space is required, use additional NRC Form 305A's) (17)

This event was determined to be reportable pursuant to 10 CFR 50.73(a)(2)(iv) because a full RBIS isolation signal (Channels 'A' and 'B') occurred.

SIMILARITY TO PREVIOUS EVENTS

A review was conducted of Pilgrim Station Licensee Event Reports (LERs) written since January 1984. The review was focused to LERs submitted pursuant to 10 CFR 50.73(a)(2)(iv) involving a similar event.

The review identified a similar event reported in LER 50-293/84-014-00. For that event, a full RPS scram signal occurred during a refueling outage. The event occurred when the 480 VAC Bus B-4 became de-energized during a power supply transfer (B-4 being cross-tied to Bus B-2) thereby resulting in a half scram signal. The signal was coincident with another half scram signal (previously generated for a planned maintenance activity). The cause for the event was inadequacy of the procedure used for cross-tying the Bus.

ENERGY INDUSTRY IDENTIFICATION SYSTEM (EIIS) CODES

The EIIS codes for this report are as follows:

COMPONENTSCODES

Relay, tripping

94

SYSTEMS

Containment Isolation Control System (RBIS)
Engineered Safety Features Actuation System (RBIS/RPS)
Instrument and Uninterruptible Power System (120 VAC)
Reactor Building (SCS)
Reactor Building Environmental Control System (RBIS)
Standby Gas Treatment System (SGTS)

JM
JE
EF
NG
VA
BO

BOSTON EDISON

Pilgrim Nuclear Power Station
Rocky Hill Road
Plymouth, Massachusetts 02360

Ralph G. Bird
Senior Vice President — Nuclear

November 10, 1988
BECo Ltr. #88-152

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

Docket No. 50-293
License No. DPR-35

Dear Sir:

The attached Licensee Event Report (LER) 88-023-00 "Automatic Actuation of the Secondary Containment and Standby Gas Treatment Systems Due to Licensed Operator Error" is hereby submitted in accordance with 10 CFR Part 50.73.

Please do not hesitate to contact me if there are any questions regarding this subject.

R. G. Bird
R. G. Bird

DWE/ba:

Enclosure: LER 88-023-00

cc: Mr. William Russell
Regional Administrator, Region I
U.S. Nuclear Regulatory Commission
475 Allendale Rd.
King of Prussia, PA 19406

Sr. NRC Resident Inspector - Pilgrim Station

Standard BECo LER Distribution

Per No
0737146143
IF22
11