



BOSTON EDISON

Pilgrim Nuclear Power Station
Rocky Hill Road
Plymouth, Massachusetts 02360

Roy A. Anderson
Senior Vice President - Nuclear

May 7, 1992
BECo Ltr. 92- 57

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

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

The enclosed Licensee Event Report (LER) 92-006-00, "Unplanned Scram Signal While Shutdown due to Licensed Operator Error" is submitted in accordance with 10 CFR Part 50.73.

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

ET Boulette
R. A. Anderson

WJM/bal

Enclosure: LER 92-006-00

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

Mr. R. B. Eaton
Div. of Reactor Projects I/II
Office of NRR - USNRC
One White Flint North - Mail Stop 14D1
11555 Rockville Pike
Rockville, MD 20852

Sr. NRC Resident Inspector - Pilgrim Station

Standard BECo LER Distribution

9205180020 920507
PDR ADOCK 05000293
S PDR

JE 27

LICENSEE EVENT REPORT (LER)

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 600 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (F-300), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20545 AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1) Pilgrim Nuclear Power Station	DOCKET NUMBER (2) 05000293	PAGE (3) 1 OF 05
---	--------------------------------------	----------------------------

TITLE (4): **Unplanned Scram Signal While Shutdown 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(S)
04	11	92	92	006	00	05	07	92	N/A	050000
									N/A	050000

OPERATING MODE (9) N	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 50. (Check one or more of the following) (11)									
POWER LEVEL (10) 0.00	<input type="checkbox"/> 20.402(b)	<input type="checkbox"/> 20.405(i)	<input checked="" type="checkbox"/> 50.73(a)(2)(iv)	<input type="checkbox"/> 73.71(b)						
	<input type="checkbox"/> 20.405(a)(1)(ii)	<input type="checkbox"/> 50.38(a)(1)	<input type="checkbox"/> 50.73(a)(2)(x)	<input type="checkbox"/> 73.71(c)						
	<input type="checkbox"/> 20.405(a)(1)(iii)	<input type="checkbox"/> 50.38(a)(2)	<input type="checkbox"/> 50.73(a)(2)(v)	OTHER (Specify in Abstract below and in Text, NRC Form 306A)						
	<input type="checkbox"/> 20.405(a)(1)(iii)	<input type="checkbox"/> 50.73(a)(2)(ii)	<input type="checkbox"/> 50.73(a)(2)(viii)(A)							
	<input type="checkbox"/> 20.73(a)(1)(ii)(v)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(viii)(B)							
	<input type="checkbox"/> 20.405(a)(1)(iv)	<input type="checkbox"/> 50.73(a)(2)(iv)	<input type="checkbox"/> 50.73(a)(2)(ix)							

LICENSEE CONTACT FOR THIS LER (12)

NAME William Munro - Senior Compliance Engineer	TELEPHONE NUMBER 508 747-1847
---	---

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)

<input type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE)	<input checked="" type="checkbox"/> NO
--	--

ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single space typewritten lines) (15)

On April 11, 1992 at 2008 hours, an unplanned Reactor Protection System (RPS) scram signal occurred while shutdown. The control rods remained in the inserted position.

The cause for the scram signal was utility licensed operator error. The operator moved the reactor mode selector switch (RMSS) to the STARTUP position from SHUTDOWN with the scram discharge instrument volume (SDIV) level switches in Channels A1 and B2 in a tripped condition. The RMSS was moved to the SHUTDOWN mode and the RPS was reset after verifying the cause for the scram signal. In order to prevent the generation of a spurious scram, isolation or other transient related to RMSS operation, the following corrective actions are planned.

The post scram recovery procedure (2.1.6) will be strengthened to caution against repositioning the RMSS out of the "SHUTDOWN" or "REFUEL" positions whenever the SDIV level scram is bypassed. The Conduct of Operations procedure (1.3.34) will also be revised to strengthen the level of watch crew review prior to any repositioning of the RMSS not governed by specific procedural steps. Also, a discussion of this event will be included in the next operator requalification session. The individual responsible for the event received counselling concerning the operation of the RMSS in combination with the SDIV level switch. The event occurred while shutdown in a cold condition. The Reactor Vessel (RV) pressure was zero psig and the RV water temperature was approximately 183 degrees Fahrenheit. The reactor power level was zero percent. This report is submitted in accordance with 10 CFR 50.73(a)(2)(iv). The event posed no threat to the public health and safety.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST 500 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (F-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20545 AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1) Pilgrim Nuclear Power Station	DOCKET NUMBER (2) 0 5 0 0 0 2 9 3	LER NUMBER (6)			PAGE (3)	
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
		9 2	0 0 6	0 0	0 2	OF 2 5

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

EVENT DESCRIPTION

On April 11, 1992 at 2008 hours, an unplanned Reactor Protection System (RPS) scram signal occurred while shutdown. The control rods remained in the inserted position.

The scram occurred when a licensed utility operator moved the reactor mode selector switch (RMSS) to the STARTUP position from SHUTDOWN. The movement was made with the Scram Discharge Instrument Volume (SDIV) level switches in Channels A1 and B2 in a tripped condition. All systems functioned normally in response to the event.

Initial control room licensed operator response was to move the RMSS to the SHUTDOWN position after verifying the cause of the scram signal. The RPS circuitry was reset on April 11, 1992 at 2111 hours.

Problem Report PR 92.9020 was written to document the event. The NRC Operations center was notified on April 11, 1992 at 2220 hours.

The event occurred while shutdown in a cold condition. The Reactor Vessel (RV) pressure was zero psig and the RV water temperature was approximately 183 degrees Fahrenheit. The reactor power level was at zero percent.

CAUSE

The cause for the scram signal was utility licensed operator error.

The RMSS was initially in the REFUEL mode with front panel checks in progress. Reactor scram had been inserted for undervessel work by taking the mode switch to SHUTDOWN. Upon completion of the undervessel work, the scram was reset in accordance with procedure 2.1.6 up to but not including return to NORMAL position of the SDIV high level bypass function. To perform the Average Power Range Monitor (APRM) functional test the rod block had to be cleared. It was decided to move the RMSS from SHUTDOWN to STARTUP. This decision was in error; the SDIV High Level trips are not bypassed in STARTUP.

Upon moving the RMSS to STARTUP, Relays 5A-K28A and 5A-K28D de-energized causing a full reactor scram. The Scram Discharge Volume high level scram can be bypassed with the RMSS in the 'Shutdown' or 'Refuel' modes only. It was noted that prior to the actuation, all SDIV high level channels were not at their normal status upon positioning the RMSS to STARTUP.

CORRECTIVE ACTION

Initial Control Room licensed operator response was to move the RMSS to the SHUTDOWN position. The RPS circuitry was reset on April 11, 1992 at 2111 hours.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 500 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (F-500), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20545; AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1) Pilgrim Nuclear Power Station	DOCKET NUMBER (2) 0 5 0 0 2 9 3	LER NUMBER (6)			PAGE (3)	
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
		91	2	0	0	6
						0 3 OF 0 5

TEXT (if more space is required, use additional NRC Form 860A's) (17)

In order to prevent the generation of a spurious scram, isolation or other transient related to RMSS Operation, the following procedure changes are planned:

The post scram recovery procedure (2.1.6) will be strengthened to caution against repositioning the RMSS out of the "SHUTDOWN" or "REFUEL" positions whenever the SDIV level scram is bypassed.

The Conduct of Operations procedure (1.3.34) will also be revised to strengthen the level of watch crew review prior to any repositioning of the RMSS not governed by specific procedural steps.

Also, a discussion of this event will be included in the next operator requalification session. The individual responsible for the event received counselling concerning the operation of the RMSS in combination with the SDIV level switch.

SAFETY CONSEQUENCES

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

An SDIV high water level scram signal existed because the high water level sensors (RTDs) had not reheated sufficiently after the SDIV tanks were drained. The water in the SDIV tanks was the result of a previous scram signal that was initiated for a planned activity. The keylocked SDIV high water level scram bypass switch was in the BYPASS position in order to reset the RPS circuitry and drain the water from the tanks. The bypass function provided by the SDIV bypass switch is available only when the RMSS is in the REFUEL or SHUTDOWN position.

This report is submitted in accordance with 10 CFR 50.73(a)(2)(iv) because the scram signal, although a designed response, was not planned.

SIMILARITY TO PREVIOUS EVENTS

A review was conducted of Pilgrim Station Licensee Event Reports (LERs) submitted since January 1984. The review was focused to LERs submitted in accordance with 10 CFR 50.73(a)(2)(iv) that involved a scram signal and the SDIV high water level scram bypass switch, and utility licensed operator error.

The review identified events reported in LERs 50-293/81-01-00, 86-008-01, 88-022-00, 89-016-00, and 89-020-00 and 91-007-00.

For LER 84-001-00, two scram signals occurred during a refueling outage. At the time of the events, the RMSS was in the REFUEL position and the Reactor Vessel was completely defueled. The scram signals occurred when the RPS Channel 'A' power supply was transferred as planned and with the SDIV high water level scram bypass switch in the BYPASS position. The coils of the bypass relays 5A-K18A/-K18C and 5A-K18B/-K18D are powered by the RPS Channel 'A' and Channel 'B' power supplies, respectively. The contacts of the bypass relays (e.g. 5A-K18A and -K18B) are wired in-series such that a full scram signal occurs if one bypass relay becomes de-energized while a sensed SDIV high water level condition exists. The cause for the scram signals was attributed to operator error.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST 500 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (F-300), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555 AND TO THE PAPERWORK REDUCTION PROJECT (1500-0108), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1) Pilgrim Nuclear Power Station	DOCKET NUMBER (2) 05000293	LER NUMBER (6)			PAGE (3)	
		YEAR 92	SEQUENTIAL NUMBER 006	REVISION NUMBER 00	OF	15

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

For LER 86-008-01, a full scram signal occurred while shutdown. At the time of the event, the RMSS was in the SHUTDOWN position following a previous reactor scram that occurred during a shutdown. The second scram signal occurred when a licensed operator moved the SDIV bypass switch to the NORMAL position in accordance with an approved procedure while a sensed SDIV high water level condition existed. The Procedure (2.1.6) was revised relative to moving the bypass switch to NORMAL five minutes after the SDIV water indications (high water level and not drained) have cleared.

For LER 88-022-00, a scram signal occurred during an extended outage. At the time of the event the RMSS was in the REFUEL position, the control rods were in the inserted position, the RV pressure was zero psig, and the RV water temperature was 95 degrees Farenheit. The scram signal occurred when a licensed operator reset (i.e., opened and closed) the RPS Channel 'A' power supply breaker (5A-CB1A) while the SDIV bypass switch was in the BiPASS position and with a sensed SDIV high water level condition. The cause for the scram signal was attributed to utility licensed operator error.

For LER 89-016-00, a full reactor scram signal occurred when a utility licensed operator, stationed at the Reactor Control Panel C-905, moved the RMSS from the REFUEL position to the STARTUP position. The movement was made while the Scram Discharge Volume (SDIV) high (water) level scram bypass switch was in the BYPASS position and with a sensed SDIV high water level condition. The cause for the scram signal was attributed to utility licensed operator error.

For LER 89-020-00, a full reactor scram signal occurred when a utility licensed operator, stationed at Reactor Control Panel C905, moved the scram discharge instrument volume (SDIV) high water level scram bypass switch from the BYPASS position to the normal position while a sensed SDIV high water level condition existed. The cause for the scram signal was attributed to utility licensed operator error.

FOR LER 91-007-00 an unplanned SDV high water level scram signal occurred when the SDV bypass switch was moved to the NORMAL position because the high water level sensors (RTDs) had not reheated sufficiently after the SDV tanks were drained. the water that had been introduced into the SDV tanks was the expected result of the scram that was manually initiated for the completion of the shutdown. The keylocked SDV high water level scram bypass switch was put in the BYPASS position in order to reset the RPS circuitry and drain the water from the SDV tanks. The bypass function provided by the SDV bypass switch is available only when the RMSS is in the RMSS is in the REFUEL or SHUTDOWN position. The cause for the scram signal was attributed to utility licensed operator error.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST 500 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-830) U.S. NUCLEAR REGULATORY COMMISSION WASHINGTON, DC 20555 AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104) OFFICE OF MANAGEMENT AND BUDGET WASHINGTON, DC 20503.

FACILITY NAME (1) Pilgrim Nuclear Power Station	DOCKET NUMBER (2) 0 6 0 0 0 2 9 3 9 2	LER NUMBER (6)			PAGE (3)	
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
		9 2	0 0 6	0 0	0 5	0 5

TEXT (If more space is required, use additional NRC Form 306A's) (17)

ENERGY INDUSTRY IDENTIFICATION SYSTEM (EIIS) CODES

The EIIS codes for this report are as follows:

COMPONENTS

CODES

Switch, Hand

HS

SYSTEMS

Control Rod Drive System (SDIV)

AA

Engineered Safety Features Actuation System (RPS)

JE

Plant Protection System (RPS)

JC