

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Shoreham Nuclear Power Station Unit #1	DOCKET NUMBER (2) 0 5 0 0 0 3 2 2	PAGE (3) 1 OF 0 4
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TITLE (4) RPS/ESF Actuation During Drywell Bypass Leak Test Due to the Test and Calibration Modules Not Being Properly Bypassed

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 9	0 7	8 8	8 8	0 1 4	0 0	1 0	0 7	8 8			0 5 0 0 0
THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR § (Check one or more of the following) (11)											

OPERATING MODE (9) 4	POWER LEVEL (10) 0 1 0 0	<input type="checkbox"/> 23.402(x)	<input type="checkbox"/> 20.408(a)	<input checked="" type="checkbox"/> 20.408(a)	<input type="checkbox"/> 20.73a(2)(H)	<input type="checkbox"/> 73.71(b)
		<input type="checkbox"/> 20.408(a)(1)(C)	<input type="checkbox"/> 20.408(a)(1)	<input type="checkbox"/> 20.408(a)(1)	<input type="checkbox"/> 20.73a(2)(X)	<input type="checkbox"/> 73.71(a)
		<input type="checkbox"/> 20.408(a)(1)(D)	<input type="checkbox"/> 20.408(a)(2)	<input type="checkbox"/> 20.408(a)(2)(C)	<input type="checkbox"/> 20.73a(2)(H)(A)	OTHER (Specify in Abstract Below and in Test, NRC Form 766A)
		<input type="checkbox"/> 20.408(a)(1)(E)	<input type="checkbox"/> 20.408(a)(2)(C)	<input type="checkbox"/> 20.73a(2)(H)(B)		
		<input type="checkbox"/> 20.408(a)(1)(F)	<input type="checkbox"/> 20.408(a)(2)(D)	<input type="checkbox"/> 20.73a(2)(H)(C)		
		<input type="checkbox"/> 20.408(a)(1)(G)	<input type="checkbox"/> 20.408(a)(2)(E)	<input type="checkbox"/> 20.73a(2)(H)(D)		

LICENSEE CONTACT FOR THIS LER (12)

NAME Robert W. Grunseich, Operational Compliance Engineer	TELEPHONE NUMBER 5 1 6 9 2 9 - 8 3 0 0
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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	EXPECTED SUBMISSION DATE (15)
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ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single-space typewritten lines) (16)

On 9/7/88 at 1953, a reactor trip and ESF actuation occurred during a Drywell Bypass Leakage Test. The plant was in Operational Condition 4 (Cold Shutdown) with the mode switch in Shutdown and all rods inserted in the core. This test at 3 PSID (suppression pool to drywell) is run every 18 months. In preparation for this test, the drywell pressure inputs to the Reactor Protection System (RPS) and the Emergency Core Cooling Systems (ECCS) are blocked out. This is performed by inputting an overriding test signal to the RPS indicating 0 PSIG in the drywell. Contrary to this, two subchannel inputs (A1 and B1) were somehow able to actuate such that when 1.69 PSIG drywell pressure was reached during the test, the RPS was energized, causing the reactor trip and the Reactor Building Standby Ventilation System (RBSVS) and Control Room Air Conditioning (CRAC) to start. The event may have been caused by an individual de-energizing the test and calibration module in the solid state panels by placing the toggle switches in the off position. Although the panels were tagged out in accordance with the procedure, it would have been more effective to place the tags on the toggle switches in lieu of the locking bar in front of the panel. In addition, enhancements of the procedure utilized to disable the high drywell pressure trips could have provided better guidance for performing this task. The reactor trip was reset and the RBSVS and CRAC were allowed to run for the duration of the test. The procedures used will be revised to be more explicit on how high drywell pressure inputs are to be disabled and where hold-off cards are to be hung.

Handwritten initials/signature

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10/1/88

PLANT AND SYSTEM IDENTIFICATION

General Electric - Boiling Water Reactor

Energy Industry Identification Codes (EIIS) are identified in the text as [XX].

IDENTIFICATION OF THE EVENT

A full Reactor Protection System (RPS) [IC] actuation, a Reactor Building Standby Ventilation RBSVS [VA] and a Control Room Air Conditioning [VI] initiation inadvertently occurred during a Drywell Bypass Leakage test due to the test and calibration modules not being properly by passed.

CONDITIONS PRIOR TO THE EVENT

Operational Condition 4 (Cold Shutdown)

Mode Switch - Shutdown

RPV Pressure = 0 PSIG RPV Temperature = 93 degrees F

POWER LEVEL - 0

All rods inserted in the core

DESCRIPTION OF THE EVENT

On 9/7/88, a test was being run to quantify any leakage between the drywell and the suppression pool utilizing SP 84.654.04 (Drywell Bypass Leakage Test 3 PSID). This test requires that the drywell be pressurized to 3 PSIG (while the suppression pool remains at 0 PSIG), and the leakage measured.

In preparation for this test the drywell pressure inputs to the Emergency Core Cooling System (ECCS) and the RPS are placed at 0 and secured. This is to ensure that at 1.69 PSIG in the drywell, no ECCS or ESF initiations and no reactor trip occurs.

To block out these high drywell signals, each of the four repeater panels (one for each subsystem A1, A2, B1 and B2) has the test calibration module energized and a false 0 PSIG signal sent to the RPS and the ECCS systems. When this is done, the parallel path test signal will go to the relays instead of the actual drywell pressure.

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1. If more space is required use additional NRC Form 200A's (11).

The four panels that feed the ECCS these signals and 2 of the 4 panels that feed the RPS these signals are located in the Relay Room. Two of the 4 RPS panels are in the Main Control Room. The false drywell pressure signals (0 PSIG) were put in to all 8 panels. This is indicated as a gross failure light because the inputs are placed in test.

When 1.69 PSIG was reached during this test the reactor tripped, RBSVS and CRAC started.

The RPS actuation occurred because subchannels A1 and B1 tripped causing the reactor trip and ESF actuation. The panels for subchannel A1 and B1 are in the back of the main Control Room. Investigation indicates that these panels which were energized via the test calibration module, were somehow de-energized, allowing the actual drywell high pressure signal to energize the RPS Relays. The reactor trip was reset and the emergency procedure properly followed. The RBSVS and CRAC was allowed to run for the duration of the test. When the test was completed, the RBSVS and CRAC were shutdown and the systems configurations placed in normal per the operating procedure.

Plant Management was notified of the event and the NRC was notified at 2211 per 10CFR50.72.

CAUSE OF THE EVENT

The RPS was actuated by the energization of two subchannels (A1 and B1) when these two subchannels were supposed to have dummy signals to them during the test. The event appears to have been caused by an individual de-energizing the test and calibration module in the solid state panels that were located in the Main Control Room. Although the panels were tagged out in accordance with the procedure, it would have been more effective to place the tags on the toggle switches in lieu of the locking bar in front of the panel. In addition, enhancements of the procedure utilized to disable the high drywell pressure trips could have provided better guidance for performing this task. To someone not fully familiar with these devices, the energization of these modules appeared to be in conflict with a hold off tag that was located on the panel locking bar, 4" wide on a panel 35" high and 30" wide and which ran horizontally across the panel. For purposes of this test, the power toggle switch was on, causing a dummy signal to be sent to the high drywell pressure units. The toggle switches for the test and calibration unit were somehow placed in the off positions causing the "gross failure" light (which was supposed to be lit during the test) to go out.

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* LER if more space is required use additional NRC Form 2554-1 (11)

ANALYSIS OF THE EVENT

This trip resulted in an unplanned trip of the RPS. This RPS trip caused a reactor trip and an ESF actuation (RBSVS and CRAC). This is reportable per 10CFR50.73 (a)(2)(iv). There is minimal safety significance to this event. The RPS and the plant in general operated as designed and the operators carried out all the required actions. The Drywell Bypass Test can only be performed while the plant is shutdown.

CORRECTIVE ACTIONS

1. A Station Procedure Change Notice (SPCN) has been submitted to ensure that hold off tags are attached to the power supply toggle switches for the calibration test module for the RPS input panel.
2. The procedure used (SP 84.654.04) has been enhanced via a Station Procedure Change Notice (SPCN) by making the disabling of the High Drywell pressure trips more explicit.
3. All of the operators have been informed of the incident and cautioned against taking any unauthorized action that appears called for by (but is not really consistent with) a hold off tag.

ADDITIONAL INFORMATION

- a. Manufacturer and model number of failed component (s)
N/A
- b. LER numbers of previous similar events
None



LONG ISLAND LIGHTING COMPANY

SHOREHAM NUCLEAR POWER STATION • P.O. BOX 628 • WADING RIVER, NEW YORK 11792

TEL (516) 929-8300

October 7, 1988

PM-88-227

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

Dear Sir:

In accordance with 10CFR50.73, enclosed is Shoreham Nuclear Power Station's Licensee Event Report LER 88-014.

Sincerely yours,

William E. Steiger, Jr.
Plant Manager

MJE/jp

Enclosure

cc: William T. Russell, Regional Administrator
Frank Crescenzo, Resident Inspector
Institute of Nuclear Power Operations, Records Center
American Nuclear Insurers

SR.A21.0200