

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Shoreham Nuclear Power Station Unit 1	DOCKET NUMBER (2) 05000322	PAGE (3) 1 OF 04
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TITLE (4) Reactor Building Closed Loop Cooling Water Isolation/Split on Low Head Tank Level After Conducting a Diesel Surveillance Test

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			
0	3	14	89	004	00	0	4	13	89			DOCKET NUMBER(S) 050000
												050000

OPERATING MODE (9) 4

POWER LEVEL (10) 000

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR § (Check one or more of the following) (11)

<input type="checkbox"/> 20.402(b)	<input type="checkbox"/> 20.406(a)	<input checked="" type="checkbox"/> 20.73(a)(2)(iv)	<input type="checkbox"/> 73.71(b)
<input type="checkbox"/> 20.406(a)(1)(i)	<input type="checkbox"/> 20.406(a)(1)	<input type="checkbox"/> 20.73(a)(2)(v)	<input type="checkbox"/> 73.71(e)
<input type="checkbox"/> 20.406(a)(1)(ii)	<input type="checkbox"/> 20.406(a)(2)	<input type="checkbox"/> 20.73(a)(2)(vii)	OTHER (Specify in Abstract below and in Text, NRC Form 366A)
<input type="checkbox"/> 20.406(a)(1)(iii)	<input type="checkbox"/> 20.73(a)(2)(i)	<input type="checkbox"/> 20.73(a)(2)(viii)(A)	
<input type="checkbox"/> 20.406(a)(1)(iv)	<input type="checkbox"/> 20.73(a)(2)(ii)	<input type="checkbox"/> 20.73(a)(2)(viii)(B)	
<input type="checkbox"/> 20.406(a)(1)(v)	<input type="checkbox"/> 20.73(a)(2)(iii)	<input type="checkbox"/> 20.73(a)(2)(ix)	

LICENSEE CONTACT FOR THIS LER (12)

NAME R.W. Grunseich, Operational Compliance Engineer	TELEPHONE NUMBER 516 929-8300
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COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRPDS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRPDS

SUPPLEMENTAL REPORT EXPECTED (14)

YES (If yet 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)

On March 14, 1989 at 2325, an inadvertent RBCLCW isolation/split occurred after performing a Technical Specification surveillance test on Emergency Bus 101. Prior to performing the black start test on Emergency Diesel Generator (EDG) 101, maintenance was being performed on the "A" main heat exchanger (HX) of Reactor Building Closed Loop Cooling Water (RBCLCW). The maintenance included leak investigation which required isolating the HX by closing RBCLCW inlet valve 1P42\*MOV-042A, and draining the demineralized water from the shell side.

It was realized by the operators that the valve secured for the maintenance would receive an undervoltage signal when the bus was deenergized. To allow the test to occur without valve actuation, the power supply breaker to the valve was opened.

After the EDG test was complete, upon restoring power to the valve, the valve stroked open. This allowed the "A" RBCLCW head tank to drain into the HX. Low Head Tank Level is an ESF signal which causes RBCLCW to isolate its non essential loads and split into two redundant loops.

The operators refilled the head tank through the make up line and restored the system. An equipment operator was dispatched to the HX to ensure the drains were closed. No spillage had occurred.

The procedure used for the EDG test did not caution operators that manual reset of the valve's logic was required to prevent operation. A procedure change has been implemented to correct this. Plant Management was notified and the NRC was notified at 2400 hrs per 10CFR50.72.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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

PLANT AND SYSTEM IDENTIFICATION

General Electric - Boiling Water Reactor

Energy Industry Identification System (EIIS) codes are identified in the text as [xx].

IDENTIFICATION OF THE EVENT

Reactor Building Closed Loop Cooling Water (RBCLCW) [CC]  
Isolation/Split on Low Head Tank Level After Conducting a Diesel Surveillance Test

Event Date: March 14, 1989

Report Date: April 13, 1989

CONDITIONS PRIOR TO THE EVENT

Operational Condition 4 (Cold Shutdown)

Mode Switch - Shutdown

RPV Pressure= 0 psig      RPV Temperature = 105 Degrees F

POWER LEVEL - 0

DESCRIPTION OF THE EVENT

On March 14, 1989 at 2325, an inadvertent RBCLCW isolation/split occurred after performing a Technical Specification surveillance test on Emergency Bus 101. Prior to performing the black start test on Emergency Diesel Generator (EDG) 101 per station procedure SP 24.307.02 ("TDI DG Emergency AC Power Load Sequencing Tests"), maintenance was being performed on the "A" main heat exchanger (HX) of RBCLCW. The maintenance included leak investigation which required isolating the HX by closing the RBCLCW inlet valve 1P42\*MOV-042A, and draining the demineralized water from the shell side. The service water (sawater) from the HX was secured with outlet valve 1P41\*MOV-037A. The controls for the valves were tagged with 'CAUTION' tags to prevent control operation, but power to the valves remained available.

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

The performance of the EDG test required deenergizing Emergency Bus 101, which feeds power to the above mentioned valves and other emergency loads. Upon deenergizing the bus, the EDG is expected to start, come up to speed, and begin accepting loads.

It was realized by the operators before the surveillance test began that the motor operated valves secured for the maintenance would receive an undervoltage signal when the bus was deenergized. The accident mode of 1P42\*MOV-042A and 1P41\*MOV-037A is to stroke full open to assure maximum cooling of safety related heat loads. To allow the test to occur without any valve actuation, the power supply breakers to the two valves were opened.

After the successful conclusion of the EDG black start and run test, the electrical line ups were restored to their pre test configurations. This included reclosing the breakers for the subject valves. Upon repowering up the valves, the valves stroked open. This allowed the "A" RBCLCW Head Tank to drain into the HX. Low Head Tank Level is an ESF signal which causes RBCLCW to isolate its nonessential loads and split into two redundant loops.

Upon realizing what had happened, the operators refilled the head tank through the make up line and restored the system. An equipment operator was dispatched to the HX to ensure the vents and drains were closed. No spillage had occurred.

Plant Management was notified and the NRC was notified at 2400 hrs per 10CFR50.72.

CAUSE OF THE EVENT

The cause of the event was inadequate procedural guidance in SP 24.307.02. The procedure, through Appendix 12.4, informed the operators that 1P42\*MOV-042A would receive an open signal on bus undervoltage. The procedure failed to warn the operators that the undervoltage signal would not clear until operators took one of two actions, either allow the valve to stroke full open or reset the logic relay manually prior to restoring power. A note exists on the electrical prints indicating that hand reset is required, but the operators relied on the procedure for this simple evolution.



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

ANALYSIS OF THE EVENT

The event resulted in automatic unplanned initiation of an ESF (RBCLCW Isolation/Split) and is reportable per 10CFR50.73(a)(2)(iv).

There was minimal safety significance to the event. The system operated as designed and would have fulfilled its safety function had it needed to. The operators quickly ascertained the cause of the event and took the necessary actions to restore the system. The potential for a spill was quickly realized and an operator was dispatched to ensure none existed. If a spill had occurred, the Reactor Building sumps would have handled it.

In addition, the EDG Black Start Test would not be performed during power operations. The probability of Bus 101 deenergizing is minimal in light of back up by the alternate offsite AC source through a fast transfer.

CORRECTIVE ACTIONS

1. A procedure change to SP 24.307.02 was implemented to caution operators about equipment logic that must be manually reset if the equipment is deenergized to prevent unwanted actuation.
2. This LER will become required reading for licensed operators.
3. The SECF (Station Equipment Clearance Permit) procedure will be reviewed and guidance will be provided as necessary such that when equipment is reenergized, automatic actuations are prevented.

ADDITIONAL INFORMATION

a. Manufacturer and model number of failed component(s)

None

b. LER numbers of previous similar events

LER 88-018



**LONG ISLAND LIGHTING COMPANY**

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

TEL. (516) 929-8300

April 13, 1989

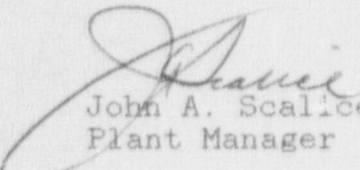
PM-89-064

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 89-004).

Sincerely yours,

  
John A. Scalice  
Plant Manager

DAS/jp

Enclosure

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

SR.A21.0200

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