

# ACCELERATED DISTRIBUTION DEMONSTRATION SYSTEM

## REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 9001180365 DOC. DATE: 90/01/11 NOTARIZED: NO DOCKET #  
 FACIL: 50-250 Turkey Point Plant, Unit 3, Florida Power and Light C 05000250  
 AUTH. NAME AUTHOR AFFILIATION  
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 HARRIS, K.N. Florida Power & Light Co.  
 RECIP. NAME RECIPIENT AFFILIATION

SUBJECT: LER 89-018-00: on 891212, plant operating outside of design basis due to design inadequacy of SIBS.

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 TITLE: 50.73/50.9 Licensee Event Report (LER), Incident Rpt, etc.

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FPL

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L-90-14  
10 CFR 50.73

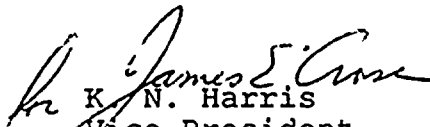
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Attn: Document Control Desk  
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Gentlemen:

Re: Turkey Point Unit 3  
Docket No. 50-250  
Reportable Event: 89-18  
Date of Event: December 12, 1989  
Plant Operating Outside of its Design Basis Due to a  
Design Inadequacy of the Safety Injection Block Switch

The attached Licensee Event Report is being submitted pursuant to the requirements of 10 CFR 50.73 to provide notification of the subject event.

Very truly yours,

  
K. N. Harris  
Vice President  
Turkey Point Plant Nuclear

KNH/DRP/MA/rat

cc: Stewart D. Ebnetter, Regional Administrator, Region II,  
USNRC  
Senior Resident Inspector, USNRC, Turkey Point Plant

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PDR ADOCK 05000250  
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## LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)										Turkey Point Unit 3										DOCKET NUMBER (2)										0151010101215101										PAGE (3)										1 of 014									
TITLE 4																														Plant Operating Outside of its Design Basis Due to a Design Inadequacy of the Safety Injection Block Switch																													
EVENT DATE (5)										LER NUMBER (6)										REPORT DATE (7)										OTHER FACILITIES INVOLVED (8)																													
MONTH DAY YEAR										SEQUENTIAL NUMBER REVISION NUMBER										MONTH DAY YEAR										FACILITY NAMES										DOCKET NUMBER(S)																			
121128989										01800011190										Turkey Point Unit 4										015101012151																													
OPERATING										THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 2.1 (Check one or more of the following) (11)																																																	
POWER LEVEL										20.402(b)										20.406(c)										50.73(a)(2)(vi)										73.71(b)																			
11010										20.406(a)(1)(i)										50.36(c)(1)										50.73(a)(2)(iv)										73.71(c)																			
										20.406(a)(1)(ii)										50.36(c)(2)										50.73(a)(2)(vii)										OTHER (Specify in Abstract below and in Text NRC Form 356A)																			
										20.406(a)(1)(iii)										50.73(a)(2)(i)										50.73(a)(2)(viii)(A)																													
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LICENSEE CONTACT FOR THIS LER (12)																																																											
NAME																				TELEPHONE NUMBER																																							
David R. Powell, Regulation and Compliance Supervisor																				AREA CODE 31052461-6559																																							
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)										MONTH DAY YEAR																													
YES/IF YES COMPLETE EXPECTED SUBMISSION DATE/																				X NO																																							

ABSTRACT Limit to 1400 spaces or approximately fifteen single-space typewritten lines (16)

On December 12, 1989, with Turkey Point Unit 3 in mode 1 (power operation) at 100 percent power and Unit 4 in Mode 1 at 40 percent power, the Plant Nuclear Safety Committee (PNSC) determined that the use of a single manual Safety Injection (SI) block/unblock switch (Westinghouse OT2 switch using a stack of four OT2A contact blocks) for both trains of SI was outside the design basis for both units. During a control room design review concerning placement of controls on the control room control boards at the Point Beach Nuclear Power Plant, the use of a single manual SI block/unblock switch for both safety injection trains was questioned. A subsequent review by Wisconsin Electric engineering determined that a single mechanical failure of this switch could block both trains of SI. On September 16, 1988, Point Beach issued Licensee Event Report 88-07 describing in detail their review and conclusions. After being contacted by the NRC, Westinghouse notified Turkey Point and other applicable Westinghouse facilities. Procedure 0-OSP-200.2, "Plant Startup Surveillances" will be revised to require an electrical check of the block switches.

## LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO 3150-0104  
EXPIRES 8/31/85

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
Turkey Point Unit 3	05000250	89	018	00	02	OF	04

TEXT IF more space is required, use additional NRC Form 366A (11/77)

I Description Of Event

On September 16, 1988, Point Beach Nuclear Power Plant submitted a Licensee Event Report (LER) to the NRC addressing a design deficiency with their control room Safety Injection (SI) block circuit. In a letter dated October 26, 1989, FPL was notified by Westinghouse relating that the SI block circuit concern was potentially applicable to Turkey Point Units 3 and 4. On December 12, 1989, it was determined that this condition resulted in Units 3 and 4 being outside their design basis as described in the Final Safety Analysis Report (FSAR). At this time unit 3 was running at 100 percent power while Unit 4 was at 40 percent power. At 1459 EST, December 12, 1989, the NRC was notified of this event in accordance with the requirements of 10 CFR 50.72(b) (1) (ii) (B).

The SI block circuit mentioned above is part of the safety injection system (EIS:BQ). Each unit is provided with two redundant trains of safety injection designed to protect the core from various postulated loss of coolant accidents. Two trains are provided so that a single failure will not cause a loss of SI function.

Manual blocking of both trains of safety injection is achieved using a single Westinghouse OT2 control switch located on the control board. This switch is a three position cam (Block, Neutral, Unblocked) spring return to neutral switch. Four Westinghouse OT2A contact blocks are stacked together and operated by a single selector switch. Each block provides a normally closed set of contacts on one side (unblocked) of the contact block and a normally open set of contacts (blocked) on the other side of the contact block.

A failure of the SI block switch "Block (normally open) contacts in the closed position would result in a loss of some SI actuations whenever RCS pressure drops to less than 2000 psig and Tavg is less than 543 degrees F. High containment pressure SI or manual SI initiation are not affected by the block circuit. This condition does not meet the requirement of the plants instrumentation and control section of the FSAR as

## LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
		89	0118	0	0	13	OF 04

Turkey Point Unit 3

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

described in Chapter 7.

II CAUSE OF THE EVENT

The cause of this condition was an inadequate original plant design. During the construction phase of Turkey Point Nuclear Power Plant, the SI block circuit design did not consider the affect of a potential switch failure on the design redundancy requirements.

III ANALYSIS OF EVENT

The loss of redundancy being reported in this LER involves a postulated mechanical failure of the SI blocking switch. A safety evaluation of the SI block switch indicated an extremely low probability of failing in the postulated manner.

The three conditions that automatically initiate SI which could be affected by this switch failure are Low Pressurizer Pressure, High Steam Line differential pressure between any steam generator and the main steam header, and high steam flow coincident with either low steam generator pressure or low Tavg. If valid SI signals were blocked, plant procedures would direct the operator to promptly initiate SI manually.

IV CORRECTIVE ACTIONS

## A. Immediate Corrective Actions

- 1) Information explaining the potential single failure mode of the SI block switch was provided to operations personnel.
- 2) An electrical check was performed to verify that the subject switch contacts are in the correct position for both units.

## B. Corrective Actions to Prevent Recurrence

- 1) Plant operating procedure 0-OSP-200.2, Plant Startup Surveillances, will be revised by January 31, 1990, to require an electrical

## LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

APPROVED OMB NO 3150-0104  
EXPIRES 8/31/85

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
Turkey Point Unit 3	0 5 0 0 0 2 5 0	8 9	- 0 1 8	- 0 0	0 4	OF	0 4

TEXT IF more space is required, use additional NRC Form 366A's (117)

check of the subject switches  
contact prior to the plant  
exceeding 2000 psig or Tavg  
exceeding 543 degrees F.

- 2) During the dual 1991 unit outage,  
dual SI block switches will be  
installed to provide separate block  
switches for each train.

V. ADDITIONAL INFORMATION

Licensee event report 250-87-016-0, issued June 25,  
1987, reported an inadvertent actuation of the Unit 3  
Train A safety injection system.

