NRC Form 366
(9-83)

U.S. NUCLEAR REGULATORY COMMISSION
APPROVED OMB NO. 3150-0104
EXPIRES: 8/31/85

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
Point Beach Nuclear Plant	0 5 0 0 0 3 0 1	1 OF 0 3

TITLE (4)
Reactor Trip During Trip Logic 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	DOCKET NUMBER(S)
										0 5 0 0 0
0 4	2 9	8 6	8 6	— 0 0 1	— 0 0	0 5	2 7	8 6		0 5 0 0 0

OPERATING MODE (9)		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)			
		20.402(b)	20.405(c)	X 50.73(a)(2)(iv)	73.71(b)
POWER LEVEL (10)	1 0 0	20.405(a)(1)(i)	50.36(c)(1)	50.73(a)(2)(v)	73.71(c)
		20.405(a)(1)(ii)	50.36(c)(2)	50.73(a)(2)(vii)	OTHER (Specify in Abstract below and in Text, NRC Form 366A)
		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)(x)	

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER
	AREA CODE
C. W. Fay, Vice President-Nuclear Power	4 1 4 2 7 7 - 2 8 1 1

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS		CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS	
A											

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, i.e., approximately fifteen single-space typewritten lines) (16)

On April 29, 1986, during a routine test of the "A" reactor trip logic circuits, a technician inadvertently tripped the "B" reactor trip breaker after closing the "A" bypass breaker. This error resulted in the trip of the Unit 2 reactor from 100% power.

The cause of the trip was personnel error due to the juxtaposition of the test cabinets. The procedure used to control this test has been revised to require the door of the bypass breaker cabinet to be closed during the test portion of the procedure.

All systems responded as expected. The unit returned to power on April 29, 1986.

8606020073 860527
PDR ADOCK 05000301
S PDR

IE22
(1)

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Point Beach Nuclear Plant	0 5 0 0 0 3 0 1	8 6	— 0 0 1	— 0 0	0 2 OF 0 3

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

On April 29, 1986, at 0729 hours central daylight time, Unit 2 tripped from 100% power. All systems operated as expected. The trip occurred during the test of the "A" reactor trip logic circuits (ICP 2.4, "Reactor Protection System Logic Periodic Test"). During this test, the technician was required to close the "A" bypass breaker for the "B" reactor trip breaker and then test various "A" train reactor trip logic circuits. Instead, the technician began testing the "B" train logic circuits. This caused a reactor trip when the two out of four "overtemperature delta T" relays closed, completing the logic for a reactor trip.

Unit 2 had been operating at essentially 100% power since January 1, 1986. No systems involved in the trip were out of service at the time of the event.

The event appears to have happened due to the location of the "A" bypass breaker in the same cabinet as the "B" train logic test switches. The "A" train logic testing switches are in a cabinet directly across (three feet) from the "B" train cabinet. During the procedure execution, both cabinet doors were left open. Also during the procedure, the technician left the immediate area of the logic test cabinets to communicate with another technician who racked in the "A" train bypass breaker. This call was made to verify the actual position of the "A" train trip breaker and "A" train bypass breaker. It can be concluded that with both doors open it was possible for the technician to lose his sense of orientation relative to "A" and "B" train logic test cabinets. When the logic test switches are operated in the same cabinet that contains the closed bypass breaker controls, the reactor trip signal will trip open the trip breaker that is not bypassed. In this case, the first step of the logic circuit test directed the two out of four "overtemperature delta T" logic to be tested. When this was done, the "B" reactor trip breaker tripped the reactor.

An evaluation of the incident has been conducted. Personnel error was found to be the main cause of the event. However, the procedure was also determined to be a contributor. While the procedure was not in error, it did not take into account the human factors that contributed to the event. The location of the logic test cabinets within three feet of each other with their doors facing each other did lead to some disorientation on the part of the technician. The fact that the test switches for the opposite train of trip logic are in the same cabinet as the bypass trip breaker resulted in the disorientation causing a trip. Specifically, the "B" train logic test switches are in the same cabinet as the "A" train bypass breaker controls. Therefore, if the technician does not change to the opposite logic test cabinet, the reactor will be tripped.

These test cabinets are oriented to maintain train separation. The breaker which bypasses the normal "A" trip breaker is actuated by a trip signal from the "B" train logic and therefore is in the same cabinet. The same arrangement exists for the "B" train bypass breakers in the "A" train logic cabinet. The test procedure requires the technician to enter both cabinets during the logic testing.

Revisions to the procedure have been made to take into account the human factors considerations of the locations of the logic test cabinets. The procedure change requires the closing of the cabinet door for the "B" logic test cabinet which holds the controls for the "A" bypass breaker while the "A" train logic circuits are tested in the "A" train logic test cabinet. This door closure is to take place before the actual testing of the logic circuits begins.

These changes will help to reduce the likelihood of an I&C technician operating switches in the wrong logic test cabinet.

The work area is in the cable spreading room and is familiar to technicians trained to perform this logic circuit testing. Labeling of the test switches and bypass breaker controls and lights are judged to be adequate. The technician assigned this task had done this test many times and had been trained and qualified on the performance of I&C periodic procedures, including ICP 2.9.

The reactor trip and other equipment expected to operate during this type of event operated as expected. Condensate system relief valves lifted during the transient due to condensate system pressure transient. No damage to the condensate system was found.

No unanalyzed safety concerns were identified as a consequence of this event. The automatic shutdown logic of two out of four "overtemperature delta T" was exercised and operated as expected.

Unit 2 returned to service at 2109 hours on April 29, 1986.

This LER is provided in accordance with 10 CFR 50.73(a)(2)(iv), "Any event or condition that resulted in manual or automatic actuation of any engineered safety feature (ESF), including the reactor protection system (RPS)."

Wisconsin Electric POWER COMPANY
231 W. MICHIGAN, P.O. BOX 2046, MILWAUKEE, WI 53201

VPNPD-86-230
NRC-86-46

May 27, 1986

Mr. J. G. Keppler, Regional Administrator
Office of Inspection and Enforcement
Region III
U. S. NUCLEAR REGULATORY COMMISSION
799 Roosevelt Road
Glen Ellyn, Illinois 60137

Dear Mr. Keppler:

DOCKET 50-301
LICENSEE EVENT REPORT 86-001-00
REACTOR TRIP DURING TRIP LOGIC TEST
POINT BEACH NUCLEAR PLANT, UNIT 2

Enclosed is Licensee Event Report 86-001-00 for Point Beach Nuclear Plant, Unit 2. This report covers the details of a reactor trip which occurred during the testing of reactor trip logic circuits. LER 86-001-00 is filed under the reporting requirements of 10 CFR 50.73(a)(2)(iv), "Any event or condition that resulted in manual or automatic actuation of any engineered safety feature (ESF), including the reactor protection system (RPS)."

Very truly yours,

C. W. Fay

C. W. Fay
Vice President
Nuclear Power

Enclosure

Copies to NRC Document Control Desk
Washington, DC (with original)
NRC Resident Inspector

IE22
1/1