



Nuclear Management Company, LLC  
Point Beach Nuclear Plant  
6610 Nuclear Road  
Two Rivers, WI 54241

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NPL 2001-0015

January 12, 2001

Document Control Desk  
U.S. NUCLEAR REGULATORY COMMISSION  
Mail Station P1-137  
Washington, D.C. 20555

10 CFR 50.73

Ladies/Gentlemen:

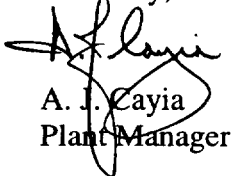
DOCKET NO. 50-301  
LICENSEE EVENT REPORT 301/2000-006-00  
FAILED FUSE IN INTERMEDIATE RANGE NUCLEAR  
DETECTOR RESULTS IN REACTOR SCRAM  
POINT BEACH NUCLEAR PLANT UNIT 2

Enclosed is Licensee Event Report 301/2000-006-00 for the Point Beach Nuclear Plant Unit 2. This report is provided in accordance with 10 CFR 50.73(a)(2)(iv) as, "any event or condition that resulted in a manual or automatic actuation of any Engineered Safety Feature (ESF), including the Reactor Protection System (RPS)". This report documents an automatic reactor shutdown that occurred as a result of a fuse failure in an intermediate range nuclear detector. The plant equipment and systems required to operate during and following this reactor trip and recovery operated as designed.

Immediate corrective actions have been completed and are listed in this report. Additional corrective actions are being addressed by an incident investigation and root cause evaluation team. No new NRC commitments are identified in this report.

Please contact us if you require additional information concerning this event.

Sincerely,



A. J. Cayia  
Plant Manager

Enclosure

CWK/tja

cc: NRC Resident Inspector  
PSCW

NRC Regional Administrator  
INPO Support Services

NRC Project Manager

IE22

# LICENSEE EVENT REPORT (LER)

(See reverse for required number of digits/characters for each block)

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. REPORTED LESSONS LEARNED ARE INCORPORATED INTO THE LICENSING PROCESS AND FED BACK TO INDUSTRY. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (T-6 F33), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT

<b>FACILITY NAME (1)</b> Point Beach Nuclear Plant, Unit 2	<b>DOCKET NUMBER (2)</b> 05000301	<b>PAGE (3)</b> 1 of 3
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**TITLE (4)**  
Failed Fuse in Intermediate Range Nuclear Detector Results in Reactor Scram

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 NAME	DOCKET NUMBER
12	14	2000	2000	006	00	01	12	2001	FACILITY NAME	DOCKET NUMBER 05000
									FACILITY NAME	DOCKET NUMBER 05000

<b>OPERATING MODE (9)</b> N	<b>THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)</b>									
	<input type="checkbox"/> 20.2201(b)	<input type="checkbox"/> 20.2203(a)(2)(v)	<input type="checkbox"/> 50.73(a)(2)(i)	<input type="checkbox"/> 50.73(a)(2)(viii)						
<b>POWER LEVEL (10)</b> 000	<input type="checkbox"/> 20.2203(a)(1)	<input type="checkbox"/> 20.2203(a)(3)(i)	<input type="checkbox"/> 50.73(a)(2)(ii)	<input type="checkbox"/> 50.73(a)(2)(x)						
	<input type="checkbox"/> 20.2203(a)(2)(i)	<input type="checkbox"/> 20.2203(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(iii)	73.71						
	<input type="checkbox"/> 20.2203(a)(2)(ii)	<input type="checkbox"/> 20.2203(a)(4)	<input checked="" type="checkbox"/> 50.73(a)(2)(iv)	OTHER						
	<input type="checkbox"/> 20.2203(a)(2)(iii)	<input type="checkbox"/> 50.36(c)(1)	<input type="checkbox"/> 50.73(a)(2)(v)	Specify in Abstract below or in NRC Form 366A						
	<input type="checkbox"/> 20.2203(a)(2)(iv)	<input type="checkbox"/> 50.36(c)(2)	<input type="checkbox"/> 50.73(a)(2)(vii)							

LICENSEE CONTACT FOR THIS LER (12)									
NAME Charles Wm. Krause, Senior Regulatory Compliance Engineer							TELEPHONE NUMBER (Include Area Code) (920) 755-6809		

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)									
CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX
X	IG	FN	B569	Y					

SUPPLEMENTAL REPORT EXPECTED (14)				EXPECTED SUBMISSION DATE (15)		
<input type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE).	<input checked="" type="checkbox"/> X	<input type="checkbox"/> NO		MONTH	DAY	YEAR

**ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)**

On December 14, 2000, Point Beach Nuclear Plant (PBNP) Unit 2 tripped as a result of a failed control power fuse in the intermediate range (IR) nuclear instrumentation Channel 2N35. The trip occurred with the reactor critical at approximately 10E4 counts per second in the source range, well below the actual IR trip set point. PBNP Unit 2 was in the process of starting up following a refueling shutdown and had reached criticality at 0543 at normal temperature and pressure. There were no other failures or system operating abnormalities resulting from this trip. The NRC was notified pursuant to 10 CFR 50.72(b)(2)(i) at 0740. In accordance with plant procedures a post trip review and incident examination were completed. The control power and instrument power fuses in both IR instrument circuits were replaced. Following a review of the event by senior plant management, permission was granted for a unit restart at 1624. Unit 2 achieved criticality at 2112 on December 14 and commenced low power physics testing in accordance with the normal startup procedures. No further problems were experienced with the nuclear instrumentation during the escalation to normal power operations.

**LICENSEE EVENT REPORT (LER)**  
**TEXT CONTINUATION**

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
Point Beach Nuclear Plant, Unit 2	05000301	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	2 OF 3
		2000	- 006	- 00	

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

**Event Description:**

On December 14, 2000 at approximately 0630 (all times listed are CST), the Unit 2 reactor [RCT] at the Point Beach Nuclear Plant (PBNP) tripped as a result of a failed control power fuse [FU] in the intermediate range (IR) nuclear instrumentation [IG] Channel 2N35. The trip occurred with the reactor critical at approximately 10E4 counts per second in the source range, well below the actual IR trip set point. The Unit 2 reactor was in the process of starting up following a refueling shutdown and had reached criticality at 0543 at normal temperature and pressure. The operating crew entered the appropriate emergency operating procedures and maintained the unit in a stable condition. There were no other failures or system operating abnormalities resulting from this trip.

In accordance with plant procedures, a post trip review and incident investigation were completed. Extensive testing and trouble shooting by I&C technicians could not identify a specific cause or reason for the fuse failure. The fuses for this channel had been last replaced in 1998. The control power and instrument power fuses in both IR instrument circuits were replaced. Following a review of the event by senior plant management and the plant manager, permission was granted for a unit restart at 1624. Unit 2 achieved criticality at 2112 on December 14 and commenced low power physics testing in accordance with the normal startup procedures. No further problems were experienced with the nuclear instrumentation during the escalation to normal power operations.

This event was documented in the licensee's corrective action program (CR 00-4121). In accordance with the requirements of 10 CFR 50.72(b)(2)(i), a four hour notification was made via the ENS at 0740 (Event Number 37594) for an inadvertent RPS [JD] actuation.

**Cause:**

The cause of this event was the failure during operation of a control power fuse in one of two channels of intermediate range nuclear instrumentation. The failure of the 2N35 channel caused the reactor trip by making up the one of two trip logic for the intermediate range nuclear instrument. Extensive testing and trouble shooting could not identify any faulted condition that would have caused the fuse to fail.

**Corrective Actions:**

An incident investigation and post trip review were conducted in accordance with procedure NP 5.3.3.

All the control and instrument power fuses were replaced in both channels of IR nuclear instrumentation.

**Safety Assessment:**

The plant response during and following this inadvertent RPS actuation was as expected. With the exception of the fuse failure, plant systems and components involved in this event performed as designed. As noted previously, Unit 2 was in the process of starting up following a refueling shutdown. No further nuclear instrumentation problems were experienced during the subsequent unit restart and return to power.

**LICENSEE EVENT REPORT (LER)**  
**TEXT CONTINUATION**

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

operations. The safety and welfare of the public and the plant staff was not affected by this event. Other than an inadvertent challenge of the nuclear instrumentation and reactor protection safety systems, the safety significance of this event was negligible. There was at no time a loss of system, structure, or component related safety function; therefore, this event did not involve a safety system functional failure.

**Similar Occurrences:**

A review of recent LERs (past three years) identified the following similar event involving inadvertent ESF or RPS actuation:

<u>LER Number</u>	<u>Title</u>
301/2000-005-00	Unplanned ESF Actuation During Calibration and Testing of Safeguards Bus Relays
301/2000-004-00	Unplanned ESF Actuation During Safeguards Bus Restoration
266/98-024-00	Inadvertent Emergency Diesel Generator Start
266/98-014-00	ESF Actuation Automatic Start Of A Service Water Pump
266/98-006-00	Unanticipated Partial Service Water System Isolation During A Special Test
266/98-002-00	Failure Of The High Voltage Station Auxiliary Transformer