

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Point Beach Nuclear Plant										DOCKET NUMBER (2) 0 5 0 0 0 2 6 6										PAGE (3) 1 OF 4			
TITLE (4) Design Error on Electric Strike Doors Used as Fire Doors																							
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 NONE						DOCKET NUMBER(S) 0 5 0 0 0								
0	2	1	9	8	8	8	8	0	0	2	0	0	0	3	1	4	8	8	0	5	0	0	
THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR § (Check one or more of the following) (11)																							
OPERATING MODE (9) N A		20.402(b)				20.408(a)				80.73(a)(2)(iv)				73.71(b)									
POWER LEVEL (10) 1 0 0		20.408(a)(1)(i)				80.38(a)(1)				80.73(a)(2)(v)				73.71(a)									
		20.408(a)(1)(ii)				80.38(a)(2)				80.73(a)(2)(vi)				OTHER (Specify in Abstract below and in Text, NRC Form 305A)									
		20.408(a)(1)(iii)				X 80.73(a)(2)(ii)				80.73(a)(2)(viii)(A)													
		20.408(a)(1)(iv)				80.73(a)(2)(iii)				80.73(a)(2)(viii)(B)													
		20.408(a)(1)(v)				80.73(a)(2)(iv)				80.73(a)(2)(ix)													
LICENSEE CONTACT FOR THIS LER (12)																							
NAME C. W. Fay, Vice President - Nuclear Power										TELEPHONE NUMBER AREA CODE 4 1 4 2 2 1 1 - 2 8 1 1 1													
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														
B		D R		NO																			
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 February 18, 1988, a design deficiency was discovered on doors with electric lock strikes which were designated as fire doors. The design deficiency allowed the doors to open upon loss of electrical power. Since the loss of electrical power could occur because of a fire near the door, the fire barrier function of the door could be compromised. Upon discovery of the design deficiency, the fire barrier function of these doors was declared out of service and continuous fire watches were posted. As a more permanent corrective action, the doors were modified to fail in the latched position upon failure of power. The corrective action was completed on February 19, 1988.

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO 3150-0104

EXPIRES 8/31/85

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TEXT (If more space is required, use additional NRC Form 306A's) (17)

EVENT DESCRIPTION

During an internal audit of the fire doors at Point Beach Nuclear Plant on February 18, 1988, it was discovered that the electric strikes which lock the fire doors were designed to fail open upon loss of power, and the door could be opened without turning the knob or using a key to open the door. It was also noted that the door could swing open on its own, given the proper differential pressure across the door. Further investigation revealed that a possible cause of the loss of power to the door strike could be a fire near the door. A fire near the door could also create a pressure differential near the door, causing the door to open and possibly allow the fire to spread through the door opening.

Within one hour of the discovery of this design situation, continuous fire watches were posted and maintained in accordance with Technical Specification 15.3.14.E, "Fire Barrier Penetration Seals."

In each case where this design was used, an evaluation was made to determine the mitigating systems that were available to prevent a fire from causing loss of strike power or preventing a fire from spreading through an open door. Most fire doors at Point Beach which had electric strikes and failed in the open condition upon loss of power did not require fire watches for one or more of the following reasons.

1. Fire detection is available outside the door.
2. A sprinkler system is installed outside the door.
3. Energy shields exist between the redundant equipment in the safety-related equipment area protected by the fire door.
4. Redundant equipment is in a different area protected by a functional fire door.
5. Redundant circuits in the area on the protected side of the door have adequate separation as defined by Appendix R.
6. Alternate shutdown means exist in other fire protected areas.
7. The area in question already has a continuous fire watch.
8. An Appendix R exemption has been applied for and granted.
9. No redundant shutdown equipment is present in the rooms on either side of the fire door.

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

BACKGROUND

Both Units 1 and 2 were operating at 100 percent power at the time of the discovery. All fire doors were considered operable. Approximately one hour elapsed between the time of the discovery of the design situation and the posting of fire watches at each of the affected doors. The design deficiency was corrected within 27 hours.

SYSTEM DESCRIPTIONS

The door strikes discussed in this LER were manufactured by Folger Adam Company of Joliet, Illinois. They were Model 310-1 24 V DC strikes with the fail safety feature to fail in the open position upon loss of power. The fail safety spring and plunger assembly 310-108FS was replaced with the standard assembly. Other associated parts to allow this replacement were also included in the modification. Some rewiring also had to be done.

GENERIC INFORMATION

No generic issues were identified as a result of the investigation of this condition.

REPORTABILITY

The Energy Industry Identification System component function identifier for the fire door is not directly applicable. However, a code of DR could be applied. No system name from the Identification System applies to the system of these fire doors.

This LER is provided pursuant to the requirements of 10 CFR 50.73(a)(2)(i)(B), "Any operation or condition prohibited by the plant's Technical Specifications."

CAUSE

As discussed in the event description above, the cause of this situation was original design that predated Appendix R. In the interest of industrial safety, the doors were installed with fail open door strikes. The corrective action, however, does not compromise personnel safety since the door exit and access are still possible by turning the knob from the inside or with a key from the outside.

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

SAFETY ASSESSMENT

It is considered unlikely that the postulated condition caused by a fire could affect the fire barrier even given the original design configuration. Fire detection is provided in all the shutdown areas in question. In addition, any loss of power to the door strikes would cause an alarm resulting in prompt personnel response. The fire brigade would, therefore, receive early notification and be able to effectively prevent the fire from threatening the barrier or equipment of concern.

CORRECTIVE ACTIONS

The immediate corrective action was to post fire watches at the doors that did not have sufficient compensatory capabilities present. Within 27 hours, the strikes on those doors were replaced with fail closed upon loss of power strikes. We have proceeded to change strikes on fire doors that have electrically controlled strikes. This modification will result in doors which will fulfill the fire door function upon the loss of electric power to the door strike.

SIMILAR OCCURRENCES

No previous instances of design situations like this have occurred to our knowledge at Point Beach Nuclear Plant.



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

(414) 221-2345

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10 CFR 50.73

March 14, 1988

U. S. NUCLEAR REGULATORY COMMISSION
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Washington, D. C. 20555

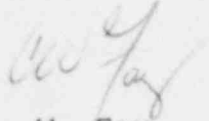
Gentlemen:

DOCKETS 50-266, 50-301
LICENSEE EVENT REPORT 88-002-00
DESIGN ERROR ON ELECTRIC STRIKE DOORS
USED AS FIRE DOORS
POINT BEACH NUCLEAR PLANT, UNIT 1 AND 2

Enclosed is Licensee Event Report 88-002-00 for Point Beach Nuclear Plant, Units 1 and 2. This report is provided in accordance with 10 CFR 50.73(a)(2)(i), "Any operation or condition prohibited by the plant's Technical Specifications."

If any further information is required, please contact us.

Very truly yours,


C. W. Fay
Vice President
Nuclear Power

Enclosure

Copies to NRC Resident Inspector
NRC Regional Administrator, Region III

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