NRC Form 366
(9-83)

U.S. NUCLEAR REGULATORY COMMISSION
APPROVED OMB NO. 3150-0104
EXPIRES: 8/31/88

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
Pilgrim Nuclear Power Station	0 5 0 0 0 2 9 3	1 OF 0 4

TITLE (4)
Failure of Fire Damper to Close Due to Orientation of Clover Hooks

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)
									N/A	0 5 0 0 0
1 2	1 7	8 7	8 7	0 2 0	0 0	0 1	1 4	8 8	N/A	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)			
N		20.402(b)	20.405(c)	50.73(a)(2)(iv)	73.71(b)
POWER LEVEL (10)		20.405(a)(1)(i)	50.36(c)(1)	50.73(a)(2)(v)	73.71(c)
0 0 0		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)	X 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
P.J. Hamilton, Compliance Management Group Leader	6 1 7 — 7 4 7 - 8 2 9 3

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	
B	I C	D M P	A 1 2 4	N							

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 December 17, 1987, at 1015 hours, three Fire Dampers CPR-2, 4, and 5 were actuated when their fusible links were inadvertently energized during performance of Procedure 8.B.4, Section I, "Photoelectric Smoke Detector Functional Tests". Following these damper actuations it was identified that Fire Damper CPR-2 failed to fully close due to the orientation of the clover hooks used to attach the fusible link to the damper. Dampers CPR 4 and 5 did fully close.

Fire Damper CPR-2 did not close due to the clover hook catching on the edge of the damper blade preventing it from closing.

Field Revision Notice (FRN) 86-31-129 was issued to change the physical orientation of the clover hooks to face outward (away) from the damper. In addition, the orientation of the clover hooks on the other fire dampers was inspected.

At the time of this event, the plant was in an extended outage with the mode switch in SHUTDOWN and control rods fully inserted into the core. The public health and safety were not affected by these events. This event is reportable pursuant to 10CFR50.73 (a)(2)(i)(B).

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

DESCRIPTION OF EVENT

On December 17, 1987, at 1015 hours, Fire Dampers (FD) CPR-2, 4 and 5 were actuated when their fusible links were inadvertently energized during performance of Surveillance Procedure 8.B.4, Section I, "Photoelectric Smoke Detector Functional Tests." Following these damper actuations, it was identified that Fire Damper CPR-2 had failed to fully close due to the orientation of the clover hooks that are used to attach the fusible link which secures the damper in the open position. Fire Dampers CPR-4 and 5 did fully close. Dampers utilizing the clover hooks were installed as a part of Plant Design Change (PDC) 86-31.

At the time of this event, the plant was in an extended outage and in a cold condition, with the reactor fully refueled, the mode switch in SHUTDOWN, and all control rods fully inserted into the core.

CAUSE OF EVENT

Fire Damper CPR-2 did not close following actuation due to the orientation of the clover hook, i.e., open side of hook facing damper. When the damper began to close, the clover hook caught on the damper blade preventing full closure. Installation instructions for the dampers did not specify orientation for the clover hooks. The vendor (Air Balance Inc.) data shows the open side of the clover hook facing the damper blade. Page 4 of 4 depicts a typical damper with the clover hooks oriented facing the damper blade.

CORRECTIVE ACTION

Immediate action was taken to establish compensatory measures by stationing a fire watch in the area of Damper CPR-2. Additionally, hourly fire watches were established for all areas containing suspect dampers. Due to on going fire barrier upgrade work, fire watch patrols were generally in place plant wide throughout the current outage.

Field Revision Notice (FRN) 86-31-129, to PDC 86-31, was issued to require the physical orientation of the clover hooks to face outward (away) from the damper. This action will preclude recurrence of this event.

Priority "A" Maintenance Request (MR) 87-799 was issued to promptly check the orientation of the clover hooks on potentially affected dampers. There were 53 damper locations checked, of which, several were multiple damper installations bringing the total number of dampers checked to 62. Each damper has 1 or 2 clover hooks. Inspection of the 62 damper installations identified 68 clover hooks with the open side of the hook facing the damper. The physical orientation of these 68 hooks was changed, such that the open side of the hook faced away from the damper blades. The inspection of three (3) dampers has not yet been completed due to accessibility. Additional MR's have been issued to perform these inspections. These 3 dampers were not modified under PDC 86-31 and compensating measures will remain in affect until the dampers are inspected and clover hooks reversed, if necessary.

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

Memorandum FPG 87-150 was sent to the Operations, Maintenance and I&C Groups, transmitting a copy of FRN 86-31-129 which shows the proper orientation of the clover hooks for connection to the fusible link. Surveillance Procedure 8.B.4 will be revised to preclude possible inadvertent actuation of fusible links.

SAFETY IMPLICATIONS

The orientation of the clover hooks (open side facing the fire damper) could have prevented the closure of the affected fire dampers under accident fire conditions. Because this condition affected the operability of damper CPR-2 and could have affected other dampers, the requirements of the Plants Technical Specification (3.12.F) could have been compromised. The event was determined to be reportable pursuant to requirements of 10CFR50.73(a)(2)(i)(B).

A preliminary assessment of this issue pursuant to 10CFR21, was performed by Nuclear Engineering and determined not to meet that regulation's reporting threshold. Other methods of fire protection were available. Fire detection and fire suppression systems, as well as administrative controls existed to prevent, identify and mitigate the effects of a fire. Therefore, the public health and safety were not affected by this event.

The purpose of the clover hook is to facilitate easy removal of the fusible link for fire damper testing. Acceptance testing or routine surveillance would not have revealed this deficiency.

SIMILARITY TO PREVIOUS EVENT

A review of Pilgrim Nuclear Power Station Licensee Event Reports (LERs) written since January 1984, was conducted to identify similar or related events. Based on this review, the following LER was identified:

LER 85-034-00 identified 21 fire dampers, required by the Plant's Technical Specifications, that were found with discrepancies that lessened the required 3-hour fire resistance rating. These discrepancies were the result of insufficient installation instructions and an improper revision to a design change during modification work which was accomplished in 1980 and 1984. The cause of LER 85-034-00 is different than LER 87-20-00 and the only relationship between the LERs is that they both relate to Fire Dampers.

ENERGY INDUSTRY IDENTIFICATION SYSTEM (EIIS) CODES

The EIIS codes for this event are as follows:

SYSTEM	CODE
Fire Protection/Detection	IC

COMPONENT	
Fire Damper	DMP

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

AIR BALANCE INC.

3 HR. RATED

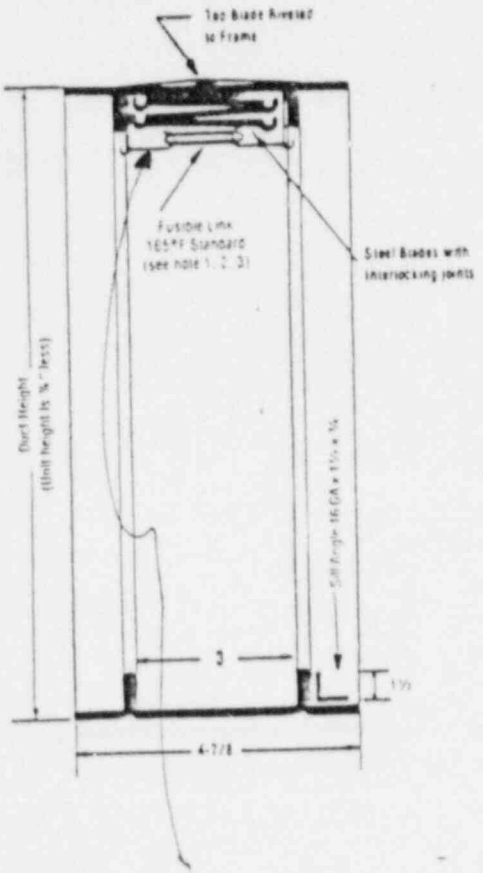
Fire/Seal®
UL-Classified Fire Damper
Nuclear Qualified

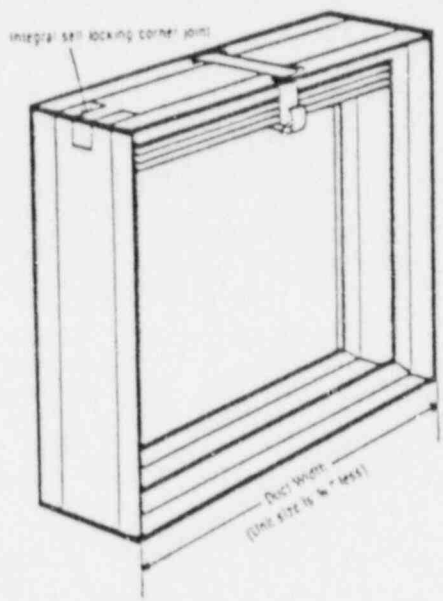
MODEL N 319ALV

LOOK FOR THIS LABEL

UNDERWRITERS' LABORATORIES INC.
CLASSIFIED
FIRE DAMPERS
FIRE RESISTANCE RATING 3 HR.
SEE U.L. CLASSIFIED BUILDING MATERIALS INDEX

VERTICAL MOUNT





orientation of
the clover hook (i.e., open side of hook facing damper)

10CFR50.73

BOSTON EDISON
Executive Offices
800 Boylston Street
Boston, Massachusetts 02199

Ralph G. Bird
Senior Vice President — Nuclear

January 14, 1988
BECo Ltr. #88-009

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, D.C. 20555

Docket No. 50-293
License No. DPR-35

Dear Sir:

The attached Licensee Event Report (LER) 87-020-00 "Failure of Fire Damper to Close Due to Orientation of Clover Hooks" is submitted in accordance with 10CFR Part 50.73.

Please do not hesitate to contact me if you have any questions regarding this subject.

R.G. Bird

RC/1a

Enclosure: LER 87-020-00

cc: Mr. William Russell
Regional Administrator, Region 1
U.S. Nuclear Regulatory Commission
631 Park Avenue
King of Prussia, PA 19406

Sr. Resident Inspector - Pilgrim Station

Standard BECo LER Distribution

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