

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Calvert Cliffs, Unit 1										DOCKET NUMBER (2) 0 5 0 0 0 3 1 7				PAGE (3) 1 OF 03						
TITLE (4) Control Room Ventilation Damper Failure																				
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)							
1	1	2	0	8	5	8	5	0	1	4	0	0	1	2	2	0	8	5	Calvert Cliffs, Unit 2	0 5 0 0 0 3 1 8
OPERATING MODE (9)			THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5: (Check one or more of the following) (11)																	
1			20.402(b)				20.408(a)				50.73(a)(2)(iv)				73.71(b)					
POWER LEVEL (10)			20.408(a)(1)(i)				50.36(a)(1)				50.73(a)(2)(v)				73.71(c)					
1 0 0			20.408(a)(1)(ii)				50.36(a)(2)				50.73(a)(2)(vi)				OTHER (Specify in Abstract below and in Text, NRC Form 386A)					
			20.408(a)(1)(iii)				50.73(a)(2)(vii)				50.73(a)(2)(viii)(A)									
			20.408(a)(1)(iv)				50.73(a)(2)(viii)(B)				50.73(a)(2)(viii)(C)									
			20.408(a)(1)(v)				50.73(a)(2)(ix)				50.73(a)(2)(x)									
LICENSEE CONTACT FOR THIS LER (12)																				
NAME										TELEPHONE NUMBER										
Mark T. Finley, Operational Safety Analyst										AREA CODE 3 0 1 2 6 0 1 4 3 7 4										
COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)																				
CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPROS		CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPROS										
B	V	I	D	M	P	A	3	4	10	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)

At 1425 on November 20, 1985, one isolation damper in each of two Control Room Heating, Ventilation and Air Conditioning (HVAC) inlet ducts was discovered inoperable. Continued operation with these dampers inoperable and a second set of isolation dampers open was a condition prohibited by Technical Specifications.

The dampers were declared inoperable because broken blade brackets prevented the dampers from closing. The root cause of both damper failures was improper adjustment of the damper linkages. The blade brackets were replaced and the dampers were returned to service by 1950 on November 27, 1985.

A procedure was changed to verify closure of the dampers at least once per 18 months. An evaluation of the isolation capability of the dampers will be conducted.

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

APPROVED OMB NO. 3150-2104
EXPIRES: 9/31/85

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (5)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Calvert Cliffs, Unit 1	0 5 0 0 0 3 1 7 8 5	0 1 4	0 0	0 2	OF 0 3

TEXT (If more space is required, use additional NRC Form 305A 11 (17))

At 1425 on November 20, 1985, while Unit 1 was operating at 100% power in **MODE 1** and Unit 2 was shutdown in **MODE 5** with the Reactor Coolant System (EHS AB) vented at a temperature of 130°F, it was discovered during a system inspection that one of the two isolation dampers in each of two inlet ducts for the Control Room Heating, Ventilation and Air Conditioning (HVAC) System (EHS VI-DMP) would not close. The dampers were declared inoperable and the ventilation system was immediately shifted to the recirculation mode by closing the other damper in each inlet duct. Since operation had occurred prior to discovery of the inoperable dampers while the other dampers in the inlet ducts were open, this was a condition prohibited by the Technical Specifications.

The immediate cause of failure of both dampers was broken blade brackets (see Attachment 1). This prevented a closing force from being transmitted to three of six blades in the damper; an opposed-blade, louvered type.

The root cause of failure of both dampers was improper adjustment of the linkages which connect alternating damper blades (see Attachment 1). This adjustment appears to have been set during damper installation, although whether or not the adjustment had been changed during future operation could not be determined. The improper adjustment caused binding between adjacent damper blades which placed undue stress on the two blade brackets, causing them to break. The blade brackets were replaced and the linkages adjusted. Both louvered dampers were returned to an operable status by 1950 on November 27, 1985.

A contributing factor, which probably delayed detection of the damper failure, was an incomplete surveillance procedure. The surveillance procedure was written to meet Surveillance Requirement 4.7.6.1.e.2 which requires verifying that the isolation dampers close on a high radiation test signal. The procedure, however, only verified that the butterfly dampers in the inlet duct closed.

The dose calculation which was done to determine the dose received by operators in the control room during the design basis radiological accident does not take credit for the isolation capability of the louvered dampers. The calculation uses the assumption that the pressure differential created by the operating fan (EHS VI-FAN) is dropped entirely across the closed butterfly type damper in the recirculation mode. Since an inoperable louvered damper does not affect the assumptions used in the control room dose calculation, the Control Room HVAC System's capability of maintaining the control room habitable following all credible accidents was not affected. Therefore, the safety consequences of this event are considered minimal. In addition, the safety consequences of this event would not have been more severe under credible alternative circumstances.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

APPROVED OMB NO. 3150-0104

EXPIRES: 3/31/85

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (5)			PAGE (3)			
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER				
Calvert Cliffs, Unit 1	0 5 0 0 0 3 1 7 8 5	—	0 1 4	—	0 0	0 3	OF	0 3

TEXT (If more space is required, use additional NRC Form 385A (1) (17))

The following long term corrective actions have been taken or will be taken:

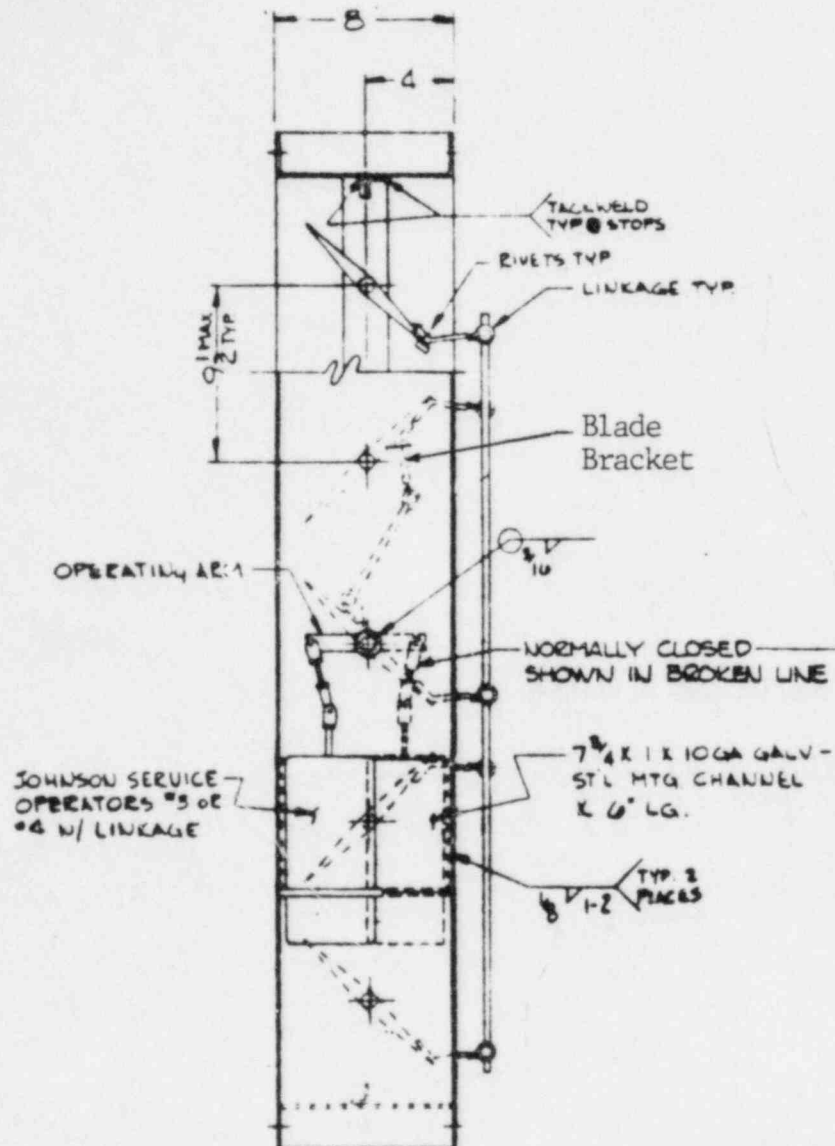
1. The surveillance procedure used to verify closure of isolation dampers in the Control Room HVAC System on a high radiation signal has been changed to include verification of louvered damper closure at least once per 18 months.
2. An inspection of other dampers of the same or similar model as those that failed was conducted and no broken brackets were found.
3. An evaluation of the isolation capability of the louvered type dampers will be conducted.

The damper manufacturer is American Warming and Ventilating, Inc., and the model number is DAA-P-40.

A review of previously reported events was conducted and no similar events were found to have occurred.

The contact for this event is M. T. Finley, (301) 260-4374.

ATTACHMENT 1



Opposed Blade Damper

BALTIMORE GAS AND ELECTRIC COMPANY

P.O. BOX 1475

BALTIMORE, MARYLAND 21203

NUCLEAR POWER DEPARTMENT
CALVERT CLIFFS NUCLEAR POWER PLANT
LUSBY, MARYLAND 20657

December 20, 1985

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

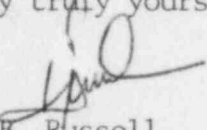
Docket No. 50-317
License No. DPR 53

Dear Sirs:

The attached LER 85-14 is being sent to you as required by
10 CFR 50.73.

Should you have any questions regarding this report, we would be
pleased to discuss them with you.

Very truly yours,


L. B. Russell
Plant Superintendent

LBR:MTB:pah

cc: Dr. Thomas E. Murley
Director, Office of Management Information
and Program Control
Messrs: A. E. Lundvall
J. A. Tiernan
W. J. Lippold

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