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May 8, 1991
ND3MNO:3132

Beaver Valley Power Station, Unit No. 1
Docket No. 50-334, License No. DPR-66
LER 91-011-00

United States Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555

Gentlemen:

In accordance with Appendix A, Beaver Valley Technical Specifications, the following Licensee Event Report is submitted:

LER 91-011-00, 10 CFR 50.73.a.2.vii.c, "Failure of Safeguards Pit Ventilation Isolation Damper".

Very truly yours,

T. P. Noonan
General Manager
Nuclear Operations

DC/sl

Attachment

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LICENSEE EVENT REPORT (LER)

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (F&R), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1)

Beaver Valley Power Station Unit 1

DOCKET NUMBER (2)

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TITLE

Failure of Safeguards Pit Ventilation Isolation Damper

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	4	0	8	9	1	9	1	0	1	1	0	5	0	0	0		
0	4	0	8	9	1	9	1	0	0	0	5	0	8	9	1		
OPERATING MODE (9)		1		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5. (Check one or more of the following): (11)													
POWER LEVEL (10)		1		20.402(b)		20.406(e)		50.73(a)(2)(iv)		73.71(b)							
				20.406(a)(1)(i)		50.38(a)(1)		50.73(a)(2)(iv)		73.71(c)							
				20.406(a)(1)(ii)		50.38(a)(2)		X 50.73(a)(2)(vi)		OTHER (Specify in Abstract below and in Text, NRC Form 366A)							
				20.406(a)(1)(iii)		50.73(a)(2)(i)		50.73(a)(2)(vii)(A)									
				20.406(a)(1)(iv)		50.73(a)(2)(ii)		50.73(a)(2)(viii)(B)									
				20.406(a)(1)(v)		50.73(a)(2)(iii)		50.73(a)(2)(ix)									

LICENSEE CONTACT FOR THIS LER (12)

NAME

T.P. Noonan General Manager Nuclear Operations

TELEPHONE NUMBER

AREA CODE

412643-1258

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	V	F	B	D	M	P	S	1	4	9	Y								

SUPPLEMENTAL REPORT EXPECTED (14)

YES (If yes, complete EXPECTED SUBMISSION DATE)	NO	EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
	X				

ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single space typewritten lines) (16)

On 4/8/91, Maintenance was inspecting the train A Safeguards Pit Ventilation Isolation Damper VS-D-4-11A (manufactured by Shan-Rod, model number 4320). The inspection was being performed in response to a previously identified potential failure of Shan-Rod damper spline adaptors. During this inspection, it was discovered that the spline adaptor keyed on the damper shaft had slipped out of position and moved along the damper shaft. This movement was sufficient to allow the adaptor to disengage from the motor operator drive gear. With the spline adaptor not engaged to the drive gear, the damper position could not be changed by the motor. The train B series damper was tested and verified to be functioning properly. Maintenance reset the spline adaptor to its correct position. Operations tested the train A damper and verified it was operating properly on 4/9/91. An engineering modification is being developed to prevent future adaptor movement. There were no safety implications due to this event as the train B series isolation damper was fully functional throughout the event and capable of performing the necessary isolation function.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

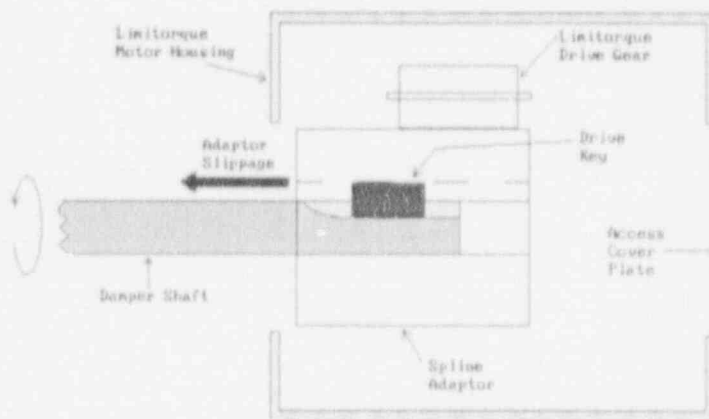
ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 500 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (8)			PAGE (3)	
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
Beaver Valley Power Station Unit 1	0500033491	011	0002	OF	04	

TEXT (if more space is required, use additional NRC Form 366A's) (12)

Description of Event

On 4/8/91, Maintenance was inspecting the train A Safeguards Pit Ventilation Isolation Damper VS-D-4-11A, manufactured by Shan-Rod, model number 4320. During this inspection, it was discovered that the spline adaptor keyed onto the damper shaft had moved along the shaft towards the damper. This movement was sufficient to allow the adaptor to disengage from the motor operator drive gear. With the adaptor not engaged to the drive gear, the damper position could not be changed by the motor. (Figure 1 shows the adaptor fully engaged to the drive gear.) The series train B damper was tested and verified to be functioning properly. During a Containment Isolation Phase B, these dampers isolate the normal ventilation flow to the Safeguards area valve pit. Although this does not provide a direct containment isolation function, this does decrease the potential for airborne activity in the Safeguards area during accident conditions coincident with leakage in the valve pit.



Typical Shan-Rod Spline Adaptor

Figure 1

The damper inspection on 4/8/91 was performed as a result of a previous incident involving a spline adaptor that had slipped and disengaged on an air intake Shan-Rod damper (model number 8321A7) for the Control Room. The spline adaptors for three other Shan-Rod dampers used in the Control Room ventilation system were inspected and found to have experienced some slippage, but were still engaged to the motor operator drive gears and were fully functional. Based on this, inspections and modifications of the seven other Shan-Rod dampers used at Beaver Valley were initiated.

Cause of Event

This event appears to be due to a design deficiency involving the Shan-Rod damper shaft adaptor. Keying the adaptor to the shaft does not prevent the adaptor from sliding along the shaft during operation.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 500 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (F-330), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20545, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1)

DOCKET NUMBER (2)

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Beaver Valley Power Station Unit 1

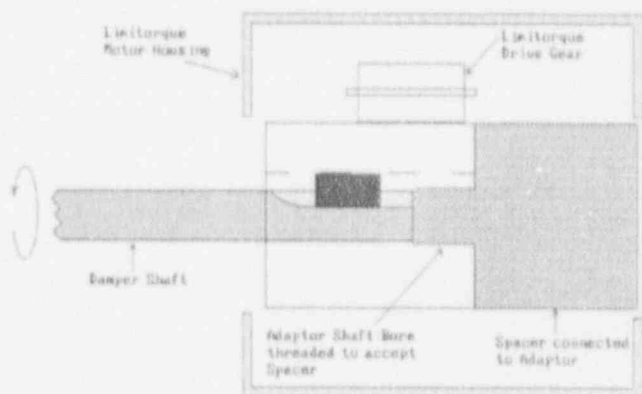
0 5 0 0 0 3 3 4 9 1 - 0 1 1 - 0 0 0 3 OF 0 4

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

Corrective Actions

The station has taken or initiated the following corrective actions:

- 1) The adaptor for the train A Safeguards Pit Isolation Damper was adjusted to be fully engaged to the motor operator drive gear.
- 2) The station is currently inspecting all Shan-Rod dampers to determine if they have experienced adaptor slippage.
- 3) The station has contacted the damper's manufacturer and is developing a modification to the adaptor that will prevent future movement. This modification involves installing a spacer to prevent the spline adaptor from sliding along the shaft. See figure 2 for proposed modification. Either this or a similar modification will be installed on all Shan-Rod dampers at the station.



Modified Spline Adaptor

Figure 2

Additionally, the station has documented this event on INPO's Nuclear NETWORK to provide industry information concerning this potential failure mode.

Previous Similar Events

There was one previous event involving slippage of a Shan-Rod damper shaft adaptor. This previous event did not appear to involve a generic problem, therefore no Licensee Event Report was issued at that time.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 60.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (F-630), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1)

DOCKET NUMBER (2)

LER NUMBER (6)

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YEAR SEQUENTIAL
NUMBER NUMBERREVISION
NUMBER

Beaver Valley Power Station Unit 1

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

Reportability

Based on the previous similar failure, the station has determined that the current event is potentially a generic failure. This event is being reported under 10CFR50.73.a.2.vii.C, an event where a single cause resulted in one inoperable train in multiple systems designed to control the release of radioactive material.

An evaluation by the station concluded that the previous event did not meet the reportability criteria of 10CFR21 in that it did not involve a substantial safety hazard at Beaver Valley. After the first event, Beaver Valley's Licensing Department did notify Shan-Rod of the potential for failures of this type. Beaver Valley is evaluating the current event for reportability in accordance with 10CFR21.

Safety Analysis

There were no safety implications due to this event. The train B Safeguards Pit isolation damper was fully functional and capable of isolating the ventilation to the pit. During accident conditions, the Safeguards Area ventilation exhaust is automatically diverted through the station's Main Filter Banks to prevent the release of airborne activity.