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Beaver Valley Power Station, Unit No. 2
Docket No. 50-412, License No. NPF-73
LER 89-009-01

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

Gentlemen:

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

LER 89-009-01, 10 CFR 50.73.a.2.ii.B, "Degraded High Energy Line Break (HELB) Temperature Elements".

T. P. Noonan
General Manager
Nuclear Operations

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Attachment

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LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Beaver Valley Power Station, Unit 2										DOCKET NUMBER (2) 0 5 0 0 0 4 1 2				PAGE (3) 1 OF 0 3		
TITLE (4) Degraded High Energy Line Break (HELB) Temperature Elements																
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			
0 4	1 3	8 9	8 9	0 0 9	0 1	0 1	2 3	9 0	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)														
6		20.402(b)				20.406(e)				50.73(a)(2)(iv)				73.71(b)		
POWER LEVEL (10)		0 0 0				20.406(a)(1)(i)				50.73(a)(2)(v)				73.71(c)		
		20.406(a)(1)(ii)				50.36(e)(1)				50.73(a)(2)(vi)				OTHER (Specify in Abstract below and in Text, NRC Form 365A)		
		20.406(a)(1)(iii)				50.36(e)(2)				50.73(a)(2)(vii)(A)						
		20.406(a)(1)(iv)				50.73(a)(2)(i)				50.73(a)(2)(viii)(B)						
		20.406(a)(1)(v)				X 50.73(a)(2)(ii)				50.73(a)(2)(ix)(B)						
		20.406(a)(1)(vi)				50.73(a)(2)(iii)				50.73(a)(2)(x)						
LICENSEE CONTACT FOR THIS LER (12)																
NAME Thomas P. Noonan, General Manager of Nuclear Operations										TELEPHONE NUMBER AREA CODE 4 1 2 6 4 3 1 - 1 2 5 8						
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						
X	W I T S		F 1 3 2	N												
X	S A T S		F 1 3 2	N												
SUPPLEMENTAL REPORT EXPECTED (14)												EXPECTED SUBMISSION DATE (15)		MONTH	DAY	YEAR
<input type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE)												<input checked="" type="checkbox"/> NO				

ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single space typewritten lines) (15)

On 4/13/89, with the Unit in Refueling (Operating Mode 6), Testing and Plant Performance personnel were performing a surveillance procedure to check the response of temperature sensors(elements). The temperature sensors are located in the Cable Vault, "A" Penetrations and Primary Auxiliary Building areas. They provide protection in the event of a High Energy Line Break (HELB) by causing automatic isolation of the steam generator blowdown and auxiliary steam lines in those areas. During the performance of this test, cardboard covers and temporary protection covers were found on five of twenty-two temperature elements. These covers were removed to allow testing of the temperature elements. The temperature elements were left exposed following the completion of testing. The cause for this event was attributed to a deficiency in the surveillance program. The temporary covers were left on after acceptance testing to protect the elements during additional construction activities. The covers affected the response time for the elements, because of the limited area of the element exposed to sense temperature. An analysis was performed to determine the amount of degradation in response time. This analysis showed that the delay in system response for blowdown line and auxiliary steam breaks did not result in equipment damage or exceeding the peak qualification temperature for the areas.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
Beaver Valley Power Station, Unit 2	0 5 0 0 0 4 1 2	8 9	- 0 0 9	- 0 1	0 2	OF	0 3

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

DESCRIPTION

On 4/13/89, with the Unit in Refueling (Operating Mode 6), Testing and Plant Performance personnel were performing Beaver Valley Test (BVT), 2BVT 1.60.7, "High Energy Line Break (HELB) Temperature Detection System Operability Verification." This surveillance procedure checks the response of the twenty-two (22) temperature elements and temperature switches associated with each element. These temperature elements are located in the Cable Vault and Rod Control Area (pipe tunnel elevation - 718 feet 6 inches) and in the Primary Auxiliary Building (elevation - 755 feet). The elements provide protection in the event of a HELB by sensing the area temperature rise and causing automatic isolation of the steam generator blowdown and auxiliary steam system lines in those areas. During the performance of 2BVT 1.60.7, cardboard covers and temporary protection covers were found on five (5) temperature elements [2BDG-TE101A1, 101B1, 101B2 and 2ASS-TE-116A, 116B]. These covers were immediately removed and testing was satisfactorily completed.

CAUSE OF THE EVENT

The cause for this event was attributed to a deficiency in the surveillance program with regards to inspections of the temperature elements. The covers were initially placed over the temperature elements, as part of a good worker practice, to protect the elements from the construction activities in the areas. Initial testing of the temperature elements was completed in March 1986, prior to the completion of construction activities in the areas. Following completion of these activities, the covers were never removed from the temperature elements. This was not identified during other surveillance testing (continuity and setpoint testing) because the testing is performed at the temperature switches and not the temperature elements. This is considered an isolated case.

CORRECTIVE ACTIONS

The cardboard covers and the temporary protection covers were immediately removed from the temperature elements. The station is implementing a periodic visual surveillance of the temperature elements.

REPORTABILITY

This written report is submitted in accordance with 10CFR50.73.a.2.ii.B, as a condition that potentially exceeded the design basis of the plant.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

APPROVED OMB NO. 3150-0104
EXPIRES: 8/31/88

FACILITY NAME (1) Beaver Valley Power Station, Unit 2	DOCKET NUMBER (2) 0 5 0 0 0 4 1 2	LER NUMBER (6)			PAGE (3)		
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TEXT (If more space is required, use additional NRC Form 365A's) (17)

SAFETY IMPLICATIONS

The covers affected the response times for the elements because of the limited surface area exposed to sense a temperature rise. This reduced the capability to respond to a High Energy Line Break in the applicable areas. Redundant uncovered temperature elements in the Cable Vault and Rod Control Areas were available to provide protection in the event of a HELB. An analysis has been performed to determine the amount of element response degradation due to the placement of the temporary covers. The results of this analysis showed that the system response for Steam Generator Blowdown line breaks is not delayed significantly due to tripping of sensors in adjacent areas. The results of the analysis for the Primary Auxiliary Building Auxiliary Steam line breaks showed the sensor response delayed by approximately 300 seconds. However, the peak qualification temperature for the area is not exceeded and no equipment would be affected.