



Nuclear Group
P.O. Box 4
Shippingport, PA 15077-0004

Telephone (412) 393-6000

June 3, 1994
ND3MNO:3579

Beaver Valley Power Station, Unit No. 1
Docket No. 50-334, Licensee No. DPR-66
LER 94-004-00

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 94-004-00, 10 CFR 50.73.a.2.i.A, "Technical Specification Required Shutdown Due to Inoperable River Water Header."

L. R. Freeland
General Manager
Nuclear Operations

JWM/clp

Attachment

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cc: Mr. T. T. Martin, Regional Administrator
United States Nuclear Regulatory Commission
Region 1
475 Allendale Road
King of Prussia, PA 19406

Mr. G. E. Edison, BVPS Licensing Project Manager
United States Nuclear Regulatory Commission
Washington, DC 20555

Larry Rossbach, Nuclear Regulatory Commission,
BVPS Senior Resident Inspector

J. A. Hultz, Ohio Edison
76 S. Main Street
Akron, OH 44308

Mark Burns
Centerior Energy
6200 Oak Tree Blvd.
Independence, OH 44101-4661

INPO Records Center
700 Galleria Parkway
Atlanta, GA 30339-5957

Mr. Robert Barkanic
Department of Environmental Resources
P.O. Box 2063
16th Floor, Fulton Building
Harrisburg, PA 17120

Director, Safety Evaluation & Control
Virginia Electric & Power Co.
P.O. Box 26666
One James River Plaza
Richmond, VA 23261

LICENSEE EVENT REPORT (LER)

(See reverse for required number of digits/characters for each block)

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 90.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (MNB 7714), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0194), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503

FACILITY NAME (1) Beaver Valley Power Station Unit 1	DOCKET NUMBER (2) 05000334	PAGE (3) 1 OF 3
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Technical Specification Required Shutdown Due to Inoperable River Water Header

EVENT DATE (5)			LER NUMBER (6)			REPORT NUMBER (7)			OTHER FACILITIES INVOLVED (8)	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
05	06	94	94	-- 004 --	00	06	03	94	N/A	05000
									FACILITY NAME	DOCKET NUMBER
										05000

OPERATING MODE (9) 1	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 20 CFR § (Check one or more) (11)									
	20.402(b)			20.405(c)			50.73(a)(2)(iv)		73.71(b)	
POWER LEVEL (10) 100	20.405(a)(1)(i)			50.36(c)(1)			50.73(a)(2)(v)		73.71(c)	
	20.405(a)(1)(ii)			50.36(c)(2)			50.73(a)(2)(vii)		OTHER	
20.405(a)(1)(iii)			X 50.73(a)(2)(i)			50.73(a)(2)(viii)(A)		(Specify in abstract below and in Text NRC Form 365A)		
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 L. R. Freeland, General Manager Nuclear Operations						TELEPHONE NUMBER (include Area Code) (412) 643-1258			

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)										
CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS				COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS
C	BS	PSX	XXXX	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 15 single-spaced typewritten lines) (16)

On 5/6/94, at 2120 hours, with the Unit operating at 100 percent power, a decision was made to shutdown due to an inoperable Reactor Plant River Water Header. The "A" River Water Header had been declared inoperable on 5/4/94, at 1340 hours, and Technical Specification (TS) 3.7.4.1 entered. Water had been discovered leaking at a pipe penetration during a routine inspection and was later confirmed to be River Water. The Shutdown was initiated on 5/6/94 when it was determined that the River Water Header would not be returned to operable status within the 72 hour time frame allowed by TS 3.7.4.1. The Nuclear Regulatory Commission was notified in accordance with 10CFR50.72(b)(1)(i)(A), via the Emergency Notification System, at 2152 hours on 5/6/94. The plant entered Mode 5 at 1122 hours on 5/8/94. At 1230 hours the leak was located on the Emergency Diesel Generator "A" Train River Watersupply line. While the unit was shutdown, non-destructive examinations were performed at various points on the associated piping. Following Code repairs and engineering analysis, it was determined that the remaining River Water piping structural integrity would be maintained until the next Refueling Outage. Plant heat-up was then initiated and the plant was returned to service and synchronized to the system grid on 5/20/94, at 1452 hours.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (MNB 7714), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

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		94	--004--	00	

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

DESCRIPTION OF EVENT

On May 4, 1994 at 1050 hours, during a routine High Energy Line and Emergency Core Cooling System Inspection, water was found leaking from a pipe penetration in the East Trench of the Primary Auxiliary Building. The penetration carried a six inch line that branches off of the "A" River Water Header, which supplies cooling water to the Emergency Diesel Generators. The branch line can be used if needed for emergency make-up to the Spent Fuel Pool. At 1340 hours, the "A" River Water Header was declared inoperable and Technical Specification (TS) 3.7.4.1 was entered. On May 5, at 2223 hours, the leak was confirmed to be River Water by injecting dye into the suspect piping. A plant shutdown was initiated on 5/6/94 at 2120 hours due to the status of the ongoing efforts to determine the source of the River Water leakage. Plant management determined at this time that the "A" River Water Header could not be returned to operable status within the time allowed by TS 3.7.4.1. The event was reported to the Nuclear Regulatory Commission within one hour, at 2152 hours, via the Emergency Notification System (ENS) in accordance with 10CFR50.72(b)(1)(i)(A) as the initiation of a plant shutdown required by the plant's Technical Specifications. The plant entered Hot Standby, Mode 3, on May 7, 1994 at 0918 hours (approximately 10 hours earlier than required by TS 3.7.4.1) and was cooled to Cold Shutdown, Mode 5, by 1122 hours on May 8, 1994.

On May 8, 1994, at 1230 hours, following continued excavation, approximately a one-half inch diameter hole was found leaking on the Emergency Diesel Generator, "A" Train River Water supply line, and not on the emergency Spent Fuel Pool make-up line as originally suspected. An ASME Section XI Code Replacement was performed on approximately a two foot section of the affected piping. A sample of the cut out piping was sent to a laboratory for analysis. In addition, a Temporary Modification was initiated to cut and cap the emergency supply line to the Fuel Building and utilize a fire hose connection for emergency make-up, if needed. A satisfactory hydrostatic test was performed on the repaired and capped piping in accordance with ASME Section XI. Five areas were excavated and inspected on each River Water Header. The condition of the affected portions of the Train A and B River Water Headers was evaluated by using Ultrasonic Non-Destructive Examination. Following the inspections, an engineering analysis was performed, verifying that the integrity of the piping pressure boundary could be maintained for power operation until the next Refueling Outage. A 10CFR50.59 safety evaluation was performed for the excavation and backfill of the River Water piping. The open piping was covered with a minimum of six feet of sand, to provide for missile and seismic protection. Plant heat-up was commenced on May 18, 1994 and the Reactor was critical on May 20, 1994 at 0548 hours. The Main Unit Generator was synchronized to the system grid at 1452 hours the same day.

CAUSE OF EVENT

Preliminary results from the sample of piping sent out for laboratory analysis indicate corrosion in the form of pitting, most likely caused by Microbiologically Influenced Corrosion (MIC), was responsible for this leak on the affected section of pipe.

CORRECTIVE ACTIONS

The exact location of the leakage was determined by excavation. A two foot section of pipe was replaced at the location of leakage and the emergency River Water supply line to the Fuel Building was cut and capped. A satisfactory hydrostatic test was performed on this piping following repairs. Five areas on each River Water Header supplying the Diesel Generators were uncovered and Ultrasonic Non-Destructive Examinations (NDEs) were performed. An

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

engineering analysis was performed, based on the NDE, verifying the pressure boundary integrity and structural integrity of the system. Various long term corrective actions are being evaluated.

REPORTABILITY

This event was reported to the Nuclear Regulatory Commission within one hour, via the Emergency Notification System, in accordance with 10CFR50.72(b)(1)(i)(A), as the initiation of a plant shutdown required by plant's Technical Specifications. This written report is being submitted in accordance with 10CFR50.73(a)(2)(i)(A), as the completion of a plant shutdown required by the plant's Technical Specifications.

SAFETY IMPLICATIONS

There were minimal safety implications as a result of this event. The "A" River Water Header was declared inoperable on May 4, 1994 when it was first suspected that the observed leakage was from the River Water System. The plant shutdown was initiated when it was determined that the leak would not be located and repaired within the time allowed by plant Technical Specifications. The River Water piping excavation and backfill activities were reviewed by the plant staff to be safe via a 10CFR50.59 Safety Evaluation. A Temporary Modification was approved for the River Water emergency supply line to the Fuel Building to permit cutting and capping of the piping. The cut and capped pipe, along with the two foot section which was replaced, was performed in accordance with the ASME Section XI Code and included hydrostatic testing.

An engineering analysis was performed, following Ultrasonic Non-Destructive Examination of the affected piping, and it was determined that plant operation may continue until the next Refueling outage with the integrity of the piping being maintained. The engineering analysis concluded that based on the observed pitting at the sample points inspected, that overall structural integrity of the piping will be maintained, even if localized through wall propagation would occur.

PREVIOUS SIMILIAR EVENTS

There have been no previous similar reportable events.