NRC FORM 366
(7-77)

U. S. NUCLEAR REGULATORY COMMISSION

LICENSEE EVENT REPORT

CONTROL BLOCK: | | | | | | | (1) (PLEASE PRINT OR TYPE ALL REQUIRED INFORMATION)

0 1	LICENSEE CODE: P A B V S 1 (2)	LICENSE NUMBER: 0 0 - 0 0 0 0 0 - 0 0 (3)	LICENSE TYPE: 4 1 1 1 1 (4)	CAT: (5)

CON'T

0 1	REPORT SOURCE: L (6)	DOCKET NUMBER: 0 5 0 0 0 3 3 4 (7)	EVENT DATE: 0 6 1 8 7 9 (8)	REPORT DATE: 0 7 0 2 7 9 (9)

EVENT DESCRIPTION AND PROBABLE CONSEQUENCES (10)

0 2 A special radiographic inspection of the three steam generator nozzle-to-feedwater
0 3 inlet piping welds was conducted June 15, 16 and 18. The radiographs showed
0 4 cracking to be present in all three inlet elbows. The elbows are 90 degrees,
0 5 16 inches in diameter with an 0.843 inch wall thickness. The cracks originated at
0 6 the shoulder of the counterbore in the piping, or approximately 9/16 inch from the
0 7 root of the weld.
0 8

0 9	SYSTEM CODE	CAUSE CODE	CAUSE SUBCODE	COMPONENT CODE	COMP. SUBCODE	VALVE SUBCODE
	C H (11)	E (12)	B (13)	P I P E X X (14)	E (15)	Z (16)

(17) LER/RO REPORT NUMBER

EVENT YEAR		SEQUENTIAL REPORT NO.		OCCURRENCE CODE	REPORT TYPE		REVISION NO.
7 9	—	0 1 4	/	0 1	T	—	0

ACTION TAKEN	FUTURE ACTION	EFFECT ON PLANT	SHUTDOWN METHOD	HOURS (22)	ATTACHMENT SUBMITTED	NPRD-4 FORM SUB.	PRIME COMP. SUPPLIER	COMPONENT MANUFACTURER
A (18)	Z (19)	Z (20)	Z (21)	0 0 0 0	Y (23)	N (24)	A (25)	X 9 9 9 (26)

CAUSE DESCRIPTION AND CORRECTIVE ACTIONS (27)

1 0 Based on preliminary analysis, the cause appears to be fatigue failure assisted by
1 1 corrosion. The feedwater piping elbows have been removed and are being replaced
1 2 with new elbows. Radiographic inspection of feedwater piping welds in containment
1 3 is continuing. One crack indication and two short areas with lack of penetration in
1 4 the 1A feedwater line have been observed and will be repaired as required.

1 5	FACILITY STATUS: G (28)	% POWER: 0 0 0 (29)	OTHER STATUS (30): N/A	METHOD OF DISCOVERY: C (31)	DISCOVERY DESCRIPTION (32): Special inspection

1 6	ACTIVITY RELEASED: Z (33)	CONTENT OF RELEASE: Z (34)	AMOUNT OF ACTIVITY (35): N/A	LOCATION OF RELEASE (36): N/A

PERSONNEL EXPOSURES

1 7	NUMBER: 0 0 0 (37)	TYPE: Z (38)	DESCRIPTION (39): N/A

PERSONNEL INJURIES

1 8	NUMBER: 0 0 0 (40)	DESCRIPTION (41): N/A

309 015

LOSS OF OR DAMAGE TO FACILITY (43)

1 9	TYPE: Z (42)	DESCRIPTION: N/A

PUBLICITY

2 0	ISSUED: N (44)	DESCRIPTION (45): N/A	NRC USE ONLY

7907090245

NAME OF PREPARER: J. A. Werling PHONE: 412-643-1258

Attachment To LER 79-14/01T
Beaver Valley Power Station
Duquesne Light Company
Docket No. 50-334

On May 31, 1979 during a telephone conversation with Messrs. J. A. Werling, BVPS Unit 1 Superintendent, and A. C. Mazukna, Duquesne Light Company Quality Control Supervisor, Mr. D. Beckman, NRC Inspector, discussed the finding of cracks in feedwater piping adjacent to the steam generator nozzle to feedwater piping weld at another power plant. Mr. Beckman asked if Beaver Valley Power Station would voluntarily radiograph those welds during the station's current shutdown. The BVPS Superintendent agreed to do so and the work was scheduled.

The radiographs of the three steam generator nozzle-to-feedwater inlet piping welds were taken on June 15, 16, and 18, 1979.

The radiographs showed cracking to be present in all three inlet pipes. Actually, the inlet piping at these locations are 90° elbows. The lines are 16 inches in diameter with an 0.843 inch wall thickness. In each instance, the cracks originated at the shoulder of the counterbore in the piping, or approximately 9/16 inch from the root of the weld.

Measuring in a circumferential and clockwise direction and facing with the flow, the specific locations and size of the cracks are as follows. The measurements of 0 and 51 inches are at the top of the pipe; 13 at 90°; 25-26 at the bottom; and 38 at 270°.

Steam Generator No. 1A	Steam Generator No. 1B	Steam Generator No. 1C
Cracks were present at:	Cracks were present at:	Cracks were present at:
49 1/2" through 0 to 2"	48" through 0 to 2"	48" through 0 to 5"
10 1/2" to 15"	9" to 13"	26" to 30" in a suck-up area of the root pass
39" to 41"	33" to 43"	35" to 43"

A magnetic particle examination of the affected areas did not show any cracking to be present on the outside surface of the piping.

The three elbows have been removed and three new elbows are being installed. Radiographic inspection of all feedwater piping welds is continuing. Thus far, with 70% of the feedwater piping welds from the steam generators to the containment penetrations radiographed, only three unacceptable code discontinuities have been discovered. One additional 5/8 inch long crack indication in line weld number 12, and one and two inch long lack of penetration areas in line welds number 10 and 11, respectively, in the 1A feedwater pipe have been observed. Required repairs will be made prior to plant startup.

Based on preliminary analysis of the pipe cracks, the cause of failures located at the steam generator nozzles appears to be fatigue failure assisted by corrosion. The cause of the discontinuities in the 1A feedwater line welds is still under investigation.