NRC Form 366
(9-83)

U.S. NUCLEAR REGULATORY COMMISSION
APPROVED OMB NO. 3150-0104
EXPIRES 8/31/85

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1): Joseph M. Farley - Unit 1

DOCKET NUMBER (2): 0 5 0 0 0 3 4 8

PAGE (3): 1 OF 0 2

TITLE (4): MSIV Shaft Indications

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 2	2 9	8 4	8 4	0 0 4	0 0	0 3	2 1	8 4		0 5 0 0 0
										0 5 0 0 0

OPERATING MODE (9): 6

POWER LEVEL (10): 0 0 0

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)

20.402(b)	20.405(c)	50.73(a)(2)(iv)	73.71(b)
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)	X OTHER (Specify in Abstract below and in Text, NRC Form 366A)
20.405(a)(1)(iii)	50.73(a)(2)(i)	50.73(a)(2)(viii)(A)	Voluntary Report
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: W. G. Hairston, III

TELEPHONE NUMBER: AREA CODE 2 0 5 — 8 9 9 - 5 1 5 6

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS

SUPPLEMENTAL REPORT EXPECTED (14)

YES (If yes, complete EXPECTED SUBMISSION DATE) — X NO

EXPECTED SUBMISSION DATE (15): MONTH DAY YEAR

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

On 02-29-84, during planned maintenance on the Main Steam Isolation Valves (MSIVs), surface indications in the operator side packing gland area ranging from one to thirteen inches in length were discovered on three of the six shafts. All six shafts will be replaced with A564 GR630 stainless steel shafts during the current outage. Health/safety of the public was not affected.

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

On 02-29-84, while Unit 1 was shut down for the Cycle V-VI refueling outage, planned maintenance was being performed on all six Main Steam Isolation Valves (MSIVs) (Atwood-Morrill model 21261-H swing check valves). This maintenance involved replacing the valve discs with discs having modified attachment hardware and required complete disassembly of the valves.

During cleanup of the valve shafts prior to reassembly, several linear indications were discovered in the operator side packing gland area on three of the six shafts. These indications ranged from one to thirteen inches in length. On two of the shafts, all indications were longitudinal while the third shaft had both longitudinal and circumferential indications.

The three shafts with indications are all 410 stainless steel with heat number HT62687, while the three shafts with no indications are 410 stainless steel with heat number HT536099.

An investigation of these indications is ongoing. All Unit 1 MSIV shafts will be replaced with A564 GR630 stainless steel shafts during the current outage.

During the Unit 2 Cycle II-III refueling outage (completed in October 1983), all Unit 2 MSIVs were disassembled and each shaft was cleaned and checked for straightness. Two of the six shafts were replaced with A564 GR630 stainless steel because they were slightly bent. The maintenance personnel were not specifically looking for shaft indications during either the Unit 1 or Unit 2 maintenance activities. However, APCo is confident that if similar indications were present on the Unit 2 shafts, they would have been observed. In the present configuration, Unit 2 has two MSIVs with shafts of heat numbers HT62687, two MSIVs with shafts of heat number HT536099 and two MSIVs with shafts of heat number HT606484 (A564 GR630).

The Unit 2 MSIVs 410 stainless steel shafts will be removed and replaced with A564 GR630 stainless steel shafts during the next refueling outage.

The MSIVs are aligned to shut with flow. The discs are held in the open position by an air operator and fail to the closed position on loss of air. The indications were found in the shafts between the point of disc attachment and the operator. Should these shafts fail completely, the connection to the operator would be lost and the disc would move, by its weight and steam flow, to the closed or safe position. Also, each main steam line has 2 MSIVs in series. On Unit 2, the 2 MSIVs (2A & 2B) with shafts of HT62687 are not in the same line. The other MSIV in each affected line is expected to continue to function normally. Therefore, since the Unit 2 MSIVs were disassembled and reassembled with no indications observed and since the Unit 2 MSIVs have been in service since mid 1981 as compared to the Unit 1 MSIVs which have been in service since mid 1977, continued operation of Unit 2 is justified until the Cycle III-IV refueling outage, currently scheduled for January 1985.

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LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
Joseph M. Farley - Unit 1	0 5 0 0 0 3 4 8	1 OF 0 3

TITLE (4): Feedwater Reducer to Nozzle Weld Indications

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 2	2 9	8 4	8 4	0 0 5	0 0	0 3	2 1	8 4		0 5 0 0 0
										0 5 0 0 0

OPERATING MODE (9): 6

POWER LEVEL (10): 0 0 0

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)

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20.405(a)(1)(iii)	50.73(a)(2)(i)	50.73(a)(2)(viii)(A)	Voluntary Report
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20.405(a)(1)(v)	50.73(a)(2)(iii)	50.73(a)(2)(x)	

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER
W. G. Hairston, III	AREA CODE 2 0 5 8 9 9 - 5 1 5 6

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFAC-TURER	REPORTABLE TO NPRDS	CAUSE	SYSTEM	COMPONENT	MANUFAC-TURER	REPORTABLE TO NPRDS

SUPPLEMENTAL REPORT EXPECTED (14)

YES (If yes, complete EXPECTED SUBMISSION DATE) X NO

EXPECTED SUBMISSION DATE (15): MONTH DAY YEAR

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

On 02-28-84 and 02-29-84, during planned ultrasonic examination of the feedwater piping, indications were discovered in the Unit 1 feedwater reducer to steam generator nozzle welds. Repairs will be completed during the current outage. Health/safety of the public was not affected.

As part of an augmented inspection program, ultrasonic examination of the Unit 1 (16"x14") reducer to nozzle weld for the feedwater piping to each steam generator was performed on 02-28-84 and 02-29-84. Several indications were found in the heat affected zone of each reducer as described below:

Steam Generator	Number of Indications	Approximate Length	Cumulative Circumference	Approximate Depth
1A	5	3"-5.5"	80°	7-37%
1B	5	1"-8"	150°	9-21%
1C	3	4"-7"	100°	10-16%

The nozzle to reducer weld on steam generators 1A, 1B and 1C was radiographed and the indications were seen as noted above. These indications appear to be similar to those described in IE bulletin (IEB) 79-13 and WCAP 9693.

During the Unit 1 Cycle I-II refueling outage, the nozzles were inspected in accordance with IEB 79-13. No indications were found at that time (see APCo to NRC letters dated July 26, 1979, August 27, 1979 and January 30, 1980). An augmented inspection program had been established to monitor for this problem and baseline ultrasonic testing was being performed during the current refueling outage.

During the Cycle V-VI refueling outage repairs will be performed as follows:

1. The reducers will be removed.
2. The nozzles inside diameters will be inspected and repaired as necessary.
3. New reducers will be welded in place.

The augmented inspection will be continued to monitor the reducer to nozzle welds. Engineering evaluation of long term solutions to prevent these indications is underway.

An evaluation of the feedwater cracking issue for Unit 2 has determined that a shutdown of Unit 2 during the current operating cycle (Cycle 3), to perform an inspection of the steam generator feedwater nozzles, is not warranted for the following reasons:

1. During the Unit 2 Cycle I-II refueling outage in November 1982, the corresponding Unit 2 welds were radiographed with no indications identified.

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

2. Westinghouse WCAP 9693 concludes that feedwater nozzle cracking is a well understood phenomenon and that it is caused by high cycle fatigue from thermal stratifications of cool feedwater during primarily the Hot-Standby mode (Mode 3) of operation. Unit 2 has fewer operating hours in the Hot Standby mode during the first three cycles to date than Unit 1 did in the first cycle of operation at which time acceptable radiographs indicating no cracking were taken on Unit 1. The Unit 1 total hours of operation in Mode 3 through end of Cycle 5 was 3,750 hours. The Unit 1 total Mode 3 hours in the first operating cycle prior to acceptable radiographs (taken during Cycle I-II refueling in Spring, 1979) was 2,000 hours. Unit 2 total hours of operation in Mode 3 has been 1,450 hours. Unit 2 total hours of operation in Mode 3 prior to acceptable radiographs (taken during Cycle I-II refueling in November, 1982) was 950 hours. Assuming that both crack initiation and propagation rates are similar for Units 1 and 2 as indicated in WCAP 9693, Unit 2 has substantial margin before crack initiation and propagation is expected since Unit 2 should not spend appreciable time in Mode 3 for the remainder of the cycle.

Based on the above, continued operation of Unit 2 is justified until the Cycle III-IV refueling outage, currently scheduled for January 1985.

CLB:ddr-D30