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)	DOCKET NUMBER (2)	PAGE (3)
CRYSTAL RIVER UNIT 3	0 5 0 0 0 3 0 2	1 OF 0 4

TITLE (4)
LEAKS DISCOVERED IN THE NUCLEAR SERVICES SEA WATER SYSTEM

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 8	1 2	8 6	8 6	-	0 1 4	-	0 0	1 0	1 3	8 6	N/A	0 5 0 0 0

OPERATING MODE (9)	POWER LEVEL (10)	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)			
1	0 9 4	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
		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	TELEPHONE NUMBER
	AREA CODE
L. W. Moffatt, Nuclear Safety Supervisor	9 0 4 7 9 5 - 6 4 8 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	
X	K E	P S F	K 0 5 2	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 fifteen single-space typewritten lines) (16)

On August 12, 1986, while operating at 94% reactor power and producing 870 MWe, an operator discovered a leak in the sea water outlet piping from the "A" nuclear services closed cycle heat exchanger (SWHE-1A). The leak was repaired with a compression patch over the leak and plans were made to perform ultrasonic testing of a corresponding section of pipe from a redundant heat exchanger. On August 18, 1986, while preparing the corresponding section of pipe from the "C" nuclear services closed cycle heat exchanger (SWHE-1C), a building serviceman discovered a similar leak in that section of pipe. Both leaks were stopped within two hours of discovery.

The two sections of pipe have been encapsulated by welding another section of pipe over the leaking section and the void between the pipe and the encasement has been filled with grout. During the next refueling outage, the sea water piping will be evaluated for needed repairs.

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

EVENT DESCRIPTION

On August 12, 1986, Crystal River Unit 3 was operating at 94% reactor power and producing 870 MWe. At about 1800 the auxiliary building non-licensed operator discovered a leak in the Nuclear Services Sea Water System piping (KE, PSF) downstream from the "A" Nuclear Services Closed Cycle Cooling System heat exchanger (SWHE-1A) (CC, HX) (see Figure 1). The discovery was made during a routine inspection of operating equipment. The leak was stopped approximately two hours later when an external compression patch was applied over the leaking pipe. Subsequently, while a more permanent repair was being designed, ultrasonic testing performed on the remainder of the affected section of piping indicated the degradation was localized.

Prompted by this leak, it was decided to perform ultrasonic testing on the corresponding section of pipe from a redundant heat exchanger (SWHE-1C). On August 18, 1986, while preparing that section of pipe for ultrasonic testing, it developed a leak in approximately the same location. This leak was stopped similarly to the previous leak.

The two sections of pipe involved are fourteen inch diameter 90 degree elbows. These elbows are PVC lined carbon steel and were manufactured by the Kelley Company.

Ultrasonic testing of the two sections of pipe confirmed the degradation is confined to a small area (less than two inches in diameter) around the leaks. Calculations indicate the system still meets seismic, deadweight, and pressure requirements. These are the only two elbows with orientation changing flow from horizontal to vertical not previously relined with urethane.

During the last refueling outage this piping system was ultrasonically tested and, where practical, the liner visually inspected and determined to be in acceptable condition. Previous experience with this system indicates leaks occur in small localized areas where the liner has been breached.

Since the Nuclear Services Sea Water System continued to perform its intended function throughout this event, the system remained operable. Therefore this report is being voluntarily submitted.

CAUSE

The leaks in the Nuclear Services Sea Water System piping are believed to be the result of erosion caused by suspended solids in the unfiltered sea water. Both of these leaks were located in an area of high turbulence.

SAFETY CONSIDERATIONS

Both of these leaks were small and in the downstream piping from the heat exchangers, therefore the system function was maintained. The Nuclear Services Sea Water System was operable throughout this event. The health and safety of the public was not affected.

CORRECTIVE ACTIONS

The leaking elbows have been encapsulated by welding another elbow over the defective sections and the void between the pipe and the encasement has been filled with Master Flow 713, a cement grout. During the next refueling outage, the Nuclear Services Sea Water System piping will be evaluated for needed repairs.

PREVIOUS SIMILAR EVENTS

One previous similar event has occurred at Crystal River Unit 3. That event was reported in LER 83-022.

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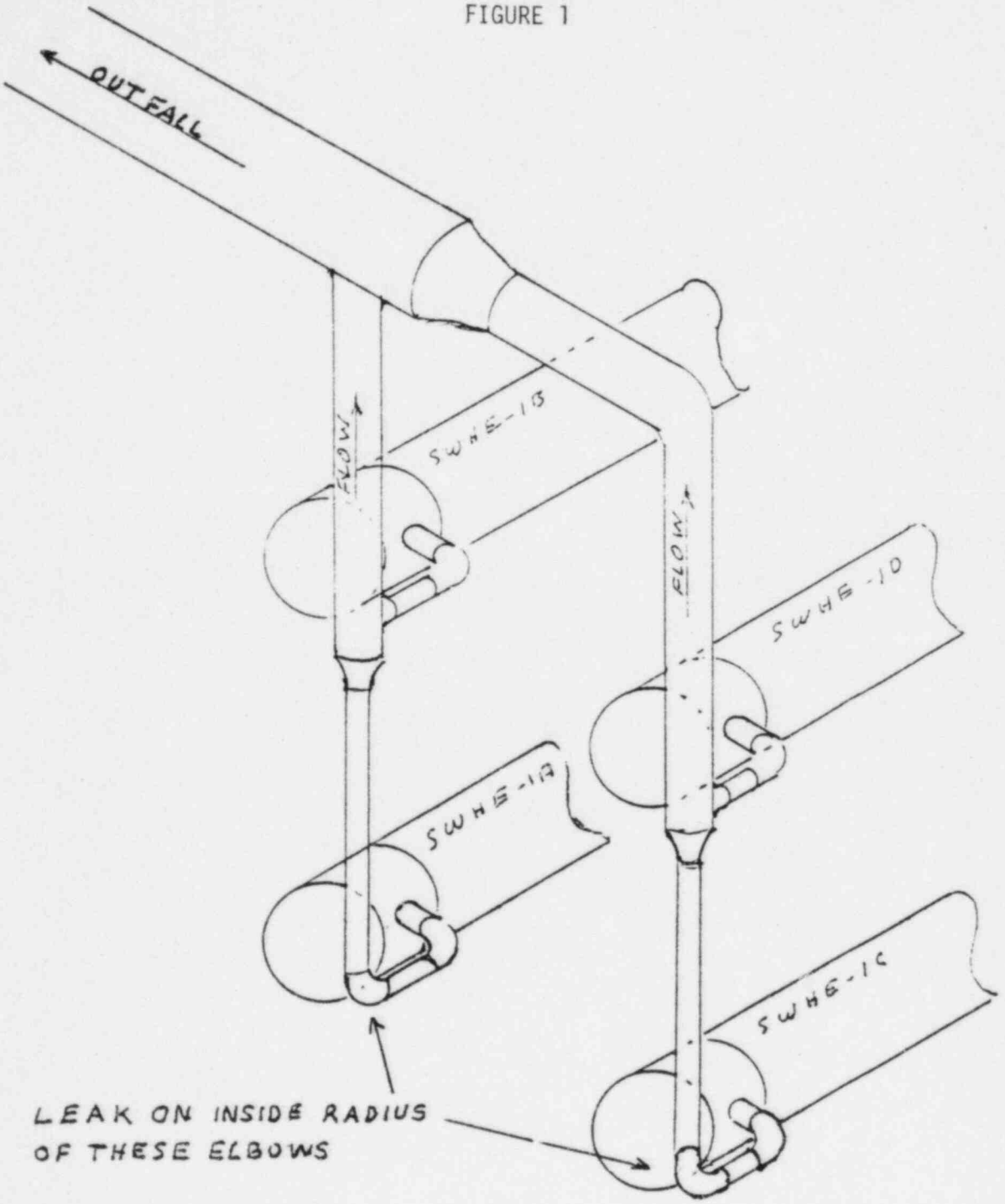
TEXT (If more space is required, use additional NRC Form 366A's) (17)

FIGURE 1



Florida Power
CORPORATION

October 13, 1986
3F1086-14

Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Subject: Crystal River Unit 3
Docket No. 50-302
Operating License No. DPR-72
Licensee Event Report No. 86-014-00

Dear Sir:

Enclosed is Licensee Event Report (LER) No. 86-014-00 which is submitted voluntarily by Florida Power Corporation.

Should there be any questions, please contact this office.

Sincerely,

Rolf C. Widell
Manager, Nuclear Operations
Licensing and Fuel Management

AEF/feb

Enclosure

xc: Dr. J. Nelson Grace
Regional Administrator, Region II
U.S. Nuclear Regulatory Commission
101 Marietta Street N.W., Suite 2900
Atlanta, GA 30323

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