



**Florida
Power**

CORPORATION

Crystal River Unit 3

Docket No. 50-302

December 28, 1990
3F1290-16

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D. C. 20555

Subject: Licensee Event Report (LER) 90-018

Dear Sir:

Enclosed is Licensee Event Report (LER) 90-018 which is submitted in accordance with 10 CFR 50.73.

Sincerely,

K. R. Wilson
Manager, Nuclear Licensing

WLR:mag

Enclosure

xc: Regional Administrator, Region II
Project Manager, Region II
Senior Resident Inspector

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LICENSEE EVENT REPORT (LER)

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 80.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1) CRYSTAL RIVER UNIT 3										DOCKET NUMBER (2) 0 5 0 0 0 3 0 2 1				PAGE (3) 1 OF 0 3						
TITLE (4) Voluntary Entry into Technical Specification 3.0.3 for Maintenance on Nuclear Services Raw Water Temperature Element																				
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 (3)							
									N/A				0 5 0 0 0							
1 1	2 8	9 0	9 0	0 1 8	0 0	1 2	2 8	9 0	N/A				0 5 0 3 0							
OPERATING MODE (9)		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5. (Check one or more of the following) (11)																		
1		20.402(b)				20.405(c)				50.73(a)(2)(iv)				73.71(b)						
POWER LEVEL (10)		20.405(a)(1)(i)				50.36(c)(1)				50.73(a)(2)(v)				73.71(c)						
0 9 7		20.405(a)(1)(ii)				50.36(c)(2)				50.73(a)(2)(vi)				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)(vii)(A)										
		20.405(a)(1)(iv)				50.73(a)(2)(ii)				50.73(a)(2)(vii)(B)										
		20.405(a)(1)(v)				50.73(a)(2)(iii)				50.73(a)(2)(x)										
LICENSEE CONTACT FOR THIS LER (12)																				
NAME W. K. Bandhauer, Nuclear Operations Superintendent										TELEPHONE NUMBER										
										AREA CODE										
										9 0 4 7 9 5 - 1 6 4 8 1 6										
COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)																				
CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPDs	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPDs	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPDs	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPDs	
B	B S	P S F		NO																
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 November 28, 1990, Crystal River Unit 3 was in Mode 1 (Power Operation), at 97% full power. During a plant tour, a plant operator discovered a leak on the Nuclear Services Raw Water (RW) pump common discharge header. The RW pumps supply normal and emergency cooling to the Nuclear Services Closed Cycle Cooling (SW) system. The leak was located at a temperature indicator penetration and could not be repaired with the system in operation. Since the leak appeared to be increasing, the leaking temperature indicator assembly was removed and a blank flange installed. All the RW pumps were secured. Technical Specification 3.7.4.1 has provisions for only one emergency Nuclear Services Sea Water Pump to be inoperable. With two pumps inoperable, Technical Specification 3.0.3 applies. Events which cause entry into Technical Specification 3.0.3 are considered conditions prohibited by Technical Specifications.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 500 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20546, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1) CRYSTAL RIVER UNIT 3	DOCKET NUMBER (2) 0 5 0 0 0 3 0 2	LER NUMBER (6)			PAGE (3)		
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TEXT (If more space is required, use additional NRC Form 366A's) (17)

EVENT DESCRIPTION

On November 28, 1990, Crystal River Unit 3 was in Mode 1 (Power Operation) at 97% full power. The Nuclear Services Raw Water (RW)[BS,P] system was operating in a normal lineup with one pump operating. These pumps supply normal and emergency cooling to the Nuclear Services Closed Cycle Cooling System (SW)[BI], the primary safety-related closed cycle cooling loop. During a plant tour, a plant operator discovered a leak on the raw water pump common discharge header. The leak was located at a temperature indicator [BS, TI] penetration and could not be repaired with the system in operation. The leak site was the threaded connection between a stainless steel temperature element well and flange. The leak was beginning to worsen. The Nuclear Shift Supervisor On Duty (NSSOD) determined the need to have the leaking temperature indicator assembly removed and a blank flange installed in its place.

At 2225, the system was secured which made both trains inoperable. Technical Specification 3.7.4.1 contains provisions for only one emergency Nuclear Services Sea Water pump to be inoperable. Entry into Technical Specification 3.0.3 constitutes a condition prohibited by Technical Specifications and is being reported per 10CFR50.73(a)(2)(i)(B).

The repair was performed in approximately six minutes. At 2231, the RW cooling system was restored and Technical Specification 3.0.3 was exited.

CAUSE

Entry into Technical Specification 3.0.3 was the result of the decision of the NSSOD to secure the RW system to allow the repair of the leaking temperature element threaded connection on the RW pump common discharge header. The root cause of the leak was directly attributed to localized galvanic corrosion. The insertion of a 304 stainless steel thermal well and uncoated carbon steel flange combination into a urethane coated piping system filled with seawater resulted in galvanic action between the two dissimilar metals. This resulted in corrosion of the threaded portion of the carbon steel flange where the thermal well attaches.

EVENT EVALUATION

Florida Power Corporation (FPC) action to minimize the time the systems were inoperable and actions to minimize the impact of extended loss of RW cooling of SW assured that this event did not impact nuclear safety.

Prior to the repair, all materials, tools and personnel were staged in the area to minimize the time the system was to be secured and to help assure a successful repair would be made. Loads on the SW system were also reduced to minimize the system heat-up rate. The operating shift reviewed the Emergency Procedure for the loss of SW in case some unforeseen additional failure were to occur.

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 RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE "PERWORK" REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1)

DOCKET NUMBER (2)

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PAGE (3)

CRYSTAL RIVER UNIT 3

YEAR	SEQUENTIAL NUMBER	REVISION NUMBER
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TEXT (If more space is required, use additional NRC Form 365A's) (17)

If an accident had occurred prior to the repair of the leak, there would have been no adverse affect to plant operations since the leak was not of sufficient size to compromise the operability of the RW system.

A postulated accident during the time the repair was being made, although highly unlikely, would not have compromised an emergency response due to the scope of the work and short time required to restore the system.

CORRECTIVE ACTION

The leaking assembly was replaced with a blank flange. The system was leak checked as a normal post-maintenance practice when the system was re-started. A system walkdown was performed by utility engineering personnel to determine if other flanges might require short term replacement and to list the locations of other carbon steel flange/stainless steel instrumentation combinations for long term replacement. FPC intends to issue a modification to change system design and allow the replacement of all carbon steel flanges used to mount stainless steel instrumentation. This modification will replace all similar carbon steel flange assemblies in the RW system with stainless steel flanges and dielectric gaskets to prevent recurrence of this problem.

PREVIOUS SIMILAR EVENTS

One previous event concerning corrosion of the RW system was reported by LER 86-14.

LER 86-016 documents voluntary entry into Technical Specification 3.0.3 for maintenance on the emergency feedwater initiation and control system.

LER 90-017 documents voluntary entry into Technical Specification 3.0.3 for the disconnection of a pipe restraint during maintenance of a Decay Heat Sea Water pump.