



**Florida
Power**
CORPORATION

Crystal River Unit 3
Docket No. 50-302

July 10, 1991
3F0791-09

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

Subject: Licensee Event Report (LER) 91-006

Dear Sir:

Enclosed is Licensee Event Report (LER) 91-006 which is submitted in accordance with 10 CFR 50.73.

Sincerely,

G. L. Boldt
Vice President
Nuclear Production

WLR:mag

Enclosure

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

IE22
1/1

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 (F530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

PAGE 151

0	5	0	0	0	3	0	2	1	OF	0	4
---	---	---	---	---	---	---	---	---	----	---	---

Both Equipment Hatch Airlock Doors Open Simultaneously Due To Loose Door Chain Mechanism

OTHER FACILITIES INVOLVED (8)

ROCKET

0.51

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5. (Check one or more of the following) (15)

73.71 (s)

73.75 (e)

OTHER

Doe-079 #1
TSCA#

LICENSEE CONTACT FOR THIS LER (12)

TELEPHONE NUMBER

W. K. BANDHAUER, NUCLEAR OPERATIONS SUPERINTENDENT

0 0 4

101

190

144

Figure 10

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

REPORT

1

SUPPLEMENTAL REPORT EXPECTED (14)

EXPECTED
SUBMISSION
DATE (Y5)

DAY

YEAR

☐ YES (If yes, complete EXPECTED SUBMISSION DATE)

NO

SUBMISSION
DATE (YY)

100

100

ABSTRACT (Limit to 7400 spaces, i.e. approximately fifteen single space typewritten lines) (16)

At 0715 June 7, 1991, while investigating the failure of the Reactor Building (RB) equipment hatch airlock to pass its door interlock and seal leak test, an operator opened the outer door, entered the airlock and found the inner door slightly open. The period both inner and outer doors were open was less than one minute. The operator immediately exited the equipment hatch, closed the outer door and attempted to remotely close the inner door. At 1345, a repair team entered the equipment hatch and the inner door was again found open. The repair team immediately closed the outer door. Although they were able to close the inner door they were not able to determine what caused the malfunction. At 1835, a second repair team entered the hatch and discovered the inner door swing chain was loose and tightened the chain. At 2145, the airlock was restored to operable status following successful post maintenance testing. Both doors had been open simultaneously three times for approximately one minute each time. Florida Power Corporation is continuing to evaluate the root cause and corrective actions associated with this event.

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 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1) CRYSTAL RIVER UNIT 3 (CR-3)	DOCKET NUMBER (2) 0 5 0 0 0 3 0 2	LER NUMBER (6)			PAGE (3)	
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
		8 1	— 0 0 6 —	0 0 0 2	OF	0 4

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

EVENT DESCRIPTION

At 0715 June 7, 1991, the inner door of the Reactor Building (RB) equipment hatch airlock [NH,AL] was found slightly open while the outer door was also open. This report of this event is being made per the requirements of 10CFR50.73(a)(2)(i)(B), (a)(2)(ii) and (2)(v)(C). The following is a description of the conditions prior to the event and the actions taken after discovery.

CONDITIONS PRIOR TO THE EVENT

Crystal River Unit 3 (CR-3) was operating at 100% Rated Thermal Power. On June 7, 1991 just prior to the event, the equipment hatch airlock interlock test had been conducted satisfactorily. This test is conducted by operating the doors manually from outside the hatch. Each door is exercised and the other door handwheel is checked to assure it can not be operated. At the conclusion of this test, the procedure requires that a visual check be done to verify the inner door is closed. The visual check requirement was intended to be a "coarse" verification of door closure in that the next portion of the procedure, to pressurize the space between the double rubber o-rings of the inner door, would verify that it was closed tight enough to achieve a pressure seal. This test failed, indicating the airlock door(s) was not sealed. The licensed operator performing the leak test entered the airlock to check for possible causes of the test failure and discovered the inner door open. At 0715 June 7, 1991, CR-3 entered the Action Statement for an inoperable RB airlock (Technical Specification 3.6.1.3). A one hour report was made to the NRC Operations Center since this provided a direct path to the environment from the RB for the short time the outer door was open.

ACTIONS TAKEN AFTER DISCOVERY

The operator immediately exited the equipment hatch airlock and closed the outer door. The licensed operator and a non-licensed operator then exercised the inner door from outside the airlock twice to close the door. Both of these operators had operated the airlock doors numerous times in the past and felt that the inner door was closed. The operators then pressurized the door seals again. The results appeared to indicate the door was closed but not sealing properly.

In preparation for a repair team entering the equipment hatch airlock, a pre-job planning meeting was conducted with operations and maintenance. During the pre-job meeting, the possibility that the inner door might still be open was discussed and actions planned accordingly. An off-duty Shift Supervisor, with the concurrence of the Shift Supervisor on Duty (SSOD), decided to make the entry through the equipment hatch airlock instead of the personnel hatch for the following reasons:

- 1) Another door seal test was conducted that appeared to indicate the door was closed although not sealing properly.

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 (F-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 (CR-3)	DOCKET NUMBER (2) 0 5 0 0 0 3 0 2 9 1 — 0 0 6 — 0 0 0 3 OF 0 4	LER NUMBER (6) <table border="1"><tr><td data-bbox="1024 266 1123 361">YEAR</td><td data-bbox="1123 266 1288 361">SEQUENTIAL NUMBER</td><td data-bbox="1288 266 1371 361">REVISION NUMBER</td></tr><tr><td></td><td></td><td></td></tr></table>	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER				PAGE (3) OF 0 4
YEAR	SEQUENTIAL NUMBER	REVISION NUMBER							

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

- 2) The RB pressure was close to atmospheric pressure; therefore, an unmonitored release would not occur if the inner door was open.
- 3) The Technical Specification 3.6.1.3 for the containment airlock does not specifically prohibit access with one door inoperable. Access via the outer door for troubleshooting with the inner door open was not considered to be a violation of containment integrity per Technical Specification 3.6.1.1.

At 1345, the repair team entered the equipment hatch airlock. The inner door was found open. The repair team immediately closed the outer door. Repair team individuals inside the airlock then exercised the inner door and visually verified the inner door was closed. The repair team was unable to determine the cause of the door mechanism failure, exited the airlock and informed the SSOD that they had found the inner door open.

At 1635, a second repair team was dispatched to the equipment hatch via the personnel hatch. This team was able to locate the cause of the malfunction and repair the door. The interlock test was conducted from the inside of the equipment hatch airlock satisfactorily. The door seal test was also conducted satisfactorily.

At 2145, the equipment hatch airlock was returned to service and the Technical Specification Action Statement was exited. The total time the equipment hatch airlock was inoperable was 14.5 hours.

CAUSE

The RB equipment hatch airlock inner door did not close fully because the inner door swing chain was loose. Florida Power Corporation (FPC) is continuing to investigate why this chain was loose. FPC will supplement this report with the results of the root cause investigation.

The interlock test failed to indicate the inner door was open with the outer door open because the test was designed to be conducted from outside the airlock to minimize potential exposure to airborne and surface contamination areas.

This event did not pose a significant risk to the public due to the short time both airlock doors were open simultaneously. The failure of the RB equipment hatch airlock inner door led to three instances where there was a direct path from the RB to the environment and public. The first instance occurred during performance of the visual check required by the interlock test. The second instance occurred when the operator entered the airlock to determine why the airlock doors were failing the seal test. The third instance occurred during troubleshooting. Each time that both doors were open was very short (approximately one minute each time).

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 (F-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)

DOCKET NUMBER (2)

LER NUMBER (6)

PAGE (3)

CRYSTAL RIVER UNIT 3 (CR-3)

0	5	0	0	0	3	0	2	9	1	0	0	6	0	0	0	4	OF	0	4
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	----	---	---

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

It is very unlikely that a radiological accident within the RB would occur during the short time both doors were open. This short time did not pose a significant hazard to the public.

No significant radioactive releases occurred while both doors were open because there was no noticeable pressure difference between the RB and the environment.

CORRECTIVE ACTION

The inner door swing chain was tightened and the door was tested satisfactorily. FPC is continuing to evaluate corrective actions to prevent recurrence of this failure.

FPC is also evaluating changes to the interlock test procedure and the equipment and personnel hatch designs.

FPC will provide guidance to the operators concerning requirements for airlock access with one door of the airlock inoperable.

FPC will supplement this report to indicate the corrective actions as a result of the evaluations described above.

PREVIOUS SIMILAR EVENTS

One previous similar event was found. In 1981 during shutdown, bent hinge pins and defective alignment caused both doors of the RB personnel hatch to be open simultaneously.