



**Florida  
Power**

CORPORATION  
Crystal River Unit 3  
Docket No. 50-302

June 23, 1992  
3F0692-11

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

Subject: Inservice Testing (IST) Program Safety Evaluation, Resolution of  
Anomalies

Reference: NRC to FPC letter, 3N0392-19, dated March 23, 1992

Dear Sir:

The Reference letter provided the NRC's Safety Evaluation (SE) of Crystal River Unit 3 Inservice Testing (IST) Program. The SE contained several NRC concerns referred to as "Anomalies." Attached please find "Resolution to Anomalies" with a summary of the NRC concerns expressed in the SE, and a description of Florida Power Corporation's (FPC) resolution for each of these concerns. FPC is also providing a "List of References" pertinent to the resolution of the "Anomalies."

Sincerely,

P. M. Beard, Jr.  
Senior Vice President  
Nuclear Operations

PMB/LVC:ff

Attachment

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

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#### LIST OF REFERENCES

- A. FPC to NRC, 3F0492-02, Pump and Valve Program, Revision 13, dated April 22, 1992.
- B. FPC to NRC, 3F1091-01, Revised Response to Generic Letter 89-04, Guidance on Developing Acceptable Inservice Testing Programs, dated October 31, 1991.
- C. FPC to NRC, 3F0491-01, Revised Response to Generic Letter 89-04, dated April 4, 1991.
- D. FPC to NRC, 3F0590-01, Pump and Valve Program, dated May 4, 1990.
- E. FPC to NRC, 3F1089-01, Response to Generic Letter 89-04, dated October 3, 1989

## RESOLUTION TO ANOMALIES

### ITEM NO. 1

*For Relief Requests V-030, V-080, V-120, and V-200, the licensee should determine if the applicable check valves can be part-stroke exercised quarterly, during cold shutdowns, or following reassembly, as discussed in GL 89-04, Position 2.*

### Response

Relief Request V-030: This Relief Request (RR) will be revised to provide additional information explaining that the only method to perform at least a part-stroke exercise would be to initiate flow through the valves which would result in spraying the Reactor Building. Therefore, no part-stroke exercise will be performed. The disassembly/inspection procedures currently require verification of proper reassembly.

Relief Request V-080: This RR was revised in Reference A to reflect that check valve CHV-91 is no longer required to be tested in the closed position; it only requires full-stroke verification. This is presently being performed on a quarterly basis.

Check valve CHV-95 does not require testing in the open position. This valve remained in the Relief Request because it requires closure verification. Since CHV-95 does not require periodic testing in the open direction, but at least a part-stroke exercise can be performed, the part-stroke exercise will be scheduled after reassembly. The Pump and Valve Program will be revised (Valve Table 2) to reflect this requirement. The disassembly/inspection procedures currently require verification of proper reassembly.

Relief Request V-120: This RR will be revised to provide additional information explaining that a flow test cannot be performed on check valves BSV-150 and BSV-151. These valves are in the supply lines from the Sodium Hydroxide (NAOH) tank to the respective Building Spray Trains. These check valves cannot be exercised either partially or fully, at any time, without mixing Sodium Hydroxide with Borated water in the Building Spray System. Therefore, no part-stroke exercise will be performed. Disassembly and inspection is performed to provide verification of the check valves in the open position. The disassembly/inspection procedures currently require verification of proper reassembly.

FPC will implement (in Midcycle Outage 9M) a modification involving the installation of Tri-Sodium Phosphate (TSP) baskets in the Reactor Building Sump and will decommission the NAOH tank. BSV-150 and BSV-151 will be excluded from the requirements of IST once that modification is completed.

Relief Request V-200: This RR was revised in Reference A to change the frequency for full-stroke testing from quarterly to refueling. MUV-60 and MUV-72 can be full-stroke tested on a refuel outage frequency. These valves have been tested in Refuel 7 and during the ongoing Refuel 8 outage. FPC revised the RR to request the use of disassembly and inspection as a method to verify the valve closure capability. Maintenance procedures include verification of seating contact. Upon completion of reassembly of these valves, at least a part-stroke exercise in accordance with GL 89-04, Position 2 will be performed. Florida Power Corporation is re-evaluating the safety function of these valves in the closed position.

ITEM NO. 2

*For Relief Request V-113, relief from the requirements of IWP-3100-1 for measuring bearing temperature and IWP-4510 for measuring pump vibration in displacement was requested for all Class 1, 2 and 3 pumps in the IST Program. However, there was an error in the licensee's proposed acceptance criteria and in the Safety Evaluation. Specifically, the "Alert Range" was defined as multiples of the reference value, and should have an absolute value of greater than 10.5 mils for pumps less than 600 rpm speed or greater than 0.325 in/sec for pumps greater than 600 rpm speed. The proposed table includes the term "but not greater than" rather than "greater than", which changes the intent. Similarly, the "Action Range" absolute limits are stated "but not greater than" rather than "greater than" as stated and intended in OM-6. The licensee should review the logic of the limits as currently stated and revise the relief request accordingly. The use of the OM-6 criteria as previously approved will remain valid for the revised relief request.*

Response

Relief Request V-113: The Pump and Valve Program, Revision 13, Reference A, provided the correct logic in the Pump Vibration Parameters Table as stated in ANSI/ASME OMA-1988, Part 6.

ITEM NO. 3

*For Relief Request V-129, the licensee should also perform part-stroke exercising of the valves during each refueling outage.*

Response

Relief Request V-129: This RR will be revised to clarify that part-stroke exercise of CFV-2 and CFV-4, isolation check valves from the Core Flood Tanks, is performed during cold shutdown outages. This procedure is also used following completion of the inspection of the applicable valve.



ITEM NO. 4

*For Relief Requests V-220 and V-221, the licensee should evaluate test methods for verifying closure other than actual steam conditions. Additionally, because the valves can be full-stroke tested, the licensee should include this provision per the Code-required post-maintenance testing following reassembly of the valves as discussed in GL 89-04, Position 2. The licensee should also ensure that valves BSV-1 and BSV-8 are full-stroke tested following reassembly (see Relief Request of May 24, 1990).*

Response

Relief Requests V-220: This RR indicates the impracticality of performing closure verification testing of MSV-56 and MSV-57. Closure capability of these valves is verified by disassembly and inspection. The inspection includes verification of seating contact. The Pump and Valve Program, Valve Table 2 was revised, Reference A, to indicate partial-open verification of the valves is performed quarterly and full-open verification is performed during cold shutdown outages. Additionally, Cold Shutdown Justification CS-213 was incorporated into the Pump and Valve Program to identify the change in testing frequency.

Response

Relief Request V-221: This RR indicates the impracticality of performing closure verification testing of MSV-186 and MSV-187. Closure capability of these valves is verified by disassembly and inspection. The inspection includes verification of seating contact. The Pump and Valve Program, Valve Table 2 was revised, Reference A, to indicate partial-open verification of these valves is performed quarterly and full-open verification is performed during cold shutdown outages. Additionally, Cold Shutdown Justification CS-214 was incorporated into the Pump and Valve Program to identify the change in testing frequency.

May 24, 1990 letter: Valve Table 1, was revised in Reference A to show that BSV-1 and BSV-8 have no safety function in the closed position and, therefore, do not require closure verification.

ITEM NO. 5

*For Relief Request V-330, relief from the requirements of IWV-3417(b) and IWV-3523 for corrective action prior to startup from cold shutdown for all valves tested when the plant is in cold shutdown has been requested. Alternatively, for any valves that require corrective action based on tests performed during cold shutdown, the licensee proposes to follow the Technical Specifications for operability status and mode change restrictions. Corrective action and subsequent testing will not restrict mode change, but will be completed prior to placing the affected system in service.*

*This relief request was submitted prior to the issuance of GL 89-04, but is not in conflict with positions included in GL 89-04, and is, therefore, pre-approved. However, the licensee is cautioned on continued reliance upon this relief request. Each specific case should be reviewed prior to mode changes to ensure that corrective actions and testing can be performed prior to achieving normal plant operating conditions. If the licensee takes the position that the corrective actions and testing can be performed during normal plant operating conditions, the test frequency for the particular valve should be quarterly, not cold shutdown. Additionally, the intent of the Code is to identify degraded conditions for correction so that a plant does not operate with known degraded components in any mode where these components may be relied upon for redundancy or operation of a system. The licensee should respond within 90 days describing how this relief request will be applied.*

Response

Relief Request V-330: This RR proposed to follow the Technical Specifications (TS) for operability status and mode change restrictions. The alternate examination addressed valves identified by TS and those not identified by TS, but required to be tested by ASME Section XI. In both cases, if a valve exceeds the "Maximum Stroke Time", the valve is declared inoperable. Florida Power Corporation procedures also provide assurances that valve data obtained during testing which exceeds specific values (Alert or Action values) is evaluated and resolution provided prior to startup. Examples of such resolution include; evaluation for re-baselining data, justification for continued operation, repair, replacement, etc.

ITEM NO. 6

*In the licensee's letter of April 4, 1991, the issue regarding installation of pressure instrumentation for closure verification of decay heat check valves DHV-33 and DHV-36 was discussed. The modification was evaluated by FPC and determined to not be capable of providing the expected means for testing the valves per GL 89-04. The resolution and proposed schedule were to be provided within 90 days after discussion with the NRC staff. FPC should provide a proposed schedule for resolution of this issue within 90 days of the date of this SE.*

Response

Reference B provided the NRC with the resolution for verifying closure of the Decay Heat to BWST check valves DHV-33 and DHV-36. This resolution consisted of performing disassembly and inspection of the valves until other means of verification could be provided. Following the guidelines of Generic Letter 89-04 for changes which are consistent with the generic letter positions, and based on the guidance of Paragraph D, "Program

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Updates/Revisions," and Paragraph B, "Programs Currently Under NRC Review," the resolution was documented in Table 2 of Reference A.