UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO THE INSERVICE TESTING PROGRAM RELIEF REQUESTS

FLORIDA POWER CORPORATION

CRYSTAL RIVER, UNIT 3

DOCKET NO. 50-302

1.0 INTRODUCTION

The Code of Federal Regulations, 10 CFR 50.55a(g), requires that inservice testing (IST) of certain ASME Code Class 1, 2, and 3 pumps and valves be performed in accordance with Section XI of the ASME Boiler and Pressure Vessel Code and applicable addenda, except where specific written relief has been requested by the licensee and granted by the Commission pursuant to Subsections (a)(3)(i), (a)(3)(ii), or (g)(6)(i) of 10 CFR 50.55a. In requesting relief, the licensee must demonstrate that: (1) the proposed alternatives provide an acceptable level of quality and safety; (2) compliance would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety; or (3) conformance with certain requirements of the applicable Code edition and addenda is impractical for its facility. These regulations authorize the Commission to grant relief from ASME Code requirements upon making the necessary findings.

Florida Power Corporation's (FPC) submittal of October 3, 1989, provided Revision 9 to the Crystal River-3 Inservice Test (IST) Program, which incorporated NRC guidance contained in Generic Letter (GL) 89-04, "Guidance on Developing Acceptable Inservice Testing Programs." New relief requests and additional relief requests which had been submitted prior to issuance of GL 89-04 have been included in the submittal. Subsequent submittals dated January 10 and May 24, 1990, and April 4 and August 15, 1991, have been included in this review. The January 10, 1990, submittal forwarded Revision 10 of the Crystal River-3 IST Program, which included no revisions or additional relief requests. The May 24, 1990, submittal informed NRC of FPC's intent to perform disassembly and inspection for valves BSV-1 and BSV-8, building spray pumps suction check valves. The April 4, 1991, submittal informed NRC that modifications would not be required for three items and that the fourth modification did not appear adequate to meet GL 89-04. The August 15, 1991, letter submitted Relief Request DF-91-01.

2.0 DESCRIPTION AND DISCUSSION OF RELIEF REQUESTS

2.1 Relief Request V-150

Relief from the test frequency requirements of IWV-3522 has been requested for valve DWV-162, demineralized water supply check valve inside the reactor building. During normal plant operation, this valve is partially open to allow a small quantity of demineralized water to flow to the reactor coolant (RC) pumps standpipes for flushing. This valve is required to close for containment isolation. This relief request was revised in the 1989 submittal.

2.1.1 Alternate Testing

The licensee proposes to verify the closure capability of the valve during local leak rate testing per 10 CFR Part 50, Appendix J, during refueling outages.

2.1.2 Licensee's Basis for Relief

The licensee states: "The RC pump standpipe flushing does not provide a safety-related function for mitigating accidents. The safety-related function of this valve is to close. The design and function of the system prevents such position verification except during the 10 CFR 50, Appendix J, Type C leakage test."

2.1.3 Evaluation

With current design and test methods, verifying closure of check valve DWV-162 can be accomplished only by performing a leak test. This valve is inside the reactor building and, due to access limitations, cannot be tested quarterly. To require the licensee to perform leak testing during cold shutdown would be a burden, as the testing could cause the shutdown to be extended just to complete testing. Performance of the leak testing requires access provisions, equipment setup, and testing time. Performing the leak testing required by 10 CFR Part 50, Appendix J, at a refueling outage frequency, provides assurance of the closure capability of the valve, as well as monitoring the leakage rate and verifying operational readiness of the valve.

2.1.4 Conclusion

Based on (1) the impracticality of performing the testing at the Code-required frequency, (2) the burden on the licensee if the testing at cold shutdown were imposed, and (3) the alternative test method and frequency providing reasonable assurance of the operational readiness of the valve, relief is granted to permit testing during refueling outages, pursuant to 10 CFR 50.55a(g)(6)(i).

2.2 Relief Request V-160

Relief from the test frequency requirements of IWV-3522 has been requested for valves CFV-17 and CFV-20, core flood tank nitrogen supply line isolation check valves. These valves are required to close for containment isolation. This relief request was revised in the 1989 submittal.

2.2.1 Alternate Testing

The licensee proposes to verify the closure capability of the valve during local leak rate testing per 10 CFR Part 50, Appendix J, during refueling outages.

2.2.2 Licensee's Basis for Relief

The licensee states: "The core flood tanks have a static inventory of borated water with 600 psi pressure applied through a regulated nitrogen gas system. The safety-related function of these valves is in the closed position. The design and function of the core flood system provides for an air-operated isolation valve upstream of these check valves. Nitrogen charging of the core flood tanks [CFT] requires remote operator action to open these isolation valves. The CFT storage bank supplies nitrogen at 2400 psig which is reduced to 700 psig, or 100 psig greater than the CF tanks."

2.2.3 Evaluation

With current design and test methods, verifying closure of check valves CFV-17 and CVF-20 can be accomplished only by performing a leak test. These valves are inside the reactor building and, due to access limitations, cannot be tested quarterly. To require the licensee to perform leak testing during cold shutdown would be a burden, as the testing could cause the shutdown to be extended just to complete testing. Performance of the leak testing requires access provisions, equipment setup, and testing time. Performing the leak testing required by 10 CFR Part 50, Appendix J, at a refueling outage frequency, provides assurance of the closure capability of the valves, as well as monitoring the leakage rate and verifying operational readiness of the valves.

2.2.4 Conclusion

Based on (1) the impracticality of performing the testing at the Code-required frequency, (2) the burden on the licensee if the testing at cold shutdown were imposed, and (3) the alternative test method and frequency providing reasonable assurance of the operational readiness of the valves, relief is granted to permit testing during refueling outages, pursuant to 10 CFR 50.55a(g)(6)(i).

2.3 Relief Request V-170

Relief from the test frequency requirements of IWV-3522 has been requested for valves CFV-18 and CFV-19, core flood tank borated water supply line isolation check valves. These valves are required to close for containment isolation. This relief request was revised in the 1989 submittal.

2.3.1 Alternate Testing

The licensee proposes to verify the closure capability of the valve during local leak rate testing per 10 CFR Part 50, Appendix J, during refueling outages.

2.3.2 Licensee's Basis for Relief

The licensee states: "The core flood tanks have a static inventory of borated water. The major loss of inventory results from sampling for chemical assay. The safety-related function of these valves is in the closed position. The design and function of the core flood system provides for two manual isolation valves upstream of these check valves. Charging of the core flood tanks during

operation requires manual operator action to open either the two manual valves in the fill line from the makeup pumps, or the two manual valves in the fill line from chemical addition pump 1-C. Both pumps have an output pressure greater than the 600 psig contained in the core flood tanks."

2.3.3 Evaluation

With current design and test methods, verifying closure of check valves CFV-18 and CFV-19 can be accomplished only by performing a leak test. These valves are inside the reactor building and, due to access limitations, cannot be tested quarterly. To require the licensee to perform leak testing during cold shutdown would be a burden, as the testing could cause the shutdown to be extended just to complete testing. Performance of the leak testing requires access provisions, equipment setup, and testing time. Performing the leak testing required by 10 CFR Part 50, Appendix J, at a refueling outage frequency, provides assurance of the closure capability of the valves, as well as monitoring the leakage rate and verifying operational readiness of the valves.

2.3.4 Conclusion

Based on (1) the impracticality of performing the testing at the Code-required frequency, (2) the burden on the licensee if the testing at cold shutdown were imposed, and (3) the alternative test method and frequency providing reasonable assurance of the operational readiness of the valves, relief is granted to permit testing during refueling outages, pursuant to 10 CFR 50.55a(g)(6)(i).

2.4 Relief Request V-190

Relief from the test frequency requirements of IWV-3522 has been requested for valves MUV-36/37/42/43/160/161/163/164, makeup system to reactor coolant system check valves. This relief request was revised in the 1989 submittal.

2.4.1 Alternate Testing

The licensee proposes to full-flow test these valves each refueling outage, with a partial-stroke exercise quarterly for valves MUV-43 and MUV-161.

2.4.2 Licensee's Basis for Relief

The licensee states: "These valves are check valves which form the reactor coolant pressure boundary in the high pressure injection lines. With the exception of MUV-43 and MUV-161, which are part of the normal makeup flow path, these valves cannot be exercised during plant operation without causing thermal cycling at the high pressure injection nozzles. Valves MUV-43 and MUV-161 are partial-stroke exercised during normal operation by virtue of the fact that they comprise part of the normal makeup path and must respond to makeup flow conditions. None of these valves can be full-stroke exercised during cold shutdowns because of low-temperature overpressurization (LTOP) concerns."

2.4.3 Evaluation

It is impractical to exercise these valves other than MUV-43 and MUV-161, during normal operations without injecting cool water into the reactor coolant system. This would cause undesirable thermal cycling of the high pressure safety injection nozzles, and also cause thermal upsets in the reactor coolant system. The valves cannot be tested at cold shutdown without violating the requirements for prevention of low temperature overpressurization of the reactor coolant system. To prevent thermal cycling, modifications to the piping system would be required to perform the testing at the Code-required frequency. Such modifications would be costly and an undue burden on the licensee, considering that the alternative testing provides assurance of the operational readiness of the valves, though at an increased interval.

2.4.4 Conclusion

Based on (1) the impracticality of performing the tests during power operation or at cold shutdown, (2) the burden on the licensee if Code requirements were imposed, and (3) the alternative testing providing assurance of the operational readiness of the valves, relief is granted for the alternate testing as described by the licensee in Section 2.4.1, pursuant to 10 CFR 50.55a(g)(6)(i).

2.5 Relief Request V-220

Relief has been requested from the test frequency requirements of IWV-3522 for verifying the closure capability of valves MSV-55 and MSV-56, main steam supply isolation to turbine-driven emergency feed pumps.

2.5.1 Alternative Testing

The licensee proposes to disassemble and inspect at least one of these valves each refueling outage (alternate valve each outage). If the inspected valve is found to be degraded to the extent it cannot perform its function, then the other valve will be disassembled and inspected.

2.5.2 Licensee's Basis for Relief

The licensee states: "These valves are stroked tested adequately in the open direction; however, they also have a safety function to close. These valves cannot be stroked closed during operation because the operating pressure of the main steam lines will not allow back flow testing without creating extreme hazardous conditions and affecting main steam conditions. These valves cannot be exercised closed during cold shutdowns because, in order to ensure actual conditions, they would have to be exercised with steam."

2.5.3 Evaluation

NRC indicated, in Position 2 of GL 89-04, that disassembly and inspection could be considered acceptable for verifying the closure capability of check valves, but only if no other means exist. The licensee indicates that they have

identified no other method to assure that the valves are closed. Verification that these check valves close might be possible by utilizing non-intrusive testing techniques; however, the licensee has not indicated these techniques are in use at Crystal River-3. It appears that the requested relief, therefore, meets the guidance in GL 89-04, provided the licensee performs a full-stroke test following reassembly of the valves. Additionally, the licensee should reevaluate testing the valves during cold shutdown, as verification of closure is not required to be performed under actual steam conditions.

2.5.4 Conclusion

Because the alternative test method provides an acceptable level of quality and safety, relief is granted pursuant to 10 CFR 50.55a(a)(3)(i) and Position 2 of GL 89-04, provided the licensee includes a full-stroke test of the valves during the Code-required post-maintenance testing following reassembly. The licensee should pursue the use of non-intrusive or other techniques for verifying the closure capability of these valves. Disassembly and inspection, while an acceptable alternative, is an extensive maintenance activity and not a "test" for verifying the functional capability of valves. As noted above, the licensee should determine if another test method is available which does not require the use of steam during shutdown conditions.

2.6 Relief Request V-221

Relief has been requested from the test frequency requirements of IWV-3522 for valves MS-186 and MS-187, steam generator check valves to turbine-driven emergency feedwater pump.

2.6.1 Alternative Testing

The licensee proposes to disassemble and inspect at least one of these valves each refueling outage (alternate valve each outage). If the inspected valve is found to be degraded to the extent it cannot perform its function, then the other valve will be disassembled and inspected.

2.6.2 Licensee's Basis for Relief

The licensee states: "These valves are stroked tested adequately in the open direction; however, they also have a safety function to close. These valves cannot be exercised closed during operation because of the main steam line pressure and the hazards of live steam. These valves cannot be exercised closed during cold shutdowns because, in order to ensure actual conditions, they would have to be exercised with steam."

2.6.3 Evaluation

NRC indicated, in Position 2 of GL 89-04, that disassembly and inspection could be considered acceptable for verifying the closure capability of check valves, but only if no other means exist. The licensee indicates that they have identified no other method to assure that the valves are closed. Verification

that these check valves close might be possible by utilizing non-intrusive testing techniques; however, the licensee has not indicated these techniques are in use at Crystal River-3. It appears that the requested relief, therefore, meets the guidance in GL 89-04, provided the licensee performs a full-stroke test following reassembly of the valves. Additionally, the licensee should reevaluate testing the valves during cold shutdown, as verification of closure is not required to be performed under actual steam conditions.

2.6.4 Conclusion

Because the alternative test method provides an acceptable level of quality and safety, relief is granted pursuant to 10 CFR 50.55a(a)(3)(i) and Position 2 of GL 89-04, provided the licensee includes a full-stroke test of the valves during Code-required post-maintenance testing following reassembly. The licensee should pursue the use of non-intrusive or other techniques for verifying the closure capability of these valves. Disassembly and inspection, while an acceptable alternative, is an extensive maintenance activity and not a "test" for verifying the functional capability of valves. As noted above, the licensee should determine if another test method is available which does not require the use of steam during shutdown conditions.

2.7 Relief Request DF-91-01

Relief from the requirements of IWP-3110 and Table 3100-1 for measuring inlet pressure and differential pressure has been requested for diesel fuel oil transfer pumps DFP-1A/1B/1C/1D.

2.7.1 Alternative Testing

The licensee proposes to monitor discharge pressure as specified in OM-1988, Part 6 (OM-6), Paragraph 5.2. Pump inlet pressure will no longer be measured for pump testing.

2.7.2 Licensee's Basis for Relief

The licensee states: "The diesel fuel oil transfer pumps are positive displacement pumps. The measurement of differential pressure across a positive displacement pump is not a practical parameter for performance monitoring, since the suction pressure could be varied and the discharge pressure would remain basically the same. Pump inlet pressure, both prior to starting the pump and during pump operation, for the subject pumps is not a necessary performance parameter since the suction supply shall not be less than a Technical Specification required storage tank minimum volume."

2.7.3 Evaluation

For a positive displacement pump, discharge pressure has been shown to be an effective parameter for assessing the hydraulic condition of the pump as opposed to measuring inlet and differential pressure. Generally, the inlet pressure is a small fraction of the discharge pressure, and changes in the inlet pressure do not result in significant changes in the differential

pressure. As noted, OM-6 has recognized that discharge pressure is the preferred parameter for positive displacement pumps. Therefore, the proposed alternative testing provides an acceptable level of quality and safety.

2.7.4 Conclusion

Based on the proposed alternative testing providing an acceptable level of quality and safety, relief is granted pursuant to 10 CFR 50.55a(a)(3)(i) to measure discharge pressure rather that inlet and differential pressure for the diesel fuel oil transfer pumps.

2.8 Relief Request of May 24, 1990

The licensee indicated in their letter of May 24, 1990, that the testing of check valves BSV-1 and BSV-8, reactor building spray pump suction valves, could not be performed in accordance with IWV-3522 test frequency requirements for closure verfication.

2.8.1 Alternative Testing

Alternatively, the licensee proposes to test the valves following the provisions of GL 89-04, Position 2. Building Spray Valves BSV-1 and BSV-8 were scheduled to be disassembled and inspected during Refuel 7. At least one of these valves will be disassembled and inspected during each refueling outage. If the inspected valve is found to be degraded to the extent it cannot perform its function, then the other valve will be disassembled and inspected as described below.

The inspection will assure that the valve disk has freedom of movement and is capable of a full-stroke. Additionally, the general condition of the valve internals will be checked for structural degradation, including the presence of any loose parts, debris and abnormal or excessive corrosion products, wear and erosion. This inspection includes verification of seating contact.

The maintenance history for these valves has been compiled and reviewed, and it has been determined that the procedures used for inspection adequately monitor for any recurring problems. The results of all inspections resulting from this alternative test method will become part of the history file for these valves, and any discrepancies noted during the preceding inspection will be monitored during the next inspection.

There is no instrumentation used for this alternative test; therefore, maintenance and calibration data are not applicable. Additionally, these valves are currently full-stroke exercised once every three (3) months during normal plant operation. FPC is currently following industry developments on check valve non-intrusive testing and will evaluate the feasibility for inclusion in the Pump and Valve Program.

2.8.2 Licensee's Basis for Relief

The licensee states that the requirements of ASME Code have been determined to be impractical based on the following:

1. Building Spray Pumps 1A & 1B suction check valves, BSV-1 and BSV-8, are required to prevent backflow of sodium hydroxide (NaOH) into the decay heat pump suction headers. The performance of check valve closure verification requires the operation of a building spray pump in one train in order to pressurize the other train through the discharge crosstie connection. During this operation, the manually operated nonsafety-related recirculation line to the borated water storage tank (BWST) is open to prevent deadheading of the operating pump. This configuration will keep both the "A" and "B" building spray system trains open to the nonsafety-related recirculation line and could prevent adequate flow from reaching the spray nozzles if the building spray system is actuated.

2. Performance of this test during cold shutdown conditions would involve the same operation as described in item 1 above. The building spray system would take suction from the same supply header as the decay heat pump in service for reactor coolant system (RCS) cooling. This configuration would pump RCS water into both building spray pump lines and into the BWST. This is undesirable because it will increase the dose rate in the piping and the BWST.

2.8.3 Evaluation

NRC indicated, in Position 2 of GL 89-04, that disassembly and inspection could be considered acceptable for verifying the closure capability of check valves, but only if no other means exists. The licensee indicates that they have identified no other method to assure that the valves are closed. Verification that these check valves close might be possible by utilizing non-intrusive testing techniques; however, the licensee has not indicated these techniques are in use at Crystal River-3, though they are considering utilizing these techniques in the future. It appears that the requested relief, therefore, meets the guidance in GL 89-04, provided the licensee performs a full-stroke test following reassembly of the valves.

2.8.4 Conclusion

Because the alternative test method provides an acceptable level of quality and safety, relief is granted pursuant to 10 CFR 50.55a(a)(3)(i) and Position 2 of GL 89-04, provided the licensee includes a full-stroke test of the valves during Code-required post-maintenance testing following reassembly. The licensee should pursue the use of non-intrusive or other techniques for verifying the closure capability of these valves. Disassembly and inspection, while an acceptable alternative, is an extensive maintenance activity and not a "test" for verifying the functional capability of valves.

3.0 ANOMALIES

Except as noted below, the licensee should address the following items within 1 year of the date of this SE:

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.

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. This relief request was approved by NRC letter dated October 6, 1988. 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 as "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.

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

4. For Relief Requests V-220 and V-221, the licensee should evaluate test methods for verifying closure other than under 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, Section 2.8 above).

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 by GL 89-04. 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 operating conditions. If the licensee takes the position that the corrective actions and testing can be performed during normal 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.

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.

4.0 OTHER RELIEF REQUESTS

Relief requests that have been approved per GL 89-04, Position 9, that are not considered anomalies, are listed in Table 1 but are not further discussed in this Safety Evaluation.

5.0 CONCLUSION

Pursuant to 10 CFR 50.55a(g)(5)(iii), the licensee has determined that conformance with certain Code requirements is impractical for Crystal River Unit 3, and submitted supporting information. The staff has reviewed the licensee's submittals and based on that review has concluded that:

A. Pursuant to 10 CFR 50.55a(g)(6)(i), certain Code Section XI-required inservice inspections are impractical in that they cannot be performed to the extent required.

B. Pursuant to 10 CFR 50.55a(a)(3)(ii), certain inservice inspections required by Code Section XI would result in hardship for the licensee without a compensating increase in the level of quality or safety.

The relief granted is authorized by law and will not endanger life or property or the common defense and security and is otherwise is the public interest, giving due consideration to the burden upon the licensee that could result if the requirements were imposed on the facility.

Date: March 23, 1992

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CRYSTAL RIVER, UNIT 3
SE TABLE 1
SUMMARY OF RELIEF REQUESTS

RELIEF REQUEST NUMBER	SE SECTION	SECTION XI REQUIREMENT & SUBJECT	EQUIPMENT IDENTIFICATION	ALTERNATE METHOD OF TESTING	ACTION BY USNRC
05/24 /90	2.8	IWV-3522 Test frequency	BS pump suction valves BSV-1,BSV-8	Disassemble and inspect during refueling outages to verify closure	Approved per GL 89-04,Pos.2 and 10CFR50.55a (a)(3)(i)
DF-91 -01	2.7	IWP-3110 Table 3100-1 Measure inlet and differ- tial pressure	Diesel fuel oil transfer pumps DFP-1 A/B/C/D	Monitor discharge pressure per OM-6	Relief granted per 10CFR50.55a (a)(3)(i)
V-030	N/A	IWV-3522 Test Frequency	BS pump discharge check valves BSV-26/27	Disassemble and inspect during refueling outages	Approved per GL 89-04,Pos.2 See Anomaly Item 1
V-080	N/A	IWV-3522 Test Frequency	Chilled water to EFIC room coolers check valves CHV-91/95	Disassemble and inspect during refueling outages	Approved per GL 89-04,Pos.2 See Anomaly Item 1
V-111	N/A	IWP-3100 Flow rate measurement	Emergency feedwater pumps EFP-1, EFP-2	Until flow instruments are installed, test quarterly measuring other parameters and flow test during refueling outages	Approved per GL 89-04,Pos.9 Relief not evaluated in SE
V-112	N/A	IWP-4600 Flow measurement using a rate or quantity meter in pump test	Diesel fuel oil transfer pumps DFP-1 A/B/C/D	Calculate flow rate using measured change in diesel day tank volume	Preapproved per GL 89-04 Relief not evaluated in SE

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RELIEF REQUEST NUMBER	SE SECTION	SECTION XI REQUIREMENT & SUBJECT	EQUIPMENT IDENTIFICATION	ALTERNATE METHOD OF TESTING	ACTION BY USNRC
V-113	N/A	IWP-3100-1 Bearing temperature measurment IWP-4510 Vibration measurement	All Code Class 1, 2, and 3 pumps in IST Program	Measure pump vibration in velocity per OM-6	Approved by NRC 10/6/88 Error in relief request See Anomaly Item 2
V-115	N/A	IWV-3510 Test safety and relief valves per PTC-25.3-1976	All Code Class 1, 2 and 3 relief valves	Perform testing per OM-1-1981	Approved by NRC 5/1/90
V-120	N/A	IWV-3522 Test frequency	Sodium hydroxide storage tank to BS Pump check valves BSV-150/151	Disassemble and inspect during refueling outages	Approved per GL 89-04, Pos.2 See Anomaly Item 1
V-128	N/A	N/A	N/A	N/A	Deleted
V-129	N/A	IWV-3522 Test frequency	CF tank isolation check valves CFV-2/4	Disassemble and inspect during refueling outages	Approved per GL 89-04, Pos.2 See Anomaly Item 3
V-131	N/A	IWV-3522 Test frequency	Diesel jacket cooling system check valves DJV-1/2/17/18	Test under partial-load conditions monthly and full-load conditions every 18 months during diesel tests	Preapproved per GL 89-04 Relief not evaluated in SE
V-132	N/A	IWV-3522 Test frequency	Diesel jacket cooling system check valves DJV-27-32, 38/39	Test under partial-load conditions monthly and full-load conditions every 18 months during diesel test	Preapproved per GL 89-04 Relief not evaluated in SE

11/12/91

CRYSTAL RIVER, UNIT 3
SE TABLE 1
SUMMARY OF RELIEF REQUESTS

RELIEF REQUEST NUMBER	SE SECTION	SECTION XI REQUIREMENT & SUBJECT	EQUIPMENT IDENTIFICATION	ALTERNATE METHOD OF TESTING	ACTION BY USNRC
V-150	2.1	IWV-3522 Test frequency	Demineralized water supply check valve DWV-162	Verify closure capability during local leak rate testing at refueling outage frequency	Relief granted per 10CFR50.55a (g)(6)(i)
V-160	2.2	IWV-3522 Test frequency	CF tank nitrogen supply line isolation check valves CFV-17/20	Verify closure capability during local leak rate test at refueling outage frequency	Relief granted per 10CFR50.55a (g)(6)(i)
V-170	2.3	IWV-3522 Test frequency	CF tank borated water supply line isolation check valves CFV-18/19	Verify closure capability duringlocal leak rate test at refueling outage frequency	Relief granted per 10CFR50.55a (g)(6)(i)
V-190	2.4	IWV-3522 Test frequency	MU to RCS check valves MUV-36/37/ 42/43/160/ 161/163/164	Full flow test each refueling outage Also partial-stroke valves MUV-43/161 quarterly	Relief granted per 10CFR50.55a (g)(6)(i)
V-191	N/A	IWV-3521 IWV-3522 Test frequency	MU discharge swing check valves MUV-1/7/11	Test during refueling outages	Approved by NRC 10/6/88 Revision did not invalidate approval
V-192	N/A	IWV-3522 Test frequency	MU pump discharge stop check valves MUV-2/6/10	Test during refueling outages	Approved by NRC 10/6/88 Revision did not invalidate approval

11/12/91

CRYSTAL RIVER, UNIT 3
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RELIEF REQUEST NUMBER	SE SECTION	SECTION XI REQUIREMENT & SUBJECT	EQUIPMENT IDENTIFICATION	ALTERNATE METHOD OF TESTING	ACTION BY USNRC
V-200	N/A	IWV-3522 Test frequency	BWST to MU pump suction header check valves MUV-60/72	Disassemble and inspect during refueling outages	Approved per GL 89-04, Pos.2 See Anomaly Item 1
V-210	N/A	IWV-3417(a) Strcke time measurement	All power-operated valves with stroke times less than 2 seconds	Assign a maximum stroke time of 2 seconds	Approved per GL 89-04, Pos.6 Relief not evaluated in SE
V-220	2.5	IWV-3522 Test frequency	MS supply isolation to turbine driven emergency feed pumps MSV-55/56	Disassemble and inspect during refueling outages to verify closure capability	Approved per GL 89-04, Pos.2 and 10CFR50.55a (a)(3)(i) See Anomaly Item 4
V-221	2.6	IWV-3522 Test frequency	SG check valves to turbine driven EFW pump MS-186/187	Disassemble and inspect during refueling outages to verify closure capability	Approved per GL 89-04, Pos.7 and 10CFR50.55a (a)(3)(i) See Anomaly Item 4
V-320	N/A	IWV-3412(a) IWV-3415 IWV-3522 Test frequency cold shutdown testing	All valves subject to testing during cold shutdown	Do not complete testing if plant startup occurs prior to completion of all cold shutdown testing	Preapproved per GL 89-04 Relief not evaluated in SE
V-330	N/A	IWV-3417(b) IWV-3523 Corrective actions	All valves subjected to testing during cold shutdowns	Take corrective actions based on Technical Specifications for mode changes	Preapproved per GL 89-04 See Anomaly Item 5

11/12/91

CRYSTAL RIVER, UNIT 3
SE TABLE 1
SUMMARY OF RELIEF REQUESTS

RELIEF REQUEST NUMBER	SE SECTION	SECTION XI REQUIREMENT & SUBJECT	EQUIPMENT IDENTIFICATION	ALTERNATE METHOD OF TESTING	ACTION BY USNRC
V-360	N/A	IWV-3300 Observation of valve position	RC sample line isolation valves CAV-2/431	Monitor system parameters to verify remote indication for these enclosed SOVs	Preapproved per GL 89-04 Relief not evaluated in SE
V-362	N/A	IWV-3300 Observation of valve position	EFIC room chiller isolation valves CHV-90/97/101/108	Monitor system parameters to verify remote position indication for these enclosed SOVs	Preapproved per GL 89-04 Relief not evaluated in SE
V-364	N/A	IWV-3300 Observation of valve position	EFW injection flow control valves EFV-55-56	Monitor system parameters to verify remote position indication for these enclosed SOVs	Preapproved per GL 89-04 Relief not evaluated in SE
V-366	N/A	IWV-3300 Observation of valve position	Post-accident hydrogen purge isolation valves LRV-70-73	Monitor system parameters to verify remote position indication for these enclosed SOVs	Approved by NRC 5/1/90
V-370	N/A	N/A	N/A	N/A	Deleted
V-371	N/A	N/A	N/A	N/A	Deleted