UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
101 MARIETTA STREET, N.W.
ATLANTA, GEORGIA 30323

Report No.: 50-302/89-18

Licensee: Florida Power Corporation
3201 34th Street, South
St. Petersburg, FL 33733

Docket No.: 50-302 License No.: DPR-72

Facility Name: Crystal River 3

Inspection Conducted: July 10-14, 1989

Inspector: S. Sparks for S. Tingen 8-16-89
Date Signed

Team Members: S. Sparks
A. Szczepaniec
H. Whitener

Approved by: G. Belisle, Chief 8/16/89
Date Signed
Test Programs Section
Engineering Branch
Division of Reactor Safety

SUMMARY

Scope:

This routine, announced inspection was conducted in the areas of inservice testing and follow-up on previous inspection findings.

Results:

The licensee's containment spray system inservice test (IST) program appeared to be adequate to ensure that the system's components are maintained in an operational readiness state, paragraph 2. Containment Spray System (CSS) IST programmatic weakness were identified in the areas of check valve full and backflow testing, paragraph 2.a; and verification of remote indication on the remote shutdown panel, paragraph 2.b. Isolated IST weaknesses were identified in the area of check valves BSV-150 and BSV-151 full flow testing, paragraph 2.a; and documentation of vacuum relief valve BSV-19 test data, paragraph 2.c. Failure to verify remote shutdown panel indication, full flow testing for valves BSV-150 and 151, and document valve BSV-19 test data was

identified as a violation, paragraph 2. Strengths in the CSS IST program were identified that involved documentation and trending of pump test data, paragraph 2.b; and an aggressive motor operated valve inservice test program, paragraph 2.d.

A violation was identified that involved containment leak rate testing electrical penetrations, paragraph 3.a. A strength was identified that involved clear and accurate instructions contained in motor operated valve maintenance procedures, paragraph 3.b.

The licensee committed to provide to the NRC, in writing, how the issue of verifying the spray additive system flow rate would be resolved, paragraph 2.a.

REPORT DETAILS

1. Persons Contacted

Licensee Employees

*B. Black, Nuclear Results Specialist
*G. Boldt, Vice President, Nuclear Production
*M. Collins, Superintendent, Nuclear Safety and Reliability
*J. Cooper, Superintendent, Nuclear Technical Support
*G. Cowles, Senior Nuclear Results Engineer
*J. Holton, Senior Nuclear Results Engineer
*P. McKee, Director, Nuclear Plant Operations
*M. Williams, Nuclear Regulatory Specialist
*K. Willson, Manager, Nuclear Licensing

Other licensee employees contacted during this inspection included craftsmen, engineers, operators, mechanics, technicians, and administrative personnel.

NRC Resident Inspector

*J. Tedrow

*Attended exit interview

2. Containment Spray System Inservice Test Program Inspection

The purpose of this IST program inspection was to assess how the licensee implements the program as it applies to the Crystal River CSS, also referred to as the Building Spray System. Specific pumps, relief valves, motor-operated valves (MOVs), check valves and manual valves in this system were pre-selected for evaluation. Evaluation for the different components included, but was not limited to, the following:

Verification that the IST program is current with relief requests, Safety Evaluation Report (SERs), the American Society of Mechanical Engineer (ASME) code Section XI requirements, and Final Safety Analysis Report (FSAR) commitments.

Verification that test procedures accomplish program requirements.

Review and verification of test results and corrective actions, including adherence to, and affect on testing.

Review of modifications and their affect on testing.

Verification of proper accuracy and calibration of plant instrumentation and test equipment.

The licensee's first 10-year program was based in the 1974 ASME code. The basis for their second 10-year program was changed to the 1983 code with the Summer 1983 Addenda to the Code. The new program became effective January 10, 1988. Numerous relief requests have been submitted to and approved by the Nuclear Regulatory Commission (NRC). Applicable relief requests are discussed in the appropriate section of the report.

In general, in each area evaluated, a review was made of the old and new ASME Section XI requirements, the old and new IST program, maintenance history over the past two years, test results over the past two years, relief requests, SERs, and other NRC correspondence.

The following procedures performed IST program testing for the selected components, as well as for other components not evaluated during this inspection.

SP-340A A Train Emergency Core Cooling System (ECCS) Pump and Valve Quarterly Operability Test

SP-340B B Train ECCS Pump and Valve Quarterly Operability Test

SP-620 Mechanical Exercising of BSV-25 and BSV-27

SP-184A Sodium Hydroxide Flow Verification A Train

SP-184B Sodium Hydroxide Flow Verification B Train

SP-602 ASME Section XI Relief Valve Testing

The inspection results have been divided into the following areas:

Check Valve Full and Back Flow Testing

Motor Operated and Manual Valves Testing

Relief Valve Testing

Pump Testing

Leak Rate Testing

a. Check Valve Full and Back Flow Testing

Inservice testing of check valves BSV-150, BSV-151, BSV-1, BSV-8, BSV-26, BSV-27, DHV-33, and DHV-36 was reviewed by the inspectors. Other than routine disassembly for inspection purposes, no maintenance or modifications were performed on the check valves during the previous two year period. Inservice test data was obtained from calibrated instruments.

Check valves DHV-33, DHV-36, BSV-1, and BSV-8 were full flow tested quarterly. Review of check valves DHV-33, DHV-36, BSV-1, and BSV-8 test results obtained per SP-340A and SP-340B during the previous two year period indicated that all inservice test frequencies were adhered to, no failures had occurred, check valves were not back flow tested, and valves DHV-33 and DHV-36 were being full flow tested at flow rates less than full accident flow rate. Check valves DHV-33 and DHV-36 are located in the suction lines common to the respective Trains A and B Containment Spray and Low Pressure Injection Pumps. In order to obtain full accident flow through the check valves, both the Containment Spray and Low Pressure Injection pumps, in the respective train, would be required to run. Past licensee's practice had been to only run a Low Pressure Injection pump in each train to verify that DHV-33 and DHV-36 fully opens. Since the issues of full flow testing at accident flow rates and back flow testing are specifically addressed in Generic Letter 89-04, Guidance on Developing Acceptable Inservice Test Programs, violations in these areas were not issued. During the inspection it was evident that the licensee was taking action in these areas to comply with Generic Letter 89-04. SP-340B was recently changed to recognize check valve DHV-36 full accident flow rate and a study was in process to determine check valve back flow functions.

Check valves BSV-26 and BSV-27 were disassembled and inspected during the previous refueling outage per SP-620. The licensee submitted a Section XI relief request which was granted by the NRC to recognize this test method for the first inservice ten-year period and Generic Letter 89-04 allows this method for all future inservice test programs.

Check valves BSV-150 and BSV-151 were not tested in accordance with inservice test requirements. During the first ten-year inservice test interval the licensee submitted a relief request to allow full stroking of check valves BSV-150 and BSV-151 at five year intervals in lieu of quarterly or during cold shutdowns. In a letter dated May 29, 1987, from the NRC to the licensee, the relief request was denied because the five year interval was excessive. In the May 29, 1987, letter the NRC provided an acceptable alternate method to test check valves BSV-150 and BSV-151 which involved disassembly and inspection. After denial of the BSV-150 and BSV-151 relief request, the licensee did not modify their inservice test program to comply with the Section XI inservice test requirements or the NRC guidance provided in the May 29, 1987, letter. From September 1987 to January 1988 Crystal River 3 was shutdown for refueling outage 6, and was therefore able to disassemble and inspect check valves BSV-150 and BSV-151. As a result, these check valves have not been full stroke tested since June 1983 and, per the current schedule, will not be full flow tested in the the 1990 refueling outage. Failure to comply with Section XI Subsection IWV-3520 inservice test requirements to full stroke check valves BSV-150 and BSV-151 quarterly or

during cold shutdowns after NRC denial of a relief request to perform alternate testing is identified as Part A to violation 50-302/89-18-01. Check valves BSV-150 and BSV-151 were not back flow tested. As previously discussed, this area is being evaluated in response to Generic Letter 89-04.

Technical Specification Surveillance Requirement 4.6.2.2.d requires the spray additive system be demonstrated operable at least once per five years by verifying the flow rate in the spray additive system. Since the licensee had planned to use this surveillance requirement to verify check valves BSV-150 and BSV-151 to full troke, the inspectors reviewed the past performance of this testing. In June 1983 testing was performed to flow check piping from the Sodium Hydroxide Tank to the suction of Containment Spray pumps 3A and 3B. This testing involved installing temporary jumpers down stream of each containment spray pump that discharged to a temporary collection facility. During this test, flow rates up to 1200 gpm were obtained from 3A Containment Spray pump and flow rates up to 850 gpm were obtained from 3B Containment Spray pump. In April 1989 testing was again performed to flow test piping from the Sodium Hydroxide Tank to the suction of the Containment Spray pumps. This testing was performed per SP184A and SP184B which differed significantly from the testing performed 1983. The 1989 testing involved installing temporary jumpers between the suction of each Containment Spray pump and the suction of the Sodium Hydroxide Tank recirculation pump. The contents of the Sodium Hydroxide Tank were recirculated via the suction of each Containment Spray pump through the Sodium Hydroxide Tank Recirculation pump back to the tank. Flow rates of 30 gpm were obtained during this testing. The tests were signed off as satisfactorily completed and determined to have satisfied the requirements of technical specification (TS) surveillance requirement 4.6.2.2.d for verifying spray additive flow rate for the five year interval. The inspector questioned the basis for the acceptance criteria contained in SP-184A and SP-184B. The basis was that the capacity of the Sodium Hydroxide Tank Recirculation pump was 30 gpm. Per Appendix 14A of the Final Safety Analysis Report, flow rates in the range of 150 gpm would be required to the suction of each containment spray pump during certain accident conditions. The inspector questioned how the 30 gpm obtained per SP-184A and SP-184B verified that 150 gpm could pass through the same line. In a letter dated May 12, 1989, from corporate to Crystal River 3 Station personnel, corporate personnel also questioned how the flow rates obtained from procedures SP-184A and SP-184B proved that a full open flow path existed. During the inspection, there appeared to be no plans to resolve this issue in the near future. The inspector considered that until the licensee can illustrate that 30 gpm provides a full of open flow path from the Sodium Hydroxide Tank to

the suction of each containment spray pump surveillance, TS requirement 4.6.2.2.d has not been satisfactorily accomplished. The licensee committed to provide to the NRC in writing how the issue of verifying the spray additive system flow rate would be resolved prior to the expiration of surveillance requirement 4.6.2.2.d on October 1, 1989.

b. Motor Operated Valves and Manual Valves Testing

The inspectors reviewed the licensee's IST for the following motor operated valves (MOVs) and manual valves from the reactor building spray system, decay heat removal system, and nitrogen system:

MOVs		Manual Valves	
BSV-11	BSV-12	BSV-5	BSV-6
BSV-3	BSV-4	NGV-260	NGV-261
BSV-16	BSV-17	NGV-226	NBV-218
DHV-34	DHV-35	NGV-179	
DHV-42	DHV-43		
BSV-18			

The requirements for the above valves are contained in the licensee's IST Program for Pumps and Valves.

The inspectors interviewed licensee personnel regarding the general methods used during MOV stroke time testing, and reviewed Surveillance Procedures SP-340A, SP-340B which are the implementing procedures for inservice testing of the above valves. Requirements for stroke timing MOVs are contained in Subsection IWV-3413 of the Code. Review of stroke time results dating back to 1986 indicated that frequencies for the above valves were in accordance with Section XI requirements. In addition, none of the above MOVs had exceeded their alert range or their limiting stroke time value during the time span reviewed.

The inspectors also reviewed maintenance records and non-conforming operating reports (NCORs) for the above valves dating back to 1986. Subsection IWV-3200 of the Code provides the requirements for post-maintenance testing to demonstrate that the performance parameters which could be affected by replacement, repair, or maintenance are within acceptable limits. The inspectors confirmed that adequate post-maintenance testing had been performed.

Subsection IWV-1100 of the ASME Code provides the scope for requirements of IST of certain Classes 1, 2, and 3 valves which are required to perform a specific function in shutting down a reactor to cold shutdown or in mitigating the consequences of an accident. As such, the licensee's IST Program did not include all of the above MOVs and manual valves. The inspectors discussed with the licensee the basis for not including all of the above MOVs and manual valves in their IST Program. Specifically, the following valves were identified and discussed:

- MOVs BSV-16 and BSV-17. These valves are de-energized in the open position, and the licensee considered them Category E valves under the 1974 Code requirements (prior to January 10, 1988). They are now considered Category B, passive valves, in that a change of position is not required to perform a specific function in shutting down the reactor. Passive valves have no exercising requirements.

- Manual valve BSV-18. This valve is provided for manual isolation of nitrogen supply to the sodium hydroxide NaOH tank, and is locked closed. A nitrogen blanket is provided to the NaOH tank to reduce tank corrosion and microbial growth. Verification of the NaOH chemical composition is required by TS at six month intervals. The licensee identified this valve to be a passive valve, in that no change in position is required to perform a specific function in shutting down the reactor.

- Manual valves NGV-179, 218, 226, 260, and 261. The licensee identified these valves as Class 4 valves, which are not within the scope of Section XI, Subsection IWV testing requirements.

The inspectors concurred with the licensee's rationale for not including the above valves in the IST Program.

The inspectors also reviewed the licensee's testing methods for verifying remote position indication for valves in the IST Program. Subsection IWV-3300 of the ASME Code states that valves with remote position indicators shall be observed at least once every 2 years to verify that valve operation is accurately indicated. The licensee procedures for IST verify accurate valve position indication at a remote location, specifically the main control room. However, remote position indicators are also located on the remote shutdown panel. The remote shutdown panel provides the capability of bringing the plant to a safe cold shutdown. Control indication for components needed for safe shutdown are provided on the shutdown panel, and include status lights for valve position. Specifically, the shutdown panel contains valve position indicators for the following IST Program valves:

DHV - 3, 4, 5, 6, 11, 34, 35, 41, 91, 110
EFV - 14, 32, 57, 58
MSV - 25, 26
MUV - 3, 9, 23, 24, 25, 26, 40, 41, 53, 58, 62, 69, 73, 257, 505
RCV - 10, 11
SWV - 35, 37, 39, 41, 43, 45, 47, 48, 49, 50, 79-86, 109, 110, 151, 152, 353, 354

This list is not all-inclusive.

Surveillance Procedure SP-338, Remote Shutdown and Post Accident Monitoring Channel Check, performs a channel check of shutdown panel instrumentation. However, this procedure demonstrates that shutdown panel instrumentation is consistent with that of the main control room and does not verify the open and closed position of the valves. As such, the licensee currently does not verify correct valve position indication at the remote shutdown panel every two years, which is a violation of Subsection IWV-3300 of the Code. This is identified as Violation 302/89-18-01.

c. Relief Valve Testing

Five relief valves; BSV-19, BSV-20, DHV-69, DHV-70, and NGV-115 were evaluated regarding the IST program. BSV-19 and BSV-20 are pressure/vacuum relief valves on the NaOH tank and are included in the test program. Valves DHV-69 and DHV-70, Residual Heat Removal System relief valves, and NGV-115, a Nitrogen System relief valves are not in the program. These three valves are class 4 valves and are not required by the code to be included in the program. These valves are not required to safely shutdown the plant nor mitigate the consequences of an accident. These valves do; however, undergo testing per Maintenance Procedure MP-113, Relief Valve Testing. Based on these findings, the exclusion of valves DHV-69, DHV-70 and NGV-115 from the IST program appears acceptable.

Relief valves BSV-19 and BSV-20 are tested per procedure SP-620, ASME Section XI Relief Valve Testing. The procedure appears to be in accordance with the current code requirements, or with relief requests approved by the NRC as stated in Safety Evaluation Reports.

The licensee has established a testing frequency such that approximately one-half of the code relief valves are tested each refueling outage, currently planned to occur approximately every two years. This provides for all valves being tested every two refueling cycles. Furthermore the schedule was established such that all relief valves in any one system are tested during the same outage. All the code relief valves were tested in 1985 according to the licensee. The established schedule meets the minimum sampling criteria and test frequency requirements of the ASME code. Relief

request V-115, approved by the NRC, allows use of ASME OM-1, 1981 for test procedures, leaving the frequency requirements of the 1983 code in effect.

The testing records for the 1985 tests for BSV-19 and BSV-20 were also reviewed. Although test results for the pressure relief function of the valves were presented and found to be satisfactory, test results for the vacuum function of the valves could not be found by the licensee. A review of the applicable work requests was made and work request #67183 indicates valve BSV-20 was tested for vacuum relief. Work request #67193 for BSV-19 had no such indication. The only other IST program test of these valves was in 1983 when they were installed on the new NaOH. These test results were reviewed and it was found that BSV-19 had no vacuum relief tests results; BSV-20 did have vacuum testing results.

This failure to provide documentation that BSV-19 was satisfactorily tested during the required time period of at least once every five years indicates that the licensee's IST program failed to ensure all required relief valves were adequately tested as required by the ASME code. This failure is collectively combined with additional examples and constitutes violation 89-18-01.

d. Pump Testing

Containment Spray pumps BSP-1A, and BSP-1B, and the NaOH recirculation pump, were selected for review regarding the IST program. The containment spray pumps were found to be included in the program and were reviewed further. The NaOH pump was found not to be in the program. The licensee stated this was because the NaOH pumps is a class 4 pump and, in accordance with the Code, not required to be tested. Furthermore the pump is used primarily for NaOH tank recirculation and is not required for the safe shutdown of the plant nor to mitigate the consequence of an accident. The inspector found this to be satisfactory.

Test records for the past two years, plus the current IST procedures for the containment spray pumps were reviewed. Testing is performed per procedures SP-340A and SP-340B. These pumps are single speed centrifugal pumps and data measured during testing include; flow rate, suction and discharge pressure, and vibration. The differential pressure is calculated. All items were measured in accordance with the ASME Code requirements, or with submitted relief requests approved by the NRC as stated in Safety Evaluation Reports, whichever was appropriate at the time of testing. Specifically, vibration measurements are currently measured in inches per second, instead of mils, and bearing temperature is no longer required to be measured, as approved for relief request V-113. Oil levels are observed per procedure as required by the Code. Test equipment, instrument accuracy and calibration were found to be satisfactory. All test data reviewed were satisfactory.

The licensee also satisfactorily met the pump record keeping requirements. The required Summary Listing of pump testing is maintained on computer using the Pump and Valve Trending Program. This program was recently obtained and past data are in the process of being incorporated. The program exceeds the Code requirements of only recording the dates for successfully completed tests. This program not only records all the measured data, but also can trend each component's performance. The required test record are maintained by keeping copies of the test results sheets. Deficiencies and corrective actions are documented by Corrective Action Procedure CP-102. Test plans are specified in the actual test procedures and pump technical records are in the vendor manuals.

e. IST Leak Rate Testing

Leak rate testing on valves in the Reactor Building Spray System (RBSS) was reviewed for conformance with Section XI, Subsection IWV and the licensee's IST program. The inspector found that valves in the RBSS had been categorized in the IST program as A, B, or C in accordance with the requirements of IWV-2110. For the RBSS, no category A valves were identified in the licensee's program. The inspectors review of system drawings and valve functions for this system did not identify any valves requiring leak testing. Containment isolation valves BSV-3, BSV-4, BSV-26 and BSV-27 which would normally be category A valves requiring a leak rate test are exempted from Type C leak rate testing by TS.

3. Action on Previous Inspection Findings (92701)

a. (Closed) Inspector Followup Item 302/88-10-02, Review the licensee's evaluation as to the need to local leak rate test containment electrical penetrations.

The inspector reviewed the following documentation supplied by the licensee and discussed the evaluation with licensee personnel.

10 CFR 50, Appendix J, Paragraph II.G.

Technical Specification 3/4.6.1.2, 3.6.3 and Table 3.6-1 (Table 3.6-1 has been removed from the Technical Specification and included in the FSAR by Licensee Amendment No. 114).

FSAR, Section 5.6.4.2

SER, Section 6.2.5

Licensee Internal Memoranda:

W. G. Nueman, III to E. E. Welch dated 8/22/87

G. V. Hilderbrandt to D. A. Shook dated 9/17/87

D. S. Shook to E. E. Welch dated 3/25/88

In the memorandum dated September 17, 1987, site engineering personnel identified that the Conax electrical penetration assemblies have potential leak paths through the metal to metal seal between the outside of the feed through tube and the assembly header plate, and through the polysulfone sealant between the inside of the feed through tube and the wires.

In the memorandum dated March 25, 1988, corporate engineering personnel responded to the site engineering staff with the position that the metal to metal seal created by a cap and ferrule device is not considered a flexible metal seal assembly and the polysulfone sealant is not a resilient seal. Consequently, Appendix J, Paragraph II.G and II.G.1 do not apply to Crystal River.

Based on this evaluation the licensee does not leak rate test these electrical penetrations.

The inspector reviewed certain design characteristics of the Conax electrical penetrations against the licensee's evaluation and the explicit requirements of Appendix J, paragraph II.G and II.G.1. Based on this review the inspector disagrees with the licensee's evaluation. Specifically, the polysulfone material used as a seal between the wires and feed through tube can be classified as a sealant compound. Paragraph II.G.1 requires Type B testing of any penetration whose design employs a sealant compound. Also, the metal to metal seal between the feed through tube and the header plate is achieved by assembling two metal parts, i.e., cap and ferrule. Assembly of these metal parts creates the metal seal. Further, the metal is flexible, as opposed to rigid or brittle, to allow the metal to deform and create a seal against the opposing rigid metal surfaces. The inspector determined that the Conax electrical penetrations are fitted with a flexible metal seal assembly. Paragraph II.G.1 explicitly requires Type B testing on electrical penetrations fitted with flexible metal seal assemblies.

The inspector reviewed FSAR, Section 5.6.4.2 (Type B Tests), Technical Specification Section 3.6.3, Table 3.6-1, and SER, Section 6.2.5 to determine if these documents grant an exemption to 10 CFR 50, Appendix J, regarding leak rate testing electrical penetrations.

FSAR Section 5.6.4.2 specifically addresses penetrations with resilient seals and only generally addresses electrical penetrations. Exclusion of electrical penetrations from the class of penetrations with resilient seals is not considered as an exemption from testing electrical penetrations.

Table 3.6-1 identifies containment isolation valves and also includes a heading for Type B tests. Prior to removal of Table 3.6-1 from the Technical Specifications the table was used in conjunction with Technical Specification 3.6.3 which addresses specifically and

exclusively the operability of containment isolation valves. The table was not intended to identify Type B testing. Consequently, acceptance of Table 3.6-1 in the Technical Specifications with electrical penetrations omitted does not constitute an exemption from the requirements of 10 CFR 50, Appendix J. The Safety Evaluation Report (SER), Section 6.2.5, states that the licensee has a program for testing resilient seals, but also indicates electrical penetrations will be leak rate tested.

The inspector concluded that Type B tests are required for the Conax electrical penetrations by Appendix J, Paragraph II.G and II.G.1. Additionally, TS 4.6.1.2 commits the licensee to leak rate testing in accordance with 10 CFR 50, Appendix J. Item d of this specification requires that Type B tests shall be conducted with gas at Pa, 49.6 psig, at intervals no greater than 24 months.

The licensee stated that Type B tests have not been performed on the Conax electrical penetrations. At the exit interview this matter was identified as a violation as follows:

> Violation 89-18-02: Contrary to the requirements of Technical Specification 4.6.1.2.d Type B tests on Conax electrical penetrations have not been performed at intervals of 24 months or less.

Based on this review, inspector followup item IFI 302/88-10-02 is closed.

b. (Closed) 50-302/85-BU-03, T2515/73, IE Bulletin 85-03, Motor Operated Valve Common Mode Failure During Plant Transients Due to Improper Switch Setting. NRC Inspection Report 50-302/88-20 listed the following item to be completed prior to final NRC acceptance of IE Bulletin 85-03:

> Revision of MP-402 and subsequent Region II review of the review.
>
> NRR review of the final response required by Action Item f. of the Bulletin. On February 17, 1988, the licensee provided this final response and this is presently updergoing review by NRR.
>
> Eight of the 17 Bulletin valve actuators are DC motor driven. DC motor failure in Limitorque actuators with continuously energized shunt fields may be susceptible to surge voltages induced in the short field winding when energized has been identified as a occurrence at other utilities. The licensee has been notified of this problem and is determining if this if applicable to Crystal River Unit 3.

f. (Closed) Inspector Followup Item 50-302/87-31-03. This item involved inservice testing check valve procedures containing too vague acceptance criteria for determining if valves were performing their intended functions. The inspectors reviewed the procedures referenced in NRC Inspection Report 50-302/87-31 and verified that procedure changes have been made to provide specific acceptance criteria. In addition the procedures reviewed that accomplished containment spray system check valve testing contained adequate acceptance criteria.

g. (Closed) Inspector Followup Item 50-302/87-31-04. This item involved revision of CP-102, Inservice Inspection Pump and Valve Data Review and Corrective Action, to provide sufficient guidance on handling test results. Procedure revisions addressed timely evaluation of pump test results, notification of the Nuclear ISI Specialist when out of specified conditions were resolved, and revisions to better identify actual requirements of actions to be taken when a pump or valve data parameter was in the ALERT or ACTION range. The licensee's actions to address this issue were satisfactory.

h. (Closed) Inspector Followup Item 50-302/88-20-01. This item involved a revision to MP-402 to address concerns regarding the effects on setpoint when adjustments were performed on leaking Main Stem Safety Valves. Specifically, the revision to MP-402 included a precaution to determine the setpoint only if the valve is not leaking, and requirements for the valve to be thermally stable prior to adjusting the setpoint. The licensee's actions to address this issue were satisfactory.

i. (Closed) Inspector Followup Item 50-302/88-10-01. This item involved revisions to procedure PT-114, Moderator Temperature Coefficient Determination, involving notification of proper personnel if acceptance criteria were not satisfied, independent verification and sign-off of test results, and the re-incorporation of an acceptance criteria to provide addition technical validity of results. The licensee's revisions to PT-114 were satisfactory.

4. Exit Interview

The inspection scope and results were summarized on July 14, 1989, with those persons indicated in paragraph 1. The inspectors described the areas inspected and discussed in detail the inspection results listed above. Proprietary information is not contained in this report. Dissenting comments were received from the licensee in the areas of verifying valve remote indication on the shutdown panel and containment leakage testing of electrical penetration in that they considered these items did not warrant violations.

The inspectors reviewed MP-402 revisions. MP-402 was broken down into edition a through f. Each edition accomplished a specific function.

The editions reviewed by the inspectors provided clear, and accurate instructions to accomplish motor operated valve maintenance and control switch seetings. Generic Letter 89-10, Safety-Related Motor-Operated Valve Testing and Surveillance, has expanded the scope of IE Bulletin 85-03, therefore IE Bulletin 85-03 responses will no longer require NRR review. Information Notice 88-72, Inadequacies in the Design of DC motor operated valves, was issued to alert licensees to potential problems in the design specifications of dc motor-operated valves, which has been evaluated by the licensee.

c. (Closed) Licensee Event Report (LER) 89-02.

During Refueling Outage 6, completed in January 1988, the flush water systems for the Nuclear Services and Decay Heat Sea Water Pumps were modified to allow each sea water pump to supply flush water to itself and associated train pumps in the event the normal supply failed. Nine new sea water check valves installed by this modification were not intergraded into the Inservice Inspection Pump and Valve Program in a timely fashion. As a result, no testing of the valves was performed during the first three quarters of 1988. When test requirements (component testing) were determined and testing was attempted, it was discovered that five of the valves could not be tested in the closed direction due to the configuration of the check valves and piping, although the system, as designed, could be demonstrated operable.

A modification has been accomplished that allows testing of the five valves in the closed direction. Testing in the closed direction of these five valves is scheduled to occur in August 1989.

d. (Closed) Unresolved Item 50-302/88-33-01. This item involved not inservice testing the closed function of emergency feedwater check valves. Testing the closed function of check valves is addressed by Generic Letter 89-04. In complying with Generic Letter 89-04, the licensee will resolve emergency feedwater check valves deficiencies.

e. (Closed) Inspector Followup Item 50-302/87-31-02. This item involved not testing check valves in a manner that would determine that the valve can perform all of its safety functions. This item was to be resolved during the next NRC inservice test program review. Per Generic Letter 89-04, the Crystal River inservice test program will not receive a NRC full review. Generic Letter 89-04 addresses the check valve testing deficiencies noted in Inspection Report 50-302/87-31. In complying with Generic Letter 89-04, the licensee will resolve these check valve deficiencies.

Item Number	Description and Reference
302/89-18-01	Violation - Failure to adequately perform Inservice Testing, paragraph 2
302/89-18-02	Violation - Failure to perform containment leak rate testing on electrical penetration, paragraph 3.a.

The licensee committed to provide to the NRC in writing how the issue of verifying the spray additive system flow rate would be resolved, paragraph 2.a.

Licensee management was informed that the five Inspector Followup items, one unresolved item, one licensee event report and one Bulletin discussed in paragraph 3 were closed during this Inspection.