



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

Report Nos.: 50-335/92-21 and 50-389/92-21

Licensee: Florida Power & Light Co
 9250 West Flagler Street
 Miami, FL 33102

Docket Nos.: 50-335 and 50-389

License Nos.: DPR-67 and NPF-16

Facility Name: St. Lucie 1 and 2

Inspection Conducted: October 20 - November 23, 1992

Inspectors:

K.D. Landis
 for S. A. Elrod, Senior Resident Inspector

12/23/92
 Date Signed

K.D. Landis
 for M. A. Scott, Resident Inspector

12/23/92
 Date Signed

Approved by:

K.D. Landis
 K. D. Landis, Chief
 Reactor Projects Section 2B
 Division of Reactor Projects

12/23/92
 Date Signed

SUMMARY

Scope:

This routine resident inspection was conducted onsite in the areas of plant operations review, surveillance observations, maintenance observations, fire protection review, review of special reports, review of nonroutine events, onsite followup of events, followup of headquarters and regional requests, followup of unresolved items, and followup of corrective actions for violations and deviations.

Backshift inspections were performed on October 29 and November 1, 2, 5, 6, 12, 13, and 18.

Results:

Plant operations area:

Operators planned sensitive plant evolutions such as surveillances well [paragraphs 3.b.(1) and 4.a] and responded correctly to transients as demonstrated by the planning for and response to a dropped CEA during a surveillance [paragraph 3.b.(1)], response to a turbine control oscillation [paragraph 3.b.(3)], and response to increased power level indication following replacement of several resistance temperature detectors [paragraph 3.b.(4)]. An operator error during an operational surveillance started a containment spray pump but the initial valve

lineup, a procedural barrier to spraying the containment, was adequate and prevented damage. The licensee conservatively pursued extensive corrective action to preclude recurrence [paragraph 3.b.(2)].

Surveillance area:

A number of important surveillances were performed in a professional manner [paragraphs 3.b.(1), 4.a.-d.]. In two instances, the licensee promptly repaired and retested Unit 2 main feed isolation valves after they failed a surveillance and within Technical Specification time limits. This demonstrated a strong communication and coordination network. Two maintenance groups were present for the surveillance test, and they effectively supported the repair and subsequent satisfactory retest [paragraphs 5.d and 5.e].

Maintenance area:

Resistance temperature detector output drift of nonsafety-related detectors was discovered by the I&C department during replacement activities. This condition had caused Unit 2 to be operated at slightly over 100 percent power for an undetermined period of time. Maintenance shop testing of the removed components demonstrated ability to find causal factors and excellent coordination with the engineering division [paragraph 3.b.(4)]. This issue is presently unresolved pending further NRC evaluation. Other maintenance activities demonstrated competent shop actions and excellent coordination with operating and test groups [paragraphs 5.a-e].

Engineering area:

The engineering division demonstrated responsiveness in their evaluations of the significance of St. Lucie 2 operating above the licensed power level and the relationship of this condition to the safety analysis [paragraph 3.b.(4)]. Reactor engineering leadership in performance of core physics testing was excellent [paragraph 4.a]. Engineering supported MFIV nitrogen tubing/fitting leak repairs by allowing the use of TFE tape in sealing joint applications [paragraph 5.e]. Engineering corrective actions to violations were prompt as shown in plant change 157-292 to install mud dauber caps on containment sensing lines [paragraph 12.g], and studies to determine what valves are actually within the containment isolation boundary [paragraph 10.]

Within the areas inspected, the following violation was identified:

VIO 335;389/92-21-07, Failure to Adequately Maintain Containment Vessel Integrity, paragraph 10.

Within the areas inspected, the following unresolved item was identified:

URI 389/92-21-06, Operation Above the Licensed Power Level, paragraph 3.b.(4).

Within the areas inspected, the following non-cited violations were identified associated with events reported by the licensee:

NCV 335/92-21-01, Low Temperature Over Pressure Technical Specification Amendment Implementation Failure, paragraph 8.a.

NCV 389/92-21-02, Failure to Implement New Technical Specification Requirements for Emergency Bus Undervoltage, paragraph 8.d.

NCV 389/92-21-03, Missed Surveillance on a Radiation Monitor Being Returned to Service Due to Personnel Error, paragraph 8.e.

NCV 389/92-21-04, Missed Technical Specification Surveillance, paragraph 8.h.

NCV 389/92-21-05, Incomplete Technical Specification Special Report, paragraph 7.

REPORT DETAILS

1. Persons Contacted

Licensee Employees

- * D. Sager, St. Lucie Plant Vice President
- G. Boissy, Plant General Manager
- J. Barrow, Fire/Safety Coordinator
- H. Buchanan, Health Physics Supervisor
- * C. Burton, Operations Manager
- R. Church, Independent Safety Engineering Group Chairman
- R. Dawson, Maintenance Manager
- W. Dean, Electrical Maintenance Department Head
- J. Dyer, Plant Quality Control Manager
- R. Englmeier, Site Quality Manager
- H. Fagley, Construction Services Manager
- R. Frechette, Chemistry Supervisor
- * J. Holt, Plant Licensing Engineer
- C. Leppla, Instrument and Control Maintenance Department Head
- * L. McLaughlin, Licensing Manager
- G. Madden, Plant Licensing Engineer
- A. Menocal, Mechanical Maintenance Department Head
- * J. Scarola, Site Engineering Manager
- C. Scott, Outage Manager
- J. Spodick, Operations Training Supervisor
- * D. West, Technical Manager
- * J. West, Operations Supervisor
- W. White, Security Supervisor
- D. Wolf, Site Engineering Supervisor
- E. Wunderlich, Reactor Engineering Supervisor

Other licensee employees contacted included engineers, technicians, operators, mechanics, security force members, and office personnel.

NRC Personnel

- * S. Elrod, Senior Resident Inspector
- * M. Scott, Resident Inspector
- J. Moorman, Senior Licensing Examiner

- * Attended exit interview

Acronyms and initialisms used throughout this report are listed in the last paragraph.

2. Plant Status and Activities

Unit 1 began and ended the inspection period at power. Power was reduced for water box cleaning during November 8 - 9 and for a dropped CEA on October 22. The CEA dropped due to a CEA control timer card failure during a routine surveillance performance. The unit ended the period in day 56 of power operation since the September 28 turbine startup.

Unit 2 began the inspection period at full power and has run at power since. There were small power reductions for a main turbine valve malfunction that was repaired the same day. The unit ended the period in day 101 of power operation since starting up on August 13.

Operator license requalification examinations were given from October 26 - November 6. 12 operators and 12 senior operators were examined. The results will be published in Requalification Examination Report 335,389/92-301.

3. Review of Plant Operations (71707)

a. Plant Tours

The inspectors periodically conducted plant tours to verify that monitoring equipment was recording as required, equipment was properly tagged, operations personnel were aware of plant conditions, and plant housekeeping efforts were adequate. The inspectors also determined that appropriate radiation controls were properly established, critical clean areas were being controlled in accordance with procedures, excess equipment or material was stored properly, and combustible materials and debris were disposed of expeditiously. During tours, the inspectors looked for the existence of unusual fluid leaks, piping vibrations, pipe hanger and seismic restraint settings, various valve and breaker positions, equipment caution and danger tags, component positions, adequacy of fire fighting equipment, and instrument calibration dates. Some tours were conducted on backshifts. The frequency of plant tours and control room visits by site management was noted to be adequate.

The inspectors routinely conducted partial walkdowns of ESF, ECCS, and support systems. Valve, breaker, and switch lineups as well as equipment conditions were randomly verified both locally and in the control room. The following accessible-area ESF system and area walkdowns were made to verify that system lineups were in accordance with licensee requirements for operability and that equipment material conditions were satisfactory:

- Unit 2 EDGs,
- Unit 2 4160 buses,
- Unit 1 and 2 Startup Transformers, and
- Unit 1 and 2 HPSI pumps.

b. Plant Operations Review

The inspectors periodically reviewed shift logs and operations records, including data sheets, instrument traces, and records of equipment malfunctions. This review included control room logs and auxiliary logs, operating orders, standing orders, jumper logs, and

equipment tagout records. The inspectors routinely observed operator alertness and demeanor during plant tours. They observed and evaluated control room staffing, control room access, and operator performance during routine operations. The inspectors conducted random off-hours inspections to ensure that operations and security performance remained at acceptable levels. Shift turnovers were observed to verify that they were conducted in accordance with approved licensee procedures. Control room annunciator status was verified. Except as noted below, no deficiencies were observed.

During this inspection period, the inspectors reviewed the following tagouts (clearances):

- 2-10-92 Unit 2 Governor Valve #4,
- 9913 Switching order for the return of the 1A and 1B Startup transformers - October 29, 1992, and
- 2-6-182 V3540, shutdown cooling isolation valve.

- (1) On October 22, during a monthly CEA motion surveillance test per OP 1-0110050, Rev 26, Control Element Assembly Periodic Exercise, Unit 1 had a dropped CEA event. At 8:52 a.m., the first CEA (number 33) selected in the test mode slipped and then subsequently dropped. Operations appropriately entered off-normal procedure ONOP 1-0110030, Rev 28, CEA Off-Normal Operation and Realignment, and reduced power to 70 percent. The CEA 33 control timer card was verified to be failed, causing the dropped CEA. The licensee installed, tested, and adjusted a replacement timer card prior to returning the CEA to its current group height level. Operations retrieved the dropped CEA without exceeding associated TS 3.1.3.1 and 3.1.3.6 time constraints. CEA testing was resumed and satisfactorily completed on October 23. In-House Event Report 92-068 was generated on the event.
- (2) On October 25 at 11:05 p.m., during the performance of a weekly Unit 2 surveillance test, an operator inadvertently manually started the 2B Containment Spray pump. The operator had been performing AP 2-0010125, Containment Spray Flow Control Valve Cycling. The procedure directs the operator to shift the pump switch from "Auto" to "Off", cycle the FCV, then return the pump switch to "Auto". The operator placed the pump switch in "Run" vice "Off". The switch was in the wrong position for less than one second prior to the operator realizing his error and returning the switch to the correct position, however the pump had started. With the associated FCV in its normally-closed position, no water was sprayed into the containment. The licensee found that the episode was not reportable per 10 CFR 50.72 - 3 and NUREG 1022. The inspectors agreed with this finding.

The licensee was pursuing the following corrective actions:

- operations management counseled the individual on the importance of self-verification of control board actions;
- training staff will evaluate the adequacy of training;
- licensing staff was generating information LER 389-92-007;
- a human performance enhancement system evaluation is planned; and,
- AP 2-0010125 will be revised to enhance operator action regarding switch operations.

The licensee took this relatively minor problem seriously and was following its corrective actions to completion.

- (3) On October 26, the licensee reduced Unit 2 power by about 10 percent to facilitate correction of a main turbine DEH control system malfunction. Governor valve number 4 position began to oscillate to the point that the DEH control system did not acknowledge the valve's position. The control system shifted all the governor valves from automatic sequential operation mode to automatic single valve operation mode as a fail-safe measure. Reactor power decreased 40 to 50 MW, which operations adjusted for without any problems. In a controlled manner, operations reduced power to about 90 percent to shut the number 4 governor valve and to allow work on the associated valve controls.

The I&C maintenance group investigated and found that the solenoid pilot valve for the number 4 governor was operating erratically, inducing oscillations in the governor valve. Per NPWO 0464/64, I&C replaced the solenoid pilot valve within hours of the initial problem. The reactor and turbine remained in operation with the unit output at approximately 90 percent power.

The I&C group displayed their competence during the replacement.

- (4) On November 5, 1992, in the process of replacing Unit 2 train "A" main feedwater RTDs at power, the licensee discovered what appeared to be a positive temperature indication drift or shift associated with the old RTDs. This drift meant that actual feedwater temperature was lower than previously indicated, and thus reactor power was higher than previously calculated. The licensee replaced five of the six main feedwater RTDs in both trains with new calibrated RTDs of a different brand. Following RTD replacement in each train, power was reduced (by 8 MWe on November 5 and another 6 MWe on November 6). The

total reduction was about 1.6 percent of full power. Licensee engineering evaluation JPN-SPSL-92-1908 dated November 16, 1992, assessed the as-found accuracy of the feedwater RTDs and concluded that the unit was operating within its licensed parameters and that the health and safety of the public were not affected by the inaccurate RTDs.

Pending further inspection this subject will be followed as URI 389/92-21-06, Potential Operation Above the Licensed Power Level.

c. Technical Specification Compliance

Licensee compliance with selected TS LCOs was verified. This included the review of selected surveillance test results. These verifications were accomplished by direct observation of monitoring instrumentation, valve positions, and switch positions; and by review of completed logs and records. Instrumentation and recorder traces were observed for abnormalities. The licensee's compliance with LCO action statements was reviewed on selected occurrences as they happened. The inspectors verified that related plant procedures in use were adequate, complete, and included the most recent revisions.

d. Physical Protection

The inspectors verified by observation during routine activities that security program plans were being implemented as evidenced by: proper display of picture badges; searching of packages and personnel at the plant entrance; and vital area portals being locked and alarmed.

Operators planned sensitive plant evolutions well and responded correctly to transients. One operator error that inadvertently started a CS pump had minimal plant safety consequences but was strongly addressed by the licensee.

4. Surveillance Observations (61726)

Various plant operations were verified to comply with selected TS requirements. Typical of these were confirmation of TS compliance for reactor coolant chemistry, RWT conditions, containment pressure, control room ventilation, and AC and DC electrical sources. The inspectors verified that testing was performed in accordance with adequate procedures, test instrumentation was calibrated, LCOs were met, removal and restoration of the affected components were accomplished properly, test results met requirements and were reviewed by personnel other than the individual directing the test, and that any deficiencies identified during the testing were properly reviewed and resolved by appropriate management personnel. The following surveillance tests were observed:

- a. The inspectors witnessed the Unit 2 performance of OP 3200051, Rev 10, At Power Determination of Moderator Temperature Coefficient, on October 29. TS 4.1.1.4.2 requires that MTC be determined at several frequencies and thermal power conditions during each fuel cycle. The condition being met in this instance was to perform the test within 7 EFPD after reaching a rated thermal power equilibrium boron concentration of 800 ppm.

Since this test involved suspending certain TS as allowed by TS 4.1.1.4.2, and was considered an infrequently performed test, pre-planning and pre-briefing were conducted per AP 0010020, Rev 2, Conduct of Infrequently Performed Tests or Evolutions at St. Lucie Plant. The briefing by the Operations Supervisor was thorough, including identification of the participants, conduct of the test, expected plant responses, criteria for stopping the test, and responses to unexpected transients during the test. The briefing met all the licensee requirements in procedure Attachment 1.

The surveillance test was performed smoothly by the operators and was witnessed by the reactor engineer, assisted by the STA. TS suspensions were logged and the action statements followed. The completed test procedure was also reviewed by the inspector. MTC, found to be -10.0586 pcm/degree F, was within TS limits of $+3$ to -30 pcm/degree F. The inspector had no further questions.

- b. OP 1-2200050B, Rev 3, 1B Emergency Diesel Generator Periodic Test and General Operating Instruction
- c. OP 1-0910023, Rev 4, Transfer Electrical Alignment on the 4160 Volt IAB and 480 Volt Loads
- d. I&C 2-1400050, Rev 23, Reactor Protection System Monthly Functional Test

All surveillances were competently performed in a timely manner.

5. Maintenance Observation (62703)

Station maintenance activities involving selected safety-related systems and components were observed or reviewed to ascertain that they were conducted in accordance with requirements. The following items were considered during this review: LCOs were met; activities were accomplished using approved procedures; functional tests and/or calibrations were performed prior to returning components or systems to service; quality control records were maintained; activities were accomplished by qualified personnel; parts and materials used were properly certified; and radiological controls were implemented as required. Work requests were reviewed to determine the status of outstanding jobs and to ensure that priority was assigned to safety-related equipment. Portions of the following maintenance activities were observed:

- a. NPWO 7839/63 - Replace "B3" power supply socket in the "B" channel of Unit 1 RPS for Low Flow trip function.
- b. NPWO 5756/65 - Troubleshoot and replace if required the motor to Unit 1 MV 08-03, 1C AFW steam admission valve.
- c. NPWO 5586/66 - Inspect motor leads in electrical connection box of the Unit 2 2A LPSI motor.

This NPWO controlled the inspection of the 2A LPSI pump motor cable to motor lead electrical connection. The joint met the requirements of FCR 2-4099E. This FCR along with FCRs on certain other motor lead connections were not added to the operating drawings during plant construction, which was typical of the level of detail during that time frame. The licensee was considering incorporating the older group of FCRs into their design basis to assist in maintenance performance and to increase the level of detail in the design basis.

- d. NPWO 9235/64 - HCV 09-1A Accumulator Schrader Valve Repair.

A leaking Unit 2 MFIV nitrogen accumulator valve placed the MFIV in an LCO on November 15. The leak was repaired prior to exceeding the 4 hour LCO time limit.

- e. NPWO 0556/64 - HCV 09-2B Accumulator tubing/fitting repair.

This Unit 2 NPWO controlled the repair of a slow leak in a nitrogen tubing to fitting joint. The repairs did not require entry into an LCO. Subsequent surveillance testing of the MFIV required LCO entry. Repair efforts were well planned and professional. The engineering division supported this repair by allowing the use of TFE thread sealing tape in this location which provided a positive seal for this application.

The above maintenance activities were carried out satisfactorily. The Unit 2 MFIV (valve style not installed on Unit 1) work did not indicate preventive maintenance problems.

6. Fire Protection Review (64704)

During the course of their normal tours, the inspectors routinely examined facets of the Fire Protection Program. The inspectors reviewed transient fire loads, flammable materials storage, housekeeping, control of hazardous chemicals, ignition source/fire risk reduction efforts, and fire barriers.

Fire protection efforts for this period were satisfactory. A new service building fire main branch was partially connected with the existing plant system. Compensatory measures were highly visible during this connection activity.

7. Review of Periodic and Special Reports (90713)

(Closed - Unit 1) FPL Special Report L-92-217, dated July 27, 1992.

This special report per TS 4.8.1.1.3 discussed a non-valid failure of the 1A EDG on July 1. The EDG failed to continue operating during a test because a coolant temperature switch indicated a high engine temperature. The switch was replaced and the EDG satisfactorily tested. The licensee evaluated that the switch would be bypassed during emergency operation of the EDG, therefore would not prevent a safety function from occurring. The inspector agreed with the licensee's evaluation. This was discussed in IR 335/92-11, paragraph 4.n.

TS 4.8.1.1.3 required reports of EDG failures to address the items recommended in regulatory position C.3.b of RG 1.108, Rev 1, August, 1977. This report addressed all the items except item (6) "define the current surveillance test interval." The licensee is submitting a revised report. There was no safety significance to this oversight.

This violation of TS 4.8.1.1.3 is not being cited because it was an isolated case of low safety significance and the licensee's efforts in correcting the violation met the criteria specified in Section VII.b of the enforcement policy.

This oversight is identified as closed NCV 389/92-21-05, Incomplete Technical Specification Special Report.

8. Onsite Followup of Written Nonroutine Event Reports (Units 1 and 2) (92700)

LERs were reviewed for potential generic impact, to detect trends, and to determine whether corrective actions appeared appropriate. Events that the licensee reported immediately were reviewed as they occurred to determine if the TS were satisfied. LERs were reviewed in accordance with the current NRC Enforcement Policy.

- a. (Closed) LER 335/90-10, Low Temperature Overpressure Protection [LTOP] Setpoint Below Technical Specification Limit Due to Personnel Error.

This LER reported a licensee-identified violation of TS 3.4.13. While reviewing an implementing procedure change for LTOP TS amendment 104, the licensee, in error, made a non-conservative additional change to the new setpoint values being implemented. This error existed for less than a month. This TS change was intended to cover operation between 10 and 15 EFPY. The plant had not yet reached 10 EFPY during this time and operations were found to be within the approved 5 - 10 EFPY parameters.

The licensee completed the corrective actions stated in the LER within the time limits discussed. The appropriate implementing procedures were corrected and administrative documents were changed. Though Unit 2 was not directly effected, its LTOP setpoints were found to be satisfactory. This LER is closed.

This violation is not being cited because the licensee's efforts in identifying and correcting the violation met the criteria specified in Section VII.b of the enforcement policy.

This event is identified as closed NCV 335/92-21-01, LTOP Technical Specification Amendment Implementation Failure.

- b. (Closed) LER 335/91-01, Inadvertent Actuation of Reactor Protection System During Mode 3 Testing Due to Personnel Error.

With all CEAs inserted into the core except one undergoing testing, and with one Nuclear Instrument (NI) channel in "trip" (needed repair), an operator selected the wrong trip test potentiometer on the other NI channel and caused a reactor trip. All safety functions were already satisfied prior to the trip. No TS violations were identified.

All corrective actions of the LER were completed. Self verification has been a subject for operator training and is revisited periodically per the routine inspection program. The tripped NI that required repair was repaired and is in service. Based on the completion of corrective actions, this LER is closed.

- c. (Closed - Unit 1) LER 335/92-006, Automatic Reactor Trip on a Turbine Generator Loss of Load Signal due to Equipment Failure.

This LER addressed a reactor trip occurring on September 24, 1992. The event was fully discussed in IR 335,389/92-20, paragraph 3.a.(4). The LER accurately described the event. This LER is closed.

- d. (Closed - Unit 2) LER 389/90-02, 480 VAC Bus Degraded Voltage Relay Setpoint Below Technical Specification Minimum Due to design Error.

This LER reported a licensee-identified violation of TS 3/4.3.2 and Table 3.3-4. While performing a design change review on July 13, 1990, the licensee found a slightly non-conservative difference in setpoints for 480 VAC emergency bus degraded voltage relays. The setpoints provided by engineering for use in 1983 were 89.3 percent of rated voltage as opposed to 90 percent subsequently established by a TS amendment. The existing condition was evaluated by the licensee to be still bounded by the existing engineering safety analysis.

The licensee completed corrective actions stated in the LER, including reviews of other setpoints on both reactor units. The quality control group, corporate engineering, and the technical support staff performed the reviews. The quality assurance staff audited the set point reviews (report 90-782), concluding that the process was completed. Aside from the some additional checks that were performed, the reviews revealed no additional problems. Based

on the licensee's corrective action, the limited severity of the problem, and the isolated nature of the problem. This LER is closed.

This violation is not being cited because the licensee's efforts in identifying and correcting the violation met the criteria specified in Section VII.b of the enforcement policy.

This issue is identified as closed NCV 389/92-21-02, Failure to Implement New TS Requirements for Emergency Bus Undervoltage.

- e. (Closed - Unit 2) LER 389/90-03, Missed Surveillance on a Radiation Monitor Being Returned to Service Due to Personnel Error.

This LER reported a licensee-identified violation of TS 4.3.3.1, which required the "B" main steam line radiation monitor receive a post-maintenance channel calibration and channel functional test prior to being returned to service. The monitor was released for service on July 25, 1990, following a power supply repair without being calibrated and functionally tested.

The event was primarily a personnel error but contributing causes were department interfaces. I&C planners prepare the work order, I&C technicians repair the instrument, the chemistry department tests it, and operators place it in and out of service. Procedure QI 11-PR/PSL-4, Instrumentation and Control Test Control, was upgraded in Rev 25, section 5.4 and Appendix B (the required testing matrix) to direct coordination with the chemistry department prior to releasing monitors for service.

This violation is not being cited because the licensee's efforts in identifying and correcting the violation met the criteria specified in Section VII.b of the enforcement policy.

This event is identified as closed NCV 389/92-21-03, Missed Surveillance on a Radiation Monitor Being Returned to Service Due to Personnel Error. This LER is closed.

- f. (Closed - Unit 2) LER 389/90-04, Inadvertent Actuation of Engineered Safeguards Equipment During Time Response Testing Due to Personnel Error.

This LER reported a personnel error in that a technician pushed an incorrect push button during a safeguards test. The event was discussed in IR 389/90-28, paragraph 2.b. Operators, having been pre-briefed, recognized that the wrong equipment had actuated and terminated the test, realigned equipment, and verified plant conditions. No plant damage had occurred. Other corrective actions included a human factors review and a control room design review in the area. The inspector had no further questions. This LER is closed.

- g. (Closed - Unit 2) LER 389/90-06, Inadvertent Actuation of Auxiliary Feedwater Equipment During Monthly Testing Due to Test Instrument Malfunction.

This LER reported an instance where 2B and 2C AFW pumps started when not supposed to during the AFAS monthly functional test. The licensee found that the condition was caused by an intermittent grounding fault inside the test meter case. Though the vendor did not specify use of an ungrounded meter, the licensee changed the applicable procedure to require it. The inspector reviewed I&C procedures 1-0700051, Rev 12, and 2-0700051, Rev 15, Auxiliary Feedwater Actuation System Monthly Functional Test. They had both been changed to require in Section 8, Materials and Equipment Required, that a battery-powered digital multimeter be used. This LER is closed.

- h. (Closed - Unit 2) LER 389/91-05, Missed Surveillance for Safety Injection Tank Water Level and Pressure Channel Functional Test due to personnel error.

This LER reported a licensee-identified violation of TS 4.5.1.2.a. The licensee discovered a missed monthly functional check surveillance four days after the 25 percent grace time had expired. They promptly performed the functional check with a satisfactory result. The licensee followed up this event in CAR N-91-074. The root cause was found to be personnel error but a strong contributor was the scheduling program not providing for system supervisors to be absent and not providing for a positive check that the surveillance was actually performed. The inspector checked I&C procedure 1400190, Rev 8; I&C Department Testing and Surveillance Schedule, and found that the scheduling form had been modified to address alternate supervisors and confirmation that each test had been completed. The current schedule was posted in the hall where I&C supervisors' offices were located and was obviously in use.

This violation is not being cited because the licensee's efforts in identifying and correcting the violation met the criteria specified in Section VII.b of the enforcement policy.

This event is identified as closed NCV 389/92-21-04, Missed Technical Specification Surveillance. This LER is closed.

- i. (Closed - Unit 2) LER 389/92-002, Containment High Pressure Channel "C" Inoperable due to being capped.

This event was cited as a violation of NRC requirements in IR 389/92-07 and was reported by this LER. The LER was timely and properly characterized the event. The event is being followed up under VIO 389/92-07-03. This LER is closed.

- j. (Closed - Unit 2) LER 389/92-004, Manual Trip Due to Low "A" Steam Generator Level.

This event occurred on July 8, 1992, and was discussed in IR 335,389/92-11. The LER accurately reported the event. This LER is closed.

- k. (Closed - Unit 1) LER 335/91-02, Unplanned Actuation of Auxiliary Feedwater System Components Due to Personnel Error While Troubleshooting a Problem Discovered During Monthly Surveillance.

While troubleshooting at 100 percent reactor power, a technician pulled the wrong fuse in the AFAS channel "D" cabinet and started the 1C AFW pump. Both the steam admission and trip/throttle valves opened. No water was injected into the steam generators.

The licensee found the major contributor to the error was that the vendor manuals were unclear concerning the types and locations of various fuses. The inspectors reviewed the licensee actions listed in the LER. The changes to the applicable AFAS technical manuals clarified the types and locations of fuses in the cabinet. All other licensee actions were completed. No TS or procedures had been violated and no other systems had been effected. This LER is closed.

- l. (Closed - Unit 1) LER 335/91-07, Diesel Generators Administratively Declared Out of Service Because of Particulate Contamination in the Diesel Fuel Oil Due to Procedure Deficiencies.

This LER reported a licensee-identified violation of TS 4.8.1.1.2.d involving the failure to correctly identify or employ a chemical reagent used in EDG fuel oil particulate determination. A particulate-contaminated fuel oil shipment was not detected, was introduced into the site's fuel oil storage system, and resulted in technical inoperability of three of four fuel oil storage tanks and EDGs. This event was cited as a violation of NRC requirements in IR 335,389/91-22, VIO 91-22-01. See also paragraph 11.j of this report.

The corrective actions stated in the LER text have been completed. The inspectors have observed all phases of fuel oil sampling, filtration, and onsite analytical testing. The inspectors judged that the licensee's actions should reduce the probability of recurrence. This LER is closed.

Licensee corrective action completion for the above LERs was satisfactory.

9. Onsite Followup of Events (Units 1 and 2)(93702)

Nonroutine plant events were reviewed to determine the need for further or continued NRC response, to determine whether corrective actions appeared appropriate, and to determine that TS were being met and that the public health and safety received primary consideration. Potential generic impact and trend detection were also considered.

Licensee followup of events discussed in paragraph 2 was seen as timely and effective.

10. Followup of Unresolved Items (Units 1 and 2) (92701)

(CLOSED - Units 1 and 2) URI 335,389/91-16-01, Containment Integrity.

This issue was unresolved pending further NRC review. The issue has subsequently been reviewed by the NRC staff at both Region II and Headquarters. NRC review concluded that the licensee had violated NRC requirements in this area as described below. This URI is administratively closed.

This URI addressed a condition occurring on July 30, 1991. The licensee had initiated the Reactor Auxiliary Building Fluid Systems Periodic Leak Test on containment spray train "A" per OP 1-1300054, Rev 15, same title. This procedure essentially isolated the CS system at the containment penetration; operated the CS pump via recirculation to the Refueling Water Tank to pressurize the system, which would then be inspected for leaks; then restored the system to the normal configuration. The procedure referenced TS 6.8.4.a, Primary Coolant Sources Outside Containment, as the basic requirement being met by the test. Other TS LCOs that would be entered were not referenced.

The procedure required that CS drain valve I-V07163, located in the Auxiliary Building on the containment vessel side of test boundary valve I-MV-07-3A, be opened and all water drained from the spray header prior to starting the CS pump. This was to ensure that test boundary valve leakage was detected promptly to preclude spraying the containment. Valve I-V07163 was partially opened and had drained water for about three hours when the inspector questioned the licensee's compliance with TS 3.6.1.1. TS 3.6.1.1 required that containment vessel integrity be maintained in modes 1, 2, 3, and 4. This specification's action statement required that, if without containment vessel integrity, then containment vessel integrity must be restored within one hour or the unit be in Hot Standby within the next six hours. When notified of the concern, the licensee promptly shut the valve then restored the CS system to the normal configuration while reconsidering the test. The inspector considered that the TS 3.6.1.1 action statement was inadvertently entered but not exceeded because a normal unit shutdown could be accomplished within the four hours remaining in the action statement.

After due consideration, the licensee stated that they had not actually been in TS LCO Action Statement 3.6.1.1, Containment Vessel Integrity, because:

- The only valves involved in containment vessel integrity were those identified by number in the TS or perhaps the UFSAR. The licensee stated that they believed that the NRC had previously considered the situation when the facility license was issued and, by not specifically identifying in the TS the vent and drain valves or other fittings, had determined them to be too small to be

considered. The licensee specifically stated that all vent, drain, and test valves and fittings located in the containment penetration areas were not required to be secured in position and were not required to be surveillance checked at least once per 31 days per TS 4.6.1.1.

- Additionally, during the ILRT, the containment spray check valve and flow control valve had been tested as a pair using ILRT pressure. [These valves were not separately tested. The drain valve in question was between them.]

Subsequent NRC staff review and onsite inspection found that:

- The essential element of CONTAINMENT VESSEL INTEGRITY, that was not adequately maintained (as defined in TS definition 1.7), was as follows:

TS 1.7 CONTAINMENT VESSEL INTEGRITY shall exist when:

- a. All containment vessel penetrations required to be closed during accident conditions are either:
 1. Capable of being closed by an OPERABLE containment automatic isolation valve system, or
 2. Closed by manual valves, blind flanges, or deactivated automatic valves secured in their closed positions, except as provided in Table 3.6-2 of Specification 3.6.3.1 (for Unit 1) or Specification 3.6.3 (for Unit 2).
- Per the 10 CFR 50 Appendix A requirements for containment isolation, the area between the first automatic or locked isolation valve outside containment and the first automatic or locked isolation valve inside containment in a line penetrating containment is included in the design basis for containment vessel integrity. TS 3.6.1.1 and 4.6.1.1 apply.
- CS drain valve I-V07163 was in the section of pipe included in containment vessel integrity: it drained the CS line (that penetrated containment) between the first automatic isolation valve inside containment (a check valve) and the first automatic isolation valve outside containment. CS drain valve I-V07163 was a manual one-inch valve, was the only valve or isolation device in the drain line, and drained to the floor in the Containment Penetration Room in the Auxiliary Building. The valve had no mechanical device to seal or lock it closed. Other similar containment penetration vent, drain, and test valves in Unit 1 and Unit 2 also had no mechanical devices to seal or lock them closed.
- 10CFR Part 50, Appendix J, defined a containment isolation valve as any valve which is relied upon to perform a containment isolation

function. The NRC staff considered any valve which isolates a containment penetration, no matter how small, to be a containment isolation valve and that therefore CS drain valve I-V07163 was a containment isolation valve and TS 3.6.1.1 and 4.6.1.1 applied.

- TS 4.6.1.1 required that CONTAINMENT VESSEL INTEGRITY be demonstrated at least once per 31 days by verifying, in part, that all containment vessel penetrations not capable of being closed by OPERABLE containment automatic isolation valves and required to be closed during accident conditions are closed by valves, blind flanges, or deactivated automatic valves secured in their closed positions, except for those inside Unit 1 containment or listed in a certain TS table.
- "Secured in their positions" in the St Lucie TS applied to manual valves, blind flanges, and deactivated automatic valves. Standard Review Plan section 6.2.4, Containment Isolation System, referring to closed manual valves, blind flanges, and deactivated automatic valves, equated "secured in their position" and "sealed closed". These items should be under "administrative control" to ensure that they could not be inadvertently opened. Administrative control includes mechanical devices to seal or lock the fitting closed, or prevent power from being supplied to the valve operator.
- The licensee failed to maintain CONTAINMENT VESSEL INTEGRITY prior to November 23, 1992, in that Containment Spray drain valve I-V07163 and other non-automatic containment vessel penetration closure devices in both units, such as manual valves or blind flanges, while closed, were not secured in their closed positions as required. They were not secured in that there were no mechanical devices to seal or lock them closed. During this time, Units 1 and 2 were operated in Mode 1.
- The licensee failed to implement the 31 day surveillance requirement of Unit 1 and Unit 2 TS 4.6.1.1 prior to November 23, 1992. The licensee had no procedures to implement the check of all the vent, drain, and test valves being secured in their closed positions. Additionally, the licensee had no approved complete list of containment vessel penetration fittings and had no approved complete containment vessel penetration boundary drawings suitable for developing such procedures. Incomplete listings did exist. Many major valves were listed in TS Table 3.5.2, Containment Isolation Valves, and the Unit 2 UFSAR had sketches showing the local leak rate test alignments. The Unit 2 UFSAR sketches also included in-line valves other than isolation valves with no differentiation between the two categories.
- Implementing procedures, including surveillance procedures AP 1-0010125, Rev 87, and 2-0010125, Rev 40, and associated APs 1-0010125A and 2-0010125A did not include the vent, drain, and test valves.

- Standard Review Plan section 6.2.6, Containment Leakage Testing, regarding leak testing of vent, drain, and test valves, states that ... test, vent, and drain connections that are used to facilitate local leak testing and the performance of the containment integrated leak rate test should be under administrative control, and should be subject to periodic surveillance, to assure their integrity and verify the effectiveness of administrative controls.
- This system had a Class E penetration per UFSAR Section 6.2.4.2, Containment Isolation System Design. Class E was for lines designed to be open following a LOCA to mitigate the effects of the accident. They were to have either:
 - a. a check valve in series with a remote manually actuated valve, or
 - b. a remote manually actuated valve or check valve and a closed seismic Class I system outside containment.

The CS system was a closed Seismic Class I system outside containment with a check valve inside containment. Opening drain valve I-V07163 in the containment penetration area did not meet the "closed seismic Class I system" part of the requirement.

Failure to implement TS 3.6.1.1 and 4.6.1.1 is a violation, VIO 335,389/92-21-07, Failure to Adequately Maintain Containment Vessel Integrity.

11. Followup of Headquarters and Regional Requests (Units 1 and 2) (92701)
 - a. (Open - Unit 1, Closed - Unit 2) 335,389/P21-90-005, Broken Swing Arms for Check Valves.

This 10 CFR 21 Report concerned broken cast swing arms for Borg-Warner Co. pressure seal type check valves. The swing arms exhibited hot cracks, porosity, weld repair, and inadequate heat treatment. They were manufactured for nuclear service and were not commercial grade items subsequently dedicated for nuclear service. These valves were installed in the AFW system at another plant. The St. Lucie plant was listed as possibly having some of these items.

FPL reviewed this concern under feedback of operating experience program FOP-90-023. Eight valves were originally identified, four in Unit 1 and four in Unit 2. Three were inspected using visual and dye penetrant techniques as follows:

<u>UNIT</u>	<u>VALVE</u>	<u>QCIR NO.</u>	<u>RESULTS</u>
1	V-07269	M91-735	SATISFACTORY
1	V-07270	M91-736	SATISFACTORY



2 V-3215 35612 SATISFACTORY - the swing arm was stainless steel vice the material described in the 10 CFR 21 report.

Following the recognition that the Unit 2 valves did not actually fit the 10 CFR 21 report description, the licensee canceled further inspections on Unit 2 valves V-3225, 3235, and 3245. Unit 1 AFW check valves V-12174 and V-12176 are scheduled for inspection during the Spring, 1993, refueling outage per NPWO 3640/61. This item is closed for Unit 2 but remains open for Unit 1 pending the licensee completing the inspections.

- b. (Closed - Units 1 and 2) 335,389/P21-91-006, Overspeed Trip Tappets for Terry Steam Turbine Pump Drivers.

This 10 CFR 21 Report addressed a condition where the "molded head" type overspeed trip tappet heads swelled under high temperature and humidity, then bound up because of the loss of clearance between the head and a guide. A redesigned tappet incorporated a metal guided surface and greater clearance. St. Lucie Units 1 and 2 each have a Terry turbine in the AFW system.

The licensee addressed this issue under feedback of operating experience program FOP-89-143. The older model tappets were replaced per Unit 1 NPWO 2351/61, completed October 21, 1991, and Unit 2 NPWO 1592/62, completed June 13, 1992. The inspector reviewed the NPWO records and confirmed that the spare tappets held in stores were changed to the new part. This item is closed.

- c. The inspectors responded to a NRC Region II survey request received on November 2. The survey purpose was to assess the effectiveness of QA organizations. The survey areas included the QA organization, program, relationship to other assessment organizations such as ISEG, CNRB, etc., and effectiveness. The survey was returned on November 3, as required.

The above Part 21 Reports (items a. and b.) were satisfactorily followed by the licensee.

12. Followup of Corrective Actions for Violations and Deviations (Units 1 and 2)(92702)

- a. (Closed - Units 1 and 2) VIO 335,389/90-13-01, Failure to Ensure Quality at Least Equivalent to That Specified in the Original Design Basis or Requirements - Three Examples.

FPL letter L-90-250 responded adequately to this Notice of Violation.

- (1) The Unit 1 containment maintenance hatch drawbridge was being supported in its stowed position by a chainfall vice the required seismically designed bolted angle supports.

The licensee changed GMP M-0311 to identify removal and replacement of the drawbridge bracing during opening and closing of the containment equipment hatch. Subsequently, the inspectors have witnessed both Unit 1 and 2 drawbridges being properly positioned on several occasions

- (2) When unable to find approved mounting detail drawings for hydrogen sampling system containment isolation solenoid valves, the shop engineers informally designed and installed significantly different mountings.

The licensee addressed the personnel error involved here and also determined that the installation detail drawing did not adequately reflect a modified mounting configuration resulting from a PCM. The inspector reviewed drawing 8770-B-231, sheet 27-2, Rev 7, Instrument Installation Details, which now included the mounting details for the seven containment isolation valves. Subsequent to this violation, the inspectors have inspected field conditions several times prior to containment closure. The valves have been mounted per the drawing.

- (3) The licensee used carbon steel nuts on the 1A ICW pump casing-to-pump stuffing box joint vice the specified 316 stainless steel nuts. In addition, a single rubber gasket, vice the required flange insulation kit, was installed on a safety-related lubricating water flanged joint.

These were found to be personnel errors. In addition to counseling and correcting the specific problems, the licensee also verified fastener hardware on a random selection of 11 safety-related valves and 5 safety-related pumps to see if the fastener problem was wide spread. QC/PSL LTR BK No. 196, dated July 16, 1990, and attached QC Report 32006 documented satisfactory conditions. The licensee also changed the material control program to add increased accountability and responsibility at the foreman/supervisor level.

Based on the inspector's review of the licensee's corrective actions, this item is closed.

- b. (Closed - Units 1 and 2) VIO 335,389/90-23-01, Failure to Control Material in Safety-Related Repairs.

This violation involved two examples of failing to control materials used for safety-related repairs. One example was the use of unapproved replacement wire material during a RPS selector switch replacement. The other example was the use of an unapproved sealant on a mechanical seal leak.

FPL letter L-90-455 responded to the Notice of Violation. The two items were evaluated by engineering and judged acceptable, however

the wire was replaced with vendor-recommended wire anyway. The licensee determined that these items, along with VIO 335,389/90-30-01c, were symptoms of a more fundamental condition. The maintenance manager issued an interim letter describing the requirements. Specific confirmation that all maintenance personnel reviewed this letter was observed by the inspector. Subsequent permanent action included:

- QI 8-PR/PSL-1, Rev 17, Identification Control of Materials, Parts, and Components, established the licensee's plan for controlling material used in the plant. This incorporated the material contained in the maintenance manager's initial letter.
- AP 0010432, Rev 62, Nuclear Plant Work Orders, provided specific accountability and direction to foremen/supervisors concerning materials used on a job.

These program changes appear to be effective. This item is closed.

- c. (Closed - Unit 2) NCV 389/90-31-01, Use of Unapproved Procedures for PM of 2C AFW Pump Governor.

This NCV involved a PM that had not been FRG approved several months before. The procedure was subsequently approved and a revision has since been FRG approved and issued. The licensee also has changed the corrective action request system to adjust for a company reorganization. The inspectors have frequently interfaced with the current corrective action request system and found it to function very well. This item is closed.

- d. (Closed - Unit 1) VIO 335/91-22-02, Loss of Containment Integrity During Refueling.

This licensee-identified violation of TS 3.9.4.c. involved the issuance of a "clearance" for work on a CCW relief valve inside containment [meaning that the system was safe to work on] but not issuing the NPWO authorizing the start of work. Unit 1 was being refueled at the time. Shop personnel, thinking that they had permission, removed the valve. This opened a small flow path into containment, violating the refueling TS.

Licensee letter L-92-36 responded to the Notice of Violation. In addition to counseling, discussion during training, etc, the licensee changed the equipment clearance form per OP 0010122, Rev 51, In Plant Equipment Clearance Orders, to require by checkoff, specific safety review for several considerations, such as system redundancy, sensitive system status, mode related or not, and containment penetration. The inspector concluded that this highly visible focus will improve coordinated work control and strengthen the procedural barriers. This item is closed.

- e. (Closed - Unit 1) VIO 335/91-22-03, Failure to Maintain RCS In-Process Cleanliness Controls.

This licensee-identified violation of Unit 1 TS 3.4.7 involved the failure to control the quality of water used by a diver while high pressure water jet cleaning the reactor vessel flange. Domestic water was used, introducing into the RCS chlorides exceeding the TS limit of 150 ppb.

Licensee letter L-92-56 responded to the Notice of Violation. In addition to restoring the RCS to proper chemistry conditions and performing an engineering evaluation of the consequences, the licensee concluded that the cleaning evolution was inadequately controlled and took several steps to improve controls:

- Since part of the root cause involved connecting the hose to a domestic water connection vice a demineralized water connection, i.e., recognizing the correct system, the licensee added placards to the point of application, the service (domestic) water hose connections, warning that the water cannot be introduced internally into certain named systems, and neither internally nor externally into certain other named systems. Additionally, placards were made for demineralized and primary water systems stating that the water cannot be added to borated water systems without specific permission. Also, primary water placards stated that it was radioactively contaminated. The inspector has observed a number of these placards installed about the plant.
- The licensee shifted high pressure water blasting inside containment from a "skill of the trade" activity to one proceduralized by GMP-06, Rev 0, High Pressure Water Blasting Inside the Reactor Containment Building. While the procedure has safety precautions and communications options, it focuses on discussion with operations concerning proposed water sources prior to water blasting.
- The licensee changed the Unit 1 and Unit 2 reactor vessel maintenance sequence procedures to include specific notes at the appropriate locations to invoke the maintenance procedure for high pressure water blasting. The inspector reviewed procedures 1-M-0015, Rev 21, and 2-M-0036, Rev 13, both titled Reactor Vessel Maintenance - Sequence of Operations, and found the notes appropriate.

The inspector judged that these upgrades will decrease the likelihood of this event repeating. This item is closed.

- f. (Closed - Unit 1) VIO 335/92-04-01, Failure to Properly Store Flammable Materials.

This violation involved alcohol being stored in plastic containers, in a crew box, in a safety-related electrical equipment room.

FPL responded to this violation in letter L-92-99 and supplemented the response in letter L-92-125. The licensee immediately removed the flammable material to an authorized area and stored it in safety cans in a flame-proof cabinet. They then inspected other crew boxes and work areas, found several additional examples, and corrected them. The inspector observed these activities in progress at the time. The licensee took a number of steps to prevent further noncompliance, including:

- Following a staff survey to determine needs; the licensee procured about 50 flammable storage cabinets for use throughout the site.
- Added standard service contract requirements that contractors must obtain a flammable storage cabinet for any flammable products they use.
- Provided for crew box identification and for access to all crew boxes by the fire and safety inspectors.
- Added inspection of crew boxes to the fire equipment and systems inspection check-off sheet.
- Addressed storage of flammable material in at least the safety meetings on June 11, July 17, and August 13, 1992.
- QCIR IE92-810 documented a QC surveillance of the site chemical control program (including flammable storage) on August 27, 1992. The QC inspector found the large number of areas inspected satisfactory.

The inspector has monitored these changes throughout the period subsequent to the violation and has also toured the area with the fire inspectors. The inspector concludes that the licensee has been very responsive to the Notice of Violation and that the flammable storage program is much improved. This item is closed.

- g. (Open - Unit 2) VIO 389/92-07-03, Isolation of Containment Pressure Sensing Line Without Placing Effected Instrumentation Channels in TRIP or BYPASS.

This violation involved the inadvertent capping of a small instrument line inside containment. Since it was not planned, the licensee did not take actions to place affected instrumentation in BYPASS or TRIP. The inspector had identified several contributors including:

- Lack of plain identification of the tubing stubs sticking into containment.

- Lack of protection of the open tubing ends to prevent insect entry or the insertion of debris.
- The exposed threads on the tubing ends inviting the installation of a cap.
- Lack of periodic surveillance to demonstrate clear passage through atmospheric sensing tubing.
- Lack of a check prior to entering a mode where atmospheric sensing is required.

FPL letter L-92-172 responded to the Notice of Violation. In addition to the licensee removing the cap, the licensee evaluated the maintenance and operating history, performed a PRA, and performed an engineering analysis. Since the system is a "2 of 4 channel to operate" system, the inspector concurred with the licensee's finding that the safety significance of capping one line was small.

Other corrective actions included the following:

- The inspector observed the licensee performing a pressurized air test of all other Unit 1 and Unit 2 containment pressure transmitter sensing lines on May 7, 1992, per Unit 1 NPWO 7340/63 and Unit 2 NPWO 7452/64.
- The inspector also observed the initial performance of I&C Procedure 1400205, Rev 0, on Unit 2 per NPWO 8158/64. This initial performance was receiving full-time jobsite supervision by an I&C supervisor. The supervisor properly stopped the work twice to correct procedure errors with temporary changes prior to proceeding.
- The licensee installed mud dauber caps on Unit 2 sensing lines per NPWO 7613/64 and PCM 157-292M. The inspector confirmed their presence during a containment inspection prior to Unit 2 entering Mode 4 on June 21, 1992.
- The inspector observed the sensing line labels added inside Unit 2 containment during a containment inspection prior to Unit 2 entering Mode 4 on June 21, 1992.
- The licensee changed AP 0010728, Post Outage Review, Section 8.3, Mode 4 prerequisites, to require an I&C signature that I&C Procedure 1400205 is completed prior to entering mode 4 during a startup. The inspector observed this in procedure revision 9.

Items remaining to be inspected are:

- Drawing changes for both Unit 1 and 2.

- Mud dauber cap installation for Unit 1 during the Spring, 1993, refueling.
- Tagging of Unit 1 penetrations during the Spring, 1993, outage.
- Performance of I&C 1400205 on Unit 1 during the Spring, 1993, outage.

Corrective action to date is adequate, however this item remains open pending review of drawings and Unit 1 items.

- h. (Closed - Unit 2) VIO 389/92-07-04, Failure to Follow the Procedure for Setting Steam Generator Safety Valves.

This TS violation involved the use of gages with inadequate accuracy to set SG code safety valves. The two gages were both labeled as being outside the procedural requirements, which was not questioned, and one was actually outside the procedural requirements.

FPL letter L-92-172 responded to this Notice of Violation. Immediate corrective action included obtaining proper gages, repeating the testing already accomplished, and then completing the setting in the required manner. This was verified by the inspector at the time.

Additional corrective action was based on the licensee recognizing that they had confused the gage accuracy requirements for setting code safety valves to +/- 1 percent of the setpoint with the less stringent accuracy requirements for pump and valve testing. additional corrective actions included:

- Procedure GMP-0705 was revised to clarify accuracy requirements, place the requirements in the various procedure sections, and add both a management approval point and a QC hold point to verify proper gages. The acceptable setpoint range was reduced to account for possible gage inaccuracy. The inspector reviewed GMP-0705, Rev 19.
- Procedure GMP-02, Rev 5, Use of M&TE by Mechanical Maintenance, was revised to specify the required gage accuracies for several purposes.
- Procedure GMP-0017, Rev 25, Pressurizer Safety Valve Maintenance, had been changed to address gage accuracy and range requirements.
- Procedure GMP-0810, Rev 12, Bench Testing of Safety Relief Valves, had been changed to include the requirement that gage accuracy, range, and type be proper and added the requirement that the supervisor and QC verify the selected gage.

The licensee has made widespread program evaluations and changes to address this violation. Performance is routinely monitored as part of the inspection program. This includes routinely planned inspections during the Spring, 1993, refueling outage. This item is closed.

- i. (Closed - Unit 2) VIO 389/92-11-01, Failure to Restore Peripheral Components to Service Following Equipment Modification.

This violation involved failure of one [assist] shop to restore a seismic conduit support after removing it to provide another [principal] shop access to complete a modification in the area.

FPL responded to this violation by letter L-92-244, dated September 9, 1992. FPL evaluated the as-found conditions and found that the subject conduit and component had been operable while not attached to the support. The licensee found that there were two reasons for the violation:

- AP 0010432, Nuclear Plant Work Orders, lacked guidance to planners concerning work order planning on seismic structures. The procedure was changed to include planning guidance and a post work check for reinstallation of seismic components.
- Personnel error on the part of the maintenance workers and supervisors. Maintenance department supervisors, planners, foremen, and journeymen were refreshed in this area during refresher training completed by September 30, 1992.

The inspector reviewed the licensee's response, reviewed AP 0010432, Rev 62, Nuclear Plant Work Orders, reviewed the operability calculation, and reviewed the training records and lesson plans with the maintenance training supervisor. The inspector concurred with the licensee's evaluation and corrective actions. This item is closed.

- j. (Closed - Units 1 and 2) VIO 335,389/91-22-01, Failure to Translate TS Requirements for Fuel Oil Testing.

This licensee-identified violation of TS 4.8.1.1.2d involved the failure to correctly identify or employ a chemical reagent used in EDG fuel oil particulate determination. A particulate-contaminated fuel oil shipment was not detected, was introduced into the site's fuel oil system, and resulted in technical inoperability of three of four fuel oil tanks.

Licensee letter L-92-36 responded to the Notice of Violation. In addition to correcting procedure C-121, "Determination of Particulate Contamination; and Check for Clear and Bright Appearance with Proper Color Diesel #2 Fuel Oil", to identify the correct reagent, the licensee performed the following:

- The licensee returned the fuel oil storage tanks to particulate specification without violating the TS time constraints. A contractor recirculated and filtered the storage tanks.
- An outside contractor reviewed the corrected analytical procedure and confirmed the procedure to be technically correct
- beyond the action stated in corrective action letter L-92-36, the licensee purchased a portable fuel oil filtration skid for routine plant use. This skid has been used to receive and process fuel oil shipments as an enhancement to TS requirements.

The inspector judged that the corrective actions will decrease the likelihood of this event repeating. This item is closed.

The inspectors found the corrective actions for those violations to be significant and to be focused on the generalized conditions and root causes vice just the specific instance of violation.

13. Exit Interview

The inspection scope and findings were summarized on November 24, 1992, with those persons indicated in paragraph 1 above. The inspector described the areas inspected and discussed in detail the inspection results listed below, except for VIO 335/92-21-07, Failure to Adequately Maintain Containment Vessel Integrity. Proprietary material is not contained in this report. Dissenting comments were not received from the licensee on November 24.

VIO 335,389/92-21-07 was discussed with the licensee during telephone conversations between FPL management and NRC Region II management on December 1, 1992. The inspection scope and findings concerning VIO 335,389/92-21-07 had previously been summarized during the exit interview for IR 335,389/92-16 on August 10, 1992. Dissenting comments from the licensee on August 10 regarding that violation are stated below:

- The only valves involved in containment vessel integrity were those identified by number in the TS or perhaps the UFSAR. The licensee stated that they believed that the NRC had previously considered the situation when the facility license was issued and, by not specifically identifying in the TS the vent and drain valves or other fittings, had determined them not required to be under the TS controls. The licensee specifically stated that all vent, drain, and test valves and fittings located in the containment penetration areas were not required to be secured in position and were not required to be surveillance checked at least once per 31 days per TS 4.6.1.1.

The NRC carefully considered the licensee's position on this matter but concluded that the licensee was incorrect and had been in violation of the subject TS.

<u>Item Number</u>	<u>Status</u>	<u>Description and Reference</u>
335/P21-90-005	open	P21 - Broken Swing Arms for Check Valves, paragraph 11.a.
389/P21-90-005	closed	P21 - Broken Swing Arms for Check Valves, paragraph 11.a.
335,389/P21-91-006	closed	P21 - Overspeed Trip Tappets for Terry Steam Turbine Pump Drivers, paragraph 11.b.
335,389/90-13-01	closed	VIO - Failure to Ensure Quality at Least Equivalent to That Specified in the Original Design Basis or Requirements - Three Examples, paragraph 12.a.
335,389/90-23-01	closed	VIO - Failure to Control Material in Safety-Related Repairs, paragraph 12.b.
389/90-31-01	closed	NCV - Use of Unapproved Procedures for PM of 2C AFW Pump Governor, paragraph 12.c.
335,389/91-22-01	closed	VIO - Failure to Translate TS Requirements for Fuel Oil Testing, paragraph 12.j.
335/91-22-02	closed	VIO - Loss of Containment Integrity During Refueling, paragraph 12.d.
335/91-22-03	closed	VIO - Failure to Maintain RCS In-Process Cleanliness Controls, paragraph 12.e.
335/92-04-01	closed	VIO - Failure to Properly Store Flammable Materials, paragraph 12.f.
389/92-07-03	open	VIO - Isolation of Containment Pressure Sensing Line Without Placing Effected Instrumentation Channels in TRIP or BYPASS, paragraph 12.g.
389/92-07-04	closed	VIO - Failure to Follow the Procedure for Setting Steam Generator Safety Valves, paragraph 12.h.
389/92-11-01	closed	VIO - Failure to Restore Peripheral Components to Service Following Equipment Modification, paragraph 12.i.

335/92-21-01	closed	NCV - LTOP Technical Specification Amendment Implementation Failure, paragraph 8.a.
389/92-21-02	closed	NCV - Failure to Implement New TS Requirements for Emergency Bus Undervoltage, paragraph 8.d.
389/92-21-03	closed	NCV - Missed Surveillance on a Radiation Monitor Being Returned to Service Due to Personnel Error, paragraph 8.e.
389/92-21-04	closed	NCV - Missed Technical Specification Surveillance, paragraph 8.h.
389/92-21-05	closed	NCV - Incomplete Technical Specification Special Report, paragraph 7.
389/92-21-06	open	URI - Operation Above the Licensed Power Level, paragraph 3.b.(4).
335,389/92-21-07	open	VIO - Failure to Adequately Maintain Containment Vessel Integrity, paragraph 10.

14. Abbreviations, Acronyms, and Initialisms

AC	Alternating Current
A/E	Architect/Engineer
AFAS	Auxiliary Feedwater Actuation System
AFW	Auxiliary Feedwater (system)
AP	Administrative Procedure
ATTN	Attention
CAR	Corrective Action Request
CCW	Component Cooling Water
CEA	Control Element Assembly
CFR	Code of Federal Regulations
CNRB	Company Nuclear Review Board
CS	Containment Spray (system)
DC	Direct Current
DDPS	Digital Data Processing System
DEH	Digital Electro-Hydraulic (turbine control system)
DPR	Demonstration Power Reactor (A type of operating license)
ECCS	Emergency Core Cooling System
EDG	Emergency Diesel Generator
EFPD	Effective Full Power Days
EFPY	Effective Full Power Years
ESF	Engineered Safety Feature
F	Fahrenheit
FCR	Field Change Request
FCV	Flow Control Valve
FOP	Feedback of Operating Experience Program

FPL	The Florida Power & Light Company
FRG	Facility Review Group
FSAR	Final Safety Analysis Report
GMP	General Maintenance Procedure
HCV	Hydraulic Control Valve
HPSI	High Pressure Safety Injection (system)
I&C	Instrumentation and Control
ICW	Intake Cooling Water
ILRT	Integrated Leak Rate Test(ing)
IR	[NRC] Inspection Report
ISEG	Independent Safety Engineering Group
JPN	(Juno Beach) Nuclear Engineering
LCO	TS Limiting Condition for Operation
LER	Licensee Event Report
LOCA	Loss of Coolant Accident
LPSI	Low Pressure Safety Injection (system)
LTOP	Low Temperature Overpressure Protection (system)
LTR BK	Letter Book
M&TE	Measuring & Test Equipment
MFIV	Main Feed Isolation Valve
MTC	Moderator Temperature Coefficient
MV	Motorized Valve
MW	Megawatt(s)
MWe	Megawatt(s), Electrical [Energy from the Electrical Generator]
MWt	Megawatt(s), Thermal [Energy from the Reactor]
NI	Nuclear Instrument
No.	Number
NPF	Nuclear Production Facility (a type of operating license)
NPWO	Nuclear Plant Work Order
NRC	Nuclear Regulatory Commission
NUREG	Nuclear Regulatory (NRC Headquarters Publication)
ohm	Unit of Electrical Resistance
ONOP	Off Normal Operating Procedure
OP	Operating Procedure
PCM	Plant Change/Modification
PCM	PerCent Milli (0.00001)
ppb	Part(s) per Billion
ppm	Part(s) per Million
PRA	Probabilistic Risk Assessment
PSL	Plant St. Lucie
QA	Quality Assurance
QC	Quality Control
QCIR	Quality Control Inspection Report
QI	Quality Instruction
RCS	Reactor Coolant System
RDT	Reactor Drain Tank
Rev	Revision
RG	[NRC] Regulatory Guide
RPS	Reactor Protection System
RTD	Resistive Temperature Detector
RWT	Refueling Water Tank
SG	Steam Generator

St.	Saint
STA	Shift Technical Advisor
TE	Temperature Element
TFE	A Type of Teflon
TS	Technical Specification(s)
UFSAR	Updated Final Safety Analysis Report
URI	[NRC] Unresolved Item
VAC	Volts Alternating Current
VIO	Violation (of NRC requirements)

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