



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

Report Nos.: 50-335/85-11 and 50-389/85-11

Licensee: Florida Power and Light Company  
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: May 15 - June 10, 1985

Inspection at St. Lucie site, near Ft. Pierce, Fla.

Inspectors: Gregory A. Pick for June 19, 1985  
R. V. Cryjenjak, Senior Resident Inspector Date Signed

Gregory A. Pick for June 19, 1985  
H. E. Bibb, Resident Inspector Date Signed

Approved by: Viggo Brown 6/19/85  
S. A. Elrod, Section Chief Date Signed  
Division of Reactor Project

SUMMARY

Scope: This routine, unannounced inspection entailed 307 inspector-hours on-site in the areas of Technical Specification (TS) compliance, operator performance, overall plant operations, quality assurance (QA) practices, station and corporate management practices, corrective and preventive maintenance activities, site security procedures, radiation control activities and surveillance activities.

Results: No violations or deviations were identified.

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## REPORT DETAILS

### 1. Persons Contacted

#### Licensee Employees

- \*K. Harris, St. Lucie Site Vice President
- D. A. Sager, Plant Manager
- \*J. H. Barrow, Operations Superintendent
- \*T. A. Dillard, Maintenance Superintendent
- L. W. Pearce, Operations Supervisor
- N. G. Roos, Quality Control (QC) Supervisor
- C. F. Leppia, Instrument and Control (I&C) Supervisor
- \*C. A. Pell, Technical Staff Supervisor (Acting)
- H. F. Buchanan, Health Physics (HP) Supervisor
- J. G. West, Security Supervisor
- J. Scarola, Assistant Plant Superintendent - Electrical
- \*J. A. Dyer, QC Engineer

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

\*Attended Exit Interview.

### 2. Exit Interview

The inspection scope and findings were summarized on June 12, 1985, with those persons indicated in paragraph 1. The licensee did not identify as proprietary any of the materials provided to or reviewed by the inspectors during this inspection.

### 3. Licensee Action on Previous Enforcement Matters

Not inspected.

### 4. Unresolved Items

Unresolved Items were not identified during this inspection.

### 5. Plant Tours (Units 1 and 2)

The inspectors conducted plant tours periodically during the inspection interval to verify that monitoring equipment was recording as required, that equipment was properly tagged, that operations personnel were aware of plant conditions and that plant housekeeping efforts were adequate. The inspectors also determined that appropriate radiation controls were properly established, that critical clean areas were being controlled in accordance with procedures, that excess equipment or material was stored properly and that combustible material 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 inspectors routinely conducted partial walkdowns of ECCS systems. Valve and breaker/switch lineups and equipment conditions were randomly verified both locally and in the control room. During the inspection period, the inspectors conducted a complete walkdown in the accessible areas of the High Pressure Safety Injection (HPSI) system, Low Pressure Safety Injection (LPSI) system and Containment Spray (CS) system to verify that the lineups were in accordance with licensee requirements for operability and that equipment material conditions were satisfactory.

The Unit 2 HPSI and LPSI valve lineups and component identifications were verified correct per Operating Procedure (OP) 2-0410020, revision 9, HPSI/LPSI Normal Operation, and the CS valve lineups and component identifications were verified correct per OP 2-0420020, revision 7, Containment Spray Initial Valve Alignment.

Within the areas inspected, no violations or deviations were identified.

#### 6. Plant Operations Review (Units 1 and 2)

During the inspection interval, 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. During normal events, operator performance and response actions were observed and evaluated. The inspectors conducted random off-hours inspections during the reporting interval to assure that operations and security remained at an acceptable level. Shift turnovers were observed to verify that they were conducted in accordance with approved licensee procedures.

Within the areas inspected, no violations or deviations were identified.

#### 7. Technical Specification Compliance (Units 1 and 2)

During this reporting interval, the inspectors verified compliance with selected Limiting Conditions for Operations (LCO) and the results of selected surveillance tests. These verifications were accomplished by direct observation of monitoring instrumentation, valve positions, switch positions and review of completed logs and records. The licensee's compliance with selected LCO action statements were reviewed on selected occurrences as they happened.

On May 23, 1985, St. Lucie Unit 1 was at 99.26 percent power, steady state conditions, with OP 1-0110050, Control Element Assembly Periodic Exercise, in progress. At approximately 2:55 p.m., Control Element Assembly (CEA) AA-43 abruptly slipped from 135 inches of withdrawal to 107 inches of withdrawal. This created a deviation between CEA 43 and the other CEA in its group of approximately 28 inches. This situation placed the plant in TS 3.1.3.1.e which requires reducing reactor power to less than 70 percent within one hour and then realigning the CEA with its group. However, the plant licensed operator did not refer directly to the Unit Technical Specifications but choose to utilize the corresponding operating procedure, OP 1-0110030, CEA Off-Normal Operation and Realignment. Referring only to the guidelines in the procedure the operators incorrectly determined that the CEA could be realigned at the existing power level. Consequently, CEA 43 was realigned to its group within ten minutes, but at the wrong power level. This appears to be a violation of TS 3.1.3.1.e; however, since the licensee's actions satisfied 10 CFR 2, Appendix C, Section V.A, no violation will be issued.

Reactor Engineering reviewed the operator's actions, the operating procedure (OP 1-0110030) and the Unit Technical Specifications. This review revealed the error of not reducing reactor power prior to CEA realignment. Reactor Engineering proceeded to monitor reactor core physics parameters, and their evaluation determined that no significant problems had been caused by realigning CEA 43 above 70 percent power. The CEA exercise procedure (OP 1-0110050) was recommenced and completed with no further abnormalities.

The event was caused by several factors. The procedure for CEA realignment (OP 1-0110030) is confusing to follow in the specific case of, "one CEA misaligned by greater than 15 inches but not a dropped CEA". The immediate actions do not state that reactor power should be immediately reduced below 70 percent power as required by TS 3.1.3.1.e. For the operator to arrive at the correct conclusion that power should be reduced prior to CEA realignment, he must follow the subsequent action steps where the procedure refers him to a "Dropped CEA Investigation" Appendix. Additionally, Unit 2 TS and procedures permit realignment of the CEA under these circumstances without a power reduction to less than 70 percent. Prior to this event, the licensee had submitted a safety analysis for a pending Unit 1 TS change submittal (Ref. FPL letter FRNT 85-139, dated 5/21/85) which will permit realignment of a CEA at full power under the described conditions. The analysis concludes that such realignments do not compromise plant safety.

#### 8. Maintenance Observation

Station maintenance activities of selected safety-related systems and components were observed/reviewed to ascertain that they are conducted in accordance with requirements. The following items were considered during this review; the LCOs were met; activities were accomplished using approved procedures; functional testing 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 assure that priority is assigned to safety-related equipment.

Within the areas inspected, no violations or deviations were identified.

#### 9. Surveillance Observation

During the inspection period, the inspectors verified that various plant operations were in compliance with appropriate TS requirements. Typical of these were confirmation of compliance with the TS for reactor coolant chemistry, refueling water tank requirements, containment pressure, control room ventilation and AC and DC electrical sources. The inspectors verified testing was performed in accordance with adequate procedures; test instrumentation was properly calibrated; limiting conditions for operation were met; removal and restoration of the affected components were accomplished; 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 inspectors also observed the performance of the emergency diesel generator (EDG) surveillance test on the 2B EDG per OP 2-2200050, revision 8, Emergency Diesel Periodic Test.

Within the areas inspected, no violations or deviations were identified.

#### 10. Review Of Nonroutine Events Reported By The Licensee (Units 1 And 2)

The following licensee event reports (LER) were reviewed for potential generic impact, to detect trends and to determine whether corrective actions appeared appropriate. Events which were reported immediately were also reviewed as they occurred to determine that TS and procedural requirements were being met. The following LERs are considered closed:

##### Unit 1

\*335/85-05

##### Unit 2

389/85-01

\*389/85-03

389/85-04

\*389/85-05

\*In-Depth Review Performed

On May 9, 1985, at approximately 9:00 a.m., St. Lucie Unit 2 experienced an inadvertent actuation of the Engineered Safety Feature (ESF) for containment sump recirculation during a periodic surveillance. Since the unit was operating at 99 percent power with all safety injection and containment

spray pumps secured, the Recirculation Actuation Signal (RAS) did not affect operation of the unit.

The immediate corrective action was to reset the RAS and reposition the valves actuated by the RAS. The event was caused by a failed refueling water tank level switch in the channel MD test circuit. The switch was replaced and the remainder of the ESF Actuation System surveillance was completed without further problems.

11. Physical Protection (Units 1 and 2)

The inspectors verified by observation and interviews during the reporting interval that measures taken to assure the physical protection of the facility met current requirements. Areas inspected included the organization of the security force, the establishment and maintenance of gates, doors and isolation zones in the proper condition and that access control and badging was proper and procedures were followed.

Within the areas inspected, no violations or deviations were identified.