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

Report Nos.: 50-335/87-20 and 50-389/87-19

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: August 2 - September 5, 1987

Inspectors: Bruce A. Wilson for 9/24/87
R. V. Crlenjak, Senior Resident Inspector Date Signed

Bruce A. Wilson for 9/24/87
H. E. Bibb, Resident Inspector Date Signed

Approved by: Bruce A. Wilson 9/24/87
B. Wilson, Section Chief Date Signed
Division of Reactor Projects

SUMMARY

Scope: This inspection involved on site activities in the areas of Technical Specification compliance, operator performance, overall plant operations, quality assurance practices, station and corporate management practices, corrective and preventive maintenance activities, site security procedures, radiation control activities, and surveillance activities.

Results: Of the areas inspected, no violations or deviations were identified.

REPORT DETAILS

1. Persons Contacted

Licensee Employees

K. Harris, St. Lucie Vice President
*G. J. Boissy, Plant Manager
R. Sipos, Services Manager
J. H. Barrow, Operations Superintendent
T. A. Dillard, Maintenance Superintendent
J. B. Harper, QA Superintendent
*L. W. Pearce, Operations Supervisor
R. J. Frechette, Chemistry Supervisor
*C. F. Leppla, I&C Supervisor
C. A. Pell, Technical Staff Supervisor
*E. J. Wunderlich, Reactor Engineering Supervisor
H. F. Buchanan, Health Physics Supervisor
*C. L. Burton, Reliability and Support Supervisor
*J. Barrow, Fire Prevention Coordinator
R. E. Dawson, Assistant Plant Superintendent - Electrical
C. Wilson, Assistant Plant Superintendent - Mechanical
*N. G. Roos, Quality Contorl Supervisor

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

NRC Personnel

B. A. Breslau, Reactor Inspector, DRS, RII
R. D. Starkey, Reactor Inspector, DRS, RII

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on August 14 and September 14, 1987, with those persons indicated in paragraph 1 above.

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

(Closed) Violation 389/86-17-01 - Failure to implement procedures in accordance with Technical Specifications. The licensee, by letter L-86-405, concurred with the two aspects of the violation and outlined actions taken to correct the discrepancies. NRC Region II letter of October 20, 1986, approved of the licensee's response and subsequent inspections have indicated improvement in this area. This item is closed.

(Closed) Violation 335/87-08-01, 389/87-07-01 - Failure to submit revisions of radiological emergency plan to NRC within 30 days. The licensee concurred in the violation and submitted a corrective action response via letter L-87-224 dated May 26, 1987, which was approved by Region II letter dated June 11, 1987. This item is closed.

(Closed) Violation 335/87-10-01, 02 - Failure to implement procedures for temporary shifting of fuel handling building ventilation radiation monitor and failure to take required grab samples. The licensee concurred in the two violations and submitted a corrective action response via letter L-87-257 dated June 23, 1987, which was approved by Region II letter dated July 10, 1987. This item is closed.

(Withdrawn) Violation 50-335/87-14-01 - Failure to maintain two operable redundant loops of component cooling water (CCW). And, (Closed) Unresolved Item, UNR 50-335/87-14-02 - Adequacy of licensee's program for configuation control of safety related systems. On August 7, 1987, an Enforcement Conference was held at the NRC's request at the St. Lucie site. This meeting concerned the above listed items, which were the result of operation of unit 1 for the period June 8 - 19, 1987, with the CCW loops cross-connected. The details of the event are documented in inspection report 335/87-14. At the meeting, the licensee discussed the circumstances leading up to the event, root cause identification and corrective actions.

The licensee's investigation into the root cause of the event included review of past clearances for cleaning CCW heat exchangers. The licensee determined that, for the previous five occasions, the valves involved in this event had previously been included on the clearance; therefore, when the system was returned to service, theses valves were independently verified to be in the proper (closed) position. The licensee has revised the clearance procedure to include all valves on the clearance which may affect the operation of a safety related system. Additionally, the licensee has revised the procedures for the Valve Switch Deviation Log to include review by operations on a daily basis. Previously, the log had been reviewed quarterly.

The licensee's engineering review for significance of the event used a simplified system and calculated the system failure probabilities with valves open vs. closed. The licensee's results showed a minimum effect on the accident failure probability for certain passive system failures. A comparison was then made between the passive failures and active type failures permitted by the Technical Specification LCO for one train being inoperable. The results indicated that there was a higher probability of failure under TS allowed conditions than the event condition. Additionally, the licensee stated that although redundancy of the CCW system may be lost under certain conditions, there was no loss of operability to either train.

In summary, the violation was identified by the licensee at the first opportunity, the safety significance fits a Severity Level IV, the event was promptly reported, prompt and extensive corrective actions were taken to prevent recurrence, and it was not a violation which could reasonably

be expected to have been prevented by previous corrective actions. In accordance with 10 CFR 2, Appendix C, a Notice of Violation will not be issued. This item is closed.

4. 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, 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 inspectors routinely conducted partial walkdowns on ECCS systems. Valve, 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 Unit 1 and 2 Component Cooling Water, Emergency Diesel Generators, and High/Low Pressure Safety Injection Systems to verify that the lineups were in accordance with licensee requirements for operability and equipment material conditions were satisfactory. Additionally, flowpath verifications were performed on the following systems: Chemical and Volume Control and Auxiliary Feedwater.

No violations or deviations were identified.

5. Plant Operations Review (Units 1 and 2)

The inspectors, periodically during the inspection interval, 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 routine operations, 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. The inspectors performed an in-depth review of the following safety-related tagouts (clearances):

Unit 1

Clearance No.	Description
1-18-135	PCV-2201P - Letdown Pressure Control Valve - Verify Actuation
1-9-5	1C Charging Pump - Check Accumulator Pressure
1-9-8	1A charging Pump - Investigate Noise
1-9-9	HVE-6A - Shield Building Exhaust Fan - Preventative Maintenance (P.M.)
1-9-11	1A Emergency Diesel Generator - P.M.

Unit 2

2-9-12	HVE-8B - Preventative Maintenance
2-9-14	2C Auxiliary Feedwater Pump - P.M.

No violations or deviations were identified.

6. Technical Specification Compliance (Units 1 and 2)

During this reporting interval, the inspectors verified compliance with limiting conditions for operations (LCO's) and 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 LCO action statements were reviewed on selected occurrences as they happened.

No violations or deviations were identified.

7. Maintenance Observation

Station maintenance activities of selected safety-related systems and components were observed/reviewed to ascertain that they were conducted in accordance with requirements. The following items were considered during this review: limiting conditions for operations 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 status of outstanding jobs and to assure the priority was assigned to safety-related equipment. The inspectors observed portions of the following maintenance activities:

Unit 1

PWO No.	Description
4705	Annual PM on 1C Charging Pump
4735	Perform Monthly Test on 125 VDC System
5227	Repair Dual Indication on 1C CCW Pump Cross-Tie

Unit 2

0514 Investigate/Repair Steam Leak on 2B Main Feedwater Pump
3098 V6745 - Waste Gas Discharge Throttle Valve - Repair Leak

No violations or deviations were identified.

8. Review of Nonroutine Events Reported by the Licensee (Units 1 and 2)

The following Licensee Event Reports (LER's) 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 Technical Specifications were being met and that the public health and safety were of upmost consideration. The following LER's are considered closed:

Unit 1

87-10 Reactor trip due to loss of instrument buses due to personnel error

*87-11 Reactor trip resulting from a turbine generator lockout trip caused by equipment failure (reference IE Report 50-335/87-12)

*87-12 Loss of component cooling water redundancy because of cross-tie valves being in open position; personnel error (reference IE Report 50-335/87-14 and paragraph 3 of this report)

Unit 2

*87-05 Technical Specification required shutdown because of two dropped control element assemblies for unidentified reasons (reference IE Report 50-389/87-11)

*In depth review performed

9. 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 conditions, that access control and badging was proper, and procedures were followed.

No violations or deviations were identified.

10. Surveillance Observations

During the inspection period, the inspectors verified plant operations in compliance with selected Technical Specifications (TS) requirements, Typical of these were confirmation of compliance with the TS for reactor coolant chemistry, refueling water tank, 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, limiting conditions for operations 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 observed portions of the following surveillance(s):

Unit 1

OP 1-0110057 - Periodic Surveillance of Departure from Nucleate Boiling (DNB) Margin
OP 1-0410050 - HPSI/LPSI Periodic Test
OP 1-0420050 - Containment Spray Periodic Test

Unit 2

OP 2-0410050 - HPSI/LPSI Periodic Test
OP 2-0420050 - Containment Spray Periodic Test

No violations or deviations were identified.

11. Outstanding Items List (OIL) Closeout Actions (Resident Staff)

The following 10 CFR Part 21 items have been addressed by the Licensee and are considered closed.

Unit 1

P21 85-04 - Technology for Energy Corporation (TEC) Model 914-1 Acoustic Valve Flow Monitor Module. The licensee performed the test procedure which was forwarded with the Part 21 letter and the equipment was found to be satisfactory.

P21 86-02 - BBC Brown-Boveri K600/K800 Circuit Breakers Racking Gear in Contact with Wiring Harness. This problem is addressed every 18 months during refueling outages via Maintenance Procedure 0940061, Maintenance of Low Voltage Breakers and Overload Devices.

P21 85-02 - Error in the Exxon Nuclear Evaluation Model for the LOCA-ECCS Analysis. The Exxon Nuclear letter informed St. Lucie that a reanalysis revealed that the error would not result in exceeding the criteria of 10 CFR 50.46 during operation at the Technical Specification limits.

Unit 1 & Unit 2

P21 85-01 - Morrison-Knudsen Diesel Generators Failure of Low Pressure Alarm when Lube Oil Pumps are De-energized. The problem was addressed via Construction Work Order #6529 implementing Plant Change/Modification 92-182.

Unit 2

P21 85-03 - Technology for Energy Corporation (TEC) Model 914-1 Acoustic Valve Flow Monitor Module. The licensee performed the test procedure which was forwarded with the Part 21 letter and the equipment was found to be satisfactory.

Miscellaneous OIL Closeout Actions:

(Closed) 335/86-23-00 - This item is an administrative entry error in the Unit 1 OIL - Delete

12. Outstanding Items List (OIL) Closeout Actions (RII Staff)

(Closed) IFI 335/84-09-02, 389/84-12-02. Quality Procedure (QP) 17.1 paragraph 5.3.6, states that protection of Quality Assurance (QA) records from fires shall meet the requirements of 232 NFPA-1974. The correct code is 232 NFPA-1975. It appears that this is a typographical error. A review of Revision 13 of QP 17 indicates the specific NFPA code has been deleted from the procedure, however, the requirements for proper fire protection are delineated in the procedure. Additionally, the licensee committed in the Topical Report to follow 232 NFPA-1980. Based on the results of this review, this item is closed.

(Closed) IFI 335, 389/85-12-01. Proceduralized determination of safety related and Radiation Work Permit (RWP) requirements for developing plant work orders (PWO). The NRC inspector interviewed planning department personnel noting that those interviewed have a comprehensive understanding of Health Physics Procedure HP-1, revision 21, concerning the requirements for when a RWP is required. Administrative Procedure 0010432, revision 32, provides adequate guidance for initiating, approving, authorizing and implementing PWO's. The inspector also reviewed completed PWO's and found the documentation to be complete. This item is considered closed.

(Closed) IFI 335, 389/85-12-02. The licensee is not performing timely performance of safety-related maintenance. PWO's were noted with priority codes which required from one to 30 days to start but the work orders were open five to seven months with no work performed. A review of the licensee's automated Nuclear Job Planning System (NJPS) indicates jobs are being adequately tracked and maintenance supervisors are routinely provided status reports reflecting number of backlogged jobs. Also, the NJPS provides the maintenance supervisor with a means to assess the cause of delays. Based on this review this items is considered closed.

(Closed) IFI 335, 389/85-12-03. The licensee's Technical Specification section 6.10.1.b requires records and logs of principal maintenance activities, inspections, repairs and replacement of equipment related to nuclear safety, to be retained at least five years. According to the record vault index, the five year retention is occurring, but Operating Procedure OP-0010122, Section 7.2, requires clearance orders to be retained for only one year. The NRC inspectors review of revision 31 of Operating Procedure 0010122 indicates Section 7.2 specifies clearance orders will be kept per Quality Instruction (QI) 17-PR/PSL-1. Revision 10 of QI 17-PR-PSL-1 indicates clearance order retention period complies with the Technical Specification requirements. This item is considered closed.

(Closed) IFI 335, 389/85-12-04. The distribution and review of I&E Notices and the incorporation as necessary, of the information into procedures, training courses, and corrective actions did not occur in a timely manner. The inspector reviewed the "Operating Experience Feedback Procedure", AP 005724, Revision 9, dated 2/25/87. This revised procedure appeared to adequately address former discrepancies in the routing of, and response to, I&E Notices. A member of the Shift Technical Advisor Group was interviewed concerning implementation of this procedure. Also, "feedback" files were inspected and found to conform to the procedure. Based on the inspection findings, this item is closed.

(Closed) Inspector Followup Item 335, 389/85-12-05. ANSI Standard N18.7.1976, states that the causes of malfunctions shall be determined, evaluated, and recorded. Experience with the malfunctioning equipment and similar components shall be reviewed and evaluated to determine whether a replacement component of the same type can be expected to perform its function reliably. The licensee does this evaluation process in an informal manner. A review of licensee procedures QI-1-PR/PSL-3, Maintenance Organization, established the programmatic requirements for the Reliability and Support Staff to develop, implement and document programs to assess and improve system and component reliability by reviewing PWOs for failures and assessing the maintenance history and existing predictive and preventive maintenance programs. Even though the licensee is in the developmental stages of this new program, adequate controls appear to be in place. This item is considered closed.

13. Licensee Action on Previous Enforcement Matters

(Closed) Unresolved Items 335/84-26-01, 389/84-28-01. Interpretation of "Actively Performing the Functions of an Operator or Senior Operator" with regard to 10 CFR 55.31(e). There were no clearly defined guidelines available to the licensee at the time this item was identified. The recently issued 10 CFR 55 provides clear guidance in this area and also in the area of actions required to resume active performance of licensed duties after an inactive period. Because of the previous lack of guidance and subsequent issuance of guidance, this item is closed.

(Closed) Violation 50-335, 389/85-16-01. Adequate measures had not been established to assure suitable environmental conditions for the calibration of Measurement and Test Equipment (M&TE) in that specific limits defining acceptable environmental conditions had not been established for the calibration of M&TE in the Instrumentation and Control (I&C) and Mechanical Shops. The licensee Quality Instruction Procedures, QI 12-PR/PSL-2 and QI 12-PR/PSL-1, state that M&TE shall be stored and calibrated in accordance with environmental conditions recommended in the manufacturers technical manual. Some of the calibration procedures also refer to environmental conditions but again refer the technician to the appropriate technical manual for specifics. There exists no formal procedural guidelines establishing definite laboratory conditions. The informal policy of the licensee is that a calibration will take place only when the laboratory conditions are less than 80°F and less than 75% relative humidity which are conservative limits according to the licensee. Actual temperature and humidity are monitored on a Honeywell recorder which is calibrated annually. Temperature is also monitored by a Fluke 5101B calibrator which provides a continuous digital readout. Actual environmental conditions appeared to be adequate even with the absence of a written policy defining those conditions. To ensure that a technician verifies the environmental conditions prior to each calibration, the licensee has committed to include on each calibration sheet a statement to the effect that environmental conditions for that particular calibration have been met. Based upon the licensee's commitment, review of applicable procedures, and inspection of the M&TE laboratory, this violation is closed.