



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

Report Nos.: 50-335/86-02 and 50-389/86-01

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: January 14 - February 10, 1986

Inspectors:	<u>S. Guenther</u>	<u>2/28/86</u>
	for R. V. Crlenjak, Senior Resident Inspector	Date Signed
	<u>S. Guenther</u>	<u>2/28/86</u>
	for H. E. Bibb, Resident Inspector	Date Signed
Approved by:	<u>S. Guenther</u>	<u>2/28/86</u>
	for S. A. Elrod, Section Chief	Date Signed
	Division of Reactor Projects	

SUMMARY

Scope: This inspection entailed 160 inspector-hours onsite 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, surveillance activities and Inspection and Enforcement Information Notice (IEIN) review.

Results: One deviation was identified (paragraph 3).

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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
R. J. Frechette, Chemistry Supervisor
C. G. Leppla, Instrumentation and Control (I&C) Supervisor
P. L. Fincher, Training Supervisor
C. A. Pell, Technical Staff Supervisor (Acting)
E. J. Wunderlich, Reactor Engineering Supervisor (Acting)
H. F. Buchanan, Health Physics Supervisor
G. Longhouse, Security Supervisor
J. Barrow, Fire Prevention Coordinator
J. Scarola, Assistant Plant Superintendent - Electrical
C. Wilson, Assistant Plant Superintendent - Mechanical
N. G. Roos, Quality Control Supervisor

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 February 7, 1986, 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 Inspection Findings

(CLOSED) Unresolved Item (UNR) 389/85-30-01 - Reactor Auxiliary Building (RAB) Ventilation and Exterior Door Status. On November 15, 1985, while performing a walkdown of the Unit 2 RAB, the inspector noted that several exterior doors were open and there existed, through the open doors, a flow of air from inside to outside (i.e., building pressure was positive). The RAB ventilation lineup is normally operated such that air flow would be the reverse of that described above (i.e., building pressure negative). The Unit 2 Final Safety Analysis Report (FSAR) paragraphs 9.4 and 9.4.3.1



discuss design criteria and objectives of the RAB ventilation system. Since these design criteria/objectives could not be met with RAB exterior doors open on November 15, 1985, this UNR is closed and is now considered a deviation from the Unit 2 FSAR, DEV 389/86-01-01: Improper RAB Ventilation and Exterior Door Status.

(CLOSED) UNR 389/85-21-01 - Anti-Reverse Rotation Pin Reportability. The anti-reverse rotation device (ARRD) on several Unit 2 reactor coolant pumps (RCP) were found to be degraded during an inspection by the licensee (ref. IE Report 50-335,389/85-21). The licensee determined that this degraded condition was not reportable because the AARD could still carry out its intended function. On December 2-6, 1985, an inspection was conducted by a NRC RII inspector; it was concluded that this item was not reportable under 10 CFR 50.72, 50.73, or Part 21 (ref. IE Report 50-335,389/85-31). This item is considered closed.

4. Unresolved Items

Unresolved items are matters about which more information is required to determine whether they are acceptable or may involve a violation or deviation. A new unresolved item is discussed in paragraph 12.

5. Surveillance Observations

During the inspection period, the inspectors verified plant operations in compliance with selected Technical Specification (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 operation (LCOs) 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 inspector observed all aspects of the following surveillance:

- 1-1400059, Rev. 13 - Reactor Protection System - Periodic Logic Matrix Test

Portions of the following surveillance were also observed:

- 1-1630028, Rev. 7 - New Fuel Handling Crane Operation

6. Plant Tours

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 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 instrumentation calibration dates. Some tours were conducted on backshifts.

The inspectors routinely conducted partial walkdowns of Emergency Core Cooling Systems (ECCS). 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 Systems (CCWS) 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 High Pressure Safety Injection (HPSI) system and the Auxiliary Feedwater (AFW) system.

7. 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. 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 procedure. The inspectors performed an in-depth review of the following safety-related tagouts (clearances):

- 1-1-109 - 1B Charging Pump
- 1-2-2 - A Boric Acid Makeup Pump Discharge Check Valve
- 1-2-15 - MV-09-9 1A Auxiliary Feedwater to 1A Steam Generator
- 2-2-13 - 2A Charging Pump
- 2-1-17 - Condensate Storage Tank Nitrogen Seal

On February 7, 1986, with reactor power at approximately 100 percent, Unit 1 tripped during performance of a monthly Reactor Protection System (RPS) logic matrix test (OP-1-1400059). All systems functioned as designed. The test is performed to verify proper operation of the trip circuit breakers (TCB) which interrupt power to the control element assemblies (CEAs) and thereby trip the reactor. The trip occurred at the step in the procedure which requires TCBs 1 and 5 to be in the tripped/open position. While repositioning the logic matrix relay selector switch prior to TCBs 1 and 5 closing, TCBs 4 and 8 opened unexpectedly, resulting in a loss of power to the CEA bus and the reactor trip. The cause of the trip was traced to a faulty matrix relay selector switch which caused a matrix relay to actuate out of sequence, opening TCBs 4 and 8. Additionally, it was discovered that one relay (AB4) had a test coil with a lower resistance than the others. The faulty switch and relay were both replaced. Also replaced were two other matrix relay selector switches that showed slight indications of wear. The plant is considering an evaluation of the switch design and a possible design change which would replace the switches with ones of a different design. The unit was returned to service the same day.

8. Technical Specification Compliance

During this reporting interval, the inspectors verified compliance with LCOs 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 LCO action statements was reviewed on selected occurrences as they happened.

9. Maintenance Observation

Station maintenance activities on 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: 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 was assigned to safety-related equipment. The inspectors observed portions of the following maintenance activities (Plant Work Orders):

- 3027 - 1C Charging Pump
- 3028 - Pressurizer Code Safety Valve Nozzle
- 3031 - Valve 1100E Bonnet
- 3034 - 1A Boric Acid Makeup Pump Seal



10. Review of Nonroutine Events Reported by the Licensee

The following Licensee Event Reports (LERs) 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 TSs were being met and that the public health and safety were properly considered. The following LERs are considered closed; an in-depth review was performed on the asterisked LERs.

Unit 1

- 85-08 - Tardy Surveillance of Main Steam Isolation Valves Due to Personnel Error
- *85-09 - Defective Procedure Leads to Lift Rig Failure
- 85-10 - Control Room Ceiling Support Structure Outside Its Design Basis Due to Design Error
- *85-11 - Engineered Safeguards Actuations Due to Loose Fuse

Unit 2

- *85-09 - Manual Reactor Trip - Reactor Coolant Pump High Vibration

11. Physical Protection

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, proper access controls and badging, and adherence to procedures.

12. IE Information Notice (IEIN) Review

The inspectors have continued to review the licensee's actions in response to IEIN 85-84. The licensee has indicated, as reported in the last monthly resident report (ref. IE Report Nos. 50-335,389/85-36), that the installed main steam isolation valve (MSIV) air accumulators are of sufficient volume to ensure MSIV closure. The NRC, Region II has recently questioned licensee practices in performing testing of air operated/aided automatic valves which are required to function ("fail safe") under loss of air/actuator power conditions. Most air systems are designed with air accumulators which ensure valve operations when the normal air system/supply is lost. the licensee has performed testing as required by the TS to ensure valve



operability. Additional testing is performed periodically under the plant's inservice testing (IST) program as required by 10 CFR 50.55a and the applicable ASME Boiler and Pressure Vessel (BPV) Codes. One point in question deals with required testing of fail safe valves. The MSIVs may be considered part of this category and as such may require testing with the instrument air supply, as well as electric power, removed. The licensee has not interpreted the removal of instrument air while fail safe testing the MSIVs as a requirement due to the valves' design and function. Until the NRC Region II IST/ASME Code specialists complete an inspection of the current licensee practices for testing fail safe valves, this item will be tracked as an Unresolved Item (335/86-02-01, 389/86-01-02), Removing Air While Testing "Fail Safe" Valves.

