



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION II  
101 MARIETTA ST., N.W., SUITE 3100  
ATLANTA, GEORGIA 30303

Report No.: 50-389/83-14

Licensee: Florida Power and Light Company  
9250 West Flagler Street  
Miami, FL 33101

Docket No.: 50-389

License No.: CPPR-144

Facility Name: St. Lucie 2

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

Inspectors: P. A. Taylor 3/3/83  
P. A. Taylor Date Signed

for P. A. Taylor 3/3/83  
H. Krug Date Signed

J. L. Mathis 3/3/83  
J. Mathis Date Signed

Approved by: F. Jape 3-3-83  
F. Jape, Section Chief Date Signed  
Engineering Program Branch  
Division of Engineering and Operational Programs

SUMMARY

Inspection on February 14-19, 1983

Areas Inspected

This routine, unannounced inspection involved 128 inspector-hours on site in the areas of procedure review (Integrated Test of Engineered Safety Features, Initial Core Load, Zero Power Physics and Initial Criticality), ESF test witness, review of Safety Evaluation Report (NUREG-0843) confirmatory items, and plant tour.

Results

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

## REPORT DETAILS

### 1. Persons Contacted

#### Licensee Employees

G. Boissy, Startup Superintendent  
\*R. Dawson, Lead Mechanical Engineer  
J. Garner, Lead I&C Engineer  
R. Beecher, Mechanical Startup Engineer  
N. Motley, Mechanical Startup Engineer  
R. Beecken, Mechanical Startup Engineer  
L. Rogers, Mechanical Startup Engineer  
E. Ordway, I&C Startup Engineer  
J. Martin, Mechanical Engineer  
C. Pell, Reactor Engineer Supervisor

Other licensee employees contacted included 2 technicians and 4 operators.

#### Other Organizations

R. Gonzales, I&C Engineer, EBASCO

\*Attended exit interview

### 2. Exit Interview

The inspection scope and findings were summarized on February 22, 1983, via telephone from Region II office with those persons indicated in paragraph 1 above. The licensee acknowledged the inspection findings.

### 3. Licensee Action on Previous Enforcement Matters

Not inspected.

### 4. Unresolved Items

Unresolved items were not identified during this inspection.

### 5. Review Engineered Safety Features Test Procedure and Witness ESF Testing (70304B, 70315B, 70316B)

The inspector attended a meeting held by the Preoperational Test Review Group (PTRG), for the purpose of completing the review of preoperational test procedure 2-0400080, Rev. 0, Integrated Test of Engineered Safety Features. The inspector noted that a quorum was present as defined in FSAR Section 14.2.3. In addition, the review covered the procedure adequacy, regulatory requirements and acceptance criteria for the test. Comments generated at the meeting concerning the procedure were resolved.

A pre-shift briefing for the safeguards test was conducted by the Test Director who was responsible for coordinating the test effort. Personnel that attended the briefing were those directly involve with the test such as plant operators, I&C, mechanical, and electrical startup engineers, data takers and technicians. Following the briefing, the licensee started establishing valve alignments, electrical alignments, diesel generator preparations and other test procedure prerequisites. During these activities the inspectors verified that:

- Approved procedures were being used by the test personnel
- Test equipment used for the test was installed and calibrated within the required frequency
- Selected prerequisites and system alignments were in accordance with the preoperational test procedure
- Changes/deviations made to the preoperational test procedure were being handled in accordance with QI5-PR/PSL-1, Preparation, Revision, Review/Approval of Procedures.

The inspectors witnessed two separated tests:

- Safeguards signals (SIAS, CSAS, CIAS, MSIS) with offsite power
- Safeguards signals (SIAS, CSAS, CIAS, MSIS) with a loss of offsite power both diesel generators available.

These test were observed by the inspectors to verify that:

- Components and equipment responded as a result of the safeguard signals
- Both diesel generators auto-start and attained the required speed, voltage, frequency within the specified time.
- Test data is recorded, collected and evaluated by the licensee
- The test personnel responded to ECCS equipment actuation and were aware of equipment status at their station during the conduct of the test
- The licensee noted and logged component problems in order that corrective action and retest can be accomplished.

The safeguards equipment and diesel generators appeared to have responded to the ESF signals and operated satisfactory during the above tests. Minor component malfunctions were noted during the test. The subsequent retest of these components can be accomplished during other sections of the test procedure or tested on an individual bases. The sequence of events recorder did not pickup the starting time for the safeguard pumps. This data is necessary in order to determine equipment response time. The licensee has scheduled to repeat the safeguard test with loss of offsite power and both diesel generators available.

Following the safeguard actuation with a loss of offsite power test, the licensee experienced an inability to close electrical circuit breakers and synchronize between the safeguards bus (2A3 with diesel generator loaded) and offsite power. This problem was not resolved while the inspector was onsite. The inspector will review the licensee corrective action concerning the above problems during a routine evaluation of the completed safeguards test results.

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

#### 6. Safety Evaluation Report Confirmatory Items (92706B)

The inspector conducted a review of confirmatory items listed in the St. Lucie 2 Safety Evaluation Report (SER) NUREG-0843 and the supplements (SSER-1, SSER-2) thereto. These confirmatory items were identified in the September 27, 1982 letter from D. G. Eisenhut, Director, Division of Licensing, NRR to J. A. Olshinski, Director, Division of Engineering and Operational Programs, RII.

- a. (Closed) SER section 7.3.6, modify containment isolation actuation signal to actuate on the safety injection actuation signal.

The inspector examined the hardware installation within the safeguards control panels as shown on Consolidated Control Corporation drawings S9N38, Rev. C, sheet 13, 14, 16 and 17. This modification within the safeguards cabinet has been functionally test per preoperational test 2-1400088, Rev. 2.

- b. (Closed) SER 7.7.3 Physically defect auto-rod withdrawal function

The inspector examine the electrical leads which were lifted from the terminal board and taped over. This method of rendering the auto-rod withdrawal inoperative was shown on drawing 2998-B-327, sheet 405.

- c. (Closed) SER 9.5.4.1, turbo-charger gear drive.

The changeout of the turbo-charger to a heavy duty model was conducted by a vendor written procedure and technical manual 2998-7434. The inspector confirm serial numbers provided by the vendor with the turbo-charger installed on the diesels. Serial No. 9529908 installed on 16 cylinder diesels and serial no. 9521991 installed in 12 cylinder.

- d. (Closed) SER 9.5.4.1, preoperational and startup test of diesel generator auxiliary systems per Regulatory Guide 1.68

The following tests have been performed during the preoperational test program concerning the diesel generator auxiliary systems. The final sign off of these tests remain as the diesel generator repetitive starts reliability test has not been completed. This testing is scheduled to be completed prior to core loading.

2-2200080, 2A Diesel Generator and Auxiliary System Functional test

2-2200082, Initial Operation of 2A diesel generator Air Start System

2-2200083, 2B Diesel Generator and Auxiliary Systems Functional test

2-2200085, Initial Operation of 2B D/G Air Start System

2-2200086, Diesel Oil Transfer System Functional Test

- e. (Closed) SER 14, startup test procedures will be available at least 60 days prior to fuel loading

The inspector reviewed those procedures identified in the FSAR table 14.2.2 and noted that those procedures are available either as approved and issued procedure or in draft form.

- f. (Closed) SER 15.7, Incorporate safety grade high pressurizer level alarm

The inspector examined the hardware installation for the high pressurizer level alarm using drawings Control Room Layout FSC 2990-E-233 and Control Wire Diagrams 2998-B-327, sheet 1142, 1143 and 90.

- g. (Closed) SER 7.2.5, Ultra isolation transformers installed

The inspector examined the hardware installation for the ultra isolation transformers using control wire diagram 2998-B-327, sheets 1009 and 1809.

## 7. Initial Criticality Procedure Review (125/05B)

A draft of the licensee's preoperational procedure number 2-0030221, revision 0, "Unit No. 2, Initial Criticality", was reviewed. Emphasis was placed upon the following areas:

- Conformance to the licensee's commitments contained in the Final Safety Analysis Report, the Safety Evaluation Report and the latest version of the Technical Specifications.
- Management and appropriate committee approvals,
- Formating and system initial conditions.

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

#### 8. Initial Fuel Loading Procedure (72500B)

The licensee's preoperational test procedure number 2-1600021, revision 0, titled "Unit No. 2, Initial Core Loading" was reviewed by the inspector. Emphasis was placed on the following areas:

- Conformance to the licensee commitments contained in the Final Safety Analysis Report, the Safety Evaluation Report and the latest version of the Technical Specification
- Management and appropriate committee approvals
- Formatting
- Actions and communications associated with fuel handling difficulties
- Reactivity control and verification measures
- Calibration and response of flux monitors
- Neutron source locations
- Licensee personnel requirements and their locations, and requirements for the verification of fuel element positioning.

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

#### 9. Zero Power Physics Test (72572B)

The licensee's preoperational test procedure number 2-0110052, revision 0, "Unit No. 2, Zero Power Physics Tests" was reviewed. Emphasis was placed upon the following areas:

- Conformance to the licensee's commitments contained in the Final Safety Analysis Report, the Safety Evaluation Report and the latest version of the Technical Specifications.
- Management and appropriate committee approvals
- Formatting and system initial conditions.

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

#### 10. Plant Tour (71302)

The inspectors toured the control room, reactor auxiliary building, containment building and the diesel generator buildings to observe work activities in progress, housekeeping, and tag controls on equipment.

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