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

Report No.: 50-389/83-05

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

Inspector: W. H. Miller, Jr. — 2-4-83 Date Signed

Approved by: T. E. Conlon, Section Chief — 3-7-83 Date Signed
Engineering Programs Branch
Division of Engineering and Operational Programs

SUMMARY

Inspection on January 10-14, 1983

Areas Inspected

This routine, unannounced inspection involved 33 inspector-hours on site in the areas of fire protection/prevention.

Results

Of the areas inspected, no violations were identified; one apparent deviation was found (Failure to flush underground fire protection piping systems prior to connection to the automatic sprinkler systems for the diesel generator building - paragraph 6.a).

8304110851 830325
PDR ADOCK 05000389
Q PDR

REPORT DETAILS

1. Persons Contacted

Licensee Employees

*B. J. Escue, Site Manager, Unit 2
*C. M. Wethy, Plant Manager, Unit 1
*G. Crowell, ISEG Chairman
*N. T. Weems, Superintendent QA
*D. R. Cooper, Supervising QA Engineer
*D. R. Stone, Superintendent QC Construction
S. Parker, QC Supervisor
*E. Preast, Project Engineer
*T. D. Geissinger, Area QC Supervisor
*G. J. Boissy, Startup
*R. Dawson, Startup
*N. G. Roos, QC, Unit 1
*P. P. Carier, Licensing Engineer
*F. Suriano, Licensing Engineer
K. Crosby, QC
S. Ferrell, Startup (Mechanical - Fire Protection)
L. Wolfe, Startup (Fire Detection)

Other Organizations

*J. J. Capezza, EBASCO/Resident Engineer
*R. Sipos, EBASCO/Construction Test Supervisor
*G. H. Krauss, EBASCO/Site Project Engineer
*G. E. Grace, EBASCO/Licensing Engineer
*J. C. Orlowski, CE/Licensing Engineer
W. Fush, EBASCO/Contractor Administrator
T. Derdevick, Overly Manufacturing Co. (Fire doors)
D. Ridley, U.S. Testing/QC Civil Supervisor
T. Rackley, U.S. Testing/QC Supervisor
J. Nolan, U.S. Testing/QC Supervisor - Hangers
J. McNey, U.S. Testing/QC Receiving and Warehousing

NRC Resident Inspector

*S. A. Elrod

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on January 14, 1983, with those persons indicated in paragraph 1 above. The licensee acknowledged the following findings:

a. Unresolved Item (389/83-05-01), Reevaluation of fire protection program for fuel handling building - paragraph 5.

b. Inspector Followup Item (389/83-05-02), Review of construction inspection and tests on the diesel generator building automatic sprinkler system - paragraph 6a.

c. Deviation Item (389/83-05-03), Failure to flush underground fire protection piping systems prior to connection to the automatic sprinkler systems for the diesel generator building - paragraph 6.a.

d. Unresolved Item (389/83-05-04), Reevaluation of flushing test data on fire protection piping systems to verify conformance to FP&L procedure SQP-99 - paragraph 6.e.

3. Licensee Action on Previous Enforcement Matters

Not Inspected

4. Unresolved Items

Unresolved items are matters about which more information is required to determine whether they are acceptable or may involve violations or deviations. New unresolved items identified during this inspection are discussed in paragraph 5 and 6.e.

5. Fire Protection Program for Nuclear Material Storage (License SNM-1902)

The inspector conducted a tour of the permanent Unit 2 fuel storage area. Fuel had been received and storage was initiated on December 1, 1982. This fuel storage is required to meet the provisions of NRC License No. SNM-1902, licensee's application for license, and FSAR commitments. FSAR Appendix 9.5A Section 7.A.6 states that a fire protection program will be operational prior to receiving fuel onsite. The inspector found the general housekeeping of the fuel storage buildings to be satisfactory and the fire protection equipment in service, except the actuation device on a number of fire extinguisher units were not provided with tamper prevention seals as required. However, records were not available to indicate that a fire protection program including fire protection/prevention procedures, equipment and personnel had been implemented. The licensee stated during subsequent telephone conversations following the inspection that a plan was in

effect, but records were not readily available on Unit 2 site to substantiate that this program had been implemented. The licensee is to locate and provide these records for review during a subsequent NRC inspection. This is identified as Unresolved Item (389/83-05-01), Reevaluation of fire protection program for fuel handling building.

6. Permanent Plant Fire Protection Features

a. Automatic Sprinkler System (Diesel Generator Building)

Installation of the automatic pre-action sprinkler system for the diesel generator building was almost complete. The inspector reviewed the QC inspection records provided for this system and found inspection data only for the pipe and conduit hangers and anchor supports. These records indicated that the hangers were not in conformance with the vendors drawings and design calculations. Nonconformance Reports (NCR) have been prepared to identify the discrepancies. One NCR, (NCR6164MH), indicated that of the hangers inspected, welds were of deficient size and a number of hangers were not installed at the location shown on the drawings. Also, hanger welds were painted prior to QC inspection and most hangers had incorrect bolted connections, i.e., "U" bolts contained an inadequate number of nuts. These discrepancies had been reviewed by the hanger supplier and a list of approved construction tolerances for these hangers had been developed. These tolerances were being evaluated by the licensee at the conclusion of the inspection. The other construction QC inspections, construction tests, and startup tests required by the site procedures had not yet been conducted on the system. The licensee stated that these inspections and tests were to be accomplished prior to turning the systems over to the operations group on January 17, 1983. This is identified as Inspector Followup Item (389/83-05-02), Review of construction inspections and tests on diesel generator building automatic sprinkler system. This data and the final design and installation will be reviewed during a subsequent NRC inspection.

Site Procedure SQP-99, Fire Protection Systems, is one of the implementing procedures for the fire protection QA program required by FP&L's approved Topical Quality Assurance Report and FP&L's procedure QP 2.12, FP&L QA Program Applicability for Fire Protection Systems. SQP-99 Section 13.12.5.1 requires underground mains and lead-in connections to sprinkler risers to be flushed before connection is made to the sprinkler system. However, the underground connections to the diesel generator building sprinkler systems had not been flushed prior to connection with the sprinkler system piping. This is a deviation from the fire protection QA program commitment to the NRC and is identified as Deviation Item (389/83-05-03), Failure to flush underground fire protection piping systems prior to connection to the automatic sprinkler systems for the diesel generator building.

A preliminary review of the fire detection systems which actuates the automatic sprinkler system preaction valves indicate that the systems are provided with a control panel that is not supplied by a main and trouble indicating power supply as required by NFPA-72D, Proprietary Protective Signaling Systems. This item will be evaluated during the reinspection of this system as noted above.

b. Fire Dampers

The following fire damper installations were reviewed by the inspector:

Location	Fire Damper No.	Size	Date of QC Inspection
RAB 0.5'EL	FDR-25-1	48" X 20"	1-10-83
RAB 0.5'EL	FDR-25-103	32" X 24"	1-10-83
RAB 19.5'EL	FDR-25-110	70" X 20"	1-10-83
RAB 19.5'EL	FDR-25-111	64" X 36"	1-10-83
RAB 19.5'EL	FDR-25-112	48" X 36"	1-10-83
RAB 43'EL	FDR-25-124	48" X 36"	1-10-83

The inspector noted that each of the above dampers were installed inside the duct assembly in accordance with the manufacturer's or A/E's construction drawings. The HVAC duct penetrations of the fire barriers had not yet been sealed. This work is to be accomplished by another construction group and will be inspected by a different QC inspection.

c. Fire Doors

The inspector accompanied representatives from the licensee's door manufacturer, Overly Manufacturing Co., on an inspection of 17 doors which were not labeled fire doors but which were ordered by the licensee as labeled fire doors. Eight of these doors were determined to be built as fire doors but were oversize and thus could only be certified as being constructed to the same requirements as a fire door. The manufacturer is to provide the licensee with certification for these doors. Seven of the unlabeled doors were determined to be approved fire doors and the manufacturer's representative attached the appropriate Underwriters Laboratories, Inc., label to these doors. As discussed below in paragraph 7.b., two of the doors which are specified to be fire doors could not be identified as actually being constructed as fire doors. Therefore, these doors could not be labeled.

The inspector advised the licensee that the installed fire doors must meet the commitments of the FSAR. It is possible that FSAR Appendix 9.5A may need to be revised to clearly indicate the location in which unlabeled but certified fire doors are to be installed.

d. Hydrostatic Tests of Fire Protection Piping

The inspector reviewed the hydrostatic test data for the following fire protection piping:

Test No.	System	Date of Test
1378	Underground main	7-23-82
1400	Underground main	7-28-82
1401	Underground main	7-28-82
1485	Underground main	9-8-82
1890	Diesel generator sprinkler	12-30-82
1891	Diesel generator sprinkler	12-30-82

These tests were satisfactorily conducted at approximately 200 psi for two hours as required by site test procedures and NFPA criteria.

e. Flushing Tests of Fire Protection Systems

The inspector reviewed Flushing Test Procedure 54-CP-55 for the fire protection piping systems. As noted in above paragraph 6.a, the underground water mains to the diesel generator building sprinkler systems were not flushed prior to connection to the sprinkler risers. This is identified as Deviation Item (389/83-05-03). The test data for the other fire protection water mains did not indicate the flow rate that the systems were flushed. However, procedure SQP-99 Section 13.12.5.1 identifies the required flow rate. This area is to be reviewed further during a subsequent NRC inspection and is identified as Unresolved Item (389/83-05-04), Reevaluation of flushing test data on fire protection piping systems to verify conformance to FP&L procedure SQP-99.

f. Interior Fire Hose System - Startup Tests

Startup Test Procedure 2-1800080, Fire Water System Test, was reviewed by the inspector. The test included a number of nonsafety-related sprinkler deluge systems and all of the interior fire hose systems provided for Unit 2. The inspection and tests required by the procedure were practically complete. All of the fire hose system test requirements were completed satisfactorily, except one hose station within containment which had not yet been inspected and tested. This procedure is scheduled to be completed prior to fuel load.

g. Fire Detection System - Startup Tests

Startup Test Procedure 2-800081, Fire Detection System Preoperational and Functional Tests, was reviewed by the inspector. This procedure is

approximately 33% complete and is scheduled to be completed prior to fuel load. The licensee stated that the system will only be connected to the Unit 1 central process unit (control panel) prior to fuel load. The date of connection to the Unit 2 process unit panel has not been established. This date will be based on completion of the Unit 1 security system installations. The detector systems in the following areas were listed by the licensee as being completed: containment, turbine building, component cooling pump building, fueling handling, and diesel generator building.

Within the areas examined, except as identified above, no additional deviations or violations were identified.

7. Inspector Followup Items

a. (Open) Inspector Followup Item (389/82-47-01), Reevaluation of the fire hose system for reactor building: EBASCO's letter of November 12, 1982, to FP&L states that the containment fire hose system will deliver a flow of 100 gpm at any hose station at a pressure not less than 45 psi. However, the supply available appears inadequate to deliver an adequate volume of water at a nozzle pressure sufficient to develop an effective hose stream for a spray type nozzle. This item and response to FSAR question 280.7 is being reevaluated by the licensee.

b. (Open) Inspector Followup Item (389/82-47-02), Labeled fire doors not provided for battery rooms 2A and 2B in the auxiliary building: Representatives of the licensee and door manufacturer have inspected these doors and were unable to find any identification marks which would verify that these doors were constructed as rated fire doors. The licensee is continuing to investigate this problem to determine the appropriate solution. This item remains open. Refer to above paragraph 6.c for additional information on fire doors.