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

Report Nos.: 50-335/90-03 and 50-389/90-03

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: February 5-9, 1990

Inspector: J. R. Harris — March 6, 1990 Date Signed

Approved by: T. E. Conlon, Chief — 3-7-90 Date Signed
Plant Systems Section
Engineering Branch
Division Reactor Safety

SUMMARY

Scope:

This routine, unannounced inspection was conducted in the areas of Fire Protection

Results:

In the areas inspected, violations or deviations were not identified.

During this inspection the licensee was very cooperative in providing the inspector with applicable procedures, records, and walkdown inspection of fire protection equipment and response to previously identified items. No weaknesses were identified during this inspection.

REPORT DETAILS

1. Persons Contacted

Licensee Employees

J. Barrow, Fire Protection Supervisor
*R. Behre, Fire Protection
*H. Buchanan, Health Physics Supervisor
*G. Boissy, Plant Manager
*D. Culpper, Site Engineering Supervisor
*J. Harper, Superintendent Quality Assurance
*B. McDaniel, Fire Protection Coordinator
*L. McCauglin, Supervising Engineer
*D. Sager, Site Vice President
*D. Sipos, Service Manager Plant System

NRC Resident Inspectors

*S. Elrod
*M. Scott

*Attended exit interview

2. Fire Protection/Prevention Program (64704)

a. Fire Protection/Administrative Control Procedures

0005729	Fire Protection Training, Qualification, and Requalification
0010139	Fire Protection Schedule of Tests and Reports
0010234	Fire Protection System Impairments
0010434	Plant Fire Protection Guidelines
1800021	Fire Detection System Operating Procedure
180022	Fire Protection Program

Based on this review, it appears that the above procedures meet the NRC guidelines of the document entitled "Nuclear Plant Fire Protection Functional Responsibilities, Administrative Controls, and Quality Assurance" dated June 1977.

During an inspection conducted March 7-11, 1988 by the NRC there was a concern that the minimum training qualifications for fire watches assigned to monitor ignition source work had not been established in site procedures. During this inspection the inspector verified that the licensee had taken proper measures to correct this concern.

b. Fire Protection Surveillance Procedures

The inspector reviewed the following Fire Protection System Surveillance Procedures

TS-10.36	Fire Barrier Inspection Performed Every Eighteen Months
1800058	Semi Annual Testing of Heat Detection Instrumentation
1800057	Surveillance of Fire Protection Sprinkler for Reactor Auxiliary Building, Every Six Months
0959063	Deluge and Sprinkler System Test, Annually
0940062A	Quarterly Prevention Maintenance for 1A Fire Water Pump
1-M-0018F	Mechanical Maintenance of Safety Related Preventive Maintenance Program (Fire PM's) PM-271 performed monthly

The above surveillance procedures were reviewed to determined if the various test outlines and inspection instructions adequately implement the surveillance requirements of the plants Fire Protection Technical Specifications. In addition these procedures were reviewed to determine if the inspection and test instructions followed general industry fire protection practices, NRC fire protection program guidelines and the guidelines of National Fire Protection Associated (NFPA) Fire Codes.

During an inspection conducted March 7-11, 1988 there was a concern that PM-271 of procedure 1-M-0018F did not include all of the door criteria contained in NFPA, fire doors and windows. During this inspection the inspector verified that the licensee had taken proper corrective action on this item .

c. Fire Protection System Surveillance Inspections and Tests

TS-10.36	Performed every 18 Months, Reviewed Test Performed August 9, 1988
1800058	Performed Semiannually, Reviewed Tests for August 1989 and February 1990
180057	Performed Every Six Months Reviewed Results for July 7, 1989 and January 2, 1990
0959063	Performed Annually, Reviewed Tests for November 11, 1989
1-M-0018-F-PM-278	Performed Monthly, Reviewed all Results for 1989
1-M-0018F-OM-271	Performed Monthly, Reviewed all Results for 1989
2-M-0018F-PM-278	Performed Monthly, Reviewed all Results for 1989

The surveillance test record data and testing frequency associated with the above fire protection system surveillance test/inspections were found to be satisfactory with regard to meeting the requirements of the plant's Fire Protection Specifications.

d. Fire Protection Audit

The most recent audit reports of the St. Lucie Fire Protection Program were reviewed. These audits were:

QSL-87-099	Triennial Fire Protection (Factory Mutual) February 27, 1988
QSL-OPS-89-648	January 4 - February 22, 1989
QSL-OPS-88-582	March 16, 1988

These audits identified several fire protection program discrepancies and unresolved items and recommended several program improvements. The licensee has either implemented the corrective actions associated with these audit findings or a scheduled date for completion of the corrective actions has been established. The licensee appears to be taking the appropriate corrective actions on these audit findings.

e. Fire Brigade

(1) The total station fire brigade is composed of approximately 70 personnel from the operation staff. The on duty shift fire brigade leader is normally the Nuclear Watch Engineer and the remaining four fire brigade members are composed of operators. The inspector reviewed the on duty shifts for January 1 to February 5, 1990 and verified that sufficient personnel were assigned to each shift to meet the minimum operating shift of the Technical Specifications. Therefore, it appears based on the review of the duty rosters associated with the above dates, that there was sufficient manpower on duty to meet both the operational and the fire brigade requirements of the plant's Technical Specifications. In addition to the fire brigade members, the inspector verified that sufficient licensed operators were available to maintain minimum staffing in the control room in the event of a fire.

(2) Training

The inspector reviewed the training records for six brigade leaders and 64 brigade members for 1988 and 1989. The records reviewed indicated that each of these leaders and members had received an annual medical review, attended the required training and participated in the required number of drills. The inspector also verified that a fire brigade drill had been conducted quarterly for each shift for 1989.

(3) Fire Brigade Fire Fighting Strategies

The inspector reviewed the following plant fire fighting strategies:

5	Unit 1 Cable Spreading Room
10	Unit 1 B Switchgear Room
36	Unit 1 Diesel Generator 1A Room
37	Unit 1 Diesel 1B Generator Room
3U	Unit 2 RAB Pipe Tunnel
35	Unit 2 Charging Pump Cubicles
43	Unit 2 Component Cooling Water Building
48	Unit 2 Diesel Generator Building 2A
49	Unit 2 Diesel Generator Building 2B

Based on this review, the inspector determined that the above fire fighting strategies adequately addressed the fire hazards in the areas.

(4) Fire Brigade Drill

During this inspection the inspector witnessed an unannounced fire brigade drill. The drill scenario was an electrical fire in the Unit 2 switchgear room.

Thirteen fire brigade members responded to the pending emergency. The brigade assembled outside the Unit 2 Turbine Switchgear room. All of the brigade members except for the brigade leader were dressed out in full protective fire fighting turnout clothing and self contained breathing apparatus (SCBA). The brigade leader was dressed out in full protective clothing but did not have an SCB. An initial size up of the condition was made by the fire brigade leader. The brigade team used a 1½ inch fire attack line and CO_2 extinguisher to extinguish the fire. The fire was placed under control in 12 minutes.

The fire brigade utilized proper manual fire fighting methods and reacted to the drill scenario in an effective and efficient manner. One concern was that the brigade leader entered the room without self contained breathing apparatus.

f. Plant Tour and Inspection of Fire Protection Equipment

The inspector verified that the two water storage tanks contained sufficient water to meet the requirements of the Technical Specifications. The two fire pumps were inspected and found to be in service.

The following sectional control valves in the outside fire protection water supply were inspected and verified to be properly aligned and locked in position.

V-15138	Fire Pump Main Loop South Isolation Valve
V-15283	1B CWST Outlet
V-15282	Fire Pump Suction Cross Connection
V-15117	1B Fire Pump Suction
V-15134	East Fire Loop Sectionalized Valve
V-15171	West Fire Loop Post Indicator
2-V-15530	Southwest Turbine Building Post Indicator
V-25140	South Main Isolation Valve

The following fire hydrants and fire hydrant equipment houses were inspected:

Fire Hydrants Hose House 3
Fire Hydrants Hose House 6
Fire Hydrants Hose House 2-9
Fire Hydrants Hose House 2-32
Fire Hydrants Hose House 2-25
Fire Hydrants Hose House 2-26
Fire Hydrants Hose House 3-36

The equipment houses contained the minimum equipment specified by NFPA-24, Private Fire Service Mains and their appurtenances and the FSAR commitments. The equipment appeared to be adequately maintained.

(2) Permanent Plant Fire Protection Features

A plant tour was made by the inspector. During the plant tour, the following safe shutdown related plant areas and their related fire protection features were inspected:

A/59	1A Battery Room
C/58	1B Battery Room
HH/6	Unit 1 Diesel Generator 1A
HH/7	Unit 1 Diesel Generator 1B
HH/8	Unit 2 Diesel Generator 2A
II/9	Unit 2 Diesel Generator 2B
B/57	Unit 1 Cable Spreading Room
B/52	Unit 2 Cable Spreading Room

The fire/smoke detection systems, manual fire fighting equipment (i.e. emergency lights, portable extinguishers, hose stations) and the fire area boundary walls, floors and ceiling associated with the above plant areas were inspected and verified to be in service or functional.

The automatic sprinkler systems installed in the Unit 1 and Unit 2 diesel generator rooms and the Halon System installed in the 2 cable spreading room were inspected and found to be in service.

Based on this inspection, it appears that the fire protection features associated with the above plant areas are satisfactorily maintained.

(3) Appendix R Fire Protection Features

The inspector visually inspected the fire rated raceway fire barriers required for compliance with Appendix R, Section III.G.2 in the following areas:

A/77	Unit 1 Electrical East Penetration Room
C/78	Unit 1 West Electrical Penetration Area
B/57	Unit 1 Cable Spreading Room
B/52	Unit 2 Cable Spreading Room

Based on the inspectors observation of the above raceway fire barriers enclosures, it appears that the one hour or three hour fire barriers integrity associated with the above fire barrier assembles was being properly maintained in a satisfactory condition.

The inspector also visually inspected the partial height fire barriers separating the Unit 1 and 2 charging pumps. The partial height barriers were found to be intact and appeared to be properly maintained in a satisfactory condition.

The inspector made a walkdown of the Appendix R related sprinkler protection in the following plant areas:

Unit 1 Cable Loft and Hallway (Preaction)
Unit 1A Cable Penetration Room (Preaction)
Unit 2A Cable Penetration Room (Preaction)
Unit 2B Cable Penetration Room (Preaction)
Unit 1 Cable Spreading Room (Preaction)
Unit 2 Cable Spreading Room (Preaction)

Based on this walkdown the inspector determined that the sprinkler protection provided for the areas identified above provided sufficient protection with respect to controlling an exposure fire.

The following eight-hour emergency lighting units were inspected:

EL-81	19.5 Reactor Auxiliary Building
EL-82	19.6 Reactor Auxiliary Building
EL-79	19.6 Reactor Auxiliary Building
EL-69	-5 Reactor Auxiliary Building
EL-68	-5 Reactor Auxiliary Building
EL-70	-5 Reactor Auxiliary Building

These units were in service, lamps were properly aligned and appeared to be properly maintained.

3. Exit Interview

The inspection scope and results were summarized on February 9, 1990, with those persons indicated in paragraph 1. The inspector described the areas inspected and discussed in detail the inspection results listed above. The licensee did not identify as proprietary any of the material provided or reviewed by the inspector during this inspection.