



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555

*Docket File*  
*DCS MS-016*

SEP 21 1982

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Docket No. 50-335

Dr. Robert E. Uhrig  
Vice President  
Advanced Systems & Technology  
Florida Power & Light Company  
P. O. Box 529100  
Miami, Florida 33152

Dear Dr. Uhrig:

The Commission has issued the enclosed Amendment No. 53 to Facility Operating License No. DPR-67 for St. Lucie Plant, Unit No. 1. The amendment consists of changes to the Appendix A Technical Specifications in response to your June 28, 1982 application.

This amendment deletes the current Technical Specification requirements to periodically test the insulation of certain Class 1E electrical underground cables for environmental damage.

Please note that the amendment does not delete the requirement to check the underground cable duct integrity after transit of a heavy load over it. This requirement is retained in the Technical Specifications.

A copy of the Safety Evaluation and the Notice of Issuance are enclosed.

Sincerely,

*Eben L. Conner*

Eben L. Conner, Project Manager  
Operating Reactors Branch #3  
Division of Licensing

Enclosures:

1. Amendment No. 53 to DPR-67
2. Safety Evaluation
3. Notice of Issuance

cc: See next page

DESIGNATED ORIGINAL

Certified By

*Patricia J. Haran*

Florida Power & Light Company

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UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555

FLORIDA POWER & LIGHT COMPANY

DOCKET NO. 50-335

ST. LUCIE PLANT, UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 53  
License No. DPR-67

- 1., The Nuclear Regulatory Commission (the Commission) has found that:
- A. The application for amendment by Florida Power and Light Company (the licensee) dated June 28, 1982 complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
  - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
  - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
  - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
  - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

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Certified By

*Patricia J. Noonan*

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the Attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. DPR-67 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 53, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. The license amendment is effective as of the date of its issuance.

FOR THE U.S. NUCLEAR REGULATORY COMMISSION



Robert A. Clark, Chief  
Operating Reactors Branch #3  
Division of Licensing

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: September 21, 1982

ATTACHMENT TO LICENSE AMENDMENT NO. 53

FACILITY OPERATING LICENSE NO. DPR-67

DOCKET NO. 50-335

Replace the following pages of the Appendix "A" Technical Specifications with the enclosed pages. The revised pages are identified by Amendment number and contain vertical lines indicating the area of change. The corresponding overleaf pages are also provided to maintain document completeness.

Pages

8-4

8-5

8-6

## ELECTRICAL POWER SYSTEM

### SURVEILLANCE REQUIREMENTS (Continued)

- 4.8.1.1.2 Each diesel generator set shall be demonstrated OPERABLE:
- a. At least once per 31 days on a STAGGERED TEST BASIS by:
    - 1. Verifying the fuel level in the engine-mounted fuel tank.
    - 2. Verifying the fuel level in the fuel storage tanks.
    - 3. Verifying the fuel transfer pump can be started and transfers fuel from the storage system to the engine-mounted tank.
    - 4. Verifying the diesels start from ambient condition.
    - 5. Verifying the generator is synchronized, loaded to  $\geq 1300$  kw, and operates for  $\geq 60$  minutes.
    - 6. Verifying the diesel generator set is aligned to provide standby power to the associated emergency busses.
  - b. At least once per 31 days by verifying that a sample of diesel fuel from the fuel storage tank is within the acceptable limits specified in Table 1 of ASTM D975-68 when checked for viscosity, water and sediment.
  - c. At least once per 18 months during shutdown by:
    - 1. Subjecting the diesels to an inspection in accordance with procedures prepared in conjunction with its manufacturer's recommendations for this class of standby service.
    - 2. Verifying the generator capability to reject a load of  $\geq 600$  hp without tripping.
    - 3. Simulating a loss of offsite power in conjunction with a safety injection actuation signal, and:
      - a) Verifying de-energization of the emergency busses and load shedding from the emergency busses.
      - b) Verifying the diesels start from ambient condition on the auto-start signal, energize the emergency busses with permanently connected loads, energize

## ELECTRICAL POWER SYSTEMS

### SURVEILLANCE REQUIREMENTS (Continued)

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the auto-connected emergency loads through the load sequencing system and operate for  $\geq 5$  minutes while the generator is loaded with the emergency loads.

- c) Verifying that on the safety injection actuation signal, all diesel generator trips, except engine overspeed and generator differential, are automatically bypassed.
- 4. Verifying the diesel generator set operates for  $\geq 60$  minutes while loaded to  $\geq 3500$  kw.
- 5. Verifying that the auto-connected loads to each diesel generator set do not exceed the 2000 hour rating of 3730 kw.
- 6. Verifying that the automatic sequence timers are OPERABLE with the interval between each load block within  $\pm 1$  second of its design interval.
- d. At least once per 18 months by verifying that each fuel transfer pump transfers fuel from each fuel storage tank to the engine mounted fuel tanks on each diesel via the installed cross connection lines.

4.8.1.1.3 The Class IE underground cable system shall be demonstrated OPERABLE within 30 days after the movement of any loads in excess of 80% of the ground surface design basis load over the cable ducts by pulling a mandrel with a diameter of at least 80% of the duct's inside diameter through a duct exposed to the maximum loading (duct nearest the ground's surface) and verifying that the duct has not been damaged.

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ST. LUCIE - UNIT 1

3/4 8-6

Amendment No. 53



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 53 TO FACILITY OPERATING LICENSE NO. DPR-67

FLORIDA POWER & LIGHT COMPANY

ST. LUCIE PLANT, UNIT NO.1

DOCKET NO. 50-335

Introduction

By application dated June 28, 1982, Florida Power & Light Company (FPL or the licensee) requested an amendment to the Technical Specifications (TS) of Facility Operating License No. DPR-67 for the St. Lucie Plant, Unit No. 1 (St. Lucie-1).

The amendment requested the deletion of periodically testing certain underground Class 1E underground cables at St. Lucie-1 to verify their environmental integrity.

Background

The existing technical specifications for St. Lucie-1 require that at least once every 18 months a sample of the underground cables between (1) the switchgear and the diesel generators, (2) the switchgear and the component cooling water pumps, and (3) between the switchgear and the intake cooling water pumps be electrically tested for insulation degradation. If insulation degradation is found, then additional measures must be taken. The concern which generated this requirement was that, because the underground Class 1E system at St. Lucie is not watertight, the cable insulation might deteriorate over a period of time due to the alternately wet and dry environment.

Discussion and Evaluation

The licensee has been conducting the insulation resistance (megger) and high voltage dc tests required by the technical specifications at St. Lucie since 1978; and he indicates that the cables have tested and worked perfectly. A review of the test data by the licensee however indicated that the leakage of the 5 kV cables over the four year period ranged from 0.0 to 17 microamperes. Subsequently, a circuit that had the 17 microamperes reading was retested and, after careful cleaning of the porcelains, yielded a new net leakage of 0.15 microamperes after 10 minutes. This demonstrates that the leakage was due to dirty connections and not due to deterioration of the electrical insulation.

The licensee has also reviewed the history of the butyl rubber insulated cables installed in the duct and manhole system of Miami beach beginning in the 1940s. The licensee indicates that these cables are subject to environmental conditions more severe than those at St. Lucie. The results of his review indicate there has never been an electrical deterioration failure of any kind on these cables or the splices associated with them.

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Additionally, the licensee has provided results from accelerated life tests which compare butyl rubber insulated wire to crosslinked polyethylene insulated wire which is the type of insulation used in the Class 1E underground system at St. Lucie. The results of the tests indicate that the crosslinked polyethylene insulation is superior to the butyl rubber insulation in a wet environment. These results, therefore, when combined with the good operating history of the butyl rubber cables installed in the Miami Beach area, provide good assurance that the crosslinked polyethylene insulated cable installed in the underground system at St. Lucie will function satisfactorily in that environment.

The proposed license amendment to the St. Lucie Technical Specifications which deletes the requirement to periodically test the electrical insulation of the Class 1E underground cable at St. Lucie is therefore acceptable. It is noted that the proposed amendment does not delete the requirement to mechanically check the underground cable duct integrity following movement of a heavy load over it. This requirement correctly should be retained under this amendment.

#### Environmental Consideration

We have determined that the amendment does not authorize a change in effluent types or total amounts nor an increase in power level and will not result in any significant environmental impact. Having made this determination, we have further concluded that the amendment involves an action which is insignificant from the standpoint of environmental impact and, pursuant to 10 CFR §51.5(d)(4), that an environmental impact statement or negative declaration and environmental impact appraisal need not be prepared in connection with the issuance of this amendment.

#### Conclusion

We have concluded, based on the considerations discussed above, that: (1) because the amendment does not involve a significant increase in the probability or consequences of an accident previously evaluated, does not create the possibility of an accident of a type different from any evaluated previously, and does not involve a significant reduction in a margin of safety, the amendment does not involve a significant hazards consideration, (2) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (3) such activities will be conducted in compliance with the Commission's regulations and the issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public.

Date: September 21, 1982

#### Principal Contributors:

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