



June 21, 2000

L-2000-116  
10 CFR 50.90  
10 CFR 50.92  
10 CFR 50.4

U. S. Nuclear Regulatory Commission  
Attn: Document Control Desk  
Washington, DC 20555

Re: St. Lucie Units 1 and 2  
Docket Nos. 50-335 and 50-389  
Proposed License Amendment  
Relocation of EDG Maintenance Inspection  
To Licensee Controlled Document

Pursuant to 10 CFR 50.90, Florida Power & Light Company (FPL) requests to amend Facility Operating Licenses DPR-67 and NPF-16 for St. Lucie Units 1 and 2. The proposed amendments relocate Technical Specification (TS) Section 4.8.1.1.2.e.1 to a licensee controlled maintenance program that will be incorporated by reference into the next revision of each unit's Updated Final Safety Analysis Report (UFSAR). Upon relocation to the licensee controlled maintenance program the requirement to perform the emergency diesel generator (EDG) inspections every 18 months during shutdown will be eliminated. This amendment, in combination with the EDG risk informed allowed outage time extension to 14 days allows the EDG maintenance to be performed in Modes 1 and 2. The EDG risk informed allowed outage time extension to 14 days was submitted by FPL letter L-99-228 on November 17, 1999 and is currently under NRC review. Approval of these license amendment requests is expected to reduce the complexity of activities performed during refueling outages, therefore reducing human performance errors and the duration of refueling outages, while not adversely impacting the margin of safety. The risk of performing the proposed EDG inspections in Modes 1 and 2 has been shown to be not risk significant. The NRC has previously found, in the case of Southern California Edison San Onofre Nuclear Generating Station, that this surveillance may be relocated from the TS to plant procedures.

Attachment 1 is a Safety Analysis in support of the proposed amendments. Attachment 2 is the Determination of No Significant Hazards Consideration. Attachments 3 and 4 are marked up copies of the proposed Technical Specification changes.

The proposed amendments have been reviewed by the St. Lucie Facility Review Group and the Florida Power & Light Company Nuclear Review Board.

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In accordance with 10 CFR 50.91 (b)(1), a copy of the proposed amendments is being forwarded to the State Designee for the State of Florida.

Approval of the proposed license amendments is requested by January 15, 2001 to support its use prior to spring 2001 Unit 1 refueling outage (SL1-17). Please issue the amendments to be effective on date of issuance and to be implemented within 60 days of receipt by FPL.

Please contact us if there are any questions about this submittal.

Very truly yours,



Rajiv S. Kundalkar  
Vice President  
St. Lucie Plant

RSK/GRM

Attachments

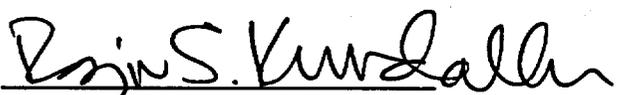
cc: Regional Administrator, Region II, USNRC  
Senior Resident Inspector, USNRC, St. Lucie Plant  
Mr. William A. Passetti, Florida Department of Health and Rehabilitative Services

STATE OF FLORIDA        )  
  )  
COUNTY OF ST. LUCIE    )        ss.

Rajiv S. Kundalkar being first duly sworn, deposes and says:

That he is Vice President, St. Lucie Plant, for the Nuclear Division of Florida Power & Light Company, the Licensee herein;

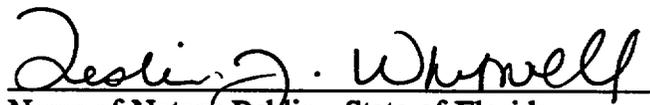
That he has executed the foregoing document; that the statements made in this document are true and correct to the best of his knowledge, information and belief, and that he is authorized to execute the document on behalf of said Licensee.

  
Rajiv S. Kundalkar

STATE OF FLORIDA  
COUNTY OF St. Lucie

Sworn to and subscribed before me

this 21 day of June, 2000  
by Rajiv S. Kundalkar, who is personally known to me.

  
Name of Notary Public - State of Florida



Leslie J. Whitwell  
MY COMMISSION # CC646183 EXPIRES  
May 12, 2001  
BONDED THRU TROY FAIR INSURANCE, INC.

\_\_\_\_\_  
(Print, type or stamp Commissioned Name of Notary Public)

## ATTACHMENT 1

### SAFETY ANALYSIS

#### Introduction

The proposed amendments relocate Technical Specification (TS) Section 4.8.1.1.2.e.1 to a licensee controlled maintenance program that will be incorporated by reference into the next revision of each unit's Updated Final Safety Analysis Report (UFSAR). In addition, upon relocation to the licensee controlled maintenance program the requirement to perform the EDG inspections every 18 months during shutdown will be eliminated. These amendments, in combination with the previously submitted EDG risk informed allowed outage time extension to 14 days allows the EDG inspection and overhaul to be performed in Modes 1 and 2.

#### Discussion

Each St. Lucie unit is equipped with two seismically qualified, Class 1E, Emergency Diesel Generator (EDG) sets to provide onsite emergency ac power to essential safety systems in the event of a loss of offsite power. The EDG sets for St. Lucie Unit 1 and Unit 2 are similar, with minor differences in the engine lubricating oil systems and generator ratings. Each EDG set consists of two diesel engines mounted in tandem with a 4.16 kV, 60 Hz, 3-phase, 3500 kW (3800 kW for Unit 2) ac generator coupled directly between the engines. Each EDG set is complete with its own air starting system, fuel supply system, and automatic control circuitry. Descriptions of the EDG design and operation are provided in the UFSAR, Section 8.3, *Onsite Power System*, for each St. Lucie Unit.

Analyses demonstrate that both St. Lucie units individually can successfully withstand and recover from a loss of all offsite and onsite ac power in compliance with the Station Blackout (SBO) rule, 10 CFR 50.63. The SBO analysis and analysis results are described in UFSAR Section 15.2.13 for Unit 1, and UFSAR Section 15.10 for Unit 2. Additional discussion of station blackout is contained in Section 8.3 of the UFSAR for each unit.

To ensure that EDG reliability remains greater than or equal to the target reliability associated with the SBO rule, St. Lucie Plant maintains an EDG reliability program based on Regulatory Guide 1.155. The program monitors and evaluates EDG performance and reliability, requires remedial actions if one or more reliability values are exceeded, requires a root-cause evaluation and corrective actions for individual EDG failures, and monitors EDG unavailability. In addition to the reliability program, the effectiveness of maintenance on the EDGs and support systems are monitored pursuant to the Maintenance Rule (10 CFR 50.65).

The requirements of the existing Surveillance 4.8.1.1.2.e.1 will be relocated to a licensee controlled maintenance program for the EDGs. The licensee controlled maintenance program will be incorporated by reference into the next revision of each unit's UFSAR. Changes to the licensee

controlled EDG maintenance program will be controlled under 10 CFR 50.59. The licensee controlled maintenance program will require inspection in accordance with procedures prepared in conjunction with its manufacturer's recommendations for this class of standby service.

### Description of the Change

#### **Unit 1 and Unit 2 Surveillance 4.8.1.1.2.e.1**

Replace the current Unit 1 and Unit 2 Surveillance 4.8.1.1.2.e.1 with the word "Deleted." The requirement will be relocated to a licensee controlled maintenance program incorporated by reference into the next revision of each unit's UFSAR.

The following statement will be added to Section 8.3.1.3 of the Unit 1 UFSAR and Section 8.3.1.1.2 (m) (xiii) of the Unit 2 UFSAR at the next routine update.

"The diesels will be inspected in accordance with a licensee controlled maintenance program. The maintenance program will require inspection in accordance with procedures prepared in conjunction with the manufacturer's recommendations for this class of standby service. Changes to the maintenance program will be controlled under 10 CFR 50.59."

### Basis of the Change

The requirement of the existing Surveillance 4.8.1.1.2.e.1 will be relocated to a licensee controlled maintenance program for the EDGs. The licensee controlled maintenance program will be incorporated by reference into the next revision of each unit's UFSAR. Changes to the licensee controlled EDG maintenance program will be controlled under 10 CFR 50.59. The licensee controlled maintenance program will require inspection in accordance with procedures prepared in conjunction with the manufacturer's recommendations for this class of standby service.

The above relocated surveillance related to the EDG is not required to be in the TS under 10 CFR 50.36. In addition, the surveillance is not required to obviate the possibility of an abnormal situation or event giving rise to an immediate threat to the public health and safety. Further, the surveillance does not fall within any of the four criterion set forth in 10 CFR 50.36(c)(2)(ii). This TS surveillance is not in the *Improved Technical Specifications for Combustion Engineering Plants*, NUREG 1432 Revision 1. In addition, FPL determined that sufficient regulatory controls exist under 10 CFR 50.59 for control of the EDG maintenance program. The NRC has previously found, in the case of Southern California Edison San Onofre Nuclear Generating Station, that this surveillance may be relocated from the TS to plant procedures.

### Risk Assessment

By FPL Letter L-99-228, dated November 17, 1999, St. Lucie has previously submitted a request for a risk informed EDG allowed outage time (AOT) extension from 3 days to 14 days. An evaluation of the impact on plant risk as expressed by the change in core damage frequency

(CDF), the incremental conditional core damage probability (ICCDP), the change in large early release frequency (LERF), and the incremental conditional large early release probability (ICLERP) was provided as part of the EDG AOT extension PLA (L-99-228). The EDG downtime (hours/train/year) assumed in the EDG AOT extension risk assessment includes the out-of-service time that would be incurred due to performing the proposed EDG inspections and overhauls in Modes 1 and 2 instead of during shutdown.

NRC Regulatory Guide (RG) 1.177, *An Approach for Plant-Specific Risk-Informed Decision making: Technical Specifications*, states that an ICCDP of  $<5.0E-07$  and an ICLERP of  $<5.0E-08$  is considered small for a single AOT change. Tables 1 and 2 below provide the ICCDP and ICLERP results as documented in the EDG AOT extension submittal (L-99-228). Both the ICCDP and ICLERP are below the RG 1.177 specified values and are thus considered small.

Table 1

ICCDP RESULTS

<u>Parameter</u>	<u>St. Lucie Unit 1</u>	<u>St. Lucie Unit 2</u>
ICCDP for Corrective Maintenance (CM) case	2.87E-07	2.30E-07
ICCDP for Preventive Maintenance (PM) case	1.92E-07	1.34E-07

Table 2

ICLERP RESULTS

<u>Case</u>	<u>St. Lucie Unit 1</u>	<u>St. Lucie Unit 2</u>
CM	4.22E-09	4.99E-09
PM	2.68E-09	3.84E-09

NRC RG 1.174, *An Approach for Using Probabilistic Risk Assessment in Decisions on Plant Specific Changes to the Licensing Basis*, discusses acceptance criteria for changes in CDF and LERF. Figures 3 and 4 of RG 1.174 indicate that a change in CDF of  $<1E-06$  with a total CDF of  $<1E-04$ /year and a change in LERF of  $<1E-07$  with a total LERF of  $<1E-05$  are considered very small. Tables 3 and 4 below provide the average change in CDF and LERF as documented in the EDG AOT extension PLA (L-99-228). As can be seen in Table 3, the change in the average CDF, assuming the proposed EDG unavailability, is  $<1E-06$  and the total CDF is  $<1E-04$ /year. Table 4 shows that the change in the average LERF, assuming the proposed EDG unavailability, is  $<1E-07$  and the total LERF is  $<1E-05$ /year. Therefore the proposed change in CDF and LERF are considered very small.

**TABLE 3**

**PROPOSED AVERAGE CDF**

<u>Parameter</u>	<u>St. Lucie Unit 1</u>	<u>St. Lucie Unit 2</u>
Proposed Downtime, hrs/train/year	232	232
Average CDF, base, per year	1.39E-05	1.23E-05
Proposed Average CDF, per year, using EDG T/M set at Proposed Downtime value	<u>1.41E-05</u>	<u>1.24E-05</u>
Proposed Change in Average CDF per year	2E-07	1E-07

**TABLE 4**

**PROPOSED AVERAGE LERF**

<u>Parameter</u>	<u>St. Lucie Unit 1</u>	<u>St. Lucie Unit 2</u>
Proposed Downtime, hrs/train/year	232	232
Avg. LERF, base, per year	3.37E-06	5.98E-06
Proposed LERF, per year, using EDG T/M set at the Proposed Downtime value	<u>3.38E-06</u>	<u>5.99E-06</u>
Proposed Change in Avg. LERF per year	1E-08	1E-08

**Conclusion**

Approval of these license amendment requests will reduce the complexity of activities performed during refueling outages, therefore reducing potential human performance errors and the duration of refueling outages, while not adversely impacting the margin of safety.

## ATTACHMENT 2

### DETERMINATION OF NO SIGNIFICANT HAZARDS CONSIDERATION

The proposed amendments relocate Technical Specification Section 4.8.1.1.2.e.1 to a licensee controlled maintenance program that will be incorporated by reference into the next revision of each unit's Updated Final Safety Analysis Report (UFSAR). Upon relocation to the licensee controlled maintenance program the requirement to perform the EDG inspections every 18 months during shutdown will be eliminated. This amendment, in combination with the previously submitted EDG risk informed allowed outage time extension to 14 days allows the EDG maintenance to be performed in Modes 1 and 2.

The standards used to arrive at a determination that a request for amendment involve a no significant hazards consideration are included in the Commission's regulation, 10 CFR 50.92, which states that no significant hazards considerations are involved if the operation of the facility in accordance with the proposed amendments would not (1) involve a significant increase in the probability or consequences of an accident previously evaluated, (2) create the possibility of a new or different kind of accident from any accident previously evaluated, or (3) involve a significant reduction in a margin of safety. Each standard is discussed as follows:

- (1) Operation of the facility in accordance with the proposed amendments would not involve a significant increase in the probability or consequences of an accident previously evaluated.

The proposed amendments do not involve a significant increase in the probability or consequences of an accident previously evaluated. There are no changes to the emergency diesel generator (EDG) maintenance program. The actual EDG maintenance program is unaffected.

The only substantive change allows the periodic EDG inspection to be performed in any operational mode instead of only during shutdown. By FPL Letter L-99-228, dated November 17, 1999, FPL has previously submitted a request for a risk informed EDG allowed outage time (AOT) extension from 3 days to 14 days. An evaluation of the impact on plant risk as expressed by the change in core damage frequency (CDF), the incremental conditional core damage probability (ICCDP), the change in large early release frequency (LERF), and the incremental conditional large early release probability (ICLERP) was provided as part of the EDG AOT extension submittal (L-99-228). The EDG downtime (hours/train/year) assumed in the EDG AOT extension risk assessment includes the out-of-service time that would be incurred due to performing the proposed EDG inspections and overhauls in Modes 1 and 2 instead of during shutdown. The risk assessment for the proposed EDG AOT extension bounds the risk for this change.

NRC Regulatory Guide (RG) 1.177, *An Approach for Plant-Specific Risk-Informed Decision making: Technical Specifications*, states that an ICCDP of  $<5.0E-07$  and an

ICLERP of  $<5.0E-08$  is considered small for a single AOT change. Both the ICCDP and ICLERP for the proposed EDG AOT extension and these proposed changes are below the RG 1.177 specified values and are thus considered small.

NRC RG 1.174, *An Approach for Using Probabilistic Risk Assessment in Decisions on Plant Specific Changes to the Licensing Basis*, discusses acceptance criteria for changes in CDF and LERF. A change in CDF of  $<1E-06$  with a total CDF of  $<1E-04$ /year and a change in LERF of  $<1E-07$  with a total LERF of  $<1E-05$  are considered very small. The changes in CDF and LERF for the EDG AOT extension and these proposed changes are below the RG 1.174 criteria and are thus considered very small.

The removal of the Mode restrictions from the maintenance program are bounded by the risk assessment for the EDG AOT extension and therefore do not involve a significant increase in the probability or consequences of an accident previously evaluated.

- (2) Use of the modified specification would not create the possibility of a new or different kind of accident from any previously evaluated.

The use of the modified specifications can not create the possibility of a new or different kind of accident from any previously evaluated since the proposed amendments will not change the physical plant or the modes of plant operation defined in the facility operating license. No new failure mode is introduced due to implementation of this administrative change since the proposed changes do not involve the addition or modification of equipment, nor do they alter the design or operation of affected plant systems, structures, or components.

- (3) Use of the modified specification would not involve a significant reduction in a margin of safety.

The operating limits and functional capabilities of the affected systems, structures, and components remain unchanged by the proposed amendments. Therefore, these changes do not involve a significant reduction in the margin of safety. When the full scope of plant risk is considered, the risks incurred by performing either corrective or preventive EDG maintenance during power operation will be substantially offset by plant benefits associated with avoiding unnecessary plant transitions and/or reducing risks during shutdown operations.

Based on the above, we have determined that the proposed amendments do not (1) involve a significant increase in the probability or consequences of an accident previously evaluated, (2) create the probability of a new or different kind of accident from any previously evaluated, or (3) involve a significant reduction in a margin of safety; and therefore does not involve a significant hazards consideration.

Environmental Consideration

The proposed license amendments change a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The proposed amendments involve no significant increase in the amounts and no significant change in the types of any effluents that may be released offsite, and no significant increase in individual or cumulative occupational radiation exposure. FPL has concluded that the proposed amendments involve no significant hazards consideration and meet the criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), an environmental impact statement or environmental assessment need not be prepared in connection with issuance of the amendments.

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**ATTACHMENT 3**

**St. Lucie Unit 1 Marked-up Technical Specification Page**

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**ELECTRICAL POWER SYSTEMS**

**SURVEILLANCE REQUIREMENTS** (continued)

- c. By sampling new fuel in accordance with ASTM D4057-81 prior to addition to the storage tanks and:
1. By verifying in accordance with the tests specified in ASTM D-975-81 prior to addition to the storage tanks that the sample has:
    - a) API Gravity within 0.3 degrees at 60°F or a specific gravity of within 0.0016 at 60/60°F, when compared to the supplier's certificate or an absolute specific gravity at 60/60°F of greater than or equal to 0.83 but less than or equal to 0.89 or an API gravity of 60°F of greater than or equal to 27 degrees but less than or equal to 39 degrees.
    - b) A kinematic viscosity at 40°C of greater than or equal to 1.9 centistokes, but less than or equal to 4.1 centistokes, if gravity was not determined by comparison with the supplier's certification.
    - c) A flash point equal to or greater than 125°F, and
    - d) A clear and bright appearance with proper color when tested in accordance with ASTM D4176-82.
  2. By verifying within 31 days of obtaining the sample that the other properties specified in Table 1 of ASTM D975-81 are met when tested in accordance with ASTM D975-81 except that the analysis for sulfur may be performed in accordance with ASTM D1552-79 or ASTM D2622-82.
- d. At least once every 31 days by obtaining a sample of fuel oil from the storage tanks in accordance with ASTM D2276-83 and verifying that total particulate contamination is less than 10 mg/liter when checked in accordance with ASTM D2276-83, Method A, or Annex A-2.
- e. At least once per 18 months during shutdown by:
1. ~~Subjecting the diesel to an inspection in accordance with procedures prepared in conjunction with its manufacturer's recommendations for this class of standby service.~~
  2. Verifying generator capability to reject a load of greater than or equal to 600 hp while maintaining voltage at  $4160 \pm 420$  volts and frequency at  $60 \pm 1.2$  Hz.
  3. Simulating a loss of offsite power by itself, and:
    - a) Verifying deenergization of the emergency busses and load shedding from the emergency busses.

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**ATTACHMENT 4**

**St. Lucie Unit 2 Marked-up Technical Specification Page**

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**ELECTRICAL POWER SYSTEMS**

**SURVEILLANCE REQUIREMENTS (continued)**

- c. By sampling new fuel in accordance with ASTM D4057-81 prior to addition to the storage tanks and:
1. By verifying in accordance with the tests specified in ASTM D-975-81 prior to addition to the storage tanks that the sample has:
    - a) An API Gravity of within 0.3 degrees at 60°F or a specific gravity of within 0.0016 at 60/60°F, when compared to the supplier's certificate or an absolute specific gravity at 60/60°F of greater than or equal to 0.83 but less than or equal to 0.89 or an API gravity of 60°F of greater than or equal to 27 degrees but less than or equal to 39 degrees.
    - b) A kinematic viscosity at 40°C of greater than or equal to 1.9 centistokes, but less than or equal to 4.1 centistokes, if gravity was not determined by comparison with the supplier's certification.
    - c) A flash point equal to or greater than 125°F, and
    - d) A clear and bright appearance with proper color when tested in accordance with ASTM D4176-82.
  2. By verifying within 31 days of obtaining the sample that the other properties specified in Table 1 of ASTM D975-81 are met when tested in accordance with ASTM D975-81 except that the analysis for sulfur may be performed in accordance with ASTM D1552-79 or ASTM D2622-82.
- d. At least once every 31 days by obtaining a sample of fuel oil from the storage tanks in accordance with ASTM D2276-83 and verifying that total particulate contamination is less than 10 mg/liter when checked in accordance with ASTM D2276-83, Method A, or Annex A-2.
- e. At least once per 18 months during shutdown by:
1. ~~Subjecting the diesel to an inspection in accordance with procedures prepared in conjunction with its manufacturer's recommendations for this class of standby service.~~
  2. Verifying generator capability to reject a load of greater than or equal to 453 kW while maintaining voltage at  $4160 \pm 420$  volts and frequency at  $60 \pm 1.2$  Hz.
  3. Verifying the generator capability to reject a load of 3685 kW without tripping. The generator voltage shall not exceed 4784 volts during and following the load rejection.