

April 16, 1992

Docket No. 50-400

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Mr. R. A. Watson
Senior Vice President
Nuclear Generation
Carolina Power & Light Company
Post Office Box 1551
Raleigh, North Carolina 27602

Dear Mr. Watson:

SUBJECT: ISSUANCE OF AMENDMENT NO. 28 TO FACILITY OPERATING LICENSE
NO. NPF-63 REGARDING EMERGENCY DIESEL GENERATOR - SHEARON
HARRIS NUCLEAR POWER PLANT, UNIT 1, (TAC NO. M81682)

The Nuclear Regulatory Commission has issued the enclosed Amendment No. 28 to Facility Operating License No. NPF-63 for the Shearon Harris Nuclear Power Plant, Unit 1. This amendment consists of changes to the Technical Specifications (TS) in response to your request dated August 26, 1991.

The amendment revises TS 3.8.1.2.b.1 to decrease the minimum required level in the emergency diesel generator fuel oil day tank from 2670 gallons to 1457 gallons and adds a clarifying footnote addressing the differences in assumed specific gravities of the fuel oil.

A copy of the related Safety Evaluation is enclosed. Notice of Issuance will be included in the Commission's regular bi-weekly Federal Register notice.

Sincerely,

Original signed by:

Brenda L. Mozafari, Project Manager
Project Directorate II-1
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Enclosures:

- 1. Amendment No. to NPF-63
- 2. Safety Evaluation

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cc w/enclosures:
See next page

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NAME	: PAnderson	:	: B Mozafari	:	:	:	: EAdensam	:	:	:	:	:
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Mr. R. A. Watson
Carolina Power & Light Company

Shearon Harris

cc:

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AMENDMENT NO. 28 TO FACILITY OPERATING LICENSE NO. NPF-63 - HARRIS, UNIT 1

Docket File

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

CAROLINA POWER & LIGHT COMPANY, et al.

DOCKET NO. 50-400

SHEARON HARRIS NUCLEAR POWER PLANT, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 28
License No. NPF-63

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Carolina Power & Light Company, (the licensee), dated August 26, 1991, 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.
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. NPF-63 is hereby amended to read as follows:

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(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, and the Environmental Protection Plan contained in Appendix B, both of which are attached hereto, as revised through Amendment No. 28, are hereby incorporated into this license. Carolina Power & Light Company shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This license amendment is effective as of the date of its issuance and shall be implemented within 60 days of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Elinor G. Adensam, Director
Project Directorate II-1
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: April 16, 1992

ATTACHMENT TO LICENSE AMENDMENT NO. 28

FACILITY OPERATING LICENSE NO. NPF-63

DOCKET NO. 50-400

Replace the following pages of the Appendix A Technical Specifications with the enclosed pages. The revised areas are indicated by marginal lines.

Remove Pages

3/4 8-1

3/4 8-11

Insert Pages

3/4 8-1

3/4 8-11

3/4.8 ELECTRICAL POWER STEM

3/4.8.1 A.C. SOURCES

OPERATING

LIMITING CONDITION FOR OPERATION

3.8.1.1 As a minimum, the following A.C. electrical power sources shall be OPERABLE:

- a. Two physically independent circuits between the offsite transmission network and the onsite Class 1E distribution system, and
- b. Two separate and independent diesel generators, each with:
 1. A separate day tank containing a minimum of 1457 gallons of fuel, which is equivalent to a minimum indicated level of 40%**,
 2. A separate main fuel oil storage tank containing a minimum of 100,000 gallons of fuel, and
 3. A separate fuel oil transfer pump.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

- a. With one offsite circuit of 3.8.1.1.a inoperable, demonstrate the OPERABILITY of the remaining A.C. sources by performing Surveillance Requirement 4.8.1.1.1.a within 1 hour and at least once per 8 hours thereafter. If either emergency diesel generator (EDG) has not been successfully tested within the 24 hours preceding entry into this ACTION, demonstrate its OPERABILITY by performing Surveillance Requirement 4.8.1.1.2.a.4 and a.6 separately for each such EDG within 24 hours. Restore the offsite circuit to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and COLD SHUTDOWN within the following 30 hours.
- b. With one diesel generator of 3.8.1.1.b inoperable, demonstrate the OPERABILITY of the A.C. offsite sources by performing Surveillance Requirement 4.8.1.1.1.a within 1 hour and at least once per 8 hours thereafter; and if the EDG became inoperable due to any cause other than preplanned preventive maintenance or testing, demonstrate the OPERABILITY of the remaining OPERABLE EDG performing Surveillance Requirement 4.8.1.1.2.a.4 and a.6 within 24 hours*#; restore the

*This test is required to be completed regardless of when the inoperable EDG is restored to OPERABILITY.

#Activities that normally support testing pursuant to 4.8.1.1.2.a.4 and a.6, which would render the diesel inoperable (e.g., air roll), shall not be performed for testing required by this ACTION statement.

**Minimum indicated level with a fuel oil specific gravity of 0.83 and the level instrumentation calibrated to a reference specific gravity of 0.876.

ELECTRICAL POWER SYSTEMS

A.C. SOURCES

SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.8.1.2 As a minimum, the following A.C. electrical power sources shall be OPERABLE:

- a. One circuit between the offsite transmission network and the onsite Class 1E distribution system, and
- b. One diesel generator with:
 1. Day tank containing a minimum volume of 1457 gallons of fuel, which is equivalent to a minimum indicated level of 40%**,
 2. A separate main fuel oil storage tank containing a minimum volume of 100,000 gallons of fuel, and
 3. A fuel oil transfer pump.

APPLICABILITY: MODES 5 and 6.

ACTION:

With less than the above minimum required A.C. electrical power sources OPERABLE, immediately suspend all operations involving CORE ALTERATIONS, positive reactivity changes, movement of irradiated fuel, or crane operation with loads over irradiated fuel and within 8 hours, depressurize and vent the Reactor Coolant System through a vent of greater than or equal to 2.9 square inches. In addition, when in MODE 5 with the reactor coolant loops not filled, or in MODE 6 with the water level less than 23 feet above the reactor vessel flange, immediately initiate corrective action to restore the required sources to OPERABLE status as soon as possible.

SURVEILLANCE REQUIREMENTS

4.8.1.2 The above required A.C. electrical power sources shall be demonstrated OPERABLE by the performance of each of the requirements of Specifications 4.8.1.1.1 and 4.8.1.1.2.

** Minimum indicated level with a fuel oil specific gravity of 0.83 and the level instrumentation calibrated to a reference specific gravity of 0.876.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 28 TO FACILITY OPERATING LICENSE NO. NPF-63

CAROLINA POWER & LIGHT COMPANY

SHEARON HARRIS NUCLEAR POWER PLANT, UNIT 1

DOCKET NO. 50-400

1.0 INTRODUCTION

By letter dated August 26, 1991, Carolina Power & Light Company (the licensee) requested an amendment to revise Technical Specification (TS) Sections 3.8.1.1 and 3.8.1.2 concerning the emergency diesel generator (EDG) fuel oil day tank minimum level for Shearon Harris Nuclear Power Plant, Unit 1 (Harris 1). The proposed change would reduce the existing minimum TS level from 2670 gallons to 1457 gallons to enable periodic engine performance testing to be performed without dropping below a TS limit that would place the system in a Limiting Condition for Operation (LCO) action statement. In addition, the amendment request includes a proposed footnote for fuel oil specific gravities to establish a minimum indicated level based on lighter grades of fuel oil that may be used by the licensee.

2.0 EVALUATION

Currently, TS 3.8.1.1 and TS 3.8.1.2 require that two separate and independent diesel generators each have a separate day tank containing a minimum of 2670 gallons of fuel oil, which is equivalent to 85 percent indicated level. The applicable system guidance of Regulatory Guide 1.137 and ANSI Standard N195-1976 specify that each diesel generator shall be equipped with a day tank with a capacity sufficient to maintain at least 60 minutes of operation at 100 percent continuous load at the level where oil is automatically added, plus a minimum margin of 10 percent. The equivalent fuel oil volume to maintain the 1.1 hours (60 minutes plus 10 percent) of diesel engine operating time requires a minimum of 519 gallons, when calculated according to the guidance in ANSI Standard N195-1976. The proposed amendment would change TS 3.8.1.1 and 3.8.1.2 to reduce the fuel oil day tank minimum volume from 2760 gallons to 1457 gallons, equivalent to 40 percent indicated level. The normal, automatically controlled amount of fuel in the day tank will remain unchanged. Automatic refill commences at a low level setpoint of 612 gallons, which is initiated below the existing and proposed TS minimum volume. Therefore, the proposed TS minimum volume maintains a considerable margin of fuel oil above the level at which automatic make-up is initiated and does not compromise the available fuel oil needed to meet the design guidance of 519 gallons or the equivalent 1.1-hour operational requirement.

If the fuel oil in the day tank reaches the low level alarm setpoint of 519 gallons, a difference in specific gravities and grades of fuel oil could cause a discrepancy in instrument-indicated level. The licensee has proposed a footnote to clarify differences in indicated level which considers various grades of fuel oils available to licensees. Light fuel oil with a specific gravity of 0.83 or a standard grade fuel oil with a specific gravity of 0.876 can be supplied to the licensee for use in the emergency diesel generator (EDG) fuel oil system. The proposed footnote requires fuel oil instruments to be calibrated to a reference specific gravity equal to 0.876. Thus, if light fuel oil of 0.83 specific gravity is in the EDG fuel oil system at low levels, a volume less than the actual available fuel will be indicated on the level instruments. However, the indicated level at which automatic makeup commences remains unchanged, regardless of the grade fuel oil or specific gravity used. Therefore, the actual amount of available fuel oil when make-up commences will be greater than the design guidance of 519 gallons or its equivalent of 1.1 hours of diesel engine operating time.

The guidance given by Regulatory Guide 1.137 and Standard Review Plan (SRP) Section 9.5.4, "Emergency Diesel Engine Fuel Oil Storage and Transfer System," states that a minimum seven-day fuel oil supply is required to be on-site to meet the engineered safety feature loads following a loss of offsite power and a design basis accident. Current TS 3.8.1.1 and 3.8.1.2 specify that a separate main fuel oil storage tank containing a minimum of 100,000 gallons of fuel shall be available. Existing storage capacity at Harris 1 totals 102,670 gallons (100,000 gallons in main storage tank and 2670 gallons in day tank capacity). The total available fuel oil provides 9 days and 14 hours of operating time at 100 percent continuous load. The proposed amendment to lower the day tank fuel oil minimum fuel level to 1457 gallons reduces the overall operating time of the EDG to 9 days and 11 hours with 101,457 gallons of total fuel oil stored. The proposed change to the TS limit does not significantly impact the available seven-day supply of fuel oil needed to satisfy the guidance of Regulatory Guide 1.137 and SRP Section 9.5.4.

3.0 SUMMARY

Because an adequate fuel oil inventory is maintained for the diesel generator day tank to meet the safety-related electrical load requirements, the staff finds the proposed amendment to be acceptable. The staff also concludes, based on its evaluation, that the licensee's proposed amendment to change TS sections 3.8.1.1 and 3.8.1.2, and to add a footnote clarifying the differences in assumed fuel oil specific gravities conforms with criteria of ANSI Standard N195-1976, Regulatory Guide 1.137, and Standard Review Plan Section 9.5.4 guidance.

4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the State of North Carolina official was notified of the proposed issuance of the amendment. The State official had no comments.

5.0 ENVIRONMENTAL CONSIDERATION

The amendment changes 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 NRC staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendment involves no significant hazards consideration, and there has been no public comment on such finding (56 FR 49916). Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendment.

6.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: M. Widman

Date: April 16, 1992