

September 12, 2002

Mr. James Scarola, Vice President  
Shearon Harris Nuclear Power Plant  
Carolina Power & Light Company  
Post Office Box 165, Mail Code: Zone 1  
New Hill, North Carolina 27562-0165

SUBJECT: SHEARON HARRIS NUCLEAR POWER PLANT, UNIT 1 - ISSUANCE OF  
AMENDMENT RE: TECHNICAL SPECIFICATION CHANGE REQUEST TO  
ELIMINATE DIESEL GENERATOR DAY TANK LEVEL INDICATION  
(TAC NO. MB5623)

Dear Mr. Scarola:

The Nuclear Regulatory Commission has issued Amendment No. 111 to Facility Operating License No. NPF-63 for the Shearon Harris Nuclear Power Plant, Unit 1. This amendment changes the Technical Specifications (TS) in response to your request dated July 8, 2002, and makes the Harris Nuclear Plant TS more consistent with the Improved TS as described in NUREG-1431, Revision 2, "Standard Technical Specifications - Westinghouse Plants."

The amendment changes TS Section 3/4.4.8.1.1 "Electrical Power System - A.C. Sources - Operating" and TS Section 3/4.4.8.1.2 "Electrical Power System - A.C. sources - Shutdown."

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,

/RA/

Ram Subbaratnam, Project Manager, Section 2  
Project Directorate II  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Docket No. 50-400

Enclosures:

1. Amendment No. 111 to NPF-63
2. Safety Evaluation

cc w/enclosures:  
See next page

AMENDMENT NO. 111 TO FACILITY OPERATING LICENSE NO. NPF-63 - HARRIS, UNIT 1

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cc: Harris Service List

**Package: ML022690726**

**TS Pages: ML022660221**

**Accession Number ML022690729**

OFFICE	PM:PDII/S2	Intern:PDII/S2	LA:PDII/S2	SPLB	EEIB	OGC	Acting SC/PDII-2
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DATE	8 / 12 /02	8 / 12/02	8 / 12 /02	8 / 12 /02	08/08/02	8/12/02	8 / 12 /02

OFFICIAL RECORD COPY

CAROLINA POWER & LIGHT COMPANY, et al.

DOCKET NO. 50-400

SHEARON HARRIS NUCLEAR POWER PLANT, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No.111  
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 July 8, 2002, 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:

(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. 111, 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

**/RA/**

Kahtan Jabbour, Acting Chief, Section 2  
Project Directorate II  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Attachment: 111  
Changes to the Technical  
Specifications

Date of Issuance: September 12, 2002

ATTACHMENT TO LICENSE AMENDMENT NO. 111

FACILITY OPERATING LICENSE NO. NPF-63

DOCKET NO. 50-400

Replace the following pages of the Appendix A Technical Specifications with the attached revised pages. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

Remove Pages

3/4 8-1  
3/4 8-11

Insert Pages

3/4 8-1  
3/4 8-11

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
RELATED TO AMENDMENT NO. 111 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

On July 8, 2002, Carolina Power & Light Company (the licensee) submitted an amendment to the facility operating license for the Shearon Harris Nuclear Power Plant, Unit 1 (HNP). Specifically, the licensee requested a modification of the HNP Technical Specifications (TS) to remove the level indication from diesel generator (DG) day tanks. The proposed changes would revise TS Section 3/4.4.8.1.1 "Electrical Power System - A.C. Sources - Operating" and TS Section 3/4.4.8.1.2 "Electrical Power System - A.C. Sources - Shutdown." The requested changes would eliminate the level value in the TS in order to prevent confusion since it is not a set value but a variable based on specific gravity.

2.0 REGULATORY EVALUATION

General Design Criterion (GDC)-17, "Electric Power System," of Appendix A, "General Design Criteria for Nuclear Power Plants," to Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50, "Domestic Licensing of Production and Utilization Facilities," requires that an onsite electric power system and an offsite electric power system be provided to permit functioning of structures, systems, and components important to safety. In addition, GDC-17 contains requirements concerning system capacity, capability, independence, redundancy, availability, testability, and reliability. Appendix B, "Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants," to 10 CFR Part 50 establishes overall quality assurance requirements for the design, construction, and operation of structures, systems, and components important to safety.

As described by the licensee's July 8, 2002, application, HNP is equipped with two separate independent emergency DGs that make up the "standby ac power supply." The onsite power distribution system can receive power from either the preferred (offsite) power system or from the standby power supply, which consists of the two DGs, one for each division. Each DG is rated at 6500 kW, 6.9 kV and is complete with its accessories and fuel storage (day tank) system. The DG ratings are sufficient to supply reliable power to all safety-related loads, as well as to those non-safety-related loads, which are desirable to have manually loaded on the DG. Each DG is designed for fast starting and load acceptance, with a high degree of availability and reliability.

The DG fuel oil storage and transfer system (DGFOSTS) is a safety-related system required to support DG operation following loss-of-offsite power under all postulated conditions. Each redundant fuel oil storage tank provides the design-basis onsite storage capacity for its associated diesel. This storage capacity provides ample time for obtaining additional fuel oil, since additional fuel oil is readily available within 8 hours.

The diesel fuel oil transfer pump is a horizontal, centrifugal pump located below grade in a separate compartment adjacent to the fuel oil storage tank. The fuel oil transfer pump powered by its associated DG is sized to provide a flow of 40 gallons per minute (gpm) or approximately six times the maximum engine consumption rate and is automatically controlled through the use of a level switch activated by the day tank fuel level. Upon demand, the diesel fuel oil is pumped from the fuel oil storage tank and through one simplex strainer into the diesel fuel oil day tank.

In each fuel oil supply subsystem, the fuel oil transfer pump maintains the fuel oil level in its associated DG day tank. The day tanks are vertical steel tanks located in separate, isolated, fire-resistant compartments, and situated such as to assure sufficient positive pressure at the engine fuel pumps. The full volume of each day tank provides approximately 6 hours of storage assuming maximum engine fuel consumption.

Upon receipt of a signal initiating diesel start, the diesel engine shaft-driven fuel pump takes suction from its associated day tank and pumps fuel oil to the diesel as required and recirculates that portion not consumed by the diesel back to the day tank.

The proposed changes are requested in accordance with 10 CFR 2.101, 50.59, and 50.90 to assure continued compliance with 10 CFR Part 50, Appendix A, GDC- 17, "Electric Power Systems," and GDC-18, "Inspection and Testing of Electric Power Systems."

### 3.0 TECHNICAL EVALUATION

At present, TS Section 3.8.1.1.b.1 states that "A separate day tank containing a minimum of 1457 gallons of fuel, which is equivalent to a minimum indicated level of 40%\*\*\*" with the footnote:

\*\*\*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."

The proposed change to TS Section 3.8.1.1.b.1 will read "A separate day tank containing a minimum of 1457 gallons of fuel."

Additionally, at present, TS Section 3.8.1.2.b.1 states that "Day tank containing a minimum volume of 1457 gallons of fuel, which is equivalent to a minimum indicated level of 40%\*\*\*" with the footnote:

\*\*\*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."

The proposed change to TS Section 3.8.1.2.b.1 will read "Day tank containing a minimum volume of 1457 gallons of fuel."

The licensee stated that the TS currently state that percent indicated level equivalent to 1457 gallons is 40 percent, which is not accurate for all values of fuel oil specific gravity. The 40-percent indicated level, however, equates to a specific gravity-dependent volume that may be less than the 1457 gallons required. Changes in specific gravity of the fuel oil can be accounted for, and the desired minimum volume assured, by comparing the indicated level to the day tank curve to find the volume adjacent to the measured specific gravity of the fuel. Since the fuel oil specific gravity varies, the TS-required minimum volume in the day tank is not satisfied by having one indicated level value. The day tank level could indicate 40 percent as required in both of the affected TS, but the required number of gallons would be less than the 1457 gallons required if the fuel specific gravity was less than 0.83. Therefore, the requested change is to eliminate the level value in TS 3/4.8.1.1.b.1 and 3/4.8.1.2.b.1 in order to prevent confusion since it is not a set value but a variable based on specific gravity. The licensee further stated that this TS change will improve the accuracy of the HNP TS and is consistent with the Improved Technical Specifications (ITS) in that the ITS only require day tank minimum volume in gallons.

The licensee stated that the current HNP TS were modeled after NUREG-0452, which was the previous Westinghouse TS standard prior to NUREG-1431 (ITS). The current HNP TS provide much the same TS Limiting Condition for Operation (LCO) as the ITS with the difference being that the ITS reference the day tank volume in the surveillance requirements instead of the LCO portion of the TS. The HNP TS requirement for the day tank to contain a minimum volume of 1457 gallons of fuel provides approximately 3 times the minimum required fuel described in Regulatory Guide 1.137 and ANSI N195-1976 based on a nominal fuel consumption rate of 7.4 gpm at full load.

On the basis of its review, the NRC staff concludes that this change will improve the accuracy of the HNP TS and will be consistent with the ITS in that the ITS only require day tank minimum volume in gallons, and we find the requested TS change acceptable. The NRC staff accepts this change based on the following: (1) RG 1.137 requires fuel volume in the day tank for a minimum of 1 hour of DG operation at full load plus 10%; and (2) upon demand, the diesel fuel oil is pumped automatically through the use of a level switch activated by the day tank fuel level from the fuel oil storage tank and through one simplex strainer into the diesel fuel oil day tank.

The NRC staff also concludes that the proposed changes do not affect HNP's compliance with the requirements of GDC-17. Further, HNP continues to meet the requirements of GDC-17 and, therefore, the proposed changes are acceptable.

#### 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 (67 FR 50950). 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.

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Date: September 12, 2002

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