

October 26, 1989

Docket No. 50-261

Mr. Lynn W. Eury
Executive Vice President
Power Supply
Carolina Power & Light Company
Post Office Box 1551
Raleigh, North Carolina 27602

Dear Mr. Eury:

SUBJECT: ISSUANCE OF AMENDMENT NO. 124 TO FACILITY OPERATING LICENSE NO.
DPR-23 - H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2, REGARDING
DIESEL FUEL OIL INVENTORY (TAC NO. 71613)

The Nuclear Regulatory Commission has issued the enclosed Amendment No. 124 to Facility Operating License No. DPR-23 for the H. B. Robinson Steam Electric Plant, Unit No. 2. This amendment consists of changes to the Technical Specifications in response to your request dated November 30, 1988 and supplemented on May 5, 1989 and October 11, 1989.

The amendment changes certain requirements on the storage of diesel fuel oil inventory onsite and associated surveillance requirements for sampling and testing. The increased minimum inventory required will ensure that sufficient fuel is available to operate one diesel generator at its rated design capacity for seven days following a design basis accident.

A copy of the related Safety Evaluation is enclosed. The Notice of Issuance of Amendment to Facility Operating License has been forwarded to the Federal Register for publication.

Sincerely

Original Signed By:

Ronnie H. Lo, Senior Project Manager
Project Directorate II-1
Division of Reactor Projects I/II
Office of Nuclear Reactor Regulation

Enclosures:

- 1. Amendment No.124 to DPR-23
- 2. Safety Evaluation
- 3. Notice of Issuance

cc w/enclosures:
see next page

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11

[ROB AMEND 71613]

*SEE PREVIOUS CONCURRENCES

OFC	:LA:PD21:DRPR:PM:PD21:DRPR:SELB	:OGC	:D:PD21:DRPR	:	:	:	:	:
NAME	:*PAnderson	:*RLo:jfw	:*FRosa	:	:*EAdensam	:	:	:
DATE	:10/18/89	:10/18/89	:6/9/89	:6/13/89	:10/18/89	:	:	:

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Carolina Power & Light Company

H. B. Robinson 2

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

CAROLINA POWER & LIGHT COMPANY

DOCKET NO. 50-261

H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 124
License No. DPR-23

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Carolina Power & Light Company (the licensee), dated November 30, 1988, and supplemented on May 5, 1989, and October 11, 1989, 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 3.B of Facility Operating License No. DPR-23 is hereby amended to read as follows:

(B) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 124, are hereby incorporated in the license. Carolina Power & Light Company shall operate the facility in accordance with the Technical Specifications.

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

FOR THE NUCLEAR REGULATORY COMMISSION

Edward A. Reeves/for

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: October 26, 1989

*See letter concurrences

OFC	: LA: PD21: DRPR: PM: PD21: DRPR: OGC*	: D: PD21: DRPR	: SELB*	:	:
NAME	: PAnderson	: RLo	: CBarth	: EAdensam	: FRosa
DATE	8/9/89	10/18/89	6/13/89	10/18/89	6/9/89

ATTACHMENT TO LICENSE AMENDMENT NO. 124

FACILITY OPERATING LICENSE NO. DPR-23

DOCKET NO. 50-261

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

<u>Remove Pages</u>	<u>Insert Pages</u>
3.7-1	3.7-1
3.7-4	3.7-4
-	3.7-4a
-	4.1-10a
4.6-2	4.6-2
-	4.6-2a
4.6-4	4.6-4

3.7 AUXILIARY ELECTRICAL SYSTEMS

Applicability

Applies to the availability of electrical power for the operation of plant auxiliaries.

Objective

To define those conditions of electrical power availability necessary (1) to provide for safe reactor operation, and (2) to provide for the continuing availability of engineered safeguards.

Specification

- 3.7.1 The reactor shall not be maintained critical without:
- a. The 110 KV-4160 Volt start-up transformer in service;
 - b. 480-Volt buses E1 and E2 energized;
 - c. 4160-Volt buses 2 and 3 energized;
 - d. Two diesel generators OPERABLE with a minimum supply of 19,000 gallons of fuel oil available to the diesel generators from the Unit 2 diesel generator fuel oil storage tank and an additional 15,000 gallons available to the diesel generators from either the Unit 1 I-C turbine fuel oil storage tanks or a combination of the Unit 1 I-C turbine fuel oil storage tanks and the Unit 2 diesel generator fuel oil storage tank, and with the following protective trips for each diesel generator bypassed:
 - 1) Low lube oil pressure
 - 2) Low coolant pressure
 - 3) High coolant temperature
 - 4) High crankcase pressure
 - 5) Start failure trip of fuel racks

Two diesel generators have sufficient capacity to start and run at design load all of the engineered safety features equipment. The safety features operated from one diesel generator can adequately cool the core for any Loss-of-Coolant incident, and they also maintain the containment pressure within the design value. The minimum diesel fuel oil inventory available to the diesel generators from the Unit 2 diesel generator fuel oil storage tank (Unit 2 tank) is maintained at all times to assure the operation of either 1) both diesel generators at rated design capacity for at least 48 hours⁽¹⁾, or 2) one diesel generator at rated design capacity for at least 96 hours. Diesel fuel is also available to the Unit 2 tank from four Unit 1 I-C turbine fuel oil storage tanks (Unit 1 tanks). This additional storage is comprised of three I-C turbine fuel oil storage tanks at approximately 23,900 gallons capacity each, and one I-C turbine vertical light-off fuel oil storage tank at approximately 23,900 gallons capacity, for a total Unit 1 fuel oil storage capacity of approximately 95,600 gallons. (The Unit 1 I-C turbine horizontal light-off fuel oil storage tank capacity is not available to the Unit 2 tank.) Connections are provided for fuel oil transfer from the four Unit 1 tanks to the Unit 2 tank. Therefore, the minimum diesel fuel oil inventory available to the diesel generators from the total on-site diesel fuel oil storage capacity is maintained at all times to assure the operation of one diesel generator at its rated design capacity for seven days. "Rated design capacity" for this specification is defined as operation at 2500 kW for 22 hours and 2750 kW for 2 hours in any 24-hour period.

Additional supplies of diesel oil are available in the Hartsville area and from port terminals at Charleston, S.C. and Wilmington, N.C., and inland terminals at Columbia, S.C., Charlotte, N.C., Greensboro, N.C., Fayetteville, N.C., and Raleigh, N.C. Ample trucking facilities exist to assure deliveries to the site within eight hours.

One battery charger shall be in service so that the batteries will always be at full charge in anticipation of loss-of-A.C. power incident. This ensures that adequate D.C. power will be available for emergency uses.

The plant can be safely shut down without the use of offsite power since all vital loads (safety systems, instruments, etc.) can be supplied from the emergency diesel generators.

The two diesel generators, each capable of supplying safeguards loads, and the start-up transformer provide three separate sources of power immediately available for operation of these loads.

Table 4.1-2 (Continued)

Frequencies For Sampling Tests

	<u>Check</u>	<u>Frequency</u>	<u>Maximum Time Between Tests</u>
11. U-2 Diesel Generator Fuel Oil Storage Tank	API or Specific Gravity, Water and Sediment, Viscosity	Monthly	45 Days
12. U-1 I-C Turbine Fuel Oil Storage Tanks or Tank Truck	API or Specific Gravity, Water and Sediment, Viscosity	Prior to transfer to U-2	N/A

bypasses listed in Specification 3.7.1.d shall be demonstrated to be operable by simulating a trip signal to each of the trip devices that is bypassed and observing that the diesel does not trip.

4.6.1.3 Each diesel generator shall be inspected at each refueling.

4.6.1.4 Diesel generator electric loads shall not be increased beyond the long term rating of 2500 kW.

4.6.2 Diesel Fuel Tanks

A minimum fuel oil inventory sufficient to ensure 19,000 gallons available to the diesel generators shall be maintained at all times in the Unit 2 diesel generator fuel oil storage tank and an additional 15,000 gallons available to the diesel generators shall be maintained at all times in either the Unit 1 I-C turbine fuel oil storage tanks or a combination of the Unit 1 I-C turbine fuel oil storage tanks and the Unit 2 diesel generator fuel oil storage tank.

4.6.3 Station Batteries

4.6.3.1 The voltage and temperature of a pilot cell in each battery shall be measured and recorded daily, 5 days/week.

4.6.3.2 The specific gravity and voltage to the nearest 0.01 volt, the temperature reading of every fifth cell, the height of electrolyte and the amount of water added to each cell shall be measured and recorded monthly.

4.6.3.3 Each battery shall be subjected to an equalizing charge annually. The requirements in 4.6.3.2 above shall be performed after each equalizing charge.

4.6.3.4 At each time data is recorded, new data shall be compared with old to detect signs of abuse or deterioration.

Each unit as a backup to the normal standby AC power supply is capable of sequentially starting and supplying the power requirement of one complete set of safety features equipment. It can accept full load within 35 seconds after the initial starting signal.⁽¹⁾ and will sequentially start and supply the power requirements of one complete set of safety features equipment in 50 seconds.⁽²⁾

A supply of 19,000 gallons of fuel will ensure the operation of both diesels carrying rated design capacity for at least 48 hours or one diesel for at least 96 hours. An additional 15,000 gallons will be available to assure an adequate fuel supply for at least seven days of operation of a single diesel generator at its rated design capacity. Rated design capacity for this specification is defined as operation at 2500 kW for 22 hours and at 2750 kW for two hours in any 24-hour period.

Station batteries will deteriorate with time, but precipitous failure is extremely unlikely. The surveillance specified is that which has been demonstrated over the years to provide an indication of a cell becoming unserviceable long before it fails.

The equalizing charge, as recommended by the manufacturer, is vital to maintaining the ampere-hour capability of the battery. As a check upon the effectiveness of the equalizing charge the battery should be loaded rather heavily and the voltage monitored as a function of time. Experience has shown that this test should be repeated at intervals to detect deterioration of cells.⁽³⁾ If a cell has deteriorated or if a connection is loose, the voltage under load will drop excessively indicating ~~replacement~~ or ~~maintenance~~.

References

- (1) FSAR Section 3.2
- (2) FSAR Table 8.2-4
- (3) AEC Information Letter ROE: 67-1. January 31, 1967.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 124 TO FACILITY OPERATING LICENSE NO. DPR-23

CAROLINA POWER & LIGHT COMPANY

H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2

DOCKET NO. 50-261

1.0 INTRODUCTION

By letter dated November 30, 1988, the Carolina Power & Light Company submitted a request for changes to the H. B. Robinson Steam Electric Plant, Unit No. 2, (HBR-2) Technical Specifications (TS) to increase the quantity of diesel generator fuel oil required to be stored onsite. This increased minimum inventory will ensure that sufficient fuel is available to operate one diesel generator at its rated design capacity for seven days following a design basis accident. By letter dated May 5, 1989, the licensee supplemented the request by adding surveillance requirements on testing and sampling of the diesel fuel oil inventory. By letter dated October 11, 1989, the licensee submitted a revision to correct the quantity of diesel generator fuel oil required to be stored onsite (from 32,000 gallons as proposed in the November 30, 1988 letter to 35,000 gallons) because of an error in the calculational basis in the original request submitted on November 30, 1988.

On May 5, 1989, the licensee supplemented the original amendment request by adding surveillance requirements associated with the increased diesel fuel oil inventory requirements. On October 11, 1989, the licensee corrected the original amendment request by increasing the required diesel generator fuel oil onsite from 32,000 gallons to 35,000 gallons. These proposed changes place additional requirements on the licensee and do not affect the proposed determination that this amendment involves no significant hazards consideration.

2.0 EVALUATION

Each one of the diesel generators adequately carries the maximum safety equipment loads. The full load fuel consumption rating indicated by factory tests is 174 gallons per hour according to internal licensee documents. (see NRC Inspection Report No. 50-261/87-06, Section 3.e.(f)). The proposed TS requirement of a minimum supply of 19,000 gallons of diesel fuel inventory at the Unit 2 diesel generator fuel oil storage tank and an additional 15,000 gallons at either Unit 1 I-C turbine fuel oil storage tank, or a combination of the two tanks, should exceed the fuel consumption of one diesel generator operating at full load for seven days. This meets the intent of the original TS and is consistent with the Updated Final Safety Analysis Report (UFSAR) Section 8.3.1.1.5.1 statement regarding the maintenance of minimum fuel oil inventory sufficient for one diesel

generator to operate at full load for seven days. The original inconsistencies between the existing TS and the UFSAR were noted during the staff's Safety System Functional Inspection conducted between March 9 and April 15, 1987. The proposed TS changes to increase the minimum fuel oil inventory requirement would resolve the inconsistencies.

The existing capacities of the Unit 2 diesel generator fuel oil storage tank (25,000) and the Unit 1 I-C turbine fuel oil storage tanks (95,000 gallons) exceed the minimum fuel oil inventory requirements of the proposed TS. The proposed TS change to administratively maintain an increased minimum fuel oil inventory does not impact on the combustible loading for the HBR-2 Fire Hazard Analysis. The staff finds the proposed TS change to be acceptable.

Corresponding changes were also proposed in the Surveillance Requirements to maintain the increased minimum fuel oil inventory.

3.0 ENVIRONMENTAL CONSIDERATION

Pursuant to 10 CFR 51.21, and 51.35, an environmental assessment and finding of no significant impact have been prepared and published in (54 FR 5161) on February 1, 1989. Accordingly, based upon the environmental assessment, the Commission has determined that the issuance of this amendment will not have a significant effect on the quality of the human environment.

4.0 CONCLUSION

The Commission made a proposed determination that this amendment involves no significant hazards consideration, which was published in the FEDERAL REGISTER (54 FR 5161) on February 1, 1989, and consulted with the State of North Carolina. No public comments or requests for hearing were received, and the State of North Carolina did not have any comments.

The Staff 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, and (2) 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.

Principal Contributor: Ronnie Lo

Dated: October 26, 1989

AMENDMENT NO. 124 TO FACILITY OPERATING LICENSE NO. DPR-23 - ROBINSON,
UNIT NO. 2

Docket File

NRC PDR

Local PDR

S. Varga	14-E-4	
G. Lainas	14-H-3	
E. Adensam	14-B-20	
P. Anderson	14-B-20	
R. Lo	14-B-20	
OGC	15-B-18	
D. Hagan	MNBB-3302	
E. Jordan	MNBB-3302	
B. Grimes	9-A-2	
T. Meek (4 cys for each Docket No.)		P1-137
Wanda Jones	P-130A	
J. Calvo	11-F-23	
FRosa	8-D-20	
ACRS (10)	P-315	
GPA/PA	17-F-2	
ARM/LFMB	AR-2015	
ROBINSON FILE		

cc: Licensee/Applicant Service List