

August 25, 2005

Mr. J. W. Moyer, Vice President
Carolina Power & Light Company
H. B. Robinson Steam Electric Plant
Unit No. 2
3581 West Entrance Road
Hartsville, South Carolina 29550

SUBJECT: H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2 - ISSUANCE OF AN
AMENDMENT ON DC SOURCES - OPERATING (TAC NO. MC5908)

Dear Mr. Moyer:

The Nuclear Regulatory Commission has issued the enclosed Amendment No.206 to Renewed Facility Operating License No. DPR-23 for the H. B. Robinson Steam Electric Plant, Unit No. 2. This amendment changes the HBR Technical Specifications (TSs) in response to your application dated February 14, 2005, as supplemented by letter dated July 13, 2005.

The amendment revises the surveillance requirements (SR) for the station batteries as specified in SR 3.8.4.5, battery service test, and SR 3.8.4.6, battery performance test in TS 3.8.4, DC Sources - Operating.

A copy of the related Safety Evaluation is enclosed. Notice of Issuance will be included in the Commission's biweekly *Federal Register* notice.

Sincerely,

/RA/

Chandu P. Patel, Project Manager, Section 2
Project Directorate II
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-261

Enclosures:

1. Amendment No. 206 to DPR-23
2. Safety Evaluation

cc w/enclosures: See next page

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Distribution: See next page

Package No.: ML052420417

Technical Specifications: ML052420524

ADAMS Accession No.: ML052200295

*No Legal Objection

NRR-058

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Date: August 25,2005

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CAROLINA POWER & LIGHT COMPANY

DOCKET NO. 50-261

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

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 206
Renewed 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 February 14, 2005, as supplemented by letter dated July 13, 2005, 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 Renewed Facility Operating License No. DPR-23 is hereby amended to read as follows:

B. Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 206, 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 and shall be implemented within 60 days.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA by D. Pickett for/

Michael L. Marshall, Jr., Chief, Section 2
Project Directorate II
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: August 25, 2005

ATTACHMENT TO LICENSE AMENDMENT NO. 206
RENEWED FACILITY OPERATING LICENSE NO. DPR-23
DOCKET NO. 50-261

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

3.8 - 20
3.8 - 21

Insert Pages

3.8 - 20
3.8 - 21

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 206 TO

RENEWED 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 February 14, 2005, as supplemented by letter dated July 13, 2005, the Carolina Power & Light Company (licensee) submitted a request for changes to the H. B. Robinson Steam Electric Plant, Unit No. 2 (HBRSEP2), Technical Specifications (TSs). The requested changes would revise the surveillance requirements (SRs) for the station batteries as specified in SR 3.8.4.5, battery service test, and SR 3.8.4.6, battery performance test in TS 3.8.4, DC Sources - Operating.

The July 13, 2005, letter provided additional information that did not change the initial proposed no significant hazards consideration determination or expand the scope of the initial application.

2.0 REGULATORY EVALUATION

General Design Criterion 17, "Electric power systems," of Appendix A, "General Design Criteria for Nuclear Power Plants," to Title 10, of the Code of Federal Regulations (10 CFR), Part 50, requires, in part, that nuclear power plants have onsite and offsite electric power systems to permit the functioning of structures, systems, and components that are important to safety. The onsite system is required to have sufficient independence, redundancy, and testability to perform its safety function, assuming a single failure. The offsite power system is required to be supplied by two physically independent circuits that are designed and located so as to minimize, to the extent practical, the likelihood of their simultaneous failure under operating and postulated accident and environmental conditions. In addition, this criterion requires provisions to minimize the probability of losing electric power from the remaining electric power supplies as a result of loss of power from the unit, the offsite transmission network, or the onsite power supplies.

As stated in 10 CFR 50.36(c)(3), "Technical Specifications," it is required that a licensee's TSs have SRs relating to test, calibration, or inspection to assure that the necessary quality of systems and components is maintained, that facility operations are within safety limits, and that the limiting conditions for operation will be met.

3.0 TECHNICAL EVALUATION

The 125-V dc electrical power system at HBRSEP2, consists of five 125-V batteries, each with its own battery charger and dc buses. Two of the batteries are safety-related. Each of the two safety-related station batteries is sized to carry its expected shutdown loads following a plant trip and a loss of all ac power for a period of 1 hour without battery terminal voltage falling below minimum allowable voltage.

For each safety-related station battery, there are two safety-related battery chargers. Each battery charger has the capacity to supply all normal dc loads and maintain the battery fully charged. One battery charger supplies the normal dc loads while the other provides 100 percent back-up capability. Only one safety-related battery charger per station battery is on-line at any given time. Each of the four safety-related battery chargers have been sized to charge its partially discharged battery within 24 hours while carrying its normal load.

Cells in the "A" battery are type NCN-15 with a capacity of 1070 ampere hours (based on an 8-hour discharge to 1.75 volts/cell). The "A" bank is composed of 60 cells of the lead-calcium type. Cells in the "B" battery are type KCR-11 with a capacity of 410 ampere hours (based on an 8-hour discharge to 1.75 volts/cell). The "B" bank is composed of 60 cells lead calcium type. The battery capacities are 525 ampere hours and 204 ampere hours for the NCN-15 and KCR-11 batteries respectively for a 1-hour discharge to 1.75 volts/cell.

The safety-related batteries and equipment are separated physically in the plant.

The staff reviewed and evaluated the proposed changes to the TSs as follows:

3.1 TS 3.8.4, DC Sources - Operating

3.1.1 TS 3.8.4 Change (1): In letter dated July 13, 2005, the licensee proposed the following:

- Modify SR 3.8.4.5 to include an option to perform a modified performance test in lieu of the battery service test .

Evaluation of TS 3.8.4 Change (1)

SR 3.8.4.5 would be modified to include an option to perform a modified performance discharge test in lieu of a service test. The modified performance test confirms the battery's ability to meet the critical period of the load cycle, in addition to determining its percentage of rated capacity. The Institute of Electrical and Electronics Engineers (IEEE) Standard (Std.) 450-1995, "Recommended Practice for Maintenance, Testing, and Replacement of Vented Lead-Acid Batteries for Stationary Applications," allows a modified performance test if the battery discharge rate envelopes the duty cycle of the service test. Under such circumstances, the modified performance test can be used in lieu of a service test.

In its July 13, 2005, response to a staff request for additional information (RAI), the licensee stated that a valid method of modified performance test for HBRSEP2, would be based on peak current for the first minute, followed by a continuing discharge of the battery at a rate consistent with the battery performance test rate. This method is consistent with IEEE Std. 450-1995, which states, "Typically this test is a simulated duty cycle consisting of just two rates: the 1 min

rate published for the battery or the largest current load of the duty cycle, followed by the test rate employed for the performance test. Since the ampere-hours removed by a rated 1 min discharge represent a very small portion of the battery's capacity, the test rate can be changed to that for the performance test without compromising the results of a performance test."

Additionally, the licensee has proposed removing the 'once per 75 months' restriction in the note of SR 3.8.4.5. Since the modified performance test envelopes the duty cycle of the service test, this restriction is no longer necessary. Therefore, the staff finds it acceptable to remove the wording 'once per 75 months' from the note of SR 3.8.4.5.

Based on the above, the staff finds the proposed changes maintain compliance with requirements governing the design and operation of the dc electrical power system and provide adequate assurance of system operability, and therefore, are acceptable.

3.1.2 TS 3.8.4 Change (2): In letter dated February 14, 2005, the licensee proposed the following:

- Modify SR 3.8.4.6 to include the option to perform a modified performance test.

Evaluation of TS 3.8.4 Change (2)

SR 3.8.4.6 would be revised to include an allowance to perform a modified performance test in lieu of a performance test. The modified performance test confirms the battery's ability to meet the critical period of the load cycle, in addition to determining its percentage of rated capacity. Since the modified performance discharge test completely encompasses the load profile of the battery performance test, the staff finds it adequate to perform in place of the performance test.

Based on the above, the staff finds that the proposed change provides for appropriate verification of battery capacity and will continue to maintain plant safety, and therefore, is acceptable.

3.1.3 TS 3.8.4 Change (3): In letter dated July 13, 2005, the licensee proposed the following:

- The proposed change would revise SR 3.8.4.6 to require accelerated frequency for performance discharge tests or modified performance discharge tests from the current frequency of 18 months to:
 - (a) 12 months for batteries that show signs of degradation or have reached 85% of the expected service life with capacity < 100% of manufacturer's rating; and
 - (b) 24 months for batteries that have reached 85% of the expected service life with capacity \$ 100% of manufacturer's rating.

Evaluation of TS 3.8.4 Change (3)

Current SR 3.8.4.6 requires accelerated frequency for performance discharge tests or modified performance discharge tests. In its July 13, 2005, response to the staff RAI, the licensee proposed revising the current surveillance frequency of 18 months to: (i) 12 months for batteries that show signs of degradation or have reached 85% of the expected service life with capacity < 100% of manufacturer's rating, and (ii) 24 months for batteries that have reached 85% of the expected service life with capacity \geq 100% of manufacturer's rating. These revised frequencies are consistent with IEEE Std. 450-1995.

The staff finds that the proposed change to SR 3.8.4.6 is more restrictive and will continue to maintain plant safety, and therefore, is acceptable.

SUMMARY

The staff has reviewed the proposed modification of the HBRSEP2, TSs from a deterministic perspective. The staff concludes that the proposed changes do not affect HBRSEP2's compliance with the applicable regulations; therefore, the proposed changes are acceptable.

4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the State of South 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 and changes the Surveillance Requirements. 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 (70 FR 29787). 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 Contributors: Matthew McConnell
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Date: August 25, 2005

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