March 10, 1995

Mr. W. R. Robinson, 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: ISSUANCE OF AMENDMENT NO. 54 TO FACILITY OPERATING LICENSE NO. NPF-63 REGARDING CONTAINMENT LEAK RATE TESTING - SHEARON HARRIS NUCLEAR POWER PLANT, UNIT 1 (TAC NO. M91186)

Dear Mr. Robinson:

The Nuclear Regulatory Commission has issued the enclosed Amendment No. 54 to Facility Operating License No. NPF-63 for the Shearon Harris Nuclear Power Plant, Unit 1. This amendment changes the Technical Specifications in response to your request dated December 19, 1994.

The amendment provides for a one-time schedular extension from the Technical Specification surveillance interval of 40 months plus and minus 10 months to approximately 54 months to allow the third Type A test of the first 10-year service period to be performed during refueling outage No. 7, which is being scheduled for March 1997. This one-time extension is needed to allow the third Type A test to be conducted during the same outage as the first 10-year inservice inspection activities in accordance with Appendix J to 10 CFR 50.

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:

Ngoc B. Le, Project Manager
Project Directorate II-1
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Docket No. 50-400

Enclosures:
1. Amendment No. 54 to NPF-63
2. Safety Evaluation

cc w/enclosures:
See next page

DOCUMENT NAME: G:\HARRIS\HAR91186.AMD

OFFICE	LA:PDII-1	PM:PDII-1	D:PDII-1	OGC	BC:SRXB
NAME	PAnderson	NLe	WBateman	EHacker	RBarrett
DATE	02/10/95	02/22/95	02/10/95	02/16/95	02/24/95
COPY	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No

OFFICIAL RECORD COPY

cc:

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AMENDMENT NO. 54 TO FACILITY OPERATING LICENSE NO. NPF-63 - HARRIS, UNIT 1

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cc: Harris Service List

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

CAROLINA POWER & LIGHT COMPANY, et al.

DOCKET NO. 50-400

SHEARON HARRIS NUCLEAR POWER PLANT, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 54
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 December 19, 1994, 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. , 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

William H. Bateman, 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: March 10, 1995

ATTACHMENT TO LICENSE AMENDMENT NO. 54

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	Insert Pages
3/4 6-3	3/4 6-3
B 3/4 6-1	B 3/4 6-1

SURVEILLANCE REQUIREMENTS (Continued)

period. The third test of each set shall be conducted during the shutdown for the 10-year plant inservice inspection;

A one time extension of the test interval is allowed for performance of the third Type A test of the first 10-year service period during Refueling Outage No. 7.

b. If any periodic Type A test fails to meet 0.75 L_a, the test schedule for subsequent Type A tests shall be reviewed and approved by the Commission. If two consecutive Type A tests fail to meet 0.75 L_a. a Type A test shall be performed at least every 18 months until two consecutive Type A tests meet 0.75 L_a at which time the above test schedule may be resumed;

c. The accuracy of each Type A test shall be verified by a supplemental test which:

1. Confirms the accuracy of the test by verifying that the supplemental test result, L_c, is in accordance with the following equation:

$$|L_c - (L_{am} + L_o)| \leq 0.25\ L_a,$$ where L_{am} is the measured Type A test leakage and L_o is the superimposed leak;

2. Has a duration sufficient to establish accurately the change in leakage rate between the Type A test and the supplemental test; and

3. Requires that the rate at which gas is injected into the containment or bled from the containment during the supplemental test is between 0.75 L_a and 1.25 L_a.

d. Type B and C tests shall be conducted with gas at a pressure not less than P_a, at intervals no greater than 24 months except for tests involving:

1. Air locks,

2. Containment purge makeup and exhaust isolation valves with resilient material seals,

e. Air locks shall be tested and demonstrated OPERABLE by the requirements of Specification 4.6.1.3;

f. Purge makeup and exhaust isolation valves with resilient material seals shall be tested and demonstrated OPERABLE by the requirements of Specification 4.6.1.7.2;

g. The provisions of Specification 4.0.2 are not applicable.

3/4.6.1 PRIMARY CONTAINMENT

3/4.6.1.1 CONTAINMENT INTEGRITY

Primary CONTAINMENT INTEGRITY ensures that the release of radioactive materials from the containment atmosphere will be restricted to those leakage paths and associated leak rates assumed in the safety analyses. This restriction, in conjunction with the leakage rate limitation, will limit the SITE BOUNDARY radiation doses to within the dose guideline values of 10 CFR Part 100 during accident conditions.

3/4.6.1.2 CONTAINMENT LEAKAGE

The limitations on containment leakage rates ensure that the total containment leakage volume will not exceed the value assumed in the safety analyses at the peak accident pressure, P_a. As an added conservatism, the measured overall integrated leakage rate is further limited to less than or equal to 0.75 L_a, during performance of the periodic test, to account for possible degradation of the containment leakage barriers between leakage tests.

The surveillance testing for measuring leakage rates is consistent with the requirements of Appendix J of 10 CFR Part 50.

A one time extension of the test interval specified in Surveillance Requirement 4.6.1.2.a is allowed for performance of the third Type A test of the first 10-year service period during Refueling Outage No. 7.

3/4.6.1.3 CONTAINMENT AIR LOCKS

The limitations on closure and leak rate for the containment air locks are required to meet the restrictions on CONTAINMENT INTEGRITY and containment leak rate. Surveillance testing of the air lock seals provides assurance that the overall air lock leakage will not become excessive due to seal damage during the intervals between air lock leakage tests.

3/4.6.1.4 INTERNAL PRESSURE

The limitations on containment internal pressure ensure that: (1) the containment structure is prevented from exceeding its design negative pressure differential with respect to the outside atmosphere of -2 psig, and (2) the containment peak pressure does not exceed the design pressure of 45 psig.

The maximum peak pressure expected to be obtained from a postulated main steam line break event is 40.9 psig using a value of 1.9 psig for initial positive containment pressure. However, since the instrument tolerance for containment pressure is 1.32 psig and the high-one setpoint is 3.0 psig, the pressure limit was reduced from the high-one setpoint by slightly more than the tolerance and was set at 1.6 psig. This value will prevent spurious safety injection signals caused by instrument drift during normal operation. The -1" wg was chosen to be consistent with the initial assumptions of the accident analyses.

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 54 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 December 19, 1994, Carolina Power & Light Company (the licensee) submitted a request for changes to the Shearon Harris Nuclear Power Plant, Unit 1 (SHNPP), Technical Specifications (TS). The proposed changes would revise Technical Specification 4.6.1.2.a, Overall Integrated Containment Leakage Rate, to provide a one-time extension for the third Type A test interval beyond the required TS surveillance interval of 40 months plus or minus 10 months. This extension will allow the licensee to perform the third set of the three Type A tests for the first 10-year service period during refueling outage 7, which is currently scheduled for March 1997. This one-time extension will allow the third Type A test to be performed approximately 54 months after the second Type A test, so that this test will coincide with first 10-year plant inservice inspections during refueling outage 7.

2.0 BACKGROUND

Section III.D.1(a) of Appendix J to 10 CFR Part 50 establishes the required retest schedule for Type A, overall integrated containment leakage rate tests. The rule states that after the preoperational leakage rate tests, a set of three Type A tests shall be performed, at approximately equal intervals during each 10-year service period. The third test of each set is required to be performed when the plant is shutdown for the 10-year plant inservice inspections.

At the SHNPP, the requirements of Appendix J are reflected in the test schedule included in TS 4.6.1.2.a. This TS requires that three Type A tests shall be conducted at 40 plus or minus 10 month intervals during each 10-year service period. The first and second type A integrated leak rate tests (ILRT) of the first 10-year service period for the SHNPP were performed in October 1989 and September 1992, respectively. This represents testing intervals of 44 months (from the initial preoperational testing) and 35 months, respectively. In order to meet all requirements of the rule and technical specifications, the licensee would need to perform the third ILRT at 36 months during refueling outage 6 that is currently scheduled for September 1995

(for compliance with TS 4.6.1.2.a); and consequently, a fourth test would be needed during refueling outage 7 during the shutdown for the 10-year plant inservice inspection (for compliance with 10 CFR Part 50, Appendix J, paragraph III.D.(a)).

In the December 19, 1994 request, the licensee proposed to extend the TS-required interval between the second Type A test and the third the Type A test to approximately 54 months because the current refueling outage schedules for the SHNPP cannot support both the schedule established in Appendix J and the plant TS 4.6.1.2.a. This extension will allow the licensee to complete all three Type A tests for the first 10-year service period and also to perform the third Type A test during the first 10-year inservice inspection which is scheduled during the seventh refueling outage commencing in March 1997.

3.0 EVALUATION

The intent of the established test interval is that three approximately equally spaced Type A tests be conducted within a given 10-year service period. At SHNPP, the Appendix J and TS Type A testing requirements do not coincide with the anticipated refueling outage schedules such that the third Type A test would need to be performed during both the sixth and seventh refueling outages, resulting in a total of four Type A tests for the first 10-year inservice inspection period. This additional testing, resulting solely from the circumstances of the refueling outage schedules, is contrary to the intent of the regulations and existing SHNPP TS.

The licensee stated in their December 19, 1994, submittal that the results of previously performed Type A tests indicate that an extension of the maximum test interval for the interval between the second and the third Type A tests by approximately four months will have no effect on the maximum allowable overall containment leakage, on the $0.75L_a$ start-up limit, or on the requirement to perform the tests during outages. Based on data from the first and second Type A ILRT conducted at the SHNPP, the licensee stated that the containment integrity for the plant is maintained continuously by the ILRT program. The as-left leakage rate for the last ILRT was 0.0614 weight percent per day (wt%/day) which is well below the 0.075 wt%/day allowed by the TS. The data illustrate that there is sufficient leakage margin for the containment to remain well below the 0.075 wt%/day allowed by the TS. The licensee further stated that the majority of the leakage detected during both the first and second ILRT was from the containment penetrations and not from the containment barrier itself. Local leak rate testing of penetrations will continue to be performed as required by TS and can be relied upon to detect the most probable sources of containment leakage. The licensee would also be required by Appendix J, Section IV.A, to perform additional testing to demonstrate containment integrity if any major modifications affecting containment are performed prior to the proposed third Type A test during the seventh refueling outage.

Based on the past Type A test results, the continued performance of local leak rate testing, and the requirement of the Appendix J (that the three tasks be performed at approximately equal intervals), the staff finds that the proposed one-time extension of the TS required test interval for Type A tests is consistent with the requirements of Appendix J and would not adversely affect or endanger the health or safety of the general public and is, therefore, acceptable.

3.0 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.

4.0 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 (60 FR 6298). 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.

5.0 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: N. B. Le

Date: MARCH 10, 1995