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SUBJECT: Application for amend to license NPF-63,requesting one-time schedular rev to TS,re containment leak rate testing.

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CP&L

Carolina Power & Light Company
PO Box 165
New Hill NC 27562

William R. Robinson
Vice President
Harris Nuclear Plant

Letter Number: HO-941107

SERIAL: HNP-94-086
10 CFR 50.90
10 CFR 2.101

DEC 9 1994

United States Nuclear Regulatory Commission
ATTENTION: Document Control Desk
Washington, DC 20555

SHEARON HARRIS NUCLEAR POWER PLANT
DOCKET NO. 50-400/LICENSE NO. NPF-63
REQUEST FOR LICENSE AMENDMENT REGARDING CONTAINMENT LEAK RATE TESTING

Gentlemen:

In accordance with the Code of Federal Regulations, Title 10, Parts 50.90 and 2.101, Carolina Power & Light Company (CP&L) hereby requests a one-time schedular revision to the Technical Specifications (TS) for the Shearon Harris Nuclear Power Plant (SHNPP).

Technical Specification Surveillance Requirement 4.6.1.2.a requires that three Containment Integrated Leakage Rate Tests be performed at 40 ± 10 month intervals during each 10-year service period. This proposed one-time schedular exemption would allow the third test of the first 10-year service period to be performed during Refueling Outage No.7, coincident with the 10-year plant inservice inspection, at approximately a 54 month interval instead of the current maximum Technical Specification interval of 50 months.

Enclosure 1 provides a detailed description of the proposed changes and the basis for the changes.

Enclosure 2 details, in accordance with 10 CFR 50.91(a), the basis for the Company's determination that the proposed changes do not involve a significant hazards consideration.

Enclosure 3 provides an environmental evaluation which demonstrates that the proposed amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Therefore, pursuant to 10 CFR 51.22(b), no environmental assessment needs to be prepared in connection with the issuance of the amendment.

Enclosure 4 provides page change instructions for incorporating the proposed revisions.

Enclosure 5 provides the proposed Technical Specification pages.

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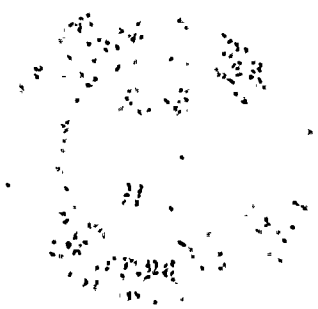

In accordance with 10 CFR 50.91(b), CP&L is providing the State of North Carolina with a copy of the proposed license amendment.

CP&L requests approval of the proposed amendment by March 1, 1995 in order to support planning for the next refueling outage, currently scheduled to begin in September 1995. In order to allow time for procedure revision and orderly incorporation into copies of the Technical Specifications, CP&L requests that the proposed amendments, once approved by the NRC, be issued such that implementation will occur within 60 days of issuance of the amendment.

Please refer any questions regarding this submittal to Mr. D. C. McCarthy at (919) 362-2100.

Sincerely,

W. R. Robinson

SDC/sdc

Enclosures:
1. Basis for Change Request
2. 10 CFR 50.92 Evaluation
3. Environmental Considerations
4. Page Change Instructions
5. Technical Specification Pages

W. R. Robinson, having been first duly sworn, did depose and say that the information contained herein is true and correct to the best of his information, knowledge and belief; and the sources of his information are officers, employees, contractors, and agents of Carolina Power & Light Company.

Lewis S. Rowell
Notary (Seal)

My commission expires: 6/21/99

LEWIS S. ROWELL NOTARY PUBLIC WAKE COUNTY, N.C.

c: Mr. Dayne H. Brown
Mr. S. D. Ebneter
Mr. S. A. Elrod
Mr. N. B. Le

ENCLOSURE 1

SHEARON HARRIS NUCLEAR POWER PLANT
DOCKET NO. 50-400/LICENSE NO. NPF-63
REQUEST FOR LICENSE AMENDMENT AND EXEMPTION
CONTAINMENT LEAK RATE TESTING

BASIS FOR CHANGE REQUEST

Background

The Shearon Harris Nuclear Power Plant (SHNPP) design includes a primary reactor containment structure whose function is to protect the public from the consequences of a postulated break in the reactor coolant system. The SHNPP Technical Specifications (TS) mandate operability and testing requirements to ensure the functionality of the containment structure. Included in the testing requirements are constraints on when testing is performed. Integrated Leak Rate Tests (ILRTs), which measure the primary reactor containment overall integrated leakage rate, are required to be performed three times during each 10-year inservice inspection period. The three ILRTs are required to be performed at intervals of 40±10 months. Performance of the third test is required to be accomplished during the refueling outage in which the 10-year inservice inspection is performed.

The first and second ILRTs of the first 10-year service period for the Shearon Harris Nuclear Power Plant 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 remain within the intervals specified by Technical Specifications, the third test would have to be performed at 36 months during Refueling Outage No.6 (scheduled for September 1995). However, the ten-year inservice inspection will occur during Refueling Outage No.7 (which would result in a 54 month interval). The established ILRT test periods and the anticipated operating cycles would require a fourth ILRT be performed coincident with the 10-year inservice inspection in Refueling Outage No.7. In order to not conduct ILRTs in consecutive refueling outages only 18 months apart, this one time schedular exemption is requested to allow the test period interval to exceed the 40 ± 10 month requirement.

Proposed Change

Technical Specification Surveillance Requirement 4.6.1.2.a requires that three Containment Integrated Leakage Rate Tests be performed at 40 ± 10 month intervals during each 10-year service period. This proposed one-time schedular exemption would allow the third test of the first 10-year service period to be performed during Refueling Outage No.7, coincident with the 10-year plant inservice inspection, at approximately a 54 month interval instead of the current maximum Technical Specification interval of 50 months.

Basis

The containment structure is designed to withstand the pressure and temperature transient postulated to exist after a design basis accident. The purpose of the Technical Specification required testing is to provide periodic verification of the leak-tight integrity of the primary reactor containment, and those systems and components which penetrate containment. The testing assures that the overall leak rate from the containment will not exceed the value assumed in the accident analysis.

Specification 3.6.1.2 requires the performance of both Integrated Leak Rate Tests (ILRTs), which measure the primary reactor containment overall integrated leakage rate, and Local Leak Rate Tests (LLRTs) which measure leakage rates specific to individual penetrations such as the personnel air locks and containment isolation valves. This Technical Specification Change Request would affect only the testing frequency of the ILRT for a single test period. With regard to the ILRTs, SHNPP Technical Specification 3.6.1.2 specifies:

- the maximum allowable overall containment leakage, (L_a)
- that ILRTs are to be performed only when the unit is shutdown,
- that three ILRTs are to be performed at 40±10 month intervals during each 10 year service period, with the 3rd test to coincide with the 10 year inservice inspection, and
- at the beginning of an operating cycle following an ILRT, i.e., at startup, the containment leakage rate must be no greater than 0.75 L_a.

The T.S. limitation on containment leakage rates ensures that the total containment leakage volume will not exceed the volume assumed in the accident analysis. The T.S. also limits the containment leak rate prior to leaving Mode 5 (Cold Shutdown) to 75% of the maximum acceptable overall leakage rate. Use of an acceptance criteria of 75% of L_a provides an added conservatism, i.e., a 25% margin, to account for possible degradation of the containment leakage barriers between leakage tests. The one-time extension of the ILRT test interval has no effect on the maximum allowable overall containment leakage, the 0.75L_a startup limit, or the requirement to perform tests during outages.

The T.S. specifies that three ILRTs be performed at intervals of 40 ± 10 months during each 10 year service period. The T.S. further specifies that the third test of each service period shall be conducted during the outage for the 10-year plant inservice inspection.

The ten-year inservice inspection will occur in Refueling Outage No.7 which is planned to commence in March 1997. To perform the third ILRT during that outage would result in a 54 month period. The additional four months in the period would not adversely affect the containment integrity in the event of a design basis accident.

Data from previous ILRTs conducted at the Shearon Harris Nuclear Power Plant

indicate that the majority of the leakage from containment is from the penetrations and not from the containment barrier itself. Since this exemption request does not alter the Local Leak Rate Test program which measures and restricts penetration and valve leakage rates, assurance that containment integrity is maintained is also provided by the performance of the LLRTs. In addition to the indication of continued containment integrity provided by the LLRT program, the data from the first and second ILRTs illustrates that there is sufficient leakage margin to remain well below the allowable leakage rate, La, which is 0.10 wt%/day. The as-left leakage rate for the last ILRT was 0.0614 wt%/day, which is well below the 0.075 wt%/day allowed by the T.S., and therefore provides margin for degradation that is greater than the minimum provided by the Technical Specifications.

Technical Specification 3.6.1.2 implements the ILRT requirements of 10 CFR 50, Appendix J, "Primary Reactor Containment Leakage Testing for Water-Cooled Power Reactors". Section III.D "Periodic Retest Schedule" of Appendix J states that "... a set of three Type A tests shall be performed at approximately equal intervals during each 10-year service period". It is CP&L's position that the requested 54 month maximum interval is consistent with the Appendix J requirement.

Conclusions

This one time exemption to extend the ILRT interval four months beyond the maximum technical specification allowance will not adversely impact plant safety. The schedule for performing LLRTs is not affected and the majority of leakage from the containment is through penetrations and isolation valves. The leakage rates assumed by accident analyses are unchanged and the last ILRT produced leakage rates well below the maximum allowed by Technical Specifications. The purpose of the ILRT is to provide periodic verification, by tests, of the leak-tight integrity of the primary reactor containment, and systems and components which penetrate containment. The test assures that leakage through the containment, and systems and components penetrating containment will not exceed allowable leakage rate values associated with the conditions resulting from any loss-of-coolant accident. The additional four month period added to the interval since the performance of the last ILRT would not adversely affect the containment integrity in the event of a loss-of-coolant accident.

Based on the above discussions and the determination of no significant hazards presented in Enclosure 2, the proposed change does not increase the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety previously evaluated in the safety analysis report; or create a possibility for an accident or malfunction of a different type than any previously evaluated in the safety analysis report; or significantly reduce the margin of safety as defined in the basis for any technical specification. Therefore, the proposed change does not adversely affect or endanger the health or safety of the general public or involve a significant safety hazard.

ENCLOSURE 2

SHEARON HARRIS NUCLEAR POWER PLANT
NRC DOCKET NO. 50-400/LICENSE NO. NPF-63
REQUEST FOR LICENSE AMENDMENT AND EXEMPTION
CONTAINMENT LEAK RATE TESTING

10 CFR 50.92 EVALUATION

The Commission has provided standards in 10 CFR 50.92(c) for determining whether a significant hazards consideration exists. A proposed amendment to an operating license for a facility involves no significant hazards consideration if operation of the facility in accordance with the proposed amendment would not: (1) involve a significant increase in the probability or consequences of an accident previously evaluated, (2) create the possibility of a new or different kind of accident from any accident previously evaluated, or (3) involve a significant reduction in a margin of safety. Carolina Power & Light Company has reviewed this proposed license amendment request and determined that its adoption would not involve a significant hazards determination. The bases for this determination are as follows:

Proposed Change

Technical Specification Surveillance Requirement 4.6.1.2.a requires that three Containment Integrated Leakage Rate Tests be performed at 40 ± 10 month intervals during each 10-year service period. This proposed one-time schedular exemption would allow the third test of the first 10-year service period to be performed during Refueling Outage No.7, coincident with the 10-year plant inservice inspection, at approximately a 54 month interval instead of the current maximum Technical Specification interval of 50 months.

Basis

This change does not involve a significant hazards consideration for the following reasons:

1. The proposed amendment does not involve a significant increase in the probability or consequences of an accident previously evaluated.

   This exemption request applies to the ILRT and does not affect the local leak rate testing of containment penetrations and isolation valves where the majority of the leakage occurs. The allowable containment leakage used in the accident analysis for offsite doses, L_a, is 0.1 wt.%/day and for conservatism the leakage is limited to 75% L_a at startup to account for the possible degradation of containment leakage barriers between two ILRT tests. Based on the "as-left" leakage data for the past two ILRTs, the additional time period added to the testing interval would not adversely impact the containment leakage barriers to the extent that degradation would cause leakage to exceed that assumed in the accident analysis.

2. The proposed amendment does not create the possibility of a new or different kind of accident from any accident previously evaluated.

   The change to the Surveillance Requirement is a one time exemption to extend the surveillance interval from the maximum of 50 months to approximately 54 months for performance of the third ILRT in the first service period. There are no design changes being made that would create a new type of accident or malfunction and the method and manner of plant operation remain unchanged. Extension of the surveillance interval for performing the ILRT does not adversely impact the surveillances ability to show that containment integrity is maintained.

3. The proposed amendment does not involve a significant reduction in the margin of safety.

   There are no changes being made to the safety limits or safety system settings that would adversely impact plant safety. The change is a one time exemption to extend the time interval for performing an ILRT approximately four months beyond the current maximum interval. In addition to the indication of continued containment integrity provided by the Local Leak Rate Testing program, the surveillance test data from the first and second ILRTs illustrates that there is sufficient leakage margin to remain well below the allowable leakage rate of L_a. The as-left leakage rate for the last ILRT was 0.0614 wt%/day, which is well below the 0.075 wt%/day allowed by the T.S., and therefore provides margin for degradation that is greater than the minimum provided by the Technical Specifications. Therefore, this change does not significantly reduce the margin of safety for Technical Specification 3.6.1.2.

ENCLOSURE 3

SHEARON HARRIS NUCLEAR POWER PLANT
NRC DOCKET NO. 50-400/LICENSE NO. NPF-63
REQUEST FOR LICENSE AMENDMENT AND EXEMPTION
CONTAINMENT LEAK RATE TESTING

ENVIRONMENTAL CONSIDERATIONS

10 CFR 51.22(c)(9) provides criterion for and identification of licensing and regulatory actions eligible for categorical exclusion from performing an environmental assessment. A proposed amendment to an operating license for a facility requires no environmental assessment if operation of the facility in accordance with the proposed amendment would not: (1) involve a significant hazards consideration; (2) result in a significant change in the types or significant increase in the amounts of any effluents that may be released offsite; (3) result in a significant increase in individual or cumulative occupational radiation exposure. Carolina Power & Light Company has reviewed this request and determined that the proposed 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 needs to be prepared in connection with the issuance of the amendment. The basis for this determination follows:

Proposed Change

Technical Specification Surveillance Requirement 4.6.1.2.a requires that three Containment Integrated Leakage Rate Tests be performed at 40 ± 10 month intervals during each 10-year service period. This proposed one-time schedular exemption would allow the third test of the first 10-year service period to be performed during Refueling Outage No.7, coincident with the 10-year plant inservice inspection, at approximately a 54 month interval instead of the current maximum Technical Specification interval of 50 months.

Basis

The change meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9) for the following reasons:

1. As demonstrated in Enclosure 2, the proposed amendment does not involve a significant hazards consideration.

2. The proposed amendment does not result in a significant change in the types or significant increase in the amounts of any effluents that may be released offsite.

   The proposed change does not involve a change to the facility or operating procedures which could create new types of effluents. Given the test data from past ILRTs, the continued performance of LLRTs, and the limited one-time extension of the ILRT surveillance interval, the Technical Specification Surveillances will continue to demonstrate the operability of the primary containment structure to perform its function

as assumed in the accident analysis. Therefore, the proposed change does not involve a change which could cause a significant increase in the amount of effluents.

3. The proposed amendment does not result in a significant increase in individual or cumulative occupational radiation exposure.

The proposed change does not create additional exposure to personnel nor affect levels of radiation present. Also, the proposed change does not result in any increase in individual or cumulative occupational radiation exposure. A benefit of this one time exemption is to eliminate the need to perform an extra ILRT during the first 10-year service period, thus a reduction in personnel radiation exposure should be realized. The elimination of setup and restoration of the extra ILRT provides a dose savings from the elimination of contamination, the reduction of exposure for venting and draining, and the reduction of exposure during the setup of instrumentation prior to and the restoration of instrumentation after the test.

ENCLOSURE 4
SHEARON HARRIS NUCLEAR POWER PLANT
NRC DOCKET NO. 50-400/LICENSE NO. NPF-63
REQUEST FOR LICENSE AMENDMENT AND EXEMPTION
CONTAINMENT LEAK RATE TESTING

PAGE CHANGE INSTRUCTIONS

Removed Page	Inserted Page
3/4 6-3	3/4 6-3
B 3/4 6-1	B 3/4 6-1

ENCLOSURE 5
SHEARON HARRIS NUCLEAR POWER PLANT
NRC DOCKET NO. 50-400/LICENSE NO. NPF-63
REQUEST FOR LICENSE AMENDMENT AND EXEMPTION
CONTAINMENT LEAK RATE TESTING

TECHNICAL SPECIFICATION PAGES