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 HINNANT, C.S.      Carolina Power & Light Co.  
 RECIPIENT NAME      RECIPIENT AFFILIATION  
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SUBJECT: Application for amend to License DPR-23, changing testing frequency of turbine overspeed protection valves from monthly to quarterly to implement enhancement recommended by NRC GL 93-05.

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**Carolina Power & Light Company**  
Robinson Nuclear Plant  
PO Box 790  
Hartsville SC 29550

File No: 13510HA  
Serial: RNP/94-1824

**NOV 04 1994**

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

H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2  
DOCKET NO. 50-261/LICENSE NO. DPR-23  
REQUEST FOR TECHNICAL SPECIFICATIONS CHANGE  
TURBINE OVERSPEED PROTECTION VALVE TESTING FREQUENCY

Gentlemen:

In accordance with 10 CFR 50.90, Carolina Power & Light (CP&L) Company requests a change to the Technical Specifications (TS) for the H. B. Robinson Steam Electric Plant (HBRSEP), Unit No. 2.

The requested change will change the testing frequency of the turbine overspeed protection valves from monthly to quarterly to implement an enhancement recommended by NRC Generic Letter (GL) 93-05, "Line-Item Technical Specification Improvements to Reduce Surveillance Requirements for Testing During Power Operation."

Enclosure 1 provides an affidavit as required by 10 CFR 50.30(b).

Enclosure 2 provides a detailed description of the proposed changes and the basis for the changes.

Enclosure 3 details, in accordance with 10 CFR 50.91(a), the basis for the Company's conclusion that the proposed changes do not involve a significant hazards consideration.

Enclosure 4 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 5 provides page change instructions for incorporating the proposed change.

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Enclosure 1  
Affidavit

C. S. Hinnant, having been first duly sworn, did depose and say that the information contained in letter RNP/94-1824 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.

CSHinnant

Deborah W. Martin  
Notary (Seal)

My commission expires: 11/4/94

Enclosure 6 provides the proposed Technical Specification pages.

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

In order to allow time for procedure revision and orderly incorporation into copies of the Technical Specifications, CP&L requests that the requested change, 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. K. R. Jury at (803) 383-1363.

Yours very truly,



R. M. Krich  
Manager - Regulatory Affairs

RES:bej

Enclosures:

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

c: Mr. Max K. Batavia, Chief, Bureau of Radiological Health (SC)  
Mr. S. D. Ebnetter, Regional Administrator, USNRC, Region II  
Ms. B. L. Mozafari, USNRC Project Manager, HBRSEP  
Mr. W. T. Orders, USNRC Senior Resident Inspector, HBRSEP  
Attorney General (SC)

## ENCLOSURE 2

H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2  
NRC DOCKET NO. 50-261/LICENSE NO. DPR-23  
REQUEST FOR TECHNICAL SPECIFICATIONS CHANGE  
TURBINE OVERSPEED PROTECTION VALVE TESTING FREQUENCY CHANGE

### BASIS FOR CHANGE REQUEST

#### Proposed Change

The purpose of this requested change to Technical Specification Table 4.1-3 is to extend the frequency of the Turbine Overspeed Protection Valve Testing frequency from monthly to quarterly to implement the enhancement recommended by Generic Letter (GL) 93-05, "Line-Item Technical Specification Improvements to Reduce Surveillance Requirements for Testing During Power Operation," and in accordance with current Westinghouse Owners Group recommendations established in WCAP-11525, "Probabilistic Evaluation of Reduction in Turbine Valve Test Frequency," for turbine building block 95/96 turbines. A Safety Evaluation was issued by the NRC for WCAP-11525 on November 2, 1989.

#### Basis

The current monthly turbine valve test frequency was established based on an original Westinghouse recommendation. Westinghouse Report WCAP-11525 recommends a revision to the monthly test frequency and indicates that the basis for the original Probabilistic Risk Analysis (PRA) values for a destructive overspeed event have changed. Per WCAP-11525, quarterly testing of the turbine valves will maintain the accepted PRA value of 1.0E-05 per hour. NUREG-1366, "Improvements to Technical Specifications Surveillance Requirements," Item 5.13, provides that monthly turbine valve testing should be extended for the following reasons.

- This surveillance test has caused a significant number of reactor trips.
- The surveillance test causes wear to the turbine valves and additional stress to the steam system.
- The steam flow to the turbine must be reduced during the test to avoid reactor trips. Consequently, during the test either reactor power is reduced or excess steam is dumped to the condenser. This results in a reduction in capacity factor and potential damage to the turbine or condenser equipment.
- This test is difficult to complete if conducted at end of core life. There may not be enough dilution capability to override xenon. This condition presents operating challenges to the control room operator.

The turbine overspeed protection valve surveillance test merely tests the turbine valves for closure capability. This surveillance test does not satisfy any additional reactor or safeguards equipment test commitments. Turbine valves are considered important to safety due to the potential for generation of a missile from an overspeed event. The original PRA supported acceptable event frequency of 1.0E-5 per hour. The current Westinghouse analysis of frequency of equipment failure events satisfies the accepted PRA value when turbine valves are

## ENCLOSURE 2 (Cont'd)

tested every three months. Our requested amendment decreasing valve test frequency to three months will not adversely affect the turbine valves or PRA conclusions. Due to the design of the turbine valves, monthly manipulation are unnecessary. Monthly performance of the surveillance test is considered damaging to the equipment in that each test places thermal and mechanical stresses on the valve and steam system equipment that are not present with full power operation. The referenced Westinghouse analysis compares industry operating hours to known equipment failure events. Accuracy of the produced Westinghouse PRA value has been reviewed by researching industry events and Operational Experience Feedback reports to identify discrepancies in the data. The recommendation in WCAP-11525 has been determined by CP&L to be sound, and the current PRA value of  $1.0E-5$  per hour is unchanged. This proposed amendment does not alter the accepted standard PRA value since a reduction in the testing frequency will not increase the risk of a destructive overspeed event.

Turbine overspeed protection valve testing required by item 12 of Technical Specification Table 4.1-3 does not verify the operability of any reactor protection system components and is not performed to satisfy any Technical Specifications regarding reactor protection integrity. HBRSEP conducts reactor protection surveillance testing in separate activities designed to comply with applicable Technical Specifications.

There are conservatisms associated with the Westinghouse analysis that tend to mitigate the postulated effect of an overspeed event on safety related equipment. Additionally, there are conservatisms within the analyzed PRA ratio. For the purpose of this analysis it is concluded that the plant can maintain the original margin of safety with the frequency of the turbine overspeed protection valve testing decreased from monthly to three months.

### Conclusions

This requested change to the testing interval of the turbine overspeed protection valves is consistent with the NRC GL 93-05 line-item improvement guidance and is approved by the turbine manufacturer via WCAP-11525.

H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2  
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TURBINE OVERSPEED PROTECTION VALVE TESTING FREQUENCY CHANGE

10 CFR 50.92 EVALUATION

The NRC 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 concluded that its adoption would not involve a significant hazards consideration. The bases for this conclusion are discussed below.

Proposed Change

The purpose of this requested change to Technical Specification Table 4.1-3 is to extend the frequency of the Turbine Overspeed Protection Valve Testing frequency from monthly to quarterly to implement the enhancement recommended by Generic Letter (GL) 93-05, "Line-Item Technical Specification Improvements to Reduce Surveillance Requirements for Testing During Power Operation," and in accordance with current Westinghouse Owners Group recommendations established in WCAP-11525, "Probabilistic Evaluation of Reduction in Turbine Valve Test Frequency," for turbine building block 95/96 turbines. A Safety Evaluation was issued by the NRC for WCAP-11525 on November 2, 1989.

Basis

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

1. The requested change does not involve a significant increase in the probability or consequences of an accident previously evaluated. The requested change will have no influence on the probability or consequences of an accident previously evaluated. The accident of concern to this requested change is a turbine overspeed with missile generation impacting safety related components or structures. The evaluation in WCAP-11525 shows that the probability of a missile ejection incident will not be affected with the requested frequency reduction to the turbine overspeed protection valve surveillance test. There is no change to the consequences of the event as the postulated accident event is unchanged. Accordingly, the requested change will not involve a significant increase in the probability or consequences of an accident previously evaluated.
2. The requested change does not create the possibility of a new or different kind of accident from any accident previously evaluated. The change affects the test interval for the turbine overspeed protection valves and does not change the design, operation, or failure modes of the valves and other components in the turbine overspeed protection system. Therefore, the requested change will not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. The requested change does not involve a significant reduction in the margin of safety. The probability of turbine overspeed with an extension of the testing interval has been determined to be within applicable acceptance criteria. The change does not affect the design, operation, or failure modes of the valves or other components in the turbine overspeed protection system. Accordingly, the requested change will not involve a significant reduction in the margin of safety.

### CONCLUSION

This requested change to the testing interval of the turbine overspeed protection valves is consistent with the NRC Generic Letter 93-05, "Line-Item Technical Specification Improvements to Reduce Surveillance Requirements for Testing During Power Operation," line-item improvement guidance and is approved by the turbine manufacturer via WCAP-11525.

In light of this argument, and per the significant hazards evaluation provided above, Carolina Power & Light Co. has concluded that the requested change does not involve any significant hazards considerations.



## ENCLOSURE 4

H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2  
NRC DOCKET NO. 50-261/LICENSE NO. DPR-23  
REQUEST FOR TECHNICAL SPECIFICATIONS CHANGE  
TURBINE OVERSPEED PROTECTION VALVE TESTING FREQUENCY CHANGE

### ENVIRONMENTAL CONSIDERATIONS

10 CFR 51.22(c)(9) provides criteria for 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 an 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

The purpose of this requested change to Technical Specification Table 4.1-3 is to extend the frequency of the Turbine Overspeed Protection Valve Testing frequency from monthly to quarterly to implement the enhancement recommended by Generic Letter 93-05, "Line-Item Technical Specification Improvements to Reduce Surveillance Requirements for Testing During Power Operation," and in accordance with current Westinghouse Owners Group recommendations established in WCAP-11525, "Probabilistic Evaluation of Reduction in Turbine Valve Test Frequency," for turbine building block 95/96 turbines. A Safety Evaluation was issued by the NRC for WCAP-11525 on November 2, 1989.

#### 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 3, the requested change does not involve a significant hazards consideration.

ENCLOSURE 4 (Continued)

2. The requested change 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 requested Technical Specification change increasing the testing interval of turbine overspeed protection valves will not alter the technical steps of the surveillance test. There will be no change to equipment or modes of operation or testing of equipment. No physical plant changes will result from this amendment. As such, the requested change can not affect the types or amounts of any effluents that may be released offsite.
  
3. The requested change does not result in an increase in individual or cumulative occupational radiation exposure. The requested Technical Specification change increasing the testing interval of turbine overspeed protection valves will not alter the technical steps in the surveillance test. No changes to equipment or modes of operation or testing of equipment will result from this requested change. Therefore, the requested change has no affect on either individual or cumulative occupational radiation exposure.