

March 17, 1995

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

SUBJECT: ISSUANCE OF AMENDMENT NO. 159 TO FACILITY OPERATING LICENSE NO. DPR-23 REGARDING THE TURBINE ROTOR INSPECTION REQUIREMENT CHANGE - H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2 (TAC NO. M91232)

Dear Mr. Hinnant:

The Nuclear Regulatory Commission has issued the enclosed Amendment No. 159 to Facility Operating License No. DPR-23 for the H. B. Robinson Steam Electric Plant, Unit No. 2. This amendment changes the Technical Specifications (TS) in response to your request dated December 27, 1994.

The amendment relocates the turbine rotor inspection requirement, TS 4.1-3, Item 13, to the Updated Final Safety Analysis Report, Section 10.2.

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

Sincerely,

ORIGINAL SIGNED BY:

Brenda L. Mozafari, Project Manager
Project Directorate II-1
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Docket No. 50-261

Enclosures:

1. Amendment No. 159 to DPR-23
2. Safety Evaluation

cc w/enclosures:
See next page

DOCUMENT NAME: G:\ROBINSON\ROB91232.AMD

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NAME	PAnderson	B Mozafari	W Bateman	J Stroshider	R Bachmann
DATE	03/6/95	03/3/95	03/17/95	03/6/95	03/7/95
COPY	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No

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UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

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Carolina Power & Light Company
H. B. Robinson Steam Electric Plant,
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Sincerely,

A handwritten signature in cursive script that reads "Brenda Mozafari".

Brenda L. Mozafari, Project Manager
Project Directorate II-1
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Docket No. 50-261

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See next page

Mr. C. S. Hinnant
Carolina Power & Light Company

H. B. Robinson Steam Electric
Plant, Unit No. 2

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AMENDMENT NO. 159 TO FACILITY OPERATING LICENSE NO. DPR-23 - H. B. ROBINSON
STEAM ELECTRIC PLANT, UNIT NO. 2

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

CAROLINA POWER & LIGHT COMPANY

DOCKET NO. 50-261

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

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 159
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 December 27, 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 3.B. of Facility Operating License No. DPR-23 is hereby amended to read as follows:

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B. Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 159, 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



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 17, 1995

ATTACHMENT TO LICENSE AMENDMENT NO. 159

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.

Remove Pages

4.1-13

Insert Pages

4.1-13

TABLE 4.1-3 (Continued)
FREQUENCIES FOR EQUIPMENT TESTS

	<u>Check</u>	<u>Frequency</u>	<u>Maximum Time Between Test</u>
13.	Deleted		
14.	Fans and associated charcoal and Absolute Filters for Residual Heat Removal Compartments (HVE-5a and 5b)	Fans functioning. Laboratory tests on charcoal must show $\geq 99\%$ iodine removal. In-place test must show $\geq 99\%$ removal of polydispersed DOP particles by the HEPA filters and Freon by the charcoal filters.	Once per operating cycle. NA
15.	Isolation Seal Water System	Functioning	Each refueling shutdown NA
16.	Overpressure Protection System	Functioning	Each refueling shutdown NA
17.	Primary Coolant System check valves	Functioning	1. Periodic leakage testing ^{(a)(b)} on each ^(c) valve listed in Table 3.1-1 shall be accomplished prior to entering reactor operation condition (1) after every time the plant is placed in the cold shutdown condition for refueling, (2) after each time the plant is placed in a cold shutdown condition for 72 hours if testing has not been accomplished in the preceding 9 months, (3) after maintenance, repair or replacement work is performed.

(a) To satisfy ALARA requirements, leakage may be measured indirectly (as from the performance of pressure indicators) if accomplished in accordance with approved procedures and supported by computations showing that the method is capable of demonstrating valve compliance with the leakage criteria.

(b) Minimum test differential pressure shall not be less than 150 psid.

(c) More than one valve may be tested in parallel. The combined leakage shall not exceed 5.0 gpm. Redundant valves in each line shall not be tested in series.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 159 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 December 27, 1995, Carolina Power & Light Company (the licensee) submitted a request for a change to the H. B. Robinson Steam Electric Plant, Unit No. 2 (HBR), Technical Specifications (TS). The requested change would relocate the turbine rotor inspection requirement, TS 4.1-3, Item 13, to the Updated Final Safety Analysis Report (UFSAR), Section 10.2. The current TS 4.1-3 requires a turbine inspection, including visual, magnaflux, and dye penetrant inspections, on a frequency of every 5 years with a maximum time between tests of 6 years.

2.0 BACKGROUND

Section 182a of the Atomic Energy Act (the Act) requires applicants for nuclear power plant operating licenses to state TS to be included as part of the license. The Commission's regulatory requirements related to the content of TS are set forth in 10 CFR 50.36. That regulation requires that the TS include items in five specific categories, including: (1) safety limits, limiting safety system settings and limiting control settings; (2) limiting conditions for operation; (3) surveillance requirements; (4) design features; and (5) administrative controls. However, the regulation does not specify the particular requirements to be included in a plant's TS.

The Commission provided guidance for the contents of TS in its "Final Policy Statement on Technical Specifications Improvements for Nuclear Power Reactors" (Final Policy Statement) published in the Federal Register (58 FR 39132) on July 22, 1993, in which the Commission indicated that compliance with the Final Policy Statement satisfies Section 182a of the Act. In particular, the Commission indicated that certain items could be relocated from the TS to licensee-controlled documents, consistent with the standard enunciated in *Portland General Electric Co.* (Trojan Nuclear Plant), ALAB-531, 9 NRC 263, 273 (1979). In that case, the Atomic Safety and Licensing Appeal Board indicated that "technical specifications are to be reserved for those matters as to which the imposition of rigid conditions or limitations upon reactor operation is deemed necessary to obviate the possibility of an abnormal situation or event giving rise to an immediate threat to the public health and safety."

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Consistent with this approach, the Final Policy Statement identified four criteria to be used in determining whether a particular matter is required to be included in the TS, as follows: (1) installed instrumentation that is used to detect, and indicate in the control room, a significant abnormal degradation of the reactor coolant pressure boundary; (2) a process variable, design feature, or operating restriction that is an initial condition of a design basis accident (DBA) or transient analysis that either assumes the failure of or presents a challenge to the integrity of a fission product barrier; (3) a structure, system, or component that is part of the primary success path and which functions or actuates to mitigate a DBA or transient that either assumes the failure of or presents a challenge to the integrity of a fission product barrier; (4) a structure, system, or component which operating experience or probabilistic safety assessment has shown to be significant to public health and safety.*** As a result, existing TS requirements which fall within or satisfy any of the criteria in the Final Policy Statement must be retained in the TS, while those TS requirements which do not fall within or satisfy these criteria, may be relocated to other, licensee-controlled documents.

2.0 EVALUATION

Item 13 of TS 4.1-3 requires a turbine inspection, including visual, magnaflux, and dye penetrant inspections on a frequency of every 5 years with a maximum time between tests of 6 years. The requested change relocates the turbine inspection requirement from the TS to the UFSAR. The licensee indicated in its letter dated December 27, 1994, that this TS was aimed at maintaining a low probability for generation of a turbine missile based on the original low pressure (LP) turbine rotor design that featured large diameter, shrunk-on rotor discs. The original discs were susceptible to missile generation due to stress corrosion cracking of the LP turbine rotor discs. The licensee replaced these LP turbine rotors in 1987 with an improved design that reduced the risk of generating turbine missiles.

In a letter from the NRC to Westinghouse, dated February 2, 1987, the NRC established 1.0×10^{-5} events per year as the maximum frequency criterion for a turbine missile generated from an unfavorably oriented turbine. The licensee has stated that their analysis indicates the probability of a rotor burst does not exceed 1.0×10^{-5} events per year.

The licensee has evaluated the turbine rotor inspection requirement against the four screening criteria of the July 22, 1993, Final Policy Statement and determined that the turbine rotor inspection TS does not meet any of the four criteria for regulatory requirements and operating restrictions that would require inclusion in the HBR TS. The TS 4.1-3. Item 13, does not meet the

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The Commission recently promulgated a proposed change to § 50.36, pursuant to which the rule would be amended to codify and incorporate these criteria (59 FR 48180 September 20, 1994). The Commission's Final Policy Statement specified that the Reactor Core Isolation Cooling, Isolation Condenser, Residual Heat Removal, Standby Liquid Control, and Recirculation Pump Trip are included in the TS under Criterion 4 (58 FR 39132, July 22, 1993).

criteria for inclusion in the TS listed below for the reasons indicated:

- (1) The LP turbine is not installed instrumentation that is used to detect, and indicate in the control room, a significant abnormal degradation of the reactor coolant pressure boundary. The turbine inspection requirement applies to a secondary plant component and has no interface with the reactor coolant system boundary.
- (2) The turbine inspection requirements and missile generation probability do not represent or affect a process variable, design feature, or operating restriction that is an initial condition of a DBA or transient analysis that either assumes the failure of or presents a challenge to the integrity of a fission product barrier. The turbine is a secondary plant component and not a safety system component.
- (3) The turbine is not a structure, system, or component that is part of the primary success path and which functions or actuates to mitigate a DBA or transient that either assumes the failure of or presents a challenge to the integrity of a fission product barrier. The turbine, as a secondary side component, does not mitigate or actuate any accident mitigation function.
- (4) The turbine does not represent a structure, system, or component which operating experience or probabilistic safety assessment has shown to be significant to public health and safety. As indicated previously, the probability of a turbine missile is considered to be well below the threshold for consideration as a significant risk.

The NRC has also considered that NUREG-1431, the improved "Standard Technical Specifications, Westinghouse Plants", that was developed based on the criteria of the Final Policy Statement, does not contain comparable turbine inspection requirements.

The NRC's review of the proposed change determined that the relocation of the turbine rotor inspection requirement to the UFSAR does not eliminate the requirements for the licensee to ensure that the turbine inspections will continue to be controlled and performed such that the low turbine missile generation probability will be maintained. Although the turbine rotor inspection are relocated from the TS to the UFSAR, the licensee must continue to evaluate the turbine in accordance with 10 CFR 50.59. Should the licensee's determination conclude that an unreviewed safety question is involved, due to either: (1) an increase in the probability or consequences of accidents or malfunctions of equipment important to safety; (2) the creation of a possibility for an accident or malfunction of a different type than any evaluated previously; or (3) a reduction in the margin of safety; NRC approval and a license amendment would be required prior to implementation of the change. Inspection and enforcement programs also enable the NRC to monitor facility changes and licensee adherence to UFSAR commitments and to take any remedial action that may be appropriate.

The NRC has concluded, therefore, that relocation of TS 4.1-3, Item 13, is acceptable because: (1) inclusion in the TS is not specifically required by 10 CFR 50.36 or other regulations, (2) the turbine rotor inspection requirement will be relocated to the UFSAR, is adequately controlled by 10 CFR 50.59, and its inclusion in the TS is not required to avert an immediate threat to the public health and safety, and (3) changes that are deemed to involve an unreviewed safety question, will require prior NRC approval in accordance with 10 CFR 50.59(c).

3.0 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.

4.0 ENVIRONMENTAL CONSIDERATION

The amendment changes a Surveillance Requirements. The NRC 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: B. Mozafari

Date: March 17, 1995