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Docket No. 50-261

JUL 3 1986

Mr. E. E. Utley, Senior Executive Vice President
Power Supply and Engineering & Construction
Carolina Power and Light Company
Post Office Box 1551
Raleigh, North Carolina 27602

Dear Mr. Utley:

The Commission has issued the enclosed Amendment No. 99 to Facility Operating License No. DPR-23 for the H. B. Robinson Steam Electric Plant Unit No. 2. This amendment consists of changes to the Technical Specifications in response to your request dated December 11, 1985 as supplemented by letters dated May 1, 1986, June 18, 1986 and June 27, 1986.

The amendment revises the Technical Specification to add operational and surveillance criteria for the use and capabilities of the containment purge supply and exhaust isolation valves.

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

Sincerely,

Glode Requa, Project Manager
PWR Project Directorate #2
Division of PWR Licensing-A

Enclosures:

- 1. Amendment No. 99 to DPR-23
- 2. Safety Evaluation

cc: w/enclosures
See next page

PM:PD#2
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Mr. E. E. Utley
Carolina Power & Light Company

H. B. Robinson 2

cc:

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

CAROLINA POWER AND LIGHT COMPANY

DOCKET NO. 50-261

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

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 99
License No. DPR-23

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Carolina Power and Light Company (the licensee) dated December 11, 1985 as supplemented by letters dated May 1, 1986, June 18, 1986 and June 27, 1986 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. 99, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Lester S. Rubenstein, Director
PWR Project Directorate #2
Division of PWR Licensing-A

Attachment:
Changes to the Technical
Specifications

Date of Issuance: JUL 3 1986

ATTACHMENT TO LICENSE AMENDMENT

AMENDMENT NO. 99 FACILITY OPERATING LICENSE NO. DPR-23

DOCKET NO. 50-261

Revise Appendix A as follows:

Remove Pages

3.6-3
3.6-4

Insert Pages

3.6-3
3.6-4

3.6.4 Containment Purge and Vent Valves

3.6.4.1 During periods when Containment integrity is required, the Containment Purge Supply and Exhaust Isolation Valves (42") or the Pressure and Vacuum Relief Valves (6") may be opened only for safety related reasons including operational testing and surveillances.

3.6.4.2 When the RCS is greater than 200°F, the 42" and 6" valves may not be open simultaneously.

3.6.4.3 The 6" and 42" valves will be tested in accordance with the frequency and operability requirements specified in the Robinson plant IST program except that the 42" valves will be tested prior to use if not tested within the previous quarter. Otherwise the 42" valves will not be cycled quarterly only for testing purposes.

Basis

The Reactor Coolant System conditions of cold shutdown assure that no steam will be found and hence there would be no pressure buildup in the containment if the Reactor Coolant System ruptures.

The shutdown margins are selected based on the type of activities that are being carried out. The 10% $\Delta k/k$ shutdown margin during refueling precludes criticality, even though fuel is being moved. When the reactor head is not to be removed, the specified cold shutdown margin of 1% $\Delta k/k$ precludes criticality.

Regarding internal pressure limitations, the containment design pressure of 42 psig would not be exceeded if the internal pressure before a major loss-of-coolant accident were as much as 2 psig.⁽¹⁾ The containment is designed to withstand an internal vacuum of 2.0 psig.⁽²⁾

The Containment Purge Supply and Exhaust Isolation Valves may be opened during plant operation when needed for safety related considerations (equipment or personnel) to support plant operations and maintenance activities within the containment vessel. Examples of this need may include the reducing of airborne activity to increase stay-time or eliminate the need for respiratory protective equipment, or reduce ambient temperature during hot months to increase effectiveness of workers and to minimize occupational effects of necessary, non-routine activities in the containment. Although the valves are fully qualified to close under design basis accident conditions, it is intended that the time the valves remain open will be limited.

The Containment Purge Valves must be operable and must close within the time limit specified in the IST program in order to limit post LOCA thyroid dose and to limit the increase in peak clad temperature due to reduction in containment internal pressure.

The Inboard Purge Supply and Exhaust Isolation Valves are installed so the seal replacement can be performed without removing the valves. This orientation requires that the inboard valves be restricted from exceeding 70° open. This restriction is an anti-rotation measure to assure proper valve closure under dynamic conditions, as well as to limit offsite dose consequences under postulated LOCA conditions.

References

- (1) FSAR Section 6.2.1
- (2) FSAR Section 3.8.1.3



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 99 TO FACILITY OPERATING LICENSE NO. DPR-23
CAROLINA POWER AND LIGHT COMPANY
H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2
DOCKET NO. 50-261

Introduction

In the staff safety Evaluation Report (SER) transmitted to Carolina Power & Light (CP&L) company by letter dated December 5, 1983 (Reference 1), the staff concluded that subject to licensee commitments delineated in the SER, the purge and vent systems at H. B. Robinson, Unit 2 were acceptable, but that certain modifications to the plant Technical Specifications (TS) were required to reflect system operational limitations and surveillance requirements. In the SER the staff found that the purge and vent systems met the system design and performance criteria set forth in BTP CSB 6-4 and NUREG-0737, Item II.E.4.2, and the guidance developed as part of Multi-Plant Action B-24. The staff found that the radiological consequences of a design basis loss of coolant accident during containment purging would not exceed the dose guidelines of 10 CFR Part 100. The staff concluded that valve operability under the dynamic conditions of a LOCA was acceptable, but that the 42-inch purge valves should be limited to an opening angle of 70 degrees or less.

By letter dated December 11, 1985, and subsequent letters of May 1, June 18, and June 27, 1986, CP&L submitted proposed Technical Specification changes to address operational limitations and surveillance requirements for the containment purge and vent systems. The proposed TS changes are shown in the attachment to this Safety Evaluation Report.

The licensee's supplemental letters provided additional clarifications required by the staff during their review, and removed redundancies from the Technical Specifications. Several examples are:

1. The change to Section 4.4.5 contained in letter dated December 11, 1985 was deleted and relocated as Section 3.6.4.3 by the June 18, 1986 letter.
2. Section 3.6 was expanded and clarified as to the reasons for opening the valves.
3. The Section 3.6 Basis was expanded for additional clarification for items such as 70° valve opening restriction, reasons for closing 42" valves in 2 seconds, and additional reasons for opening the valves.

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Evaluation

In proposed TS 3.6.4, the 42-inch purge system isolation valves and the 6-inch vent line isolation valves may be opened only for safety related reasons, and the purge and vent system valves may not be opened simultaneously. Examples of safety related reasons are provided in the TS Bases. The use of the purge system for safety-related reasons during plant operation was found acceptable in the staff's previous SER (Reference 1). However, the staff conditioned its acceptance such that (1) the 42-inch purge valves would be limited to an opening angle of 70° or less for radiological reasons and (2) the interim goal for system use should be less than 90 hours per year.

With respect to item (1), the inboard 42-inch purge valves have been modified such that they cannot be opened beyond 70°. Even though the outboard valves can open fully (90°), the flow path is limited by the inboard valves. Furthermore, both the inboard and outboard 42-inch valves are capable of two second closures under LOCA conditions from their open positions. The opening restriction on the inboard 42-inch valves is stated in the Basis. Therefore, the staff finds that the proposed TS meets the valve opening restriction specified in the previous SER.

With respect to item (2), TS 3.6.4 will not prescribe an allowable annual number of hours of purge system use on the basis of a staff analysis in NUREG-0933 and the findings in the staff's previous SER (Reference 1). The NUREG-0933 analysis showed that the maximum public risk reduction which an average operating plant could realize by completely prohibiting purge system use, would be extremely low. Therefore, the staff has concluded there is no need to impose further time limitations on purge system operation.

It is noted further that valve closure times will be tested under the plant IST program in accordance with ASME Section XI requirements (see TS 3.6.4.2). The 6-inch pressure relief valves are tested on a quarterly basis while the 6-inch vacuum relief valve is tested during cold shutdown. The 42-inch purge valves are tested quarterly if in use, or otherwise will be tested at each refueling.

With respect to the staff's concern over periodic surveillance of the resilient seats in the purge and vent valves, the licensee proposed an alternative approach that utilizes an on-line leakage detection system. At H. B. Robinson, Unit 2, the integrity of the purge and vent valves is monitored by the Penetration Pressurization System (PPS) during plant operation which alarms in the control room in the event of valve leakage in excess of 0.5 scfm. In the staff's previous SER (Reference 1), the staff found the on-line, continuous monitoring system to be an acceptable alternative method for detecting seal deterioration, but did not find the surveillance requirements of the existing TS adequate. The licensee clarified this matter in its letter of June 18, 1986 which states that if during power operation the maximum allowable flow limit (0.5 scfm) is exceeded, TS Section 4.4.1 (Operational Leakage Rate Test) must be followed.

Specifically, Section 4.4.1.2, Sensitive or Local Leak Rate Test (SLRT), specifies that repairs and retesting shall be performed whenever the combined leakage rate of the SLRT exceeds 30% of L_p , where L_p is the maximum allowable containment leak rate (0.1 w/o per day).

Summary

Based on the above discussion, the staff finds that the acceptance criterion adequately quantifies the surveillance requirements for the purge and vent valves and therefore the Technical Specification is acceptable.

Environmental Consideration

This amendment involves a change in the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The 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 this amendment involves no significant hazards consideration and there has been no public comment on such finding. Accordingly, this amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR Sec 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 this amendment.

Conclusion

We have 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, and (2) such activities will be conducted in compliance with the Commission's regulations and the issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public.

Reference

Letter from S. Varga (NRC) to E. Utley (CP&L), dated December 5, 1983, Subject: Completion of Generic Item B-24, Containment Purging/Venting During Normal Operations, H.B. Robinson Steam Electric Plant, Unit No. 2.

Dated: July 3, 1986

Principal Contributors:

C. Li