



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 72 TO FACILITY LICENSE NO. DPR-71

CAROLINA POWER & LIGHT COMPANY

BRUNSWICK STEAM ELECTRIC PLANT, UNIT 1

DOCKET NO. 50-325

1.0 Introduction

By letter dated May 10, 1984 as supplemented June 20, 1984 the Carolina Power & Light Company (the licensee) requested an amendment to Facility Operating License No. DPR-71 for the Brunswick Steam Electric Plant (BSEP) Unit 1. The amendment proposed by the licensee would permit a one-time only deferment of Technical Specification (TS) required surveillance involving full-stroke cycling of four reactor instrumentation system isolation valves in accordance with the licensee's application dated May 10, 1984 as supplemented June 20, 1984. The deferment would be from August 19, 1984 until the end of the current outage scheduled to be no later than November 2, 1984.

2.0 Discussion and Evaluation:

The four valves involved in this request are excess flow check valves (EFCV) located on instrument sensing lines on dry well penetrations. These valves are normally tested by cycling each valve through a full cycle of travel at least once every 18 months, +25%. This request is for a one-time extension of 11 weeks in the maximum surveillance interval specified by Technical Specification 4.6.3.4.

The testing can only be accomplished during an outage of 20 days or longer. The next scheduled maintenance outage for Brunswick Unit 1 is November 2, 1984.

The EFCVs perform reactor coolant and primary containment isolation functions in the unlikely event of an instrument line failure downstream of the EFCV. The instrument lines are seismically qualified and were hydrostatically tested during a reactor pressure vessel hydrostatic test on June 1, 1983. The design of the instrument lines includes a flow restricting orifice at the reactor vessel instrument nozzle to restrict and limit the flow in the unlikely event of a downstream piping failure and the simultaneous failure of the associated EFCV.

Brunswick Steam Electric Plant (BSEP) Technical Specification Section 4.5.3.4 requires that each reactor instrumentation system isolation valve be demonstrated operable at least every 18 months by cycling each valve through at least one full cycle of travel. The four EFCVs involved in this request were last tested on October 2, 1982. Utilizing the maximum surveillance period of 125 percent, the latest required performance date is August 19, 1984. This proposed revision will permit a one-time only extension of the surveillance interval until the outage scheduled to begin no later than November 2, 1984. Instead of the permitted interval of 22.5 months (687 days), which is 18 months plus 4.5 months (25%) flexibility, the interval would be 25 months (762 days). This represents an extension of the surveillance interval of 2.5 months (75 days) or 10.9%.

The staff has reviewed the proposed amendment and conducted an onsite inspection of these valves, which included a review of the history of these valves at Brunswick and at other BWR sites (Inspection Report 50-325/84-19).

The proposed change represents a relaxation in the surveillance requirements; however, the length of the requested extension is small with respect to the maximum allowable frequency and that the need for the EFCVs to function during the proposed extension is very small. Extending the surveillance interval for the valve cycling of the EFCVs involved, from a maximum surveillance interval of 22.5 months to 25 months, does not constitute a significant reduction in the verification of operability of the involved ERCVs. This is based on the following information:

1. There is a high level of confidence in the instrument lines involved based on seismic qualification and hydrostatic testing. The high level of confidence in the integrity of the lines is based on the fact that the instrument lines involved are seismically qualified and that the lines were tested during a reactor pressure vessel hydrostatic test on June 1, 1983.
2. The increase in likelihood of a malfunction of the EFCVs resulting from the 10.9 percent increase in the maximum surveillance frequency permitted by the TS is small. Extending the surveillance interval from 687 days to 762 days represents only a 10.9 percent increase in the maximum surveillance frequency permitted and thus does not significantly affect the level of assurance that the valves are capable of performing their intended function.
3. The likelihood of the simultaneous failure of an instrument line and the associated EFCV is small.
4. The excess flow check valves involved will continue to be available, if called upon, to perform their reactor coolant system isolation function if an accident involving the failure of a reactor instrumentation line were to occur during the interim period. Thus the margin of safety provided is not significantly reduced.

5. The EFCV's have been in use at Brunswick for about the past three or four years. The valves are also used at numerous other BWR sites as well as Brunswick. Based on our review of the Brunswick valve, as well as numerous other facilities, the valves are found to be very common to BWR facilities and to have minimal maintenance problems.

Based on our review of the information provided by CP&L in their two letters of request and the on-site inspection (Inspection Report 50-325/84-19) of the past results of EFCV surveillance testing, we find the request acceptable. The 11 week extension results in an additional 10.9 percent increase in the maximum test interval permitted by Technical Specifications. The staff concludes that the probability of the need for the ERCV's to function during the 11 week extension is very small and that the change in safety margin is very small.

3.0 Conclusions

3.1 Final No Significant Hazards Consideration Determination

3.1.1 State Consultation

In accordance with the Commission's regulations, consultation was held with the State of North Carolina by telephone. The State expressed no concern over the extension of the test requirement for the four excess flow check valves, either from the standpoint of safety or of no significant hazards consideration determination.

3.1.2 Response to Comments

In response to the FEDERAL REGISTER Notice of July 19, 1984 (49 FR 29339) containing the NRC proposed no significant hazards consideration determination, no comments were received.

3.1.3 No Significant Hazards Consideration Determination

The Commission's regulations in 10 CFR 50.92 state that the Commission may make a final determination that a proposed license amendment involves no significant hazards considerations 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; or
- (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.

The information in this SE provides the basis for evaluating this license amendment against these criteria. Since the requested operational mode, plant operating conditions, the physical status of the plant, and dose consequences of potential accidents are the same as without the requested change, the staff's evaluation against the above criteria is the same, with minor word changes. Therefore the staff concludes that:

- (1) Operation of the facility in accordance with the proposed amendment would not significantly increase the probability or consequences of an accident previously evaluated.
- (2) Operation of the facility in accordance with the proposed amendment would not create the possibility of a new or different kind of accident from any accident previously evaluated.
- (3) Operation of the facility in accordance with the proposed amendment would not involve a significant reduction in a margin of safety.

Accordingly, we conclude that the amendment to Facility Operating License No. DPR-71 permitting the extension of the surveillance interval in the four excess flow check valves involves no significant hazards considerations.

3.2 Environmental Considerations

The amendment involves a change in surveillance requirements. 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 the amendment involves no significant hazards consideration and there has been no public comment on such finding. 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.

3.3 Conclusions

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 the amendment will not be inimical to the common defense and security or to the health and safety of the public.

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Dated: August 10, 1984