

June 10, 1986

Docket No. 50-324

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

Dear Mr. Utley:

The Commission has issued the enclosed Amendment No. 126 to Facility Operating License No. DPR-62 for the Brunswick Steam Electric Plant, Unit 2. The amendment consists of changes to the Technical Specifications in response to your submittal of June 4, 1986.

The amendment changes the Technical Specifications (TS) to revise the TS Table 3.6.3-1 to extend the allowable isolation time for the reactor core isolation cooling steam line isolation valve (E51-F007) from 20 seconds to 30 seconds. This amendment is effective until December 6, 1986.

A copy of the related Safety Evaluation is also enclosed. Notice of Issuance will be included with the Commission's Bi-Weekly Federal Register Notice.

Sincerely,

Original signed by/

Ernest Sylvester, Project Manager
BWR Project Directorate #2
Division of BWR Licensing

Enclosures:

1. Amendment No. 126 to License No. DPR-62
2. Safety Evaluation

cc w/enclosures:
See next page

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Mr. E. E. Utley
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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

CAROLINA POWER & LIGHT COMPANY

DOCKET NO. 50-324

BRUNSWICK STEAM ELECTRIC PLANT, UNIT 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 126
License No. DPR-62

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Carolina Power & Light Company (the licensee) dated June 4, 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 2.C.(2) of Facility Operating License No. DPR-62 is hereby amended to read as follows:

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(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 126, 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 and will remain effective until December 6, 1986.

FOR THE NUCLEAR REGULATORY COMMISSION



Daniel R. Muller, Director
BWR Project Directorate #2
Division of BWR Licensing

Attachment:
Changes to the Technical
Specifications

Date of Issuance: June 10, 1986

ATTACHMENT TO LICENSE AMENDMENT NO. 126

FACILITY OPERATING LICENSE NO. DPR-62

DOCKET NO. 50-324

Replace the following page of the Appendix A Technical Specifications with the enclosed page. The revised areas are indicated by marginal lines.

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TABLE 3.6.3-1 (Continued)

PRIMARY CONTAINMENT ISOLATION VALVES

<u>VALVE FUNCTION</u>	<u>VALVE GROUP^{1/}</u>	<u>ISOLATION TIME (Seconds)</u>
HPCI steam line isolation valves E41-F002 E41-F003	4	50
HPCI torus suction isolation valves E41-F042 E41-F041	4	80
RGIC steam line isolation valves E51-F007 E51-F008	5	20*
Drywell purge exhaust backup valve CAC-V10	6	15
Containment air purge isolation valve CAC-V15	6	15
Suppression chamber vent valve CAC-V22	6	15
Drywell purge exhaust valve CAC-V23	6	15

* The Isolation Time for valve E51-F007 is extended to 30 seconds until December 6, 1986 at which time the 20 second limit will be re-established.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 126 TO FACILITY LICENSE NO. DPR-62

CAROLINA POWER & LIGHT COMPANY

BRUNSWICK STEAM ELECTRIC PLANT, UNIT 2

DOCKET NO. 50-324

1.0 INTRODUCTION

By letter dated June 4, 1986, the licensee submitted an emergency request to temporarily revise the Brunswick Steam Electric Plant, Unit 2 (BSEP-2) Technical Specification (TS) Table 3.6.3-1. This request would extend the allowable isolation time for the reactor core isolation cooling (RCIC) steam line isolation valve, E51-F007, from 20 to 30 seconds. The request is required to support startup of BSEP-2 from the current refueling outage and the change would remain effective until December 6, 1986.

2.0 BACKGROUND

The RCIC system steam line is provided with both an inboard isolation valve (E51-F007) and an outboard isolation valve (E51-F008). Technical Specification Table 3.6.3-1 requires these RCIC steam line isolation valves to close within 20 seconds.

The licensee has advised the staff that during the current refueling outage, modifications to RCIC isolation valve E51-F007 were performed in order to meet the environmental qualification envelope. As a result of these environmental qualification modifications and other valve maintenance, the stroke time of valve E51-F007 was slightly increased from 20 to 21 seconds, thus exceeding the TS. Prior to this the valves had tested stroke times between 18 and 20 seconds.

3.0 EVALUATION

The staff has reviewed the BSEP-2 request to temporarily extend the isolation time of E51-F007, which is one of the two isolation valves in series that would isolate containment from line breaks in the RCIC. We considered a line break downstream of the isolation valves allowing for E51-F007 to close in 30 seconds and E51-F008, the other isolation valve, to fail open. The basis for our evaluation has been an audit review using the Standard Review Plans (SRPs) 3.6.1 and 6.2.4 with regard to compliance with the following:

- GDC 4 - as related to local environmental effects on safety related electrical equipment

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GDC 16 - as related to providing an essentially leak tight barrier against the uncontrolled release of radioactivity to the environment.

The licensee has stated that a break in the RCIC piping downstream of the isolation valves is equivalent to a 3 inch line break. Based on the proposed 30 second closure for valve E51-F007 in the RCIC line, a BSEP-2 analysis has shown the worst case line break to establish post-accident environments is the 10 inch high pressure coolant injection (HPCI) steam line. The HPCI case determined temperature, pressure and radiation profiles resulting from a line break with isolation within 50 seconds as required by TS. Areas where a RCIC steam line break could occur were analyzed and were found well bounded by the HPCI break profile. The licensee has stated the change in closure time has no effect on the environmental qualification of safety-related electrical equipment. The licensee has also considered a break in the water side of the RCIC system and has determined that the proposed change in isolation valve closure time will have no effect on that event.

Radiological effects of the extended isolation time were also considered. Although there was no specific dose calculation for a break in this 3-inch line, the licensee provided a comparison with other calculated doses. The licensee advised that the design basis accident dose estimates at the site boundary are based on a main steam line break and are within the dose allowed by 10 CFR 100. The BSEP-2 analysis estimates the dose resulting from a rupture of a 10 inch HPCI line with 50 second closure to be 1/3 that of the main steam line break. The licensee's conclusion is that doses at the site boundary for the RCIC 3-inch line break should be well within the limits established in 10 CFR 100. The line involved in the present change is a 3-inch RCIC line. A break in this line with a 30-second closure time for the isolation valve would result in a small offsite dose, less than 1/10 the dose calculated for the HPCI. The change in dose associated with the change from 20 to 30 seconds closure time is only a fraction of this very small dose.

The staff concurs with the approach taken by the licensee which considers a RCIC line break (and single failure of the remaining isolation valve) with the proposed TS closing time of 30 seconds.

We conclude that GDC 4, as related to local environmental effects on safety related electrical equipment and GDC 16 as related to providing an essentially leak tight barrier against the uncontrolled release of radioactivity to the environment remain unchanged. Our basis for this conclusion is that the licensee has demonstrated that the increased closure time will not effect the design limiting analyses.

The staff recommends that a temporary extension be given to Table 3.6.3-1 for extending the closure time of isolation valve E51-F007 to 30 seconds. The extension should remain effective until December 6, 1986.

4.0 EMERGENCY CIRCUMSTANCES

On May 26, 1986, CP&L performed stroke time testing of valve E51-F007 as part of the regularly scheduled surveillance preparatory to startup of BSEP, Unit 2 from an extended maintenance/refueling outage. The valve failed this initial isolation test on May 26, 1986. Subsequently, CP&L attempted to reduce the stroke time of the valve. Some improvement was achieved but not enough to meet the 20-second stroke time requirement. Although an attempt was made to obtain environmentally qualified replacement components to reduce the stroke time, it became evident that components could not be obtained and installed in time to support the startup of BSEP, Unit 2 on June 6, 1986 as scheduled. Therefore, on June 2, 1986, CP&L informed the NRC staff of the circumstances and discussed the possible need for an expedited amendment to the Technical Specifications to permit plant startup as scheduled. On June 4, 1986, CP&L submitted the application for the expedited Technical Specification change. The licensee's actions, while cautious, were prompt once it became apparent that plant startup would be delayed unless an expedited amendment was granted.

5.0 NO SIGNIFICANT HAZARDS CONSIDERATION

The Commission's regulations in 10 CFR 50.92 state that the Commission may make a final determination that a license amendment involves no significant hazards consideration if the operation of the facility in accordance with the 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 discussion in Section 3.0 above provides the basis for evaluating the license amendment against these criteria. Consequently, the staff concludes that:

- (1) Operation of the facility in accordance with the amendment would not increase the probability of an accident previously evaluated because the mode of operation of the plant is not changed. The consequences of an accident previously evaluated are not significantly increased because as discussed above only a small effect is seen in an accident previously determined to have minor consequences compared to the limiting accidents of this type, i.e., HPCI line break and main steam line break.
- (2) Operation of the facility in accordance with the amendment would not create the possibility of a new or different kind of accident because the mode of plant operation is not changed by the amendment.

- (3) Operation of the facility in accordance with the amendment would not involve a reduction in a margin of safety because the margins of safety involved are determined from the more severe cases of HPCI line break and main steam line break.

Accordingly, we conclude the amendment to Facility Operating License No. DPR-62, permitting an increase in isolation time of valve E51-F007 from 20 seconds to 30 seconds, involves no significant hazards consideration.

6.0 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 either from the standpoint of safety or no significant hazards consideration determination.

7.0 ENVIRONMENTAL CONSIDERATIONS

This amendment changes a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. We have 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 made a final no significant hazards consideration finding with respect to this amendment. Accordingly this 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.

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

Principal Contributor: D. Katze

Dated: June 10, 1986