

May 5, 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. 125 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 January 27, 1986.

The amendment changes the Technical Specifications (TS) to revise the TS Table 3.6.3-1 to reflect modifications being made during the current refueling outage to provide a dedicated purge system for post-accident combustible gas control.

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,

15/

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

Enclosures:

1. Amendment No. 125 to License No. DPR-62
2. Safety Evaluation

cc w/enclosures:
See next page

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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. 125
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 January 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 2.C.(2) of Facility Operating License No. DPR-62 is hereby amended to read as follows:

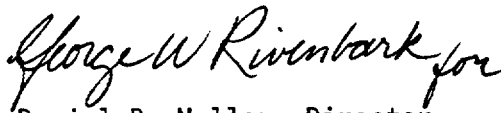
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(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 125, 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

A handwritten signature in cursive script, reading "George W. Rivenbark for".

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

Attachment:
Changes to the Technical
Specifications

Date of Issuance: May 5, 1986

ATTACHMENT TO LICENSE AMENDMENT NO. 125

FACILITY OPERATING LICENSE NO. DPR-62

DOCKET NO. 50-324

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

Pages

3/4 6-15
3/4 6-16
3/4 6-16a*

*page added

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
RCIC 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

TABLE 3.6.3-1 (Continued)
PRIMARY CONTAINMENT ISOLATION VALVES

<u>VALVE FUNCTION</u>	<u>VALVE GROUP^{1/}</u>	<u>ISOLATION TIME (Seconds)</u>
Nitrogen makeup and inerting inlet valve CAC-V4	6	15
Suppression chamber inerting inlet valve CAC-V5	6	15
Drywell inerting inlet valve CAC-V6	6	15
Suppression chamber purge exhaust isolation valve CAC-V7	6	15
Suppression chamber vent valve bypass valve CAC-V8	6	15
Drywell purge exhaust isolation valve CAC-V9	6	15
Drywell vent isolation valve CAC-49	6	15
Drywell vent backup valve CAC-50	6	15
Containment atmosphere dilution inlet valve CAC-V55	6	15
Containment atmosphere dilution inlet valve CAC-V56	6	15

TABLE 3.6.3-1 (Continued)
PRIMARY CONTAINMENT ISOLATION VALVES

<u>VALVE FUNCTION</u>	<u>VALVE GROUP^{1/}</u>	<u>ISOLATION TIME (Seconds)</u>
Suppression Chamber Make-Up Valve CAC-V170	6	15
Drywell Make-Up Valve CAC-V171	6	15
Suppression Chamber CAD Inlet Valve CAC-V160	6	15
Drywell CAD Inlet Valve CAC-V161	6	15
Suppression Chamber CAD Inlet Valve CAC-V162	6	15
Drywell CAD Inlet Valve CAC-V163	6	15
Suppression Pool Purge Exhaust Isolation Valve CAC-V172	6	15

1. See Specification 3.3.2, Table 3.3.2-1 for isolation signal that operates each valve group.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 125 TO FACILITY LICENSE NO. DPR-62

CAROLINA POWER & LIGHT COMPANY

BRUNSWICK STEAM ELECTRIC PLANT, UNIT 2

DOCKET NO. 50-324

1.0 BACKGROUND

Brunswick Steam Electric Plant, Unit 2 (BSEP 2) uses a purge system for post-accident combustible gas control of the containment atmosphere. The NRC position for this type of a system given in NUREG-0737, Item II.E.4.1, includes the following:

"Plants using....purge systems for post-accident combustible gas control of the containment atmosphere should provide containment penetration systems...that are dedicated to that service only, that meet redundancy and single-failure requirements....and that are sized to satisfy the flow requirement of the...purge system."

By letter dated January 27, 1986, Carolina Power & Light Company (licensee) proposed modifications to the containment atmospheric dilution (CAD) system to conform to the requirements of NUREG-0737, Item II.E.4.1. Also included were Technical Specification (TS) changes to revise TS Table 3.6.3-1 to be compatible with the CAD system modifications. The modification would also eliminate or minimize the use of large pneumatically operated valves.

2.0 DISCUSSION

The CAD system nitrogen (FSAR Fig. 6.2.5-1) is presently routed through a one inch line from a storage tank into the reactor building. The piping then feeds into a 20 inch header, which branches to drywell and suppression pool penetrations X-25 and -205. Supply of nitrogen via these penetrations is contingent upon the operation of large pneumatically operated isolation valves V5 and V6, 20 inches and 18 inches in size, respectively. A bypass line is provided for each of these large valves. However, the pneumatically operated bypass valves V47 and V48 are not environmentally qualified.

Exhaust from the present CAD system is along three paths, via penetrations X-220, X-26 & X-38. Any one exhaust path will satisfy the post accident purging requirements. Two of these paths, however, also require operation of large air operated valves.

The proposed modification of the BSEP-2 CAD system for use in post-accident combustion control would provide a rerouting of the inerting and exhaust lines.

All modified piping and components are to be safety grade, and single failure proof. The electrical equipment will conform to Class 1E requirements.

The inerting portion of the CAD system that is outside of the drywell and suppression pool is proposed to be one inch in size, except for the part which ties into the existing large pipe upstream of penetrations X-25 and X-205. The globe type solenoid valves in the piping leading to these penetrations are to be in redundant pairs in parallel. One valve of each pair will be tied into a 1E DC power supply, the other to a 1E AC power supply. The licensee also proposes to replace the pneumatically operated bypass valves associated with the large isolation valves V5 and V6 with solenoid operated valves.

Under normal startup and makeup conditions the isolation valves V5 and V6 will not be bypassed.

The exhaust piping from the suppression pool (penetration X-220) is to be modified to allow bypass of the containment isolation valve V7 (20 inch size) using a 1E AC power supply. The solenoid isolation valves within the alternative exhaust path leading to penetration X-38 are to be modified so that they are powered by a 1E DC power supply.

Only one of these paths is necessary during post-accident operation.

3.0 EVALUATION

The proposed modifications to the CAD system are for post-accident combustible gas control. The bypassing of the two large pneumatic valves V6 and V5 by two separate one inch nitrogen lines provides a more reliable source of nitrogen for inerting under post-accident conditions. Specifically, the proposed bypass lines provide separate independent systems for containment atmosphere control. Furthermore, greater leak tightness integrity is achieved through the use of one-inch globe valves rather than the 18 and 20 inch butterfly valves in the normal nitrogen inerting and makeup system.

Similarly, the modification to the original large exhaust piping with a smaller bypass line and its globe valve also provides for a greater leak tightness integrity. The changes to TS Table 3.6.3-1 identify the appropriate isolation valves associated with the system modification. We find that the above modifications to the CAD system are within the criteria of NUREG-0737, Item II.E.4.1 in that a system dedicated to CAD during post accident is provided and the single failure is met by redundancy. In addition, all modified piping is safety grade, thereby satisfying the requirements of Generic Letter No. 84-09, and 10 CFR 50.44(f). The staff recommends the acceptance of the proposed modifications, including the revision to TS Table 3.6.3-1.

4.0 ENVIRONMENTAL CONSIDERATIONS

The 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 and changes 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.

5.0 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: May 5, 1986