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

# SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

# ALLOWABLE VALUE CHANGES LICENSE AMENDMENT

# CAROLINA POWER AND LIGHT COMPANY

# BRUNSWICK STEAM ELECTRIC PLANT UNIT NOS. 1 AND 2

# DOCKET NOS. 50-325 AND 50-334

## 1.0 INTRODUCTION

By letter dated October 28, 1997, Carolina Power and Light Company (CP&L) requested an amendment to revise certain instrumentation allowable values in the Technical Specifications (TS) for the Brunswick Steam Electric Plant Unit Nos. 1 and 2.

The licensee is in the process of converting the current Technical Specifications (CTS) to the improved Standard Technical Specifications format. In support of this effort, the licensee has proposed the revision of certain instrumentation allowable values contained in the CTS. The CTS allowable values are based on uncertainties associated with the trip unit portion of the instrumentation circuitry. The proposed allowable values are based on uncertainties associated with the entire loop of the instrumentation circuitry (trip unit and sensor) and were calculated in accordance with the licensee's setpoint methodology described in Design Guide (DG) VIII.0050, "Instrument Setpoints." The staff has previously reviewed and accepted this setpoint methodology.

## 2.0 EVALUATION

The following TS changes have been proposed by the licensee:

1. Average Power Range Monitor, Fixed Neutron Flux - High
   (Table 2.2.1-1.2c, page 2-4)
   Change Allowable Value from ≤118% of RATED THERMAL POWER to ≤118.5% of RATED THERMAL POWER.

2. Reactor Vessel Steam Dome Pressure - High
   (Table 2.2.1-1.3, page 2-4)
   Change Allowable Value from ≤1070 psig to ≤1077 psig.

3. Primary Containment Isolation, Main Steam Line Flow - High
   (Table 3.3.2-2.1.c.4, page 3/4 3-18) Unit 2 only
   Change Allowable Value from ≤32% of rated flow to ≤33% of rated flow.

4. Secondary Containment Isolation, Reactor Vessel Water Level - Low, Level 2
(Table 3.3.2-2.2.c, page 3/4)
Change Allowable Value from ≥+103 inches to ≥+101 inches.

5. Reactor Water Cleanup System Isolation, Reactor Vessel Water Level - Low, Level 2
(Table 3.3.2-2.3.e, page 3/4 3-19)
Change Allowable Value from ≥+103 inches to ≥+101 inches.

6. Core Spray System, Reactor Steam Dome Pressure - Low
(Table 3.3.3-2.1.b, page 3/4 3-39)
Change Allowable Value from ≥404 psig to≥402 psig

7. Low Pressure Coolant Injection Mode of Residual Heat Removal System, Reactor Steam Dome Pressure - Low (Residual Heat Removal Pump Start and Low Pressure Coolant Injection Valve Actuation)
(Table 3.3.3-2.2.d.1, page 3/43-39)
Change Allowable Value from ≥404 psig to ≥402 psig.

8. Low Pressure Coolant Injection Mode of Residual Heat Removal System, Reactor Steam Dome Pressure - Low (Recirculation Pump Discharge Valve Actuation)
(Table 3.3.3-2.2.d.2, page 3/4 3-39)
Change Allowable Value from ≥304 psig to ≥302 psig.

9. High Pressure Coolant Injection System, Reactor Vessel Water Level - Low, Level 2
(Table 3.3.3-2.3.a, page 3/4)
Change Allowable Value from ≥+103 inches to ≥+101 inches.

10. Anticipated Transient Without Scram - Recirculation Pump Trip System Instrumentation Setpoints, Reactor Vessel Water Level - Low, Level 2
(Table 3.3.6.1-2.1, page 3/4 3-90)
Change Allowable Value from ≥+103 inches to ≥+101 inches.

11. Anticipated Transient Without Scram - Recirculation Pump Trip System Instrumentation Setpoints, Reactor Vessel Pressure - High
(Table 3.3.6.1-2.2, page 3/4 3-90)
Change Allowable Value from ≤1143 psig to ≤1147 psig.

12. Reactor Core Isolation Cooling System Actuation Instrumentation Setpoints, Reactor Vessel Water Level - Low, Level 2
(Table 3.3.7-2.1, page 3/4 3-95)
Change Allowable Value from ≥+103 inches to ≥+101 inches.

The proposed allowable values were calculated by applying calibration-based errors to the trip setpoints, thereby establishing an operability limit associated with the entire loop of each instrumentation function. The proposed allowable value changes are within the analytical limit

for each function and do not affect the existing margins between operating conditions and reactor trip setpoints. Therefore, the proposed allowable value changes are acceptable.

Additionally, based on the above evaluation, the staff concludes that the proposed instrumentation allowable value changes incorporated in the TS are consistent with the licensee's setpoint methodology and, therefore, are acceptable.

## 3.0 STATE CONSULTATION

In accordance with the Commission's regulations, the State of North Carolina official was notified of the proposed issuance of the amendments. The State official had no comments.

## 4.0 ENVIRONMENTAL CONSIDERATION

These amendments involve a change in the installation or use of a facility component located within the restricted area, as defined in 10 CFR Part 20. The NRC staff has determined that the amendments involve 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 amendments involve no significant hazards consideration, and there has been no public comment on such finding (62 FR 68304). Accordingly, the amendments meet 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 amendments.

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

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