



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 45 TO FACILITY OPERATING LICENSE NO. NPF-37
AND AMENDMENT NO. 34 TO FACILITY OPERATING LICENSE NO. NPF-72

COMMONWEALTH EDISON COMPANY

BYRON STATION, UNIT NO. 1

BRAIDWOOD STATION, UNIT NO. 1

DOCKET NOS. STN 50-454 AND STN 50-456

1.0 INTRODUCTION

In a submittal dated October 26, 1990, as supplemented April 23, 1991, November 18, 1991, and February 6, 1992, the Commonwealth Edison Company (CECo) described proposed changes to the low-low steam generator (SG) level reactor trip/auxiliary feedwater initiation setpoints for the Unit 1 Model D-4 steam generators. These setpoints are contained in Technical Specification (TS) Tables 2.2-1 and 3.3-4, Reactor Trip System Instrumentation Trip Setpoints and Engineered Safety Features Actuation System Instrumentation Trip Setpoints, respectively. These proposed changes resulted from a reassessment of the setpoints using an updated setpoint methodology and will allow operation of the Unit 1 steam generators over a greater range during operational transients. The February 6, 1992, submittal provided additional clarifying information that did not change the initial proposed no significant hazards consideration determination.

The submittals also addressed the impact of the changes on the Updated Final Safety Analysis Report (UFSAR) Chapter 15 analyses, and proposed TS changes to reflect the modifications.

2.0 STAFF EVALUATION

2.1 Setpoint Changes

The Byron and Braidwood TSs express the SG low-low water level trips in terms of percent of narrow range water level instrument span (NRS). The SG recirculation flow velocity head is included in the consideration of revised setpoints. Velocity head effects result in indicated levels for any given power less than or equal to the actual level, with the amount of discrepancy varying directly but not proportionally with power.

The low-low SG level trip setpoints for the proposed Byron and Braidwood No. 1 Units TS changes account for the above considerations, and are based on consistency with safety analysis assumptions and with the setpoint methodology described in the Westinghouse Topical Reports WCAP-12583 and WCAP-12523.

This methodology, incorporating the above considerations, has been used in previous Byron and Braidwood applications and was approved by the staff. Since the basic methodology has not been changed for this use, we also find it applicable to Byron and Braidwood Units 1 for the current setpoints determination.

2.2 Chapter 15 Analyses

2.2.1 Non-LOCA Event Analyses

The submittals provided an assessment of the impact of the changes on UFSAR Chapter 15 analyses and on Anticipated Transients Without Scram (ATWS) considerations. For Chapter 15 events and ATWS considerations, the licensee found that the calculated results for existing Byron and Braidwood analyses, performed assuming Model D-4 SGs, would be unaffected by the modified trip settings. The staff finds this acceptable.

2.2.2 LOCA Analyses

The licensee's submittals indicated that LOCA analyses were not adversely affected by the changes because analysis assumptions were not changed. We find this acceptable.

3.0 TECHNICAL SPECIFICATION CHANGES

The licensee's submittal proposed changes to two TS pages to be implemented in the operating cycle after SG modification for each unit (Byron Unit 1 and Braidwood Unit 1) to reflect the setpoint modifications discussed in Section 2.1 of this report. These are:

- (a) TS page 2-5, Table 2.2-1, Item 13.a., SG Water Level Low-Low reactor protection system (RPS) trip - values for total allowance (TA), parameters not measured on a periodic basis (Z), and sensor error (SE) are identified as not applicable (N.A.). The new trip setpoint is 33.0% of NRS and the new allowable value is 31.0% of NRS.
- (b) TS page 3/4 3-26, Table 3.3-4, Item 6.c.1, SG Water Level--Low-Low-Start Auxiliary Feedwater Motor-Driven Pump and Diesel-Driven Pump - the new values are the same as in (a) above.

The licensee's submittals based their justification of these modified setpoints on consistency with UFSAR Chapter 15 analyses assumptions and ATWS considerations, as discussed in Section 2.2 of this report.

We find the licensee's submittal, describing low-low SG level trip setpoint changes and analytical justifications acceptable based on use of a setpoint methodology which had been previously used in an approved application, and on justifications citing applicable UFSAR analyses using approved methodologies.

4.0 STATE CONSULTATION

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

5.0 ENVIRONMENTAL CONSIDERATION

The amendments change a requirement with respect to 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 (57 FR 2588). 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.

6.0 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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Date: March 25, 1992