



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
SUPPORTING AMENDMENT NO. 141 TO FACILITY OPERATING LICENSE NO. DPR-35
BOSTON EDISON COMPANY
PILGRIM NUCLEAR POWER STATION
DOCKET NO. 50-293

1.0 INTRODUCTION

Boston Edison Company (BECO), by letter dated December 6, 1991, proposed a revision to Pilgrim Nuclear Power Station (PNPS) Technical Specifications (TS) to include surveillance requirements for inverters associated with the High Pressure Coolant Injection (HPCI) and Reactor Core Isolation Cooling (RCIC) systems at the same time as the 18 month surveillance of the diesel generators as required by TS Section 4.9.A.1.b.2. This TS revision is initiated due to tripping of the HPCI and RCIC system inverters on high dc input voltage during starting of the "B" reactor recirculation pump (refer to LER 91-006 dated March 26, 1991). The cause of both inverter trips was determined to be due to the system voltage fluctuation experienced when the recirculation pump was started. The load required by the pump start caused the battery charger that supplies dc voltage to the inverters to overcompensate in a voltage surge. It was determined that worst system voltage fluctuation will occur during large emergency load start when powered by EDGs. The surveillance 4.9.A.1.b.2 requires verification of the EDG to start from ambient condition and energization of auto-connected emergency loads through the load sequencer. The surveillance of HPCI and RCIC systems inverters during diesel generator surveillance will ensure successful operation of the inverters.

In addition, the licensee included editorial changes to improve the clarity of TS Section 3/4.9.

2.0 EVALUATION

The licensee proposed to add a new surveillance requirement to the existing TS Section 4.9.A.1.b.2 to include surveillance requirements for inverters to verify that HPCI and RCIC inverters do not trip during diesel generator testing. These inverters provide power to the flow control mechanisms of these systems. Loss of RCIC inverter results in a minimum flow condition. Loss of HPCI inverter results in HPCI going to zero flow. The inverters automatically reset following a high dc input voltage trip. After the inverters reset, RCIC flow returns to normal and HPCI restarts. Demonstrating the inverters do not trip during the diesel generator surveillance provides

assurance of the successful operation of the circuits, battery chargers, batteries, and inverters. This surveillance will be performed during diesel generator 18-month surveillance requirement of 4.9.A.1.b.2 and will not be performed when HPCI and RCIC systems are required. The operation of PNPS in accordance with the proposed surveillance will not alter the function or configuration of the subject inverters or the HPCI and RCIC systems.

The licensee corrected a contraction for the word continued, added a comma to the text, removed two hyphens, and capitalized the letters AC as they apply to a power source. These corrections add clarity without altering the intent or requirement of the surveillance.

3.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Commonwealth of Massachusetts State Official was notified of the proposed issuance of the amendment. The state official had no comments.

4.0 ENVIRONMENTAL CONSIDERATION

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 NRC 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 (57 FR 708) and (57 FR 7807). 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

The staff concludes that the proposed change adds a surveillance to ensure successful operation of the inverters associated with the HPCI and RCIC systems during diesel generator testing. Therefore, the proposed change, including several editorial changes to improve the clarity of the PNPS Technical Specifications 3/4.9, Auxiliary Electrical System, is acceptable.

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

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Date: February 4, 1992