



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
SUPPORTING AMENDMENT NO. 79 TO FACILITY OPERATING LICENSE NO. DPR-35
BOSTON EDISON COMPANY
PILGRIM NUCLEAR POWER STATION, UNIT 1
DOCKET NO. 50-293

1.0 Introduction

By letter dated June 26, 1984, (Ref. 1) the Boston Edison Company (the licensee or BECo) notified the Commission that the Scram Discharge Volume (SDV) system at Pilgrim Station has been permanently modified to meet the long-term design criteria in NRC's letter dated December 9, 1980 (Ref. 2). The letter also requested changes in the Technical Specifications for operation with the modified SDV system. These actions were taken by the licensee to meet its commitment to modify the SDV design, as required by the Commission's Confirmatory Order dated June 26, 1983 (Ref. 3). This is the second phase of changes in the Technical Specifications associated with improvement of SDV system. The first phase consisted of improvements in surveillance for vent and drain valves and instrument volume level switches. Those Technical Specification changes were made for Pilgrim Station by Amendment No. 65, dated November 10, 1982.

2.0 Evaluation

To meet the design criteria in Reference 2, Boston Edison has made the following modifications. The original scram discharge instrument volume tank and its associated instruments have been replaced by two new SDV tanks with redundant and diverse instrumentation. Each of the new tanks provides as much volume as the original tank and each tank has two redundant drain valves. The two existing control rod (CRD) scram discharge headers have been retained, but they will drain to different SDV tanks. Each header has been provided with two redundant vent valves and the 2-inch-diameter header drain lines have been replaced with 6-inch-diameter drain lines to improve hydraulic coupling.

The new instrumentation includes two analog transmitters on each tank which provide continuous monitoring of the water level over the range of 4 to 45 gallons. These transmitters and their associated bistable devices provide reactor scram signals on high water in the instrument volumes at 39 gallons and "not-drained" alarms at 4.5 gallons. In addition, each tank has three resistance temperature devices (RTDs) which provide specific level indications. One RTD in each tank provides a signal to the reactor manual control system for control rod withdrawal block if the water level reaches 18 gallons. The two other RTDs in each tank provide reactor scram signals on high water level (39 gallons).

BECO requested certain changes in the Technical Specifications to make them consistent with the modifications described above. These changes include the addition of a fourth group (D) in the Bases for Specification 4.1 to identify the new analog transmitter trip devices. This addition necessitates nomenclature changes in Tables 4.1.1 and 4.1.2 to relate the group (D) devices to the instrument channels for "high water level in scram discharge tanks." A footnote would be added to Table 4.1.2 to require that these group (d) devices are calibrated during refueling outages.

The present Technical Specifications were written to apply to a single scram discharge volume. Therefore, simple changes to the plural (i.e., from "tank" to "tanks") would also be made on several pages to recognize that two scram discharge volumes now exist. No other changes in the Technical Specifications, such as instrument setpoints, are necessary.

We have reviewed the proposed changes in the Technical Specifications and find that they are consistent with the SDV modifications described above. They also constitute an increase in surveillance requirements since the existing limitations and testing frequencies developed for a single instrument volume would apply to the new dual-tank SDV system. Based on the findings, we conclude that the proposed changes in the Technical Specifications are appropriate and acceptable.

3.0 Environmental Consideration

This amendment involves a change in the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. 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 this amendment involves no significant hazards consideration and there has been no public comment on such finding. 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 this amendment.

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

5.0 References

1. Letter from W. D. Harrington, Boston Edison Company, to D. B. Vassallo, NRC, dated June 26, 1984.
2. Letter from D. Eisenhut, NRC, to all BWR licensees, December 9, 1980, enclosing a Generic Safety Evaluation Report on the BWR Scram Discharge System dated December 1, 1980.
3. Letter from D. B. Vassallo, NRC, to W. D. Harrington, Boston Edison Company, June 24, 1983, enclosing Confirmatory Order requiring long-term BWR scram discharge modifications.

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Dated: September 6, 1984