



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 76 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 March 27, 1984, the Boston Edison Company (BECO/the licensee) proposed changes in the Pilgrim Nuclear Power Station (PNPS) Technical Specifications to make the fire protection sections consistent with the requirements of Appendix R to 10 CFR Part 50. This Safety Evaluation (SE) relates only to Specification 3/4.12F concerning penetration fire barriers. Other requested changes in the fire protection Technical Specifications will be addressed in a future SE.

2.0 Evaluation

The proposed change expands the scope of Technical Specification 3/4.12F by including the fire doors and dampers, as well as the fire barrier penetration seals, among the fire barriers that must be functional when the safe shutdown systems are required to be operable. Thus, the revised Specification would address the entire fire barrier system rather than just the penetration seals. For this reason, the title of Specification 3.12F would be changed to "Fire Barrier System" and the limiting condition for operation (LCO) would be changed to read: "All fire barriers providing separation of redundant safe shutdown systems shall be functional." Operational tests of the fire doors and dampers would be added to the surveillance requirements of Specification 4.12F and its title would be changed to "Fire Barrier Penetrations." We find this change in scope to be acceptable and consistent with Appendix R to 10 CFR Part 50.

The action statement associated with the LCO presently requires that a continuous fire patrol be established in affected areas within one hour after a penetration fire barrier is found to be not functional. An exception is included in the action statement whereby a once per hour fire patrol, instead of "continuous fire patrol," would be required for a non-functioning penetration fire barrier between the main steam tunnel and the turbine building. However, the licensee is installing fire detection and/or suppression systems and requests that the action statement be modified to allow the alternative of verifying the operability of such a detection or suppression system on at least one side of a non-functional barrier and establishment of an hourly fire watch patrol. The present exception would be no longer needed since the steam tunnel can be included

in the Residual Heat Removal (RHR) "A" Valve Room or Turbine Building fire areas which have fire detection systems. This modification of the LCO would conform to the BWR Standard Specifications (NUREG-0123, Rev. 3). It is also our judgement that reliance upon an operable automatic fire detection or suppression system and an hourly fire watch patrol would provide a degree of safety at least equivalent to relying upon a continuous fire watch.

The licensee has also proposed the following exception to the action statement: "When the Fire Areas on BOTH sides of the affected fire barrier are designated "HIGH RADIATION AREAS/AIRBORNE RADIOACTIVITY AREA," an hourly fire watch patrol may be established (e.g., for ALARA considerations) in lieu of a continuous fire watch." This exception would permit the use of an hourly patrol in such an area even without an operable automatic fire detection or suppression system on at least one side of a non-functional fire barrier. This combination of circumstances is unlikely to occur. However, if it does, the need to minimize the exposure of personnel to substantial radiation would be more important than continuous surveillance against fire. On balance, we consider the hourly fire watch patrol to be acceptable for this situation.

3.0 Summary

The Technical Specification changes proposed by the licensee are consistent with the requirements of Appendix R to 10 CFR Part 50. In the event a fire barrier is found non-functional, our judgement is that reliance upon an operable automatic fire detection or suppression system and an hourly fire watch patrol would provide a degree of safety at least equivalent to relying upon a continuous fire watch. We also conclude that only an hourly fire watch patrol is acceptable, because of ALARA considerations, when the fire areas on both sides of the affected barrier are designated "High Radiation Areas/Airborne Radioactivity Area."

4.0 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.

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

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Dated: August 22, 1984