



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 93 TO FACILITY OPERATING LICENSE NO. NPF-57

PUBLIC SERVICE ELECTRIC & GAS COMPANY

ATLANTIC CITY ELECTRIC COMPANY

HOPE CREEK GENERATING STATION

DOCKET NO. 50-354

1.0 INTRODUCTION

By letter dated October 31, 1994, the Public Service Electric and Gas Company (PSE&G) requested an amendment to the Hope Creek Generating Station Facility Operating License. The proposed amendment would revise the Technical Specifications (TS) to delete certain valves from Table 3.6.3-1, "Primary Containment Isolation Valves." This action would reclassify those valves such that they would no longer be subject to the operability, surveillance testing and 10 CFR Part 50, Appendix J leakage testing requirements to which containment isolation valves (CIVs) are subjected.

The proposed TS changes involve no physical plant hardware modifications. The reclassified valves will remain installed and functional in the facility. Most, but not all of the affected valves also serve, and will continue to serve as "High/Low Interface" pressure isolation valves (PIVs). These PIVs are subject to special (non-Appendix J) leakage testing requirements intended to protect low pressure piping from overpressurization. Those PIV testing requirements would not be affected.

2.0 DISCUSSION AND EVALUATION

Under the provisions of the General Design Criteria (GDC) of Appendix A to 10 CFR Part 50, containment piping penetrations must incorporate two (redundant) isolation valves except in cases where an alternative arrangement is acceptable on an "other defined basis." One such "other defined basis" is the case where a qualified "closed system outside containment" may be credited as a substitute for one of the two CIVs. Paragraph 3.6.7 of N271-1976/ANS-56.2, "American National Standard Containment Isolation Provisions for Fluid Systems," which is endorsed by Regulatory Guide 1.141, specifies the design criteria applicable to a closed system outside containment. Under the terms of these criteria, a single CIV in conjunction with a qualified closed system constitutes an acceptable containment piping penetration arrangement.

Certain systems at Hope Creek having two containment isolation valves in their containment penetrations have been found to qualify as closed systems outside containment. These systems include the Residual Heat Removal (RHR) System, the Core Spray (CS) System, and the High Pressure Coolant Injection (HPCI) System. The licensee's position is that, where the containment penetrations

presently contain two CIVs and a qualified closed system, one of the CIVs may be reclassified to no longer be considered a CIV. Since containment isolation valves, and only containment isolation valves, are subject to the leakage testing requirements of 10 CFR Part 50, Appendix J, the reclassification would eliminate the requirement for Appendix J leakage testing of the reclassified valves and thus provide a substantial monetary saving for the licensee. Also, there would be a reduction in occupational radiation exposure.

Because the reclassified valves would continue to have safety functions to open as necessary for engineered safety feature system operability purposes, the ASME Section XI Inservice Testing (including "MOV Program") requirements would not be eliminated. It is only the Appendix J leakage testing requirements that would be eliminated.

The staff's Safety Evaluation Report (SER) related to the operation of Hope Creek Generating Station (NUREG-1048), dated October 1984, considered the licensee's containment leakage testing program in Section 6.2.6. The staff's review included the licensee's proposal to test isolation valves in several systems that penetrated containment, including the HPCI, CS, and RHR systems. The SER noted that hydrostatic testing of HPCI, CS, and RHR containment isolation valves was acceptable for meeting the requirements of Appendix J testing. The SER, however, did not consider whether or not the portions of HPCI, CS, and RHR outside containment actually performed a containment isolation function for potential primary containment atmospheric pathways to the environment. This evaluation considers that issue.

As noted above, in order for a piping system loop located outside containment to be considered "closed," specific design criteria must be met. A closed system outside containment must:

1. Not communicate with the outside atmosphere;
2. Meet Safety Class 2 design requirements;
3. Withstand temperature and pressure equal to the containment design conditions;
4. Withstand loss-of-coolant accident transient and environment;
5. Meet seismic Category I design requirements;
6. Be protected against overpressure from thermal expansion when isolated, if required; and
7. Be protected against a high energy line break outside of containment when the closed system is needed for containment isolation.

The licensee has evaluated the RHR, CS, and HPCI systems and confirmed that the above criteria are met and that the systems thus qualify as closed systems outside containment.

In addition to meeting the above criteria, the closed loops are located within the secondary containment fission product control barrier and are water-filled systems. These features significantly reduce the potential for fission product leakage to the outside environment.

Based on the above, the NRC staff agrees with the licensee's finding that the affected isolation valves are installed in closed systems outside containment. Moreover, a defined basis for conformance to General Design Criteria 55 and 56, of Appendix A to 10 CFR Part 50, exists in that such an arrangement may serve as one of the two required containment isolation valves in each containment piping penetration. Accordingly, the NRC staff has concluded that the proposed changes to TS Table 3.6.3-1 are acceptable.

3.0 STATE CONSULTATION

In accordance with the Commission's regulations, the New Jersey State Official was notified of the proposed issuance of the amendment. On January 30, 1996, the NRC staff spoke with the New Jersey State Official who commented that the licensee should have taken the opportunity, afforded by the October 31, 1994 application, to propose an update to TS 3/4.6.3, "Primary Containment Isolation Valves", to correspond to the latest revision of the Standard Technical Specifications. While the licensee has proposed changes to TS Table 3.6.3-1, which is referenced by TS 3/4.6.3, the licensee has not proposed changes to TS 3/4.6.3. Since there is no regulatory requirement for the licensee to make changes to TS 3/4.6.3, no such changes will be required and TS 3/4.6.3 continues to be acceptable.

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. The NRC staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluent 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 (60 FR 16198). 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 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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