



UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 206 TO FACILITY OPERATING LICENSE NO. DPR-44

PECO ENERGY COMPANY
PUBLIC SERVICE ELECTRIC AND GAS COMPANY
DELMARVA POWER AND LIGHT COMPANY
ATLANTIC CITY ELECTRIC COMPANY

PEACH BOTTOM ATOMIC POWER STATION, UNIT NO. 2

DOCKET NO. 50-277

1.0 INTRODUCTION

By letter dated March 30, 1995, as supplemented by letter dated May 26, 1995, the PECO Energy Company (the licensee) submitted a request for changes to the Peach Bottom Atomic Power Station, Unit No. 2, Technical Specifications (TSs). The requested change revises TS Section 4.7.D.1.b(1) by adding a footnote to exempt the High Pressure Coolant Injection (HPCI) steam side inboard containment isolation valve MO-2-23-015 from quarterly stroke testing requirements until refueling outage 2R011 which is scheduled to start in September of 1996. The May 26, 1995, letter provided clarifying information that did not change the initial proposed no significant hazards consideration determination and did not expand the scope of the original Federal Register notice.

2.0 BACKGROUND

HPCI valve MO-2-23-015 has a safety function in the open direction to allow steam flow to the HPCI turbine. The valve has a closed function for containment isolation. Both the inboard and outboard HPCI steam side containment isolation valves are normally open during plant operation and close on a Group IV isolation signal. TS 4.7.D.1.b(1) currently states that all normally open power operated isolation valves (except for the main steam line power operated isolation valves) shall be fully closed and reopened at least once per quarter. The licensee's inservice testing (IST) program was recently revised to state that the HPCI containment isolation valves are tested during cold shutdowns when the containment is de-inerted. This change is consistent with the guidance provided in NUREG-1482, "Guidelines for Inservice Testing at Nuclear Power Plants."

On March 4, 1995, the licensee identified with fixed cameras a packing leak on valve MO-2-23-015. This valve is located in the drywell and is inaccessible during power operations and cold shutdowns when the containment is inerted. In order to isolate the leak, the licensee elected to backseat the valve. The valve was backseated, then stroke-timed to the full closed position to demonstrate that the valve could close within the TS time limit of 20 seconds, then backseated again to isolate the packing leak. The licensee stated that the stroke-time had increased but was below the TS limit.

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2.1 Evaluation

The Peach Bottom Unit 2 TS currently state that pressure isolation valves in the open position shall be stroke closed quarterly. The TS bases do not provide a justification for this testing frequency. The Peach Bottom TS were developed prior to the initial issuance of the ASME Section XI Code for valves. However, this testing frequency is consistent with ASME Section XI, Paragraph IWV-3411, and Operations and Maintenance Standard, Part 10, Section 4.2.1.1. Although the licensee could not verify that this testing was included in the TS to duplicate the inservice test requirements, no other requirements or commitments were identified that reference this testing frequency.

NUREG-1482, Section 3.1.1, provides guidance for the test deferral of valves to cold shutdowns or refueling outages. The guidance states that testing valves may be excluded during power operation for valves whose failure in a non-conservative position during the cycling test would cause a loss of system function. A failure in the closed position of the HPCI steam side inboard containment isolation valve would render the HPCI system inoperable because the closed valve would isolate steam flow to the HPCI turbine. In addition, this valve is located in the drywell and is inaccessible during plant operation. Performing corrective action on this valve would require the unit to be shutdown and the containment de-inerted.

The licensee has verified that the HPCI steam side inboard containment isolation valve stroke time from the backseated position does not exceed the TS stroke-time limit. In addition, the HPCI steam side outboard containment isolation valve would continue to be exercised on a quarterly frequency. This provides additional assurance that in the event of a Group IV isolation for the HPCI system, containment isolation will be achieved even if the inboard valve does not close. The March 30, 1995, submittal also concluded that the inboard isolation valve would remain operable based on the its operation and maintenance history. The testing and reviews provide assurance of the closed safety function of the HPCI containment isolation valves.

The licensee's proposed TS change adds a footnote at the bottom of page 177 which references TS Section 4.7.D.1.b.(1) and states that HPCI MO-2-23-015 is exempted from quarterly testing requirements until 2R011. Refueling outage 2R011 is currently scheduled for September 1996. The TS change is acceptable because: 1) the TS requirements appear to be redundant to the IST requirements; 2) proposed TS change is consistent with the guidance provided by the NRC to defer exercising of valves to cold shutdowns and refueling outages; 3) the valve stroke-time while backseated is below the TS stroke-time limit; 4) the HPCI steam side outboard containment isolation valve will continue to be exercised closed quarterly; and 5) the review of the operation and maintenance history of these valves did not reveal any problems with this particular valve.

2.2 Backseating of HPCI Valve

General Electric Nuclear Services Information Letter Number 385 (SIL 385), dated November 1982, addresses backseating of motor-operated valves. This letter cautions that backseating of valves can cause damage to valve components. Recommendations from SIL 385 include: identify valves that are backseated, evaluate valve stresses due to backseating to determine number of cycles to failure, establish procedures for backseating, consult with valve manufacturers, and evaluate potential thermal stresses that may be subjected on the valve while backseated.

NRC Information Notice (IN) 87-40, "Backseating Valves Routinely to Prevent Packing Leakage," dated August 31, 1987, was issued to "alert recipients to potentially significant safety problems that could be caused by backseating valves routinely to prevent packing leakage." IN 87-40 references SIL 385. Peach Bottom Atomic Power Station, Unit 2, was specifically identified in the IN because their valve backseat procedure called for an operator to electrically drive the valve open from the motor control center until their was an increase in motor current.

In the May 26, 1995 letter, the licensee stated that the guidance provided in SIL 385 was reviewed and appropriately applied prior to backseating the inboard HPCI valve. The procedure used to backseat MO-2-23-15 requires that the valve be momentarily energized (for a predetermined amount of time) allowing inertia to coast the stem into the backseat. The licensee used this procedure for backseating operations on the HPCI valve to prevent oversteering and damage to valve components.

MO-2-23-15 is not a normally backseated valve. It is only backseated on an as-needed basis using administrative controls which ensures that an evaluation and analysis is performed prior to backseating. The licensee consulted with the valve manufacturer prior to backseating MO-2-23-15 for information and alternatives.

The licensee's evaluation of backseating the HPCI steam side inboard containment isolation valve addresses the recommended actions referenced in SIL 385.

2.3 Conclusion

The licensee's evaluation and procedures related to the backseating of the valve address the recommended actions and concerns described in SIL 385. In addition, based on the information provided by the licensee described above, the staff concludes that deferring the stroke test requirement for MO-2-23-15 until the start of 2R011 will not impede the safety function of the HPCI steam isolation valves. Therefore, the proposed TS change is acceptable.

3.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Pennsylvania 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 (60 FR 24912). 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.

Principal Contributor: J. Colaccino

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