10CFR50.90



#### **BOSTON EDISON**

Pilgrim Nuclear Power Station Rocky Hill Road Plymouth, Massachusetts 02360

> August 13,1987 BECo 87-137 Proposed Change 87-11 Revised

Ralph G. Bird Senior Vice President --- Nuclear

U.S. Nuclear Regulatory Commission Document Control Desk Washington, DC 20555

> License DPR-35 Docket 50-293

# Proposed Primary Containment Technical Specification Change

Pursuant to 10CFR50.90, Boston Edison Company proposes the attached modification to Appendix A of Operating License No. DPR-35. This modification revises sections concerning primary containment and primary containment testing.

This letter supercedes our submittal of 6/4/87 in response to discussions with the NRC concerning the proposed removal of the Feedwater Check, Standby Liquid Control Check, and Residual Heat Removal to Radwaste Valves, from TS Table 3.7-1. Accordingly, we are withdrawing our request to remove these valves from the table.

Please review this as a revision of our June 21, 1985 submittal for which the application fee has been paid.

Stoud G. Bird

MTL/jcp/994

Attachments

One original and 37 copies

cc: See next page

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Commonwealth of Massachusetts) County of Suffolk

Then personally appeared before me, Ralph G. Bird, who, being duly sworn, did state that he is Senior Vice President - Nuclear of Boston Edison Company and that he is duly authorized to execute and file the submittal contained herein in the name and on beha'f of Boston Edison Company and that the statements in said submittal are true to the best of his knowledge and belief.

My commission expires:

april 3, 1992 DATE

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# BOSTON EDISON COMPANY

Page Two

cc: U.S. Nuclear Regulatory Commission Region I 631 Park Avenue King of Prussia, PA 19406

Senior NRC Resident Inspector Pilgrim Nuclear Power Station

Robert M. Hallisey, Director Radiation Control Program Mass. Dept. of Public Health 150 Tremont Street F-7 Boston, MA 02111

#### PROPOSED CHANGE

The NRC letter of 7/2/84 requested BECo to update Technical Specifications for Primary Containment Testing in accordance with 10CFR50, Appendix J (with appropriate exemptions). This request was completed via BECo Proposed Technical Specification 85-08, dated 6/21/85.

This proposal supplements our 6/21/85 submittal by providing an updated Table of Primary Containment Isolation Valves which Receive an Automatic Isolation Signal, and modifies pages affected by amendments and plant changes that have occurred since June 1985. Plant changes being implemented in RFO #7 are also included. For your convenience, we are providing a complete set of Technical Specification pages.

The following list identifies changes which are being made in this submittal:

- <u>Definition M</u> This was revised to include an additional condition for check valves.
- <u>Definition EE</u> This was previously submitted as Definition Y, however, due to Amendment 89 the number must change to EE.
- <u>Table 3.2.B</u> Two new HPCI vacuum breakers are being added (further described under Table 3.7-1). The appropriate isolation signals are described.
- 3.7.A.2.A.5 An additional condition for check valves is added.
- <u>3.7.A.2.b</u> Added Reference to Table 3.7-1 (note: This wording is now similar to present Technical Specifications. This was changed in proposed Technical Specification 85-08)
- <u>4.7.A.2.b.2</u> Added Reference to Table 3.7-1 (note: This wording is now similar to present Technical Specification. This was changed in proposed Technical Specification 85-08)
- Table 3.7-1 Changed title for clarity.
  - Added valve and penetration numbers for ease of identification.
  - Reactor water sample valves MO-220-44/45 position changed to normally open for crack arrest verification modifications.
  - AO-5035A/B, AO-5036A/B, AO-5042A/B, AO-5044A/B Changed operating time from 15 sec to 5 sec due to modification (valves changed from 20" to 8").
  - AO-5033B, AO-5035B, AO-5036A/B Position changed from normally closed in accordance with valve line-ups.
  - H<sub>2</sub>/O<sub>2</sub>, PASS and leak detection valves are all being added due to plant modifications made during RFO #6.

- Tip ball valves are being added.
- HPCI Torus Suction Isolation valves were deleted because these valves are not relied upon to perform a containment isolation function.
- MO-2031-33,34 HPCI vacuum breaker valves are added due to a plant modification.
- Group I Isolation, Condition 5 has been modified to conditions 5 and 6 clarity.
- Group 7 Isolation has been added due to HPCI vacuum breaker modification.
- Revised Footnotes 1 and 2 for clarity.
- Added Footnotes 3, 5, and 6 for clarity.
- Added Footnote 4 for TIP ball valves.

Bases 3/4.7.A - (Page 169 of present submittal) Added Group 7 definition due to HPCI vacuum breaker modification.

#### REASON FOR CHANGE

The proposed Technical Specification is being submitted to update the Table of Primary Containment Isolation Valves (Technical Specification Table 3.7-1). The changes that are proposed:

- (a) reflect past design changes,
- (b) are design changes proposed to be made during the present refueling outage,
- (c) correct previous errors,
- (d) are editorial to provide clarity and consistency,
- (e) remove valves that are not relied upon to perform a certain isolation function.

## Past and Proposed Design Changes

HPCI Vacuum Breakers - Vacuum breakers are being added to the HPCI system to prevent water hammers. This modification will improve system reliability.

Reactor Water Sample - These lines will be used for continuous sampling for crack arrest verification (IGSCC). The normal valve position has been changed from closed to open. All isolation signals, in the event of an accident, remain the same.

Purge Valves - The original 20" valves have been replaced with 8" valves for better operability. The closing times have been reduced to prevent over-pressurization of the ductwork outside of primary containment following a design basis LOCA.

 $H_2O_2$ , PASS, and Leak Detection Valves - The original hydrogen and oxygen sample systems have been modified in accordance with NUREG 0737. These are post-accident systems.

#### Correct Previous Errors

Valve Line-ups - Valves AO-5033B, AO-5035B, and AO-5036 A/B are maintained in a normally closed position.

TIP Ball valves are being added.

#### Editorial Changes

Definition EE - This definition was numbered "Y" in Proposed Technical Specification 85-08. Because of recent Technical Specification amendments, this definition is renumbered to "EE."

3.7.A.2.b and 4.7.A.2.b.2 - References to Table 3.7-1 have been added to this LCO and surveillance to incorporate the table into Proposed Technical Specification 85-08.

Valve and Penetration Numbers - These have been added to the table to assure correct identification of the valves.

Group I Isolation, Condition 5 - The original wording of this condition has cause confusion. The proposed rewording (into Conditions 5 and 6) will avoid misinterpretation.

Footnotes - The footnotes have been reworded and four footnotes have been added to provide clarity for the plant operators.

## HPCI Suction Valve

The HPCI torus suction isolation valves (MO2301-35 and 36) are removed from Table 3.7.1 because the line which they isolate terminates below the free water surface of the suppression pool and will remain so throughout the duration of any accident. Consequently, these valves are not relied upon to prevent the escape of containment atmosphere to the environs and, therefore, do not perform a containment isolation function.

### SAFETY EVALUATION AND DETERMINATION OF NO SIGNIFICANT HAZARDS CONSIDERATIONS

The <u>Code of Federal Regulations</u>, 10CFR50.91, requires that at the time a licensee requests an amendment, it must provide to the Commission its analysis, using the standards in 10CFR50.92, about the issue of no significant hazards consideration. Therefore, in accordance with 10CFR50.91 and 10CFR50.92, the following analysis has been performed.

 Operating Pilgrim Station in accordance with the proposed amendment will not involve a significant increase in the probability or consequences of an accident previously evaluated.

HPCI Vacuum Breakers - The HPCI vacuum breaker modification requires a new penetration in primary containment. Two valves are provided to ensure completion of the safety action (primary containment isolation) prior to uncovering the fuel in the event of a design basis accident (DBA). This modification enhances the performance of the HPCI system, and other accident mitigating systems which utilize the torus, by reducing the possibility of failure due to hydrodynamic transients. The function of relieving vacuum in the HPCI turbine exhaust line is better performed by the added vacuum breaker. All equipment installed will have qualifications per IEEE-323 and IEEE-344 and will be of a quality consistent with its Class IE function. Addition of this vacuum breaker, which will improve the hPCI system performance, does not increase the probability or consequences of an accident previously evaluated.

Reactor Water Sample - Changing the normally position of the Reactor Water Sample valves, from closed to open, does not affect the safety function of the valves or any other system. The safety function of the valves is to isolate the line upon receipt of an appropriate signal. The isolation signals remain unchanged. Therefore, this change does to create a significant increase in the probability or consequences of an accident previously evaluated.

Purge and Vent Valve - Reduction of the maximum closing times for the Purge and Vent valves will have no adverse effects on primary containment integrity. The original 20" valves have been replaced with more reliable 8" valves. Reduction of the maximum closing time prevents over-pressurizing the ductwork located outside containment following a design basis LOCA. The reduction of containment isolation valve closing times improves the assurance of achieving containment isolation, thus the change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

 $H_2O_2$ , PASS and leak Detection Valves - The original Hydrogen and Oxygen Analyzer systems were modified for the  $H_2O_2$ , PASS and Leak Detection Systems. The modifications included a reduction in the total number of primary containment isolation valves (several penetrations were cut and capped) and upgrading the system with faster closing solenoid valves. These valves ensure completion of the safety function (primary containment isolation) prior to uncovering fuel in the event of an accident, thus the changes do not involve a significant increase in the probability or consequences of an accident previously evaluated.

HPCI Suction Valves - The HPCI torus suction isolation valves (MO20301-35 and 36 are removed from Table 3.7.1 because the line which they isolate terminates below the free water surface of the suppression pool and will remain so throughout the duration of any accident. Consequently, these valves are not relied upon to prevent the escape of containment atmosphere to the environs and, therefore, do not perform a containment isolation function. The containment isolation function of these valves was reviewed previously by the NRC, and their concurrence with the above evaluation is documented in NRC letter to BECo, dated 4/28/81.

Although MO2301-35 and 36 meet the generic definition of containment isolation valves that appears in PNPS-FSAR Section 5.2, the primary safety objective of the primary containment system is to limit the release of fission products in the event of a postulated DBA so that offsite dose would not exceed values set forth in IOCFRIOO. Because MO2301-35 and 36 do not contribute to the plant capability in this regard, removing these valves from Table 3.7-1 will not increase the probability or consequences of an accident. Corrections of Previous Errors - During our review of Table 3.7-1, several errors were identified and have been corrected: 4 valves were shown open and are normally closed; 2 valves have been removed because they are not primary containment isolation valves; and, the TIP Ball valves have been added. Corrections of errors is an administrative change and does not involve an increase in the probability or consequences of an accident previously analyzed.

Editorial Changes - This proposed amendment consists, in part, of minor editorial changes to provide clarity. These changes are administrative in nature and do not increase the probability or consequences of an accident previously evaluated.

 Operating Pilgrim Station in accordance with the proposed amendment will not create the possibility of a new or different kind of accident from any accident previously analyzed.

The new vacuum breaker line for the HPCI system has been designed to equal or more stringent requirements than the original requirements for the HPCI system. The new primary containment penetration has been provided with automatic isolation valves with closing times in accordance with the Pilgrim FSAR. Because the original design requirements for the HPCI system are met or exceeded, no new or different types of accidents are postulated.

Changing the normal position of the Reactor Water Sample valves from closed to open does not impact their safety operation. The isolation signals remain unchanged, and function to isolate on all Group 1 and 2 signals. Therefore, this change does not create a new or different kind of accident.

The modification to the Purge and Vent lines replaces the 20" valves with more reliable 8" valves. This change does not create a new or different type of accident.

The post accident sample modifications, made in accordance with NUREG 0737, utilized existing sample system primary containment penetrations. The original valves were replaced with more reliable solenoid valves. No new or different type of accident from those previously analyzed are postulated.

Removal of the HPCI suction valves from Table 3.7-1 does not represent a plant design change. These valves are not relied upon to perform a containment isolation function and therefore, no new or different types of accidents are postulated.

The correction of errors and editorial changes are performed and administrative and thus do not create the possibility of a new or different type of accident. 3. Operating Pilgrim Station in accordance with the proposed amendment will not involve a significant reduction in the margin of safety.

Each of the affected components, with the exception of the HPCI torus suction valves (see below), are safety-related containment isolation valves that are required to automatically isolate or remain isolated upon receipt of an isolation signal. The primary function of the containment system and containment isolation valves is to limit the release of radioactive material, and thereby limit the radiological consequences of accidents to within the limits set by IOCFRIOO. The containment and components necessary to maintain the containment provide a margin of safety to protect the public and environment from radioactive releases following a Design Basis Accident (DBA). In order to accomplish this function, containment isolation valves must meet specified leakage rates and closing times, and be periodically tested to assure that the specified rates and times are met.

The HPCI torus suction valves are safety-related valves that are required to isolate or remain isolated upon receipt of an isolation signal. These valves perform safety functions which are important to the operation of the HPCI system and are not relied upon to perform a containment isolation function.

The discussions provided in Sections 1 and 2 above on the various changes demonstrate that the proposed amendment is bounded by the Pilgrim DBA. The changes will not result in the violation of containment integrity, and therefore the proposed amendment does not involve a significant reduction in the margin of safety.

These proposed changes involve additions and deletions of valve listed on table 3.7.1 due to plant modifications, changes in the normal valve line-up, reduced valve operating times, and editorial changes for clarity and consistency. BECo has performed safety evaluations for all changes in accordance with 10CFR50.59 and determined that no unreviewed safety questions exist.

This change has been reviewed and approved by the Operations Review Committee and reviewed by the Nuclear Safety Review and Audit Committee.

#### SCHEDULE OF CHANGE

It is requested that the proposed amendment become effective within 30 days of Boston Edison's receipt of approval by the NRC.