BOSTON EDISON COMPANY
600 BOYLSTON STREET
BOSTON, MASSACHUSETTS 02199

J. EDWARD HOWARD
VICE PRESIDENT
NUCLEAR

December 19, 1979

BECo Ltr. #79-270

Mr. Thomas A. Ippolito, Chief
Operating Reactors Branch #3
Division of Operating Reactors
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

License No. DPR-35
Docket No. 50-293

Interim Positions for Containment Purge and Vent Valve Operation

Reference: a) USNRC Letter to BECo dated October 22, 1979

Dear Sir:

Reference a) requested Boston Edison Company to review the interim positions for containment purge and vent valve operation and commit, within 45 days, to operating in conformance with these positions. A three day extension of the specified reporting period was requested of and granted by Mr. John Hannon of your office in a telecon on December 14, 1979. Therefore, the following is now provided as our response to each of the subject interim positions.

Position 1.

Whenever the containment integrity is required, emphasis should be placed on operating the containment in a passive mode as much as possible and on limiting all purging and venting times to as low as achievable. To justify venting or purging, there must be an established need to improve working conditions to perform a safety related surveillance or safety related maintenance procedure. (Examples of improved working conditions would include deinerting, reducing temperature, humidity, and airborne activity sufficiently to permit efficient performance or to significantly reduce occupational radiation exposures).

Response

Purge isolation valves are used for inerting 24 hours after startup and for deinerting 24 hours prior to shutdown as permitted by Technical Specifications. The benefit gained by enabling access to the drywell for leak inspection during these periods is added plant safety without significantly reducing the margin in safety. This valve operation is limited in its use to 90 hours per year during power operation.

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The two inch suppression pool purge isolation valves are operated in the open position to maintain the 1.5 psi differential pressure between the drywell and suppression chamber as required by Technical Specifications. These valves isolate upon receipt of a containment isolation signal. Therefore, emphasis has been placed upon operating the containment in a passive mode as much as possible and purging and venting times are limited to as low as achievable.

Position 2.

Maintain the containment purge and vent isolation valves closed whenever the reactor is not in the cold shutdown or refueling mode until such time as you can show that:

a. All isolation valves greater than 3" nominal diameter used for containment purge and venting operations are operable under the most severe design basis accident flow condition loading and can close within the time limit stated in your Technical Specifications, design criteria or operating procedures. The operability of butterfly valves may, on an interim basis, be demonstrated by limiting the valve to be no more than 30° to 50° open (90° being full open). The maximum opening shall be determined in consultation with the valve supplier. The valve opening must be such that the critical valve parts will not be damaged by DBA-LOCA loads and that the valve will tend to close when the fluid dynamic forces are introduced.

Response

All isolation valves greater than 3" nominal diameter used for containment purge and venting operations are maintained in the closed position except during the 24 hour inerting and deinerting periods as stated in the first response.

b. Modifications, as necessary, have been made to segregate the containment ventilation isolation signals to ensure that, as a minimum, at least one of the automatic safety injection actuation signals is uninhibited and operable to initiate valve closure when any other isolation signal may be blocked, reset, or overridden.

Response

A review of Pilgrim Station's Primary Containment Isolation System (PCIS) revealed two instances where the isolation signal can be overridden. These are the two isolation valves in series in a two inch line venting the suppression chamber and two isolation valves in series in a two inch line venting the drywell to the Standby Gas Treatment System. The control logic for these valves allows an override of the containment isolation signal if the key lock control switch for these valves is in the emergency locked open position.

The override position, by design, provides capability to perform purging and venting operations to satisfy long term containment clean-up or pressure control following a LOCA situation. Utilizing the override capabil to inhibit

a particular isolating signal, inhibits all other isolation signals. Therefore, Boston Edison has developed a temporary design modification which will be implemented immediately and a permanent design modification which will be implemented during the 1980 refueling outage which commences January 5, 1980.

Temporary Design Modification

The emergency open function will be removed from the 2" vent valve circuitry. To provide for the reinstallation of this function, should operating conditions require its avail bility, a procedure has been developed and issued which specifies the actions necessary to restore the "Emergency Open" function and directs a "dedicated" operator to manually close these valves in response to any subsequent containment isolation signals.

Permanent Design Modification

The 2" vent valve "emergency open" circuitry shall be permanently modified in conjunction with the containment isolation system modifications planned in response to Lessons Learned, during the 1980 Refueling Outage. This modification will segregate the containment isolation signals to ensure that bypassing one initiating signal does not inhibit reisolation of the 2" lines upon receipt of another isolation signal e.g. bypassing a "Hi Drywell Pressure" initiating signal will not inhibit reisolation of the 2" lines upon receipt of a "Low Reactor Vessel Level" signal.

Justification

Boston Edison believes continued operation is justified until January 5, 1980 (Commencement of the 1980 Refueling outage), on the basis that temporary removal of the "Emergency Open" control function from AO's 5041A&B and 5043A&B constitutes no compromise in containment isolation or venting capability following LOCA, while it eliminates the potential for non-isolation of the Containment Purge Bypass Valves in response to initial or subsequent diverse isolation signals.

In conclusion we trust this information is responsive to your needs. If we can be of any further assistance, please contact us at your convenience.

Very truly yours,

Commonwealth of Massachusetts)
County of Suffolk

Then personally appeared before me J. Edward Howard, who, being duly sworn, did state that he is Vice President - Nuclear of Boston Edison Company, the applicant herein, and that he is duly authorized to execute and file the submittal contained herein in the name and on behalf of Boston Edison Company and that the statements in said submittal are true to the best of his knowledge and belief.

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My Commission expires: July 6, 1984

Dorothy M Kopec
Notary Public