

BOSTON EDISON

Pilgrim Nuclear Power Station
Rocky Hill Road
Plymouth, Massachusetts 02360

May 30, 1989

Ralph G. Bird
Senior Vice President — Nuclear

BECo 89- 071

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

License DPR-35
Docket 50-293

SUPPLEMENTARY RESPONSE TO GENERIC LETTER 88-14:
INSTRUMENT AIR SUPPLY SYSTEM PROBLEMS
AFFECTING SAFETY RELATED EQUIPMENT

Generic Letter 88-14 (GL 88-14) requested licensees to review NUREG-1275, Volume 2, "Operating Experience Feedback Report - Air Systems Problems" and perform a design and operations verification of the station instrument air system. Boston Edison responded February 3, 1989 leaving four issues open.

The attachment to this letter supplies Boston Edison's supplementary response to GL 88-14, addressing the open issues.


R. G. Bird

PMK/jcp/3291

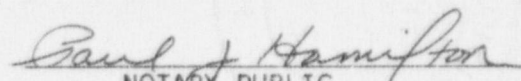
Attachment

Commonwealth of Massachusetts)
County of Plymouth)

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 behalf of Boston Edison Company and that the statements in said submittal are true to the best of his knowledge and belief.

My commission expires:

2/12/93
DATE


NOTARY PUBLIC

cc: See next page

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BOSTON EDISON COMPANY

U. S. Nuclear Regulatory Commission

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Boston Edison Company responded to Generic Letter 88-14 by a letter dated February 3, 1989. At that time, four GL 88-14 items were left open pending completion of an internal independent review. The information is provided below.

NRC Request #1

Verify by test that actual instrument air quality is consistent with the manufacturer's recommendations for individual components served.

Response

Our February 3, 1989 response left open two instrument air quality issues:

1. The instrumentation air hydrocarbon content issue is resolved. Review of the test data indicates Pilgrim's instrument air system is designed and has been demonstrated by test to provide a hydrocarbon level at or below the requirements of ANSI/ISA S7.3-1975.
2. The moisture content (dewpoint temperature) issue is resolved for the Main Steam Isolation Valves (MSIVs). The PNPS Final Safety Analysis Report does not specify a dewpoint temperature for instrument air supplied to the MSIVs. In the February 3, 1989 report we committed to investigate the -40°F dewpoint temperature suggested by the MSIVs' purchase documents. A dewpoint temperature of -40°F is lower than required by ANSI/ISA S7.3-1975. We contacted the MSIV vendor, who stated the -40°F dewpoint temperature is conservative. We reviewed Pilgrim's MSIV operating experience and found no failures attributed to instrument air dewpoint temperature. Because of the absence of indications that dewpoint temperature has affected MSIVs, we conclude meeting ANSI/ISA S7.3-1975 provides the MSIVs with instrument air of adequate quality.

NRC Request #2

Verify that maintenance practices, emergency procedures, and training are adequate to ensure that safety-related equipment will function as intended on loss of instrument air.

Response

Our February 3, 1989 response left one issue open on this request. We have reviewed Procedure 5.3.8, "Loss of Instrument Air", verifying the adequacy of this procedure to deal with a loss of instrument air.

Procedure 5.3.8:

- 1) Identifies major air operated components and the position they fail to with a loss of air;
- 2) Identifies expected major plant responses to a loss of instrument air;
- 3) Identifies the operator actions to be taken to mitigate the consequences of a loss-of-air transient;
- 4) Contains required actions rather than referencing other procedures.

NRC Request #3

Verify that the design of the entire instrument air system including air or other pneumatic accumulators is in accordance with its intended function, including verification by test that air-operated safety-related components will perform as expected in accordance with all design-basis events, including a loss of the normal instrument air system. This design verification should include an analysis of current air operated component failure positions to verify that they are correct for assuring required safety functions.

Response

Boston Edison verified the design of the instrument air system is in accordance with its intended function. The verification includes safety-related components and non-safety related components that could potentially affect safety-related equipment.

Components were analyzed to determine:

1. Required position/function to satisfy design safety analysis;
2. Actual failure position if air or nitrogen is lost;
3. If testing is performed and demonstrates proper component response to the loss of nitrogen or air;
4. The effect of a component failure on plant response.

The safety-related pneumatic accumulators were examined to ensure they have sufficient air/nitrogen volume to perform their design functions. These accumulators include:

1. Automatic Depressurization System (ADS) Accumulators
2. Standby Gas Treatment System (SBGT) Accumulators
3. Emergency Diesel Generator Air Start Accumulators
4. Emergency Diesel Generator Turbo Assist Accumulators
5. Main Steam Isolation Valve (MSIV) Accumulators

The torus to reactor building vacuum breaker accumulators were discovered to be undersized for their design mission time. This condition was corrected and details were provided in our February 3, 1989 response. The ADS accumulators have been analyzed in accordance with NUREG-0737, Item II.K.3.28, and the design was accepted by the NRC by letter of December 23, 1985. The remaining accumulators have been verified by analysis and/or field testing to have adequate capacity to perform their design functions.