PHILADELPHIA ELECTRIC COMPANY

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PHILADELPHIA, PA. 19101

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September 22, 1978

Mr. Boyce H. Grier, Director
Office of Inspection and Enforcement
Region I
United States Nuclear Regulatory Commission
631 Park Avenue
King of Prussia, Pennsylvania 19406

Dear Mr. Grier:

SUBJECT: Licensee Event Report Narrative Description

The following occurrence was reported to Mr. Greenman, Region I, Office of Inspection and Enforcement on September 8, 1978.

Reference:	Docket Number 50-277/278
Report No:	LER 78-038/1T-0
Report Date:	September 22, 1978
Occurrence Date:	September 8, 1978
Facility:	Peach Bottom Atomic Power Station Unit 2 and 3 R.D. 1, Delta, PA 17314

Technical Specification Reference:

Technical Specification 6.9.2.a(9) requires reporting of "...conditions...that require remedial action or corrective measures to prevent the existence of development of an unsafe condition."

Description of the Event:

Reactor water cleanup system inboard isolation valve (MO 12-15) - initial calculation indicating an acceleration during the design basis earthquake in excess of the acceleration that the valve was qualified to withstand. Subsequent calculations and valve re-evaluation proved the initial conclusion to be in error.

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Consequences of Event:

There was no actual deficiency in MO 12-15's capability to perform its design function. Confirmatory calculations and valve manufacturer qualification show that the valve would function and close if required during the design basis earthquake (DBE).

Cause of Event:

In recognition of increasing interest in seismic documentation Philadelphia Electric Company undertook a program of acquiring supportive documentation confirming the seismic qualification of certain equipment installed at Peach Bottom. A review of the Reactor Water Cleanup System valves conducted in conjunction with this program initially indicated an acceleration of MO 12-15, during the design basis earthquake, which was in excess of the acceleration the valve was known, at that time, to be qualified for. This initial calculation conducted by the Architect Engineer was based on the best information available regarding the physical characteristics for the valve and its associated piping. The possible deficiency was reported to Mr. Greenman of I and E Region I, on September 8, 1978 (confirmed by LER 2-78-033/1P, 9/11/78). Subsequent calculations based on actual valve characteristics and as-built piping configuration in addition to qualification by the valve manufacturer that the valve will accept a higher acceleration (7.2g as compared to the initial 3.0g) showed the initial conclusion to be in error and demonstrated that MO 12-15 is capable of performing its design function.

The calculations on Unit 2, however, showed one point on the associated piping outboard of MO 12-15, which had a calculated stress above code allowable (28,000 psi as compared to 23,300 psi code allowable based on mill certification yield stress). It should be noted that while these calculated stresses are above code allowable, they are well below the ultimate strength of the piping. Therefore, the pressure envelope integrity of the piping would most likely have remained intact. It should be emphasized that such stress would only occur during the unlikely event of a DBE, that the piping has never actually been exposed to such stress and that the point of high stress was isolable from the reactor.

Corrective Action:

An additional restraint will be added to the piping to reduce the stress value to within code allowable before returning Unit 2 to power.

Yours truly,

M. J. Cooney
Superintendent
Generation Division-Nuclear

Attachment

cc: Mr. Ernst Volgenau, NRC - Office of Inspection and Enforcement
Mr. Norman M. Heller, NRC - Office of Management & Program Analysis