Public Service
Electric and Gas
Company

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May 20, 1985

50-354

Dr. Thomas E. Murley, Administrator
U. S. Nuclear Regulatory Commission
Office of Inspection and Enforcement
Region I
631 Park Avenue
King of Prussia, Pennsylvania 19406

Dear Dr. Murley:

SIGNIFICANT CONSTRUCTION DEFICIENCY
BIF BUTTERFLY VALVES
HOPE CREEK GENERATING STATION

On August 31, 1984, a verbal report was made to Region I, Office of Inspection and Enforcement representative, Mr. E. Kelly, advising of a potentially significant construction deficiency concerning butterfly valves supplied by BIF Industries. On September 28 and November 2, 1984, interim reports were sent to your office. The following final report is provided in accordance with 10CFR50.55(e).

Description of the Deficiency

Our Architect/Engineer and Constructor, Bechtel has informed us that a cleanliness inspection of two (2) thirty-six inch butterfly valves supplied by BIF Industries revealed extensive corrosion damage to the tapered pins securing the valve stem to the disc. A review of the BIF fabrication drawing determined that the pins were to be made of Monel (ASME SB 164, Cl.B). However, chemical analysis of one of the corroded pins indicated that the material was apparently 400 series stainless steel. Such a stainless steel would be galvanically dissimilar to the aluminum bronze disc material and susceptible to corrosion.

A review of purchase order P-305(Q) identified a total of sixty-nine (69) valves of various sizes having aluminum bronze discs. Bechtel documented and controlled the discrepant hardware by means of Nonconformance Reports (NCR) Nos. 3711 and

A010

5360. Utilizing a simple nitric acid test to verify disc pin material, Bechtel has determined that the deficient condition is limited to the four (4) thirty-six inch valves (Requisition Item Nos. 5.15 and 5.16).

Corrective Action

Bechtel has replaced the disc pins on the two (2) thirty-six inch valves that are installed in Unit No. 1. Public Service Quality Assurance has issued Deficiency Report No. HQA-85-001 to document and control the two (2) stored thirty-six inch valves from Unit No. 2.

Safety Analysis

An analysis of the safety implications determined that failure of either or both of the thirty-six inch butterfly valves would not adversely impact safe operation/shutdown of the plant. Per the Hope Creek design, these two valves are just inside the Q boundary on the A and B discharge lines to the cooling tower basin. The valves are designed to operate in the normally open position and can be closed to isolate either the A or B leg for maintenance purposes. Postulated failure in the closed position or the partially closed position is provided for through discharge of service water into the yard either through a rupture disc or through two (2) pressure activated twenty inch valves. Failure in the full open position presents no additional consequences in this application. We therefore conclude that the noted condition of the subject valves is not reportable in accordance with 10CFR50.55(e).

Very truly yours,

C Office of Inspection and Enforcement
Division of Reactor Construction Inspection
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