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Vice President

Engineering and Construction

Public Service Electric and Gas Company 80 Park Plaza Newark, N.J. 07101 201/430-8316

April 28, 1983

Mr. James M. Allen, Acting Administrator
U. S. Nuclear Regulatory Commission
Office of Inspection and Enforcement
Region I
631 Park Avenue
King of Prussia, Pennsylvania 19406

Dear Mr. Allen:

SIGNIFICANT CONSTRUCTION DEFICIENCY
SCRIBED LINES ON PIPE CIRCUMFERENCE
HOPE CREEK GENERATING STATION

On January 24, 1983, a verbal report was made to Region I, Office of Inspection and Enforcement representative, Mr. L. Tripp, advising of a potentially significant construction deficiency concerning lines scribed on small bore piping used in gauging socket weld locations. On February 24, 1983, an interim report was sent to your office. The following information is provided in accordance with the requirements of 10CFR50.55(e).

Description of the Problem

Bechtel construction procedures require that a circumferential line be scribed adjacent to socket welds on small bore pipe. The scribed line may be made by any permanent method that will not result in sharp discontinuities. On January 24, 1983, it was reported that scribed lines on small bore pipe had been made with a tubing cutter, resulting in sharp discontinuities and possibly violating the minimum wall thickness.

Analysis of Safety Implications

An Engineering assessment was performed of nineteen scribed lines determined to be rejectable in accordance with the specification

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requirements. In each case, the depth of the scribe line and resulting wall thickness did not violate the ASME Code minimum wall thickness required for design pressure and temperature. To evaluate the effect of the scribe lines on ASME III, Section NC 3652 allowable stress equations, a stress concentration factor was calculated to account for the sharp discontinuity of the scribe marking. The calculations showed that all of the nineteen cases evaluated were within the faulted stress limits for all load combinations. However, stress in five of the nineteen cases, due to upset loads, exceeded the specified Code allowables. A long term exposure to this condition could have resulted in failure of piping due to fatigue.

Based on the above analysis, it has been determined that if this condition of sharp discontinuity in the pipe had gone uncorrected, potential long term damage to plant systems could have occurred, adversely affecting safe operation of the plant.

Therefore, this condition is considered reportable in accordance with 10CFR50.55(e).

Corrective Action

A Nonconformance Report (NCR-1939) was initiated to control the hardware discrepancies. In accordance with the NCR disposition, sharp discontinuities are being repaired or reworked by replacing the affected section of pipe, by blending out the scribe line or by welding. Completion of repairs and NDE is expected by May 30, 1983.

An evaluation of existing construction programs and procedures determined that instructions for proper scribing were inadequate. A memorandum was issued to field personnel describing acceptable methods of scribing, in order to meet specification and General Welding Standard requirements. In addition, General Welding Standards GWS-SN-8, GWS-FM-9 and GWS-DM-9 have been revised to include recommended tools and prohibit the use of tubing or pipe cutting tools and hacksaws for scribing lines on small bore pipe and fittings.

Also, Quality Control revised Project Quality Control Instruction W-1.00 to include verification that scribe lines were applied by approved methods that have not caused sharp notches in the pipe

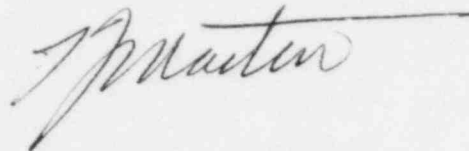
Mr. James M. Allen

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or fitting. These instructions were incorporated in Revision 13, dated January 31, 1983.

Very truly yours,

A handwritten signature in cursive script, appearing to read "J. M. Allen", with a horizontal line extending from the end of the signature.

cc: Office of Inspection and Enforcement
Division of Reactor Construction Inspection
Washington, D. C.

NRC Resident Inspector - Hope Creek
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