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MURRAY R. EDELMAN
VICE PRESIDENT
NUCLEAR

August 31, 1983

Mr. James G. Keppler
Regional Administrator, Region III
Office of Inspection and Enforcement
U.S. Nuclear Regulatory Commission
799 Roosevelt Road
Glen Ellyn, Illinois 60137

RF: Perry Nuclear Power Plant
Docket Nos. 50-440; 50-441
Borg-Warner Valve Radiographs
[RDC 73(83)]

Dear Mr. Keppler:

This letter serves as the final report pursuant to 10CFR50.55(e) on the significant deficiency concerning Borg-Warner valve radiographs relative to the penetrameter images. Mr. P. R. Pelke of your office was notified on April 11, 1983, by Mr. E. Riley of The Cleveland Electric Illuminating Company (CEI) that this problem was being evaluated. Our subsequent correspondence on this subject was dated June 10, 1983, and July 11, 1983.

This report contains a description of the deficiency, an analysis of safety implication, and the corrective action taken.

Description of Deficiency

A review of radiographs of Borg-Warner Corp. valve weld end preparations at the Perry site revealed that numerous radiographs exhibit sensitivity and density variations within the penetrameter images which were unexplained and not reproducible utilizing the reported technique. Subsequent to the identification by CEI, the Borg-Warner Corporation filed a 10CFR21 report on April 15, 1983.

Analysis of Safety Implication

A significant deficiency existed in the form of a Borg-Warner QA programmatic breakdown. No hardware deficiencies resulted from this programmatic breakdown.

Corrective Action

A 100% review was performed on all Borg-Warner ASME Section III safety class 1 & 2 valve end prep radiographs for valves which required radiography. The results of this review identified radiographs for 217 valves having penetrameter problems at the PNPP site as listed below:

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1/0

Problem	No. of Valves
Penetrameter Anomaly	186
Wrong Size Penetrameter	12
Both Above Problems	2
Radiographed as cast w/wrong size penetrameter	17

Seventy-five of these valves were installed in Unit 1. The balance were either in the warehouse or in the field uninstalled. Nonconformance Report TAS 034 was issued to document these problems.

A meeting was held on May 4, 1983, to discuss the results of this review. Representatives from CEI, the Borg-Warner Nuclear Valve Division (NVD), the U.S. Nuclear Regulatory Commission, Magnaflux Quality Services and the CEI Authorized Inspection Agency (AIA) were in attendance. As a result of this meeting, it was determined that a sample size of 44 of the affected 217 valves would be re-radiographed to determine the acceptability of the valves, and to assure that the Borg-Warner radiographs are representative of the valves in question. Magnaflux Quality Services, Perry Nuclear Power Plant, Perry, Ohio, was selected to perform the radiography in accordance with Borg-Warner NVD Procedure NPB 6-5, Rev. N, with attachment 10.

The 44 valves, of various sizes, types and pressure classes, were radiographed by Magnaflux. The radiographs were reviewed for acceptability and compared to the Borg-Warner radiographs, to verify that the Borg-Warner radiographs and the Magnaflux radiographs, were of the same valves. Positive identification was established for 37 valves because of unique indications on or in the valves. There were 5 valves which could not be positively identified because there were no distinguishing indications on or in the valves. There is no reason to believe the radiographs are not of the same valves. There are 2 valves that the radiographs do not match on. These are valve assemblies S/N 77821 and S/N 56484, and an evaluation of this problem has been documented in accordance with our program.

After completion of the radiograph verification program outlined above, a second meeting was held on July 12, 1983, to identify what changes are needed to the supplied documentation packages. Representatives of Borg-Warner Nuclear Valve Division, CEI, U.S. Nuclear Regulatory Commission (NRC), National Board of Boiler Pressure Vessel Inspectors, Magnaflux Quality Services, CEI AIA and Borg-Warner AIA were in attendance. It was determined that Borg-Warner would utilize the NR-1 Code Data form and their ANI would recertify the 217 valves with the radiographic problems based on their Authorized Inspection Agency's 100% review of the 44 valve radiographs. In addition, a letter will be inserted in each valve data package giving full explanation of the Borg-Warner valve radiograph problem and the final resolution. This is currently being worked on by Borg-Warner and should be completed by September 30, 1983.

It was also reported in this meeting that radiographs could not be located for 2 Borg-Warner valves, S/N 57289 and 57290, which was documented on NR's #TAS 0051 and TAS 0052. The radiographs have recently been located at Perry Nuclear Power Plant and the NRs will be closed accordingly.

Project Organization at Perry Nuclear Power Plant has determined that the Magnaflux radiographs show that adequate sensitivity was present in the original Borg-Warner radiographs to determine that a hardware problem does not exist. Based on the 44 valve samples radiographed by Magnaflux, the review and comparison of installation radiographs and Ultrasonic examinations performed on installation welds of PSI/ISI involved valves, the valves will be dispositioned acceptable and NR #TAS 0034, will be closed accordingly. Any new discrepancies will be documented on new NRs on a case-by-case basis.

Please call if there are additional questions.

Sincerely,

Cyril M. Shuster for

Murray R. Edelman
Vice President
Nuclear Group

MRE:pab

cc: Mr. M. L. Gildner
NRC Site Office

Director
Office of Inspection and Enforcement
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

U.S. Nuclear Regulatory Commission
c/o Document Management Branch
Washington, D.C. 20555

Records Center, SEE-IN
Institute of Nuclear Power Operations
1100 Circle 75 Parkway, Suite 1500
Atlanta, Georgia 30339