



THE CLEVELAND ELECTRIC ILLUMINATING COMPANY

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December 4, 1984

MURRAY R. EDELMAN

VICE PRESIDENT

NUCLEAR

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

RE: Perry Nuclear Power Plant
Docket Nos. 50-440; 50-441
Instrumentation 2:1 Fillet Welds
[RDC 110(84)]

Dear Mr. Keppler:

This letter serves as the final report pursuant to 10CFR50.55(e) concerning concave 2:1 unequal leg fillet welds installed in Unit #1 Reactor Building by our Instrumentation and Controls contractor, Johnson Controls, Inc. Mr. R. Knop of your office was first notified on July 18, 1984, by Mr. E. Riley of The Cleveland Electric Illuminating Company (CEI) that this problem was being evaluated. Our interim report was filed August 17, 1984.

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

Description of Deficiency

Field inspection indicated that in some cases the 2:1 unequal leg fillet welds installed by Johnson Controls, Inc., (JCI) on 2", 3/4" and 1/2" instrument piping/tubing in Unit #1 Reactor Building (specifically inside Drywell and outside Drywell below the 620 ft. elevation) did not meet design requirements as specified on Gilbert/Commonwealth, Inc., (G/C Inc.) drawings. This work has not begun on Unit #2.

Analysis of Safety Implication

Based on G/C Inc. design, it can be postulated that the deficient welds could result in an unacceptably high Stress Intensification Factor (SIF) at the transition from the toe of the weld to the pipe/tubing. The resulting overstress condition could potentially cause cracking at the toe of the fillet weld and eventual failure of the safety-related Instrumentation and Control System.

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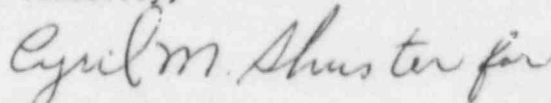
Corrective Action Taken

Indoctrination and training was given to all Johnson Control (JCI) welders and QA/QC personnel on the acceptance criteria for 2:1 unequal leg fillet welds. JCI QC reinspected all installed 2:1 fillet welds and reported the condition (leg sizes, actual profile) of each weld via Nonconformance Reports (NRs). Engineering evaluated the inspection reports attached to the NRs and reanalyzed the pipe to determine which welds were acceptable as is and which required rework. All NRs issued as a result of this deficiency are now closed.

Johnson Controls procedure QAS 1001, "Visual Inspection", was revised to include detailed acceptance criteria for 2:1 fillet welds. Construction Quality Section is monitoring new installations. Those made after indoctrination and training was given have been found acceptable.

Please call if there are any questions.

Sincerely,



Murray R. Edelman
Vice President
Nuclear Group

MRE:pab

cc: Mr. J. A. Grobe
USNRC, Site Office

Mr. D. E. Keating
USNRC, Site Office

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