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Dalwyn R. Davidson
VICE PRESIDENT
SYSTEM ENGINEERING AND CONSTRUCTION

December 3, 1980

Mr. James G. Keppler
Director of 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
Interim Report on Degradation
of Fuel Pool Penetration
Piping (G-41 System)

Dear Mr. Keppler:

This letter serves as an Interim Report as required by 10CFR50.55(e) concerning the degradation of the G-41 System, fuel pool penetration piping. This was first reported by W. J. Kacer of the Cleveland Electric Illuminating Company to J. Konklin of your office on November 3, 1980.

This report includes a description of the deficiency, a statement of possible safety implications, and the corrective action taken to date.

Description of Deficiency

While performing additional investigation to determine acceptability and provide adequate justification to a proposed "Use As Is" disposition to NCR's 53-182 and 53-204, the following deficiency was identified.

During the process of making the attachment welds between the fuel pool liner and leak chase to the G-41 System (fuel pool cooling and clean-up), there was an apparent misapplication of the welding procedure. This resulted in an excessive heat input to the pipe material (SA 312-304 stainless steel) causing an oxidation and expulsion of base material from the inside diameter of the pipe. This resulted in a thinning of the pipe wall to varying degrees. In one identified area, there is a cavity approximately .125 inches deep in a pipe with a nominal wall of .165 inches.

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Statement of Possible Safety Implications

This piping system is designated ASME Section III, Class 3. The deficiency is limited to the penetration piping to the lower pools located in the fuel handling area of the Intermediate Building. This system has a design pressure of 150 psig and operating temperature of 127°F (below 150°F when larger than average amounts of spent fuel are stored in the pool). The affected piping had been hydrostatically tested at 187.5 psig and accepted. The material specifications for SA 312 material requires minimum wall at any point shall not be more than 12.5 percent under the nominal wall thickness specified. This deficiency would have gone undetected had it not been for the additional, more restrictive inspections requested to provide adequate basis for a "Use As Is" disposition to two Nonconformance Reports which document a software deficiency.

Corrective Action Taken to Date

The Construction Quality Engineering Unit has initiated Nonconformance Report CQA-178 documenting known deficiencies in two penetrations and the indeterminate status of twenty-four additional assemblies. This NCR has been dispositioned, directing the contractor responsible for the deficiency to investigate and fully identify the problem. He is also to provide a recommended disposition based on metallurgical sampling.

Evaluation of the proposed disposition to assure system reliability and safety will be completed and a final report submitted by March 1, 1981.

Very truly yours,

Dalwyn R. Davidson

Dalwyn R. Davidson
Vice President
System Engineering and Construction

ksz

cc: J. Hughes
U.S. NRC -- Site

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