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Dalwyn R. Davidson
VICE PRESIDENT
SYSTEM ENGINEERING AND CONSTRUCTION

November 15, 1982

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
Revised Final Report - Nonsafety
Sensing Lines on Safety-Related
Receiver Tanks [RDC 30(81)]

Dear Mr. Keppler:

This letter serves as a revised final report pursuant to 10CFR50.55(e) concerning safety-related receiver tanks for the Standby Diesel Generator Starting Air System being connected to nonsafety-related sensing lines through normally open, safety-related valves for both Units I and II. This was first reported by W. J. Kacer of The Cleveland Electric Illuminating Company to R. Warnick of your office on June 12, 1981. A final report on this subject was originally submitted to your office on July 13, 1981.

This report includes a description of the deficiency, an analysis of the safety implication, and a revision to the planned corrective action outlined in our report dated July 13, 1981.

Description of Deficiency

Gilbert Associates, Incorporated (Architect/Engineer for the Perry Nuclear Power Plant) design drawings D302-351 and D352-351, outline the piping system for the Standby Diesel Generator Starting Air System (R-44 System). The design incorporates two air receiver tanks and starting air compressors per diesel generator. Each receiver tank is equipped with an air sensing line which automatically starts its corresponding air compressor on low pressure. The air sensing line includes a manually operated isolation valve. The tank, the manual isolation valve, and the sensing line up to and including a reducer located downstream of the manual isolation valve are designed safety-related. The remaining portion of the sensing line is designed as nonsafety-related.

Analysis of Safety Implications

Failure of the nonsafety portion of the sensing line during a seismic event would result in blowdown through the sensing line of the receiver tank. There is no assurance with this design that the isolation valve could be manually closed in sufficient time to prevent blowdown of the tank below the minimum required pressure. Therefore, with these assumptions, the failure of the nonsafety line would impair the starting air safety function.

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Corrective Action Planned

In our final report dated July 13, 1981, we stated that the existing isolation valves would be replaced with automatic isolation valves. After further study, this fix has been revised for reasons of reliability. The final corrective action will instead make use of an orifice. The orifice will be installed between the manual isolation valve and the reducer in the safety-related portion of the sensing line to limit the rate of blowdown from the receiver tank in the event of a break in the nonsafety portion of the sensing line. By means of the Control Room Low Header Pressure Alarm, the operator is now given 30 minutes to isolate the receiver tank before the tank air pressure falls below the minimum limit sufficient for 5 diesel engine cranking cycles. The referenced design drawings have been revised to incorporate the orifice.

The design activities have been completed. If you have any questions, do not hesitate to contact us.

Sincerely,

Ronald L. Fanelli/for

Dalwyn R. Davidson
Vice President
System Engineering and Construction

DRD:pab

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

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