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November 21, 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
Bracket Nos. 50-440; 50-441
Safety Relief Valves Supplied
by the General Electric Company
[RDC 76(83)]

Dear Mr. Keppler:

This letter serves as a final report pursuant to 10CFR50.55(e) on the significant deficiency concerning the actuators on Safety Relief Valves (SRV) supplied by General Electric Company (GE) to the Perry Nuclear Power Plant (PNPP). Mr. E. Riley of The Cleveland Electric Illuminating Company notified Mr. P. Pelke of your office of the potential significant deficiency on June 30, 1983. Previous correspondence on this subject was submitted July 29, 1983, and May 15, 1984.

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

Description of Deficiency

During equipment qualification testing to NUREG 0588, several seals manufactured of Viton E60C material and located in the pneumatic actuators of the SRVs failed due to high radiation exposure. In addition, during Loss of Coolant Accident (LOCA) testing following replacement of the seals, the solenoid of the actuator failed due to shorting caused by steam intrusion. General Electric has furnished 57 SRVs to PNPP which are affected by this problem.

Analysis of Safety Implications

A failure of the actuator for either of these reasons would render the SRV inoperative for Automatic Depressurization System (ADS) functions. Without the proper function of the ADS mode of the SRV, reactor pressure could not be lowered enough to allow use of the Low Pressure Core Spray System and possibly other Emergency Core Cooling Systems designed for low pressure use.

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It should be noted that the mechanical safety relief function of the valve during a system high pressure event would not have been impaired by an actuator failure.

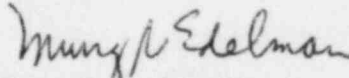
Corrective Actions

Relative to equipment qualification testing, the seals in the actuator used for testing were replaced with EPDM seals and the lubrication was changed to "Super-O-Lube". The SRV was then successfully retested to NUREG 0588, except for the solenoid problem identified during LOCA testing. No further anomalies occurred concerning the actuator seals after their replacement. The solenoid was replaced with a hermetically sealed design which will prevent steam intrusion and retesting is in process. This retesting will be completed by June 1, 1985.

Nonconformance Report. OPQC-0448, OPQC-0668 and OPQC-0669 were initiated for the Unit 1, Unit 2, and spare SRVs respectively. General Electric has initiated FDI 139-82411 to implement the changes described above for the Unit 1 and spare SRV actuators. By June 1, 1985, all actions necessary for resolution of this significant deficiency relative to Unit 1 will be completed. Completion of the Unit 2 repair will be consistent with the Unit 2 construction schedule prior to turnover of the affected systems.

Please call if there are any questions.

Sincerely,



Murray R. Edelman
Vice President
Nuclear Group

MRE:pab

cc: Mr. J. A. Grobe
NRC Site Office

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