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November 30, 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
Borg-Warner 20 Inch Gate Valve
[RDC 121(84)]

Dear Mr. Keppler:

This letter serves as our interim report pursuant to 10CFR50.55(e) relative to the failure of a Borg-Warner Gate Valve to properly operate. Mr. Frank Jablonski of your office was notified on October 31, 1984, by Mr. R. G. Solt of The Cleveland Electric Illuminating Company (CEI) that this problem was being evaluated per our Deviation Analysis Report 213.

This report contains a description of the deficiency, the planned corrective action and the date for filing our next report on the subject.

Description of Deficiency

During reactor pressure vessel flushing operations, it was noted that a 20 inch ASME Class 1 gate valve, 1N27-F560A, manufactured by the Nuclear Valve Division of Borg-Warner would not fully open.

This valve was disassembled and reinspected to determine the cause of the failure to properly operate. The welded-in body gate guides were found to be damaged due to galling caused by the gate.

One additional 20 inch gate valve, 1N27-F560B, identical to the failed valve with regards to valve type and installation orientation was cycled twenty times satisfactorily and disassembled for internal inspection. The guides were found to be "cast-in" in lieu of the "weld-in" guides installed in the valve which failed. While there was some indication of gate rolling there was no apparent galling or guide damage.

Contributing causes for the failure of 1N27-F560A appear to be related to the following problems:

- Guide material is not as required by CEI Procurement Specification 521-02 or as indicated on Borg-Warner Fluid controls assembly drawing 81040-2.

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- . A Borg-Warner design error allowed the guides to be welded in a position which creates a misalignment between the gate and the body guide rails.

Subsequent to our identification of this problem, on November 21, 1984, Borg-Warner filed a 10CFR21 report. In this notification they also stated that during their analysis of valve 1N27-560A, it was discovered that a second design problem existed. The fillet weld for welding in the guides to the body is not adequate for any valve which might be subjected to a differential pressure in excess of 600 psi during cycling of the valve. They further stated that review of the CEI valve data sheets indicated that four (4) valves would be subjected to a differential pressure above the 600 psi range.

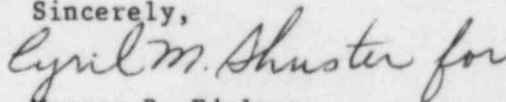
Corrective Action

CEI has contracted with an ASME Certified valve service company who has replaced the discrepant gate guide and corrected the alignment problems associated with valve 1N27-F560A. The gate guides were also replaced in valve 1N27-F560B in the interest of long-term reliability.

CEI is investigating the applications of Borg-Warner gate valves elsewhere in the Perry design in order to address the broader implications of these material, workmanship, and design problems. Borg-Warner has also been directed to address these implications. In addition, Borg-Warner has been directed to address the cause, extent, and resolution of the fillet weld concern. CEI is presently awaiting Borg-Warner's response to these directives prior to formulation and implementation of a comprehensive resolution. Our final report on this subject will be submitted by March 15, 1985.

Please call if there are any additional 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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