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May 25, 1984
EF2-68,206

Director of Nuclear Reactor Regulation
Attention: Mr. B. J. Youngblood, Chief
Licensing Branch No. 1
Division of Licensing
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Dear Mr. Youngblood:

- References:
- (1) Fermi-2
NRC Docket No. 50-341
 - (2) Letter B. J. Youngblood to W. H. Jens,
"Request for Additional Information
for the Fermi 2 Facility Regarding a
Postulated Failure of a HPCI Steam
Line Without Isolation", February 22,
1984

Subject: HPCI Steam Line Isolation Valve Integrity

Reference 2 identified an ACRS concern regarding a postulated HPCI steam line break coupled with the failure to close of both the inboard and outboard isolation valves. The letter requested Detroit Edison to provide information on HPCI-steam line isolation valves at Fermi 2.

Consistent with the solution proposed in the reference (2) letter, the Fermi 2 design presently requires the outboard isolation valve on the HPCI steam line to be maintained in the closed position. To permit rapid startup of the HPCI system, while minimizing thermal stresses on the piping, the HPCI steam line is kept hot by requiring both the inboard isolation valve and the (1-inch) bypass valve around the outboard isolation valve to be kept open.

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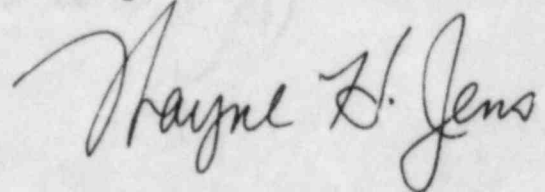
In response to an isolation signal due to a postulated break in the HPCI steam line downstream of the outboard isolation valve, both the 1" outboard valve and the 10" inboard valve would automatically close. Steam flow from this break would be limited by the 1" outboard bypass valve. Furthermore, reliability of this isolation system is enhanced by the diversity in size of the isolation valves and the fact that they must close only against the flowrate allowed by the 1" valve. Accordingly, testing to verify valve closure, under full-flow conditions, is not required.

The environmental effects of this postulated break in the steam tunnel, HPCI room, and torus room were conservatively calculated based on the valve alignment described, and it was found that the environmental qualification conditions for systems in the steam tunnel, torus room, and the corner rooms are bounded by other events. No other ECCS equipment would be adversely affected by a postulated break in the HPCI room. Finally, the probability of a HPCI steam line break during HPCI operation is considered to be negligible due to the limited operating time of this system and the fact that the steam line is preheated by the 1" bypass.

The preceding discussion should resolve the ACRS concern. The various purchase, design and testing documents specifically requested in Reference 2 are available for your review and audit at the Fermi 2 site.

If you have any questions regarding this issue, please contact Mr. O. Keener Earle at (313) 586-4211.

Sincerely,



cc: Mr. P. M. Byron
Mr. M. D. Lynch
USNRC, Document Control Desk
Washington, D.C. 20555