

April 4, 2001

MEMORANDUM TO: Ashok C. Thadani, Director
Office of Nuclear Regulatory Research

FROM: Michael E. Mayfield, Director /s/
Division of Engineering Technology

SUBJECT: CLOSEOUT OF GSI-152, "DESIGN BASIS FOR VALVES THAT MIGHT
BE SUBJECTED TO SIGNIFICANT BLOWDOWN LOADS"

The staff has completed the planned actions for resolution of Generic Safety Issue (GSI) 152, "Design Basis for Valves that Might be Subjected to Significant Blowdown Loads," and has concluded that no new or additional requirements are needed. Thus the issue is closed out. This GSI was identified in response to a concern raised by the ACRS, and focused on the adequacy of the design basis of valves. In particular, it raised questions with respect to whether valves were designed to operate under high energy line break conditions.

The conclusion to close this issue is based primarily upon activities that took place in association with the Generic Letter 89-10 program on motor operated valves. GL 89-10, "Safety-related Motor-Operated Valve Testing and Surveillance (Generic Letter No. 89-10) - 10 CFR 50.54(f)" was issued on June 28, 1989, and focused on the capability of safety-related MOVs to operate as designed. Although GL 89-10 did not specifically address the adequacy of the design bases and focused more on the ability of valves to function as designed, it did request the licensees to examine the design bases of the valves. During this examination, licensees were requested to consider the maximum differential pressure expected during both the opening and closing of the valves for both normal operation and abnormal events.

As the result of extensive industry involvement, which ranged from proof testing of valve closure to the development of new analytical methods, licensees verified the capability of safety-related MOVs to operate against the pressure difference generated by a full diameter break within their design bases. NRC inspections confirmed that these MOVs were capable of closing under this pressure differential. The industry has initiatives underway to review the capability of high-risk valves operated by other types of actuators. In addition, the staff reviewed limited docketed information to verify that pertinent safety significant high energy isolation valves were addressed. This review did not identify any additional valves that needed to be considered.

Ashok C. Thadani

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On February 1, 2001, the staff met with the ACRS and presented the proposed resolution of this issue (Attachment 1). The ACRS reviewed and accepted the proposed resolution (Attachment 2).

If you have any questions or comments on the issue, please contact Owen Gormley of my staff at 415-6793.

Attachments: As stated

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