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Docket No. 50-346

License No. NPF-3

Serial No. 1-754

September 18, 1987

United States Nuclear Regulatory Commission
Document Control Desk
Washington, D. C. 20555

Subject: IE Bulletin 85-03, Request for Additional Information

Gentlemen:

Attached is the additional information requested by NRC letter dated August 11, 1987 (Log No. 1-1646) concerning Toledo Edison's response to Action Item e of IE Bulletin 85-03. Toledo Edison provided an initial response to IE Bulletin 85-03 by letter dated May 15, 1986 (Serial No. 1-637) and a final response by letter dated February 25, 1987 (Serial No. 1-705).

Very truly yours,

A handwritten signature in dark ink, appearing to read 'D. Shelton'.

BS:plg

cc: DB-1 NRC Resident Inspector
A. B. Davis, Regional Administrator (2 copies)
R. J. Kiessel, NRC/NRR
A. W. DeAgazio, NRC/NRR
C. E. Norelius, Director, Division of Reactor Projects

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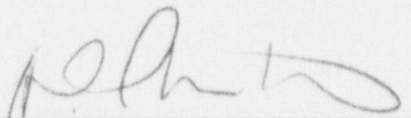
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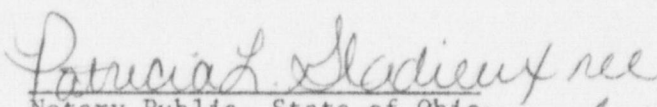
ATOMIC ENERGY ACT OF 1954
SECTION 182a
SUBMITTAL IN RESPONSE
FOR THE
DAVIS-BESSE NUCLEAR POWER STATION
UNIT NO. 1
FACILITY OPERATING LICENSE NO. NPF-3

This letter is submitted in conformance with the Atomic Energy Act of 1954 Section 182a in response to IE Bulletin 85-03 request for additional information (Log No. 1-1646) dated August 11, 1987. This deals with motor-operated valve common mode failures during plant transients due to improper switch settings.

By


D. C. Shelton
Vice President, Nuclear

Sworn to and subscribed before me this 18th day of September, 1987.


Notary Public, State of Ohio
Patricia L. Gladieux
My Commission Expires 5/18/91

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REQUEST FOR ADDITIONAL INFORMATION CONCERNING

TOLEDO EDISON'S RESPONSE TO ACTION ITEM E OF IE BULLETIN 85-03

The information requested by the subject Request for Additional Information (RAI) letter is provided below. The RAI questions are reiterated followed by Toledo Edison's (TED's) response.

NRC Question 1:

Unlisted MOVs CF-1A and CF-1B in discharge lines of the core flooding tank safety injection system are shown normally open on FSAR Figure 6.3-1, Revision 4, July 1986. The possible problem that the system would be inoperable if the MOVs were left closed inadvertently should be addressed. Based on the assumption of inadvertent equipment operations as required by Action Item a of the bulletin, revise the table of results of Action Item a in the response of May 15, 1986 to include these valves.

Response to Question 1:

Actions for All of Holders Operating Licenses Or Construction Permits of IE Bulletin 85-03 indicates that it applies to motor operated valves in the high pressure coolant injection/core spray and emergency feedwater systems. At Davis-Besse, CF-1A and CF-1B are in the core flood system and as such were not included in Toledo Edison's response to IE Bulletin 85-03. Toledo Edison's response addressed high pressure coolant injection and auxiliary feedwater systems.

As these valves do not fall within the criteria for selection under IE Bulletin 85-03, Action Item a does not apply. However, these valves were not ignored. CF-1A and CF-1B, and all other valves important to safety at Davis-Besse, are included in our motor operated valve reliability improvement program. This program envelopes all IE Bulletin 85-03 requirements including design differential pressure review with consideration given to the possibility of inadvertent operator actions.

NRC Question 2:

Differential pressures for safety injection valves HP2A through HP2D have been compared with those listed for equivalent MOVs at three other B&W facilities. This comparison indicates that the delta- P_s for Davis-Besse should be about 1.60 greater for closing, and about 1.23 times greater for opening. Please justify or correct this apparent discrepancy.

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Response to Question 2:

The apparent discrepancy stems from the differences in installed equipment and plant design between nuclear steam supply systems supplied by B&W. Davis-Besse has high pressure injection pumps whose shutoff head, by design, is 3900 feet. Other B&W plants have HPI pumps with a shutoff head of 6700 feet. (This information was supplied by B&W from acceptance test results.)

The apparent discrepancy is actually the difference in plant design being accurately reflected in the differential pressure calculations for the motor-operated valves encompassed by IE Bulletin 85-03.

NRC Question 3:

Has water hammer due to valve closure been considered in determination of pressure differentials? If not, please explain.

Response to Question 3:

Water hammer has been considered in differential pressure calculations for motor-operated valves at Davis-Besse using calculational methods from Lyon's Valve Designers Handbook. MOVs most likely to have differential pressure calculations affected by water hammer were examined. Using the most conservative assumptions (i.e. no damping effect due to bends, etc.), Toledo Edison's fastest operating (worst-case) valves exhibited no significant increase in differential pressures due to water hammer effects.

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