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Certified By L. E. Speder



Docket No. 50-346

License No. NPF-3

Serial No. 1-558

July 29, 1985

Mr. James G. Keppler, Regional Administrator
United States Nuclear Regulatory Commission
Region III
799 Roosevelt Road
Glen Ellyn, Illinois 60137

Dear Mr. Keppler:

Subject: 10 CFR Part 21 Report
Torrey Pines Technology Limitorque Setting Procedure

This letter is to serve as a notification of a 10 CFR Part 21 defect which was identified by the Toledo Edison Company on July 24, 1985. This letter confirms a conversation between your Messrs. Nick Jackiw and Bruce Burgess and Toledo Edison's Messrs. Steve Wideman and Jan Stotz on July 25, 1985.

Toledo Edison used a bypass limit switch setting procedure prepared by Torrey Pines Technology for Davis-Besse Limitorque motor operated valves. Investigation of the problems of the June 9, 1985, event determined that an error existed in the Torrey Pines bypass limit switch setting procedure and significantly contributed to the Limitorque valve operator torquing out.

The procedure for setting the bypass limit switch with the valve and limit switch closed said to rotate the handwheel in the open direction until the coast and backlash is taken up, and then continue opening until the valve was 0.5% of a full stroke open. For gate and globe valves, the number was 2.5%, and for gate and globe valves greater than four inches, the number is 5.0% of full stroke open. The defect in the procedure is that the 0.5%, 2.5%, or 5.0% was to be an additional amount beyond what it took to remove the coast and backlash.

As an example, a 6 inch gate valve requiring 170 turns for a full stroke would require almost 8 turns to get the coast and backlash out after the valve had been closed. Per procedure, the bypass limit switch should be set to cut the torque switch back in at the $8\frac{1}{2}$ turn position, only a half turn extra. But in fact, the intent was that the bypass limit switch should be set at $8\frac{1}{2}$ turns beyond the 8 turns for a total of $16\frac{1}{2}$ turns of full stroke open. Therefore, the procedure should have referenced gate or

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Docket No. 50-346
License No. NPF-3
Serial No. 1-558
July 29, 1985
Page 2

disk motion instead of stem motion. As a result of testing the Auxiliary Feedwater Isolation Valves AF599 and AF608, it was found that 5% of full stroke travel was not adequate for unseating these valves, especially when they were experiencing a large differential pressure across their seat. Based on Toledo Edison test results, the torque switch will be bypassed for 20% of valve stem travel. This includes coast and backlash.

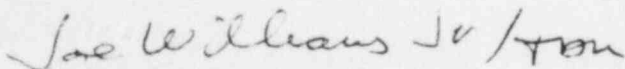
Toledo Edison intends to modify its bypass limit switch setting procedure accordingly. In addition, the open torque switch setting will also be increased to the maximum allowable value to insure valves will not torque out during unseating.

Toledo Edison will review the setting of all its nuclear safety related Limitorque operated valves that were set using information from the Torrey Pines procedure. The review and resetting will be completed before starting from the present outage.

Based on discussions with Torrey Pines Technology, similar work has been completed for Fort St. Vrain in Colorado. The extent of implementation of information concerning our report is unknown. It is our understanding that other similar work is under contract but not yet released to utility clients. Although Torrey Pines has not been a source of this information to others, Toledo Edison has reason to believe that a bypass setting in the 3 to 10% range is a standard used by many utilities.

This report satisfies the requirement for written notification within five days of determination of a defect. Additional information will be provided in a 30 day Licensee Event Report (LER), which will be provided per 10CFR50.73.

Very truly yours,



Joe Williams, Jr.
Senior Vice President, Nuclear

JW/JCS/ljk

cc: DB-1 NRC Resident Inspector

USNRC Document Control Desk
Washington, D. C.