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TOLEDO EDISON

DONALD C. SHELTON
Vice President—Nuclear
(419) 249-2399

Docket No. 50-346

License No. NPF-3

Serial No. 1-714

April 27, 1987

Mr. A. B. Davis, Acting Regional Administrator
United States Nuclear Regulatory Commission
Region III
799 Roosevelt Road
Glen Ellyn, IL 60137

Dear Mr. Davis:

This letter is provided to report the conclusions of our 10CFR21 reportability determination concerning gate valves manufactured by the Velan Valve Company made to Mr. P. Wohld of your staff on October 31, 1986. The unresolved concern, as discussed in Serial No. 1-680, dated November 5, 1986, was initially thought to be the use of an incorrect equation for predicting the thrust required to close valves AF-599 and AF-608. Toledo Edison has determined that this condition does not constitute a 10CFR21 reportable condition.

As discussed in Serial No. 1-680, Toledo Edison was evaluating a potential 10CFR21 defect regarding Motor Operated Valves (MOVs) concerning the difference between the results of calculations provided by the valve vendor and the actual required thrust to open and close the valves under test conditions simulating design differential pressure and flow.

The factors used in the equation had been received from Velan for this motor/valve combination (AF-599, AF-608), and a recommended thrust value required to operate the valve had been calculated by Toledo Edison Engineering. The torque switches were set according to this value, and the valves were tested to establish the validity of the calculated thrust value.

The test results indicated that AF-599 would not completely close with the calculated torque switch settings. However, AF-599 and AF-608 did close sufficiently during testing at the calculated settings to reduce leakage past the valve to less than an estimated 100 gpm, thereby, preventing a condition which could be a substantial safety hazard (overcooling transient or containment overpressurization). The information provided by the vendor did not and could not take into consideration the uniqueness of AF-599 and AF-608 created during the installed life of the valves including possible wear present in the particular valves, AF-599 and AF-608. The information provided by the vendor is based on the valve/motor setup of a new valve.

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Toledo Edison has evaluated the results of full-flow differential pressure tests on the tested MOVs. The full-flow differential pressure test results indicate, under worst-case differential pressure and flow conditions, the actual required stem thrust for AF-599 and AF-608 were higher than expected based on the standard calculations used to predict stem thrust for the MOVs. However, the balance of the testing confirmed the standard calculations predict the thrust needed to operate all other tested valves.

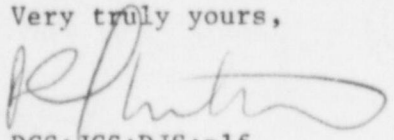
Further testing of AF-599 and AF-608 was conducted at higher torque switch settings which verified that the valves would operate at design conditions.

Although a definitive root cause determination has not been made for AF-599 and AF-608 not operating as initially predicted, the impact of the increased torque switch settings was evaluated for the overall MOVATS program and a conservative approach was adopted. As a result of this evaluation, the thrust margins (torque switch settings) were increased in the closed direction.

As discussed in Serial No. 1357, Motor Operated Valve Reliability Improvement Program final report, the evaluation of AF-599 and AF-608 having actual required stem closing thrust greater than the calculated thrust is still ongoing, and no final conclusions are available at this time. However, our overall conclusion is that the standard vendor formula for calculation of thrust is conservative and the values obtained in testing of AF-599 and AF-608 are unique and limited to these two valves.

Based on the above, Toledo Edison does not believe that the information supplied by the vendor could create a substantial safety hazard and therefore is not reportable under 10CFR21. A description of the test conducted for AF-599 and AF-608, a summary of the results, and the effect on the overall MOV testing program is included in our final report on MOV testing at Davis-Besse, Serial No. 1357, dated April 22, 1987.

Very truly yours,



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cc: DB-1 NRC Resident Inspector
Director of Office of Inspection and Enforcement