

16. 1977

Docket No. 50-346

Serial No. 401

Vice President  
Regulatory Administration  
14151 258-5242

77-018-000

Mr. James G. Kappler  
Regional Director, Region III  
Office of Inspection & Enforcement  
U.S. Nuclear Regulatory Commission  
799 Roosevelt Road  
Glen Ellyn, Illinois 60137

POOR  
ORIGINAL

Dear Mr. Kappler:

In accordance with 10CFR Part 21.21(b), this is a report of a defect in a component installed in the Davis-Besse Nuclear Power Station Unit No. 1. The component involved is the auxiliary feed pump turbine.

The auxiliary feed pumps were supplied by Byron Jackson Pump Division. The steam-driven pump turbines were supplied by Terry Corporation to Byron Jackson. In turn, the turbine governors were supplied to Terry Corporation by Woodward Governor Company. The turbine is designated as a Type GS-2, horizontal split casing, helical flow turbine. The turbine governor is identified as a Type PG-PL.

The defect involves the potential for the governing valve to close when it should be open while the turbine is not in service. On October 16, 1977, the governing valve on turbine 1-2 was found in the closed position when it should have been open. Apparently, excessive vibration of an adjacent startup feed pump caused the governing valve on auxiliary feed pump turbine 1-2 to close. The safety hazard which could be created is the potential for both auxiliary feed pumps, if called upon, to fail to come up to desired speed upon startup in the event both had been unknowingly exposed to vibrations of the nature experienced by turbine 1-2. This could result in a complete loss of auxiliary feedwater flow to the steam generators if such flow were required. This in turn could cause significant reactor coolant system pressure/temperature transients, and reactor coolant system heat removal difficulties if substantial decay heat were present in the reactor core.

On November 10, 1977, the deviation was evaluated by Toledo Edison to be a defect. This matter was reported to your Mr. T. Tambling on November 14 and again on November 14.

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THE TOLEDO EDISON COMPANY EDISON PLAZA 300 MADISON AVENUE TOLEDO, OHIO 43160

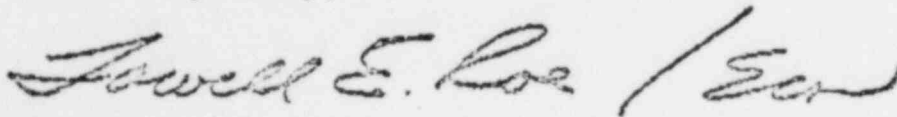
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There are two identical auxiliary feed pumps with this turbine installed in Davis-Besse Unit No. 1, although only one was affected by the described incident.

The complete corrective action to be taken is to date not defined. The defect is under investigation by the turbine supplier, and corrective action is expected to be completed within two weeks. The corrective action already taken is that during all startup feed pump operations, an operator checks the position of the auxiliary feed pump turbine governing valves every 20 minutes to assure that the auxiliary feed pump turbine governing valves remain in the open position. Auxiliary feed pump turbine i-1 governor valve has not experienced a similar problem, because it is not adjacent to the startup feed pump. Control room indication is also available for the full open and the full closed governing valve positions.

This information has not been given to other licensees or purchasers.

Yours very truly,



Lowell E. Roe  
Vice President  
Facilities Development

db b/19-20

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