



**Commonwealth Edison**  
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BBS LTR. #32-76

January 14, 1976



Mr. James G. Keppler, Regional Director  
Directorate of Regulatory Operation-Region III  
U. S. Nuclear Regulatory Commission  
799 Roosevelt Road  
Glen Ellyn, Illinois 60137

SUBJECT: SUPPLEMENTAL REPORT TO LETTER DATED JUNE 25, 1975, ENTITLED  
"FAILURE OF VALVE MO-2-1301-2 TO OPERATE" (REPORT NO. 50-237/  
75-38)

References: 1) Report No. 50-237/75-38

2) Drawing 12E2507A

Report Number: 50-237/75-38A

Report Date: January 14, 1976

Facility: Dresden Nuclear Power Station, Morris, Illinois

#### INTRODUCTION

As reported in abnormal occurrence report 50-237/75-38, investigation continued on the operational failure of isolation condenser outboard steam supply valve MO 2-1301-2. Valve 1301-2 had been discovered with a bent stem during a high flow isolation valve surveillance.

#### DESIGNATION OF APPARENT CAUSE OF OCCURRENCE

The valve stem distortion was apparently caused by excessive cycling of the valve as described in the original report. The valve operator motor has been determined to be slightly oversized for the application (see corrective action). Given the motor size as well as the valve's relatively high speed of operation, it is considered probable that the valve stem experienced metal fatigue as a result of the multiple actuations.

#### CORRECTIVE ACTION

The valve operator and the torque and limit switches were disassembled and inspected by the maintenance department. No problems were indicated which could have caused failure of the valve stem.

A vendor representative was called in to examine the operator, valve, and torque switch assembly. He determined that an extra Belleville spring washer had been installed in the torque switch assembly at the factory.

Subsequent communication with the Limitorque Co. revealed that extra installed in torque switch assemblies to accommodate

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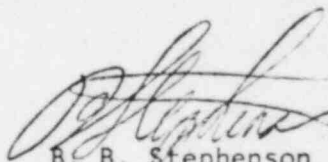
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varying valve dimensions and torque requirements. The belleville washer would have had no effect on valve operation. New Limitorque valves use a spacer instead of the belleville spring washer to compensate for differing applications.

Station personnel and the vendor representative noticed that the operator motor appeared to be oversized for the application. The Station Nuclear Engineering Department reviewed the problem and concurred with this observation. In the past, Limitorque apparently sized D.C. motors for valve operators on the assumption that torque varied with the square of the voltage. The correct approach is to use a more linear relationship which results in a smaller motor.

A modification has been issued to reduce the motor size on valve M0 1301-2 from 100 ft -lb to 80 ft -lb for both Units 2 and 3. This modification should prevent similar problems from recurring on these valves.

Sincerely,



B. B. Stephenson  
Superintendent

BBS:JSK:smp

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