

DK Central Files

IOWA ELECTRIC LIGHT AND POWER COMPANY

General Office
CEDAR RAPIDS, IOWA

March 18, 1974

C. W. SANDFORD
VICE PRESIDENT

IE-74-246

Dr. Donald F. Knuth
Directorate of Regulatory Operations
U. S. Atomic Energy Commission
Washington, D. C. 20036

50-331

Re: Duane Arnold Energy Center #1
Subject: LPCI Injection Valve Operator Clutch
File: Q-625

Dear Dr. Knuth:

This is to provide additional information regarding the LPCI valve operator coupling as reported to your Region III representative on Feb. 19, 1974.

Motor operator and valve assemblies MO 1904 and MO 2004 are the subject of this report. These are 20" normally open angle-globe valves in the RHR system.

During functional and preoperational testing of the valve/operator assemblies, a failure occurred in the spring loaded clutch mechanisms. The clutch was included in the original design to permit easy transfer between manual and motor-driven modes of operation. The failure involved the breakage of the clutch dogs, apparently as a result of impact of clutch dogs against each other. The motor operator manufacturer provided replacement clutch assemblies and technical consultation. Nevertheless, a comparable failure occurred in the replacement clutch assemblies. It was then decided to eliminate the clutch entirely and directly couple the motor to operator. This was a joint decision of the Architect-Engineer and Iowa Electric. The operator manufacturer concurred that the direct coupling would solve the matter.

Following installation of the direct couplings, both valve/operator assemblies were functionally tested to prove operability and valve closing time. The tests demonstrated the adequacy of the mechanism and its ability to satisfy operating requirements.

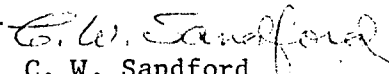
A/O

March 18, 1974

As a result of problems associated with the testing of the assembly, various parts of the valve/operator assembly were examined and/or replaced to assure the valve quality and integrity.

The globe valves in question are the outboard valves of a pair of isolation valves in each LPCI loop. The inboard valves are gate valves. Both valves in the loop are required to operate at the same time and receive the same signals. Therefore, if the outboard valve failed to operate, the inboard valve would function to perform the required isolation.

Very truly yours,


C. W. Sandford
Executive Vice President

CWS:ar

c.c. Mr. L. D. Root
Mr. J. A. Wallace
Mr. G. G. Hunt
Mr. J. N. Ward
Mr. G. A. Cook
Mr. J. R. Newman
Mr. L. E. Rosetta
Mr. J. G. Keppler