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 RECIP. NAME RECIPIENT AFFILIATION
 MURLEY, T.E. Office of Nuclear Reactor Regulation, Director (Post 870411)

SUBJECT: Requests for addl info, Suppl 3 to Generic Ltr 89-10,
 "Consideration of Results of NRC-Sponsored Test of Motor-
 Operated Valves."

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 TITLE: Response to Generic Ltr 89-10, "Safety-Related MOV Testing & Surveill

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Iowa Electric Light and Power Company

August 21, 1991
NG-91-2403

Dr. Thomas E. Murley, Director
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, D. C. 20555

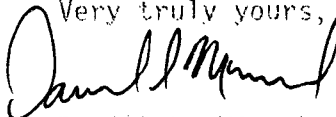
Subject: Duane Arnold Energy Center
Docket No. 50-331
Op. License No. DPR-49
Request for Additional Information
(Supplement 3 to GL 89-10)
Reference: 1) Letter, D. Mineck (IELP) to Dr. Murley (NRC),
dated March 11, 1991 (NG-91-0438)
2) Letter, C. Shiraki (NRC) to L. Liu (IELP),
dated July 17, 1991
File: A-106, A-101b, A-63b

Dear Dr. Murley:

In Reference 1, we submitted to the Staff our response to the 120-day reporting requirement of Supplement 3 to Generic Letter 89-10, "Consideration of the Results of NRC-Sponsored Tests of Motor-Operated Valves." During the NRC review of that submittal, the Staff requested that we provide additional information (Reference 2). The Attachment to this letter provides our response to that request. For convenience, the Staff's requests are repeated in the Attachment followed by our responses.

Please contact this office if you have any questions regarding this matter.

Very truly yours,



Daniel L. Mineck,
Manager, Nuclear Division

Attachment: Response to Request for Additional Information

cc: P. Bessette
R. McGaughy
L. Root
L. Liu
C. Shiraki (NRC-NRR)
NRC Resident Office
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RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

1. NRC REQUEST

Identify any modifications (e.g., torque switch setting adjustments, gearing changes, or motor/actuator replacement) for each MOV within the scope of Supplement 3 to GL 89-10 since June 1990 or planned for the future.

IOWA ELECTRIC'S RESPONSE

MOV actuator hardware modifications or changes to torque switch setting limits that were initiated since June 1990 which affect MOV design performance characteristics are listed in Table 1. Torque switch setting adjustments within established minimum and maximum limits are not considered modifications. Currently, there are no plans for further modifications to these MOVs.

2. NRC REQUEST

What practice is employed in thermal overload protection of MOVs?

IOWA ELECTRIC'S RESPONSE

The Regulatory Position described in Section C, Paragraph 2 of Regulatory Guide 1.106 (Revision 1) forms the basis of thermal overload protection of MOVs at the Duane Arnold Energy Center. Thermal overloads are in-force continuously and are sized to allow the MOV to complete its safety function.

3. NRC REQUEST

Has Limatorque been consulted on exceeding the published ratings of its SMB-00 actuator?

IOWA ELECTRIC'S RESPONSE

As described in Reference 1, the diagnostic test results for two of our SMB-00 actuators, MO-2400 and MO-2700, indicate that the maximum thrust delivered by the operators exceeds Limatorque's published ratings for SMB-00 actuators by 7% and 1%, respectively. Limatorque was contacted regarding these test results. Limatorque stated that the published ratings (for all actuator sizes) have a 10% margin to account for inertial loads. Accordingly, MO-2400 and MO-2700 are both within the allowed 10% thrust margin.

4. NRC REQUEST

How have you addressed the rate of loading phenomenon in MOV sizing and torque switch settings?

IOWA ELECTRIC'S RESPONSE

We do not specifically address the rate of loading (ROL) phenomenon in our MOV torque switch setting methodology. The ROL factor is not yet quantified or fully understood by the industry and we believe it would be imprudent to introduce an arbitrary thrust margin in advance of the results of the industry research effort. We have, however, performed successful design-basis differential pressure testing on certain MOVs. We believe these test results indicate that conservatisms already incorporated into the torque switch setting methodology envelope the effects of the ROL phenomenon. We will continue to follow closely the MOV research being performed by the industry and will re-evaluate the ROL issue further once sufficient data becomes available.

TABLE 1

VALVE I.D.	ACTUATOR MODIFICATIONS OR ADJUSTMENTS	NOTES
MO-2238	The minimum closing torque switch setting limit was increased from 2.50 to 3.50. The 60 ft-lb motor was replaced with an 80 ft-lb motor.	Note 1
MO-2239	The minimum closing torque switch setting limit was increased from 1.25 to 1.50.	
MO-2400	The 10 ft-lb motor was replaced with a 15 ft-lb motor.	Note 1
MO-2401	The minimum closing torque switch setting limit was decreased from 2.25 to 1.75. The 10 ft-lb motor was replaced with a motor of the same size.	Note 2
MO-2700	The minimum closing torque switch setting limit was decreased from 1.25 to 1.00.	
MO-2701	The minimum closing torque switch setting limit was increased from 1.25 to 2.0.	

Note 1: The motors for MO-2238 and MO-2400 were replaced due to concerns identified during testing performed in response to NRC Bulletin 85-03.

Note 2: The motor for MO-2401 was replaced to correct deficiencies described in Reference 1.