

Iowa Electric Light and Power Company

August 7, 1992

NG-92-3550

JOHN F. FRANZ, JR.
VICE PRESIDENT, NUCLEAR

Mr. A. Bert Davis
Regional Administrator
Region III
U. S. Nuclear Regulatory Commission
799 Roosevelt Road
Glen Ellyn, IL 60137

Subject: Duane Arnold Energy Center
Docket No: 50-331
Op License No: DPR-49
Response to Notice of Deviation Transmitted
with NRC Inspection Report 92011
File: A-101b

Dear Mr. Davis:

This letter and attachments are provided in response to the recent inspection of the Duane Arnold Energy Center's (DAEC's) Generic Letter (GL) 89-10 Motor-Operated Valve Program.

Attachment 1 responds to the item identified in the Notice of Deviation. As requested, Attachment 2 discusses the status of the unresolved item identified in your report.

If you have any questions regarding this response, please feel free to contact our office.

Very truly yours,



John F. Franz, Jr.
Vice President, Nuclear Division

Attachments: 1) Response to Notice of Deviation
2) Response to Unresolved Item

JFF/LRH:so

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NRC NOTICE OF DEVIATION

Section 8.2.2.2.5 of the UFSAR states that the minimum terminal voltage for an MOV shall be 80% of the motor's rated voltage.

Contrary to the above, calculations of line voltage drops in the worst case cables under conditions of degraded voltage, showed that the motors of four MOVs would not be provided with 80% of the rated motor voltage (50-331/92011-01(DRS)).

RESPONSE TO NOTICE OF DEVIATION

1. Reason for the Deviation.

The deviation was the result of an inadequate review with regard to the effects of a plant modification to MO2238 on the DAEC power systems analyses in Section 8 of the UFSAR.

2. Corrective Steps Which Have Been Taken and the Results Achieved.

The Notice of Deviation cited the results of preliminary calculations performed by the DAEC's Engineering Department at the time of the inspection. We have subsequently performed a more detailed engineering evaluation of all motor-operated valves (MOVs) in the Generic Letter 89-10 Program and determined that only one MOV, MO2238, fails to meet the acceptance criteria stated in UFSAR Section 8.2.2.2.5, Item 3.

For two of the four valves referred to in the Notice of Deviation, the base voltages used in the preliminary calculations at the time of the inspection were incorrect. Correcting the base voltages has a significant effect on the results of those calculations. Final calculations show that these valves meet the minimum terminal voltage acceptance criteria stated in the UFSAR.

Our detailed evaluation of the remaining two valves in question, MO1908 and MO2238, showed that neither valve would be required to operate under the conditions which had been assumed in our preliminary calculations done at the time of the inspection. For these valves, the most limiting event

is a degraded grid condition, as described in UFSAR Section 8.2.2.2.6, Case 7. The degraded voltage which would be caused by this event is greater than that needed for MO1908 to meet the 80% acceptance criteria. It would, however, be less than that needed for MO2238 to meet the same criteria.

The currently installed operator for MO2238 is rated for 70% of rated voltage. Since the minimum terminal voltage for MO2238 would be greater than 70% of rated for all cases addressed in Section 8 of the UFSAR, the operability of the MOV is assured. This exception to the 80% acceptance criteria will be documented in the appropriate sections of the UFSAR.

3. Corrective Steps Which Will be Taken to Avoid Further Deviations.

The corrective steps discussed above will ensure that all safety-related MOVs at the DAEC meet the minimum terminal voltage criteria, consistent with the revised UFSAR Section 8.

Additionally, Engineering Department Procedure 1203.228, "Power Systems Analysis", requires that all design changes and plant modifications be thoroughly assessed with regard to their potential effect on the DAEC power distribution system. As part of this procedure, a Power System Analysis Checklist is completed which specifically addresses the effect of such changes on the loading studies included in UFSAR Section 8. This requirement to review the effects of proposed plant modifications on these studies will ensure that the minimum terminal voltage acceptance criteria contained in the UFSAR continues to be met.

4. Date When Corrective Action Will Be Completed.

The required changes to Section 8 of the DAEC UFSAR will be processed on-site by October 1, 1992, and will be included in the next annual UFSAR update in accordance with 10 CFR 50.71(e).

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UNRESOLVED ITEM 92011-02

This item addresses the control of MOV torque switch settings in the DAEC GL 89-10 MOV Program. During the 1992 Refuel Outage, four MOVs were found to have torque switch settings that did not fall within the ranges specified on the design drawing, BECH-E200. The following corrective actions have been taken:

- 1) Deviation Reports 92-111, 92-119 and 92-121 were issued to document the discrepancy.
- 2) Calculations were performed which concluded that the valves in question were always capable of performing their design function.
- 3) Corrective Maintenance Action Requests (CMARs) were initiated and completed to restore the torque switch settings to their specified range.
- 4) Maintenance records for all safety-related MOVs in the GL 89-10 program were reviewed to ensure that all other in-plant settings were in accordance with design documents.

We have determined that our previous methods of controlling and documenting changes to MOV torque switch settings were too informal and relied heavily on the performance of a single individual. Although procedures were available to accomplish the desired control, these procedures were not applied to MOV torque switch settings. This was due to the fact that no formal calculations existed that would require revision.

In accordance with our current MOV program, all future modifications or maintenance actions on MOVs that impact the BECH-E200 drawings will be controlled under the Engineering Maintenance Action (EMA) or Design Change Package (DCP) process, as appropriate. These processes ensure that the appropriate engineering reviews take place and require prompt updating of design documentation.

Finally, our design basis review for all MOVs in the GL 89-10 Program is scheduled to be complete by September 1, 1992. Differential pressure calculations and weak link analyses are currently being prepared for the valves in question. As each of the resulting torque switch setting calculations is completed,

the data will be compared to in-plant settings. Any required adjustment to in-plant settings will be immediately pursued via the CMAR process. These adjustments will be prioritized in accordance with their safety significance.