

JUN 7 1991

Docket No. 50-331

Iowa Electric Light and
Power Company
ATTM: Mr. Lee Liu
Chairman of the Board
and Chief Executive
Officer

IE Towers
P. O. Box 351
Cedar Rapids, IA 52406

Dear Mr. Liu:

SUBJECT: NOTICE OF VIOLATION (NRC INSPECTION REPORT NO.
50-331/91002(DRS))

This will acknowledge receipt of your letter dated May 15, 1991, in response to our letter dated April 15, 1991, transmitting a Notice of Violation associated with Inspection Report No. 50-331/91002(DRS).

We have reviewed your response to Violation No. 1 and discussed with your staff additional information pertaining to this violation.

We concur with your staff's position (Part a.) that the indicated direction to trip arrows for level indicating switch (LIS) Nos. 3208, 3210, and 3215 were typographically reversed between the LIS trip and reset values on their respective calibration data sheet and that the above LISs had been set correctly. We understand that the trip arrow errors have been corrected. Therefore, Part a. of Violation No. 1 now reflects the two (2) internal switches of LIS No. 3216 as the only devices that were left out of calibration.

We concur with your staff's position (Part b.) that the EDSFI team misinterpreted the switch settings for LIS Nos. 3207 and 3209. The LISs are mounted on the fuel oil day tanks in such a location that an inherent offset calibration value must be added to the LIS calibration. When this value is added to the setpoints of LIS Nos. 3207 and 3209, the LISs were in proper calibration. Therefore, we retract Part b. of Violation No. 1.

We have reviewed your corrective actions and responses to the remaining items and have no further questions at this time.

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PDR ADOCK 05000331
Q PDR

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Iowa Electric Light and Power
Company

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JUN 7 1991

These corrective actions and responses will be examined during future inspections.

Sincerely,
ORIGINAL SIGNED BY ROBERT J. MILLER

H. J. Miller, Director
Division of Reactor Safety

cc: David L. Wilson, Plant
Superintendent-Nuclear
R. Salmon, Technical
Services Superintendent

cc w/ltr dtd 05/15/91:
DCD/DCB(RIDS)
OC/LFDCB
Resident Inspector, RIII
John A. Eure, Iowa Department
of Public Health
S. Sands, NRR
G. Imbro, NRR

RIII *yes*
DSB
Butler/jk
06/05/91

RIII
no
Westberg
06/05/91

RIII
RM
Gardner
06/05/91

Yes
RIII
gmb
Hague
06/6/91

RIII
MR
Ring
06/6/91

RIII
AM
Martin
06/6/91

RIII
RM
Miller
06/7/91

Iowa Electric Light and Power Company

May 15, 1991
NG-91-1262

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 DPR-49
Response to Notice of Violation
Transmitted with NRC Inspection
REPORT 91-02

File: A-102, R-10, R-43

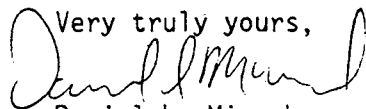
Dear Mr. Davis:

This letter and attachment are provided in response to the recent Electrical Distribution System Functional inspection (EDSFI) performed at the Duane Arnold Energy Center.

Attachment 1 responds to the items identified in the Notices of Violation. As requested, Attachment 2 discusses the status of unresolved items and open items identified in your report.

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

Very truly yours,



Daniel L. Mineck
Manager, Nuclear Division

Attachments: 1) Response to Notice of Violation
2) Response to Unresolved Items and Open Items

cc: U. S. NRC Document Control Desk (Original)
L. Liu
L. Root
R. McGaughy
S. P. Sands (NRR)
NRC Resident Inspector - DAEC
Commitment Control Nos.

9105220079

LIS3216 was recalibrated to within specified tolerance on March 4, 1991. We have reviewed the effect of leaving the two internal switches within LIS3216 outside their allowable setpoint tolerances and concluded that there was no impact on SDG operability. One of these switches provides a low level alarm for the fuel oil day tank. At its design value, this alarm actuates when enough fuel remains to operate the SDG for approximately one hour. Following its 1989 calibration, the alarm would have actuated with approximately fifty minutes of fuel remaining. Sufficient time was still available for corrective actions to be taken. The other internal switch within LIS3216 provides a high day tank level alarm and would have initiated at a slightly higher than optimum value. Any overflow from the day tank is piped back to the main oil tank. High tank levels are not an operability or safety concern.

2. Corrective Actions to be Taken to Prevent Recurrence

The data sheet used for the calibration of LIS3216 in 1989 stated the acceptable tolerance of the internal switch setpoints only as a percentage of full scale. As a corrective action to prevent recurrence, calibration data sheets for plant instrumentation must now state in applicable units the upper and lower bounds of the tolerance band for each setpoint. Inclusion of this information on the calibration data sheet should reduce errors by providing the technician performing the calibration and subsequent reviewers with acceptance criteria that are more readily understood.

3. Date When Full Compliance Will Be Achieved

Full compliance was achieved with the recalibration of LIS3216 on March 4, 1991.

NRC NOTICE OF VIOLATION 2

- "2. 10 CFR 50, Appendix B, Criterion V, as implemented by the Iowa Electric Light and Power Quality Assurance Manual, requires that activities affecting quality be prescribed by documented instructions, procedures, or drawings, of a type appropriate to the circumstances and be accomplished in accordance with these instructions, procedures, or drawings. It also requires that instructions, procedures, or drawings include appropriate acceptance criteria for determining that important activities have been satisfactorily accomplished.

SDG fuel oil day tank annunciator response procedure (ARP) Nos. 1C08A/B10, 1C08B/B-3, 1C93/B-5, and 1C94/B-5 were required to reflect setpoints of 15 INFO, 15 INFO, 18 INFO, and 18 INFO, respectively, as specified on day tank level setting drawing No. BECH-M404(24).

controlled, continuously updated drawings to help ensure procedural accuracy.

Following discovery of a ARP discrepancy by our Corporate Quality Assurance department in December, 1990, a comparison of all ARP setpoints with design and plant documentation was initiated and scheduled for completion by July 31, 1991. At the time of the EDSFI inspection in February - March, 1991, this review had not been completed for the procedures in question.

3. Date When Full Compliance Will Be Achieved

Full compliance was achieved on May 15, 1991 with completion of the procedure modifications.

RESPONSE TO NOTICE OF VIOLATION 2.b.

1. Corrective Actions Taken and the Results Achieved

The overcurrent relay for feeder breaker 152-301 was returned to its required tap setting on February 12, 1991. A field inspection of the safety-related overcurrent relays calibrated by M-11A-TP was also conducted at that time to verify that their tap settings were correct. No other discrepancies were found.

To prevent recurrence, the governing procedure for the relay calibration, M-11A-TP, has been modified to require comparison of the final relay tap setting to design values.

2. Corrective Actions to be Taken to Prevent Recurrence

All planned actions have been completed.

3. Date When Full Compliance Will Be Achieved

Full compliance was achieved on February 12, 1991 with the return of the tap setting on the overcurrent relay to its required value.

RESPONSE TO NOTICE OF VIOLATION 2.c.

1. Corrective Actions Taken and the Results Achieved

It was determined that the incorrectly-sized fuses would not adversely affect the operation of safety-related equipment. The fuses at panel 1C03 were replaced with properly sized fuses on March 6, 1991. Replacement of the fuses in the remote shutdown panel requires a plant outage or entry into a twenty-four hour

Iowa Electric Light and Power Company
Response to Unresolved and Open Items
Transmitted with Inspection Report 91-02

Unresolved Item #1 (2.1.16) Breaker Trip Settings

Past procedural requirements and practice established in-plant trip settings in accordance with the E-105 series drawings. These drawings provide both a current value (amps) and dial setting for each protective device in each breaker. The dial setting value as specified on the drawings is a less reliable means of setting the devices than the current value. Therefore, in-plant settings are established by testing the breakers and adjusting the dial setting to achieve the desired trip current. This practice has been demonstrated to be reliable in that instances of unnecessary or spurious breakers tripping, and failures of breakers to trip, have been rare.

The Iowa Electric Power System Analysis initiative provides the methodology to establish preferred settings for protective breakers. This initiative will provide greater configuration management and optimization of the electrical design. This analytical tool, implemented during subsequent routine maintenance, will optimize breaker settings. Power System Analysis analytical tools to optimize breaker coordination for 480 breakers will be completed this year. Maintenance to 480 VAC breakers will be implemented over the next two refueling outages.

Unresolved Item #2 (2.2.3) DC Contactor Operation

The following comments correspond to Inspection Report Section 2.2.3, subsections a. through e.

a) The calculation (CAL IELP-E-88-05) conservatively determined maximum available motor current under worst case combination conditions of minimum battery voltage (at end of design discharge), maximum ambient temperature of the motor, maximum voltage drop between the battery and motor, combined with locked rotor conditions. These calculations, performed in conjunction with NRC IEB 85-03 on MOVs, established a recommended in-plant maximum seating current (and corresponding torque switch setting) that included additional margins to accommodate repeatability and variance between as tested conditions and calculated performance under design basis conditions. Iowa Electric experience has shown that seating current is a more reliable control parameter than torque switch setting alone. Therefore, the implementation of controls over seating current, rather than torque switch setting alone provides greater assurance of valve performance. The NRC inspection report commented that several valves did not meet acceptance criteria. In each situation where individual valves could not meet the established seating current, or established thrust values, an evaluation was made and the acceptability of the

provisions, licensing requirements and regulations would not require that voltage drop calculations be conducted at the minimum battery voltages given the AC charger capability. Consistent with defense in depth and conservative design philosophy, however, it is Iowa Electric's intent to maintain this conservatism and additional conservatism.

The commitments made by Iowa Electric during the inspection related to this area are as follows:

The CALC-IELP-E-88-05 will be revised by June 30, 1991 to reflect, in a central location, the Bulletin 85-03 valves, the Generic Letter 89-10 valves, and the controlling current limits. The Power System Analysis provides a mechanism for addressing control circuit voltage drops. This phase of the activity is scheduled following Power Bus calculations and evaluations that are currently in progress. The installation of Design modifications to provide the control room operators immediate indication of thermal overload trip has been instituted on several key valves. Additional valves will also receive this modification in a systematic manner. This activity will continue through 1992.

Unresolved Item #3 (2.3.1 - EDG fuel storage)

A revised engineering calculation will be completed by August, 1991. A revision to the UFSAR will be documented in the next UFSAR update (1992).

Unresolved Item #4 (2.3.2- EDG Air Start Accumulator relief valves)

An evaluation has been completed which demonstrates that the relief valves will not depressurize the diesel generator air accumulators during seismic events.

Unresolved Item #5 (2.3.3- EDG air supply ducting common mode vulnerability)

As noted in our commitment, a documented engineering analysis will be completed by August, 1991.

designed or licensed. The DAEC design and operating practices, in our view, do not represent a weakness.

Open Item 2 (2.1.4)

The NRC expressed concern over the lack of secondary surge protection for 4kv motors and load center transformers. In response to this concern the following information and position was provided to the NRC:

ANSI/IEEE Std. 141-1986, section 4.6.3.3 states that typical surge exposure for dry-type transformers is through another (supply) transformer. This is the configuration at DAEC. The Startup Transformer supplies the 4160 VAC switchgear which feeds the dry-type load center transformers. ANSI/IEEE Std. 141-1986 states that for transformers of this configuration, arresters are generally not required at the dry-type transformers.

Similarly, metal-clad switchgear is also addressed by ANSI/IEEE Std. 141-1986. When the only exposure of the metal-clad switchgear to lightening is through a power transformer and the transformer has adequate lightening protection, generally there is no necessity to provide arresters on the sheltered side of the transformer connected to the switchgear. Ref: ANSI/IEEE Std. 141-1986 Section 4.3.6.2.

Following the review of the surge protection design we feel it is adequate for protection from lightening strikes.

In addition, it is noted that multiple safety systems in redundant safety trains are not typically tested, or running at the same time. Therefore, were a surge to occur, it is highly unlikely that 4KV motors would experience, or be damaged by, surges such that multiple redundant safety trains would be simultaneously damaged. There are no current plans to evaluate this item further.

Open Item #3 (2.1.8)

Regarding the sizing of the neutral grounding resistor, Iowa Electric committed to revise calculation BECH-EC-7C to account for capacitance effects by August, 1991.

Open Item #4 (2.1.13)

Regarding Cable Tray covers on low level signal instrumentation cables, cable tray covers will be installed where warranted on appropriate trays.