

Iowa Electric Light and Power Company

March 7, 1986
NG-86-0793

Mr. James G. Keppler
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 NRC Inspection Report 85-035

File: A-102, NRC-4

Dear Mr. Keppler:

This letter is provided in response to the subject inspection of activities at the Duane Arnold Energy Center on December 2, through January 10, 1986. Attachment 1 provides our response in accordance with your request.

Very truly yours,

R. W. McGaughy

Richard W. McGaughy
Manager, Nuclear Division

RWM/WJM/kp

Attachments: Response to Inspection Report 85-035

cc: L. Liu
L. Root
M. Thadani
NRC Resident Inspector
Commitment Control

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NRC Violation

10 CFR 50, Appendix B, Criterion V, as implemented by the DAEC Quality Assurance Program, states, in part, that activities affecting quality will be prescribed by and accomplished in accordance with written instructions of the type appropriate to that activity. Furthermore, these instructions shall include appropriate acceptance criteria for determining that important activities have been satisfactorily accomplished. Contrary to the above, the following examples were found in which the licensee failed to properly implement the ARTS (Average Power Range Monitor, Rod Block Monitor, and Technical Specifications Improvement Program) by failing to have or follow appropriate written instructions.

- a. Design Change Request (DCR) No. 1306 designated the modification to the Rod Block Monitor (RBM) system as a Quality Level IV activity. This DCR was inappropriate, in that, it did not adequately control the quality of the modification activities (331/85035-01a).
- b. General Electric Company Field Disposition Instruction (G.E. FDI) No. RSHQ was used to perform the installation of the ARTS Program. The installation was not accomplished in accordance with this FDI, in that, the sections requiring wire continuity checks and visual inspections by QA/QC personnel were not performed (331/85035-01b).
- c. G.E. FDI No. RSHQ was inappropriate for accomplishing the required installation in that checklists and signature/date blocks did not exist for verifying satisfactory completion of significant steps (331/85035-01c).
- d. Procedure STP-42C002, "Rod Block Monitor Functional Test and Calibration," was completed on July 21, 1985. This procedure was inappropriate for performing the required test, in that: (1) the instructions and acceptance criteria were not clearly stated for the testing of the RBM downscale trip setpoint, (2) an unauthorized change eliminated Step 4.29.d, and (3) a change to Step 4.6.e was incorrect (331/85035-01d).
- e. Special Test Procedure No. 121, "ARTS - Modified RBM Pre-Operational Test," was completed on June 12, 1985, and STP-42C001, "APRM Instrument Functional Test and Calibration," was completed on July 23, 1985. The licensee failed to properly implement these procedures, in that, recorded data which was out of tolerance was repeatedly crossed out with no explanation and then replaced with acceptable data (331/85035-01e).

Corrective Action Taken and Results Achieved:

We have reviewed, with senior Nuclear Division management, the process and controls utilized for this modification. This review has resulted in corrective action designed to address both our programmatic deficiencies and the deficiencies identified by the specific examples of the violation. Programmatically, Division Management has directed that control over future modification work be given the attention to detail and resources necessary to achieve our administrative and technical requirements and that the problems and errors that occurred not be repeated. We recognize that programmatic improvements cannot be applied to the modification work on this package that is completed. However, our testing program conducted prior to and during plant startup following this modification work, provides positive verification of the rod block monitor's ability to perform all important functions. Further, we believe the problems detected in this package are atypical and not indicative of other modifications, particularly safety-related modifications. The additional corrective actions initiated to address the noted examples are as follows:

- a. A task force has been established to review quality level designations and identify those Quality Level IV activities that merit a higher level of attention to quality than is normally applied to Quality Level IV equipment. This was discussed in our response to Inspection Report 85-028. This review will be completed by June, 1986. In addition, as discussed in the body of inspection report 85-035 and as committed to during the inspection, the UFSAR will be revised in our FSAR update scheduled for June, 1986 to distinguish clearly those portions of the neutron monitoring system (of which the rod block monitor is a subsystem) which are Quality Level I, safety-related subsystems.
- b/c. The General Electric Field Disposition Instruction (FDI) utilized for this installation had designated portions of the installation in which typically GE or the Licensee QA/QC would perform inspections under Iowa Electric approved Q.A. programs. However, by virtue of our quality level designation on this package we determined that QC involvement was not required based on programmatic requirements.

Performance of work at DAEC under a GE instruction in this manner is not typical of our modification control mechanisms. In this instance, either following the recommendation, or revising of the instruction to reflect deletion of the suggested QC involvement, would have been a more appropriate control mechanism. We will perform additional visual inspections to the FDI to the extent practical during our upcoming outage.

The FDI also did not include checklists or verification blocks. However, the actual internal wiring work was supervised by experienced GE field technical personnel and by Iowa Electric engineers and technicians. The expertise of General Electric (the supplier of the original and modified equipment) was heavily relied upon in this regard. Expanded functional tests were utilized as verification of circuit and system operability prior to and during plant startup activities. We acknowledge that auditability of installation step completion is encumbered by lack of checkoff or initials on installation (construction) instruction steps. Further, the control of work (i.e., ensuring all steps are completed by checklists or signoffs) can also be improved by this practice. Use of checklists or verification blocks will be required on sufficiently complex modification work at DAEC.

d/e. Additional surveillance testing has been conducted on the rod block monitor to record the value of APRM signal at which SRM bypass indication goes out. Record of this test is on file at DAEC for inspection.

We note also that this work was performed during the 1985 refueling outage. NRC concerns on the attention to detail in procedures and documentation were expressed in Inspection Report 85-025, dated October, 1985. Our response to that inspection report (NG-85-4860, dated November 15, 1985) identified additional relevant corrective actions regarding strict procedural compliance and completeness. These actions include supervisory personnel review of completed surveillance procedures and plant meetings to emphasize strict procedure compliance.

Corrective Action to Be Taken

As identified above, the task force on quality level designations is scheduled to complete its review by June, 1986. The UFSAR revision to clarify the subsystems of the neutron monitoring system that are safety-related (Quality Level I) will be submitted in June, 1986. Emphasis upon procedural compliance and completeness is continuing. Additional visual inspections will be conducted during the upcoming maintenance outage.

Date When Full Compliance Will be Achieved

DAEC is in full compliance. The corrective actions to be taken as identified above will be completed by the indicated dates.