

U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Report No. 50-331/86019(DRS)

Docket No. 50-331

License No. DPR-49

Licensee: Iowa Electric Light and Power Company
Security Building, P. O. Box 357
Cedar Rapids, IA 52406

Facility Name: Duane Arnold Energy Center

Inspection At: Palo, Iowa

Inspection Conducted: December 2-5, 9-12, 15-18, 1986, and January 12-16, 1987

Inspectors: *N. C. Choules*
N. C. Choules

2/18/87
Date

R. N. Sutphin
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2/18/87
Date

Approved By: *Frank J. Jablonski*
Frank J. Jablonski, Chief
Quality Assurance Programs Section

2/18/87
Date

Inspection Summary

Inspection on December 2-5, 9-12, 15-18, 1986, and January 12-16, 1987
Report No. 50-331/86019(DRS))

Areas Inspected: Routine, announced inspection of licensee actions on previous inspection findings (92701), surveillance procedures and records (61700), QA program annual review (35701), test and experiments program (37703), document control program (39702), design change and modification program (37702), and calibration program implementation (56700).

Results: Two violations were identified (failure to perform evaluations for measuring and test equipment found out of calibration and failure to maintain updated drawings in the Control Room).

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DETAILS

1. Persons Contacted

Iowa Electric Light and Power Company

- *D. Mineck, Plant Superintendent
- *A. Aldridge, Maintenance Engineer
- *R. Essig, Supervising Engineer
- *M. Grim, Site Licensing Engineer
- *K. Howard, Plant Performance Engineer
- *B. Lacy, Maintenance Supervisor
- *E. Matthews, QA Manager
- *R. McCracken, QC Supervisor
- *C. Mick, Operations Supervisor
- *R. Rockhill, Mechanical Maintenance Supervisor
- *J. Smith, Technical Support Supervisor
- *L. Voss, Assistant Electrical Maintenance Supervisor
- *D. Wilson, Manager, Nuclear Licensing and Emergency Planning

Other licensee personnel were contacted during the course of the inspection.

*Denotes those attending the exit interview on January 16, 1987.

2. Licensee Action Previous Inspection Findings

- a. (Closed) Open Item (331/85013-01): Records did not provide adequate information for measuring and testing equipment (M&TE) determined to have been out of calibration. The inspector's review of M&TE usage logs showed information regarding M&TE usage was being logged at the time the M&TE was checked out by the mechanical and instrument and control (I&C) shops. The electrical shop did not have a usage log. Traceability of electrical M&TE usage was documented on surveillance test report sheets and the information transferred to M&TE usage lists. With this system, the documented usage of electrical M&TE on Corrective Maintenance Action Requests (CMARS) could be bypassed. When the inspector brought this to the licensee's attention, an M&TE usage log was initiated by the electrical shop.

The licensee had issued Procedure No. MD-017, "Performance Of Use Histories On Out of Calibration Measuring and Test Equipment" (M&TE), Revision 0, on July 3, 1985, and Revision 1 on September 3, 1986. The inspector determined from interviews with mechanical shop personnel responsible for control of M&TE that they were not aware of Procedure No. MD-017. As a result, history searches of M&TE found out of calibration had not been performed by the mechanical shop as required by MD-017. M&TE found out of calibration and not evaluated per MD-017 were:

- Outside micrometer No. Q-29, found out of calibration on September 13, 1986.
- Torque wrench No. Q-248, found out of calibration on November 19, 1986.
- Depth micrometer No. Q-14, found out of calibration on February 2, 1986.
- Torque wrench No. Q-256, found out of calibration on October 10, 1986.

The failure to perform use history evaluations as required by Procedure No. MD-017 is a violation of 10 CFR 50, Criterion V (331/86019-01).

In addition to Procedure No. MD-017, the inspector reviewed Procedure No. 14C8-8 "Control of Measuring and Test Equipment," Revision 4. Procedure MD-017 did not describe the various usage logs to review for M&TE found out of calibration and there was no requirement in 14C8-8 for usage logs. The licensee agreed to correct these procedural deficiencies.

The open item is closed. Any additional followup will be performed when the corrective action for the violation is reviewed.

- b. (Open) Open Item (331/85013-02): Mechanical and I&C shop M&TE was loosely controlled. The mechanical shop has increased control over M&TE by assigning an individual to be in charge of M&TE and its checkout. The I&C shop still uses an honor system for recording M&TE usage when items are checked out. Facilities are not adequate at this time to provide tighter controls. Employees have been trained about the importance of recording M&TE usage. Review of usage logs indicated M&TE was being recorded by I&C personnel. The licensee plans to move the I&C shop to a more spacious area in the addition to the administration building. A central storeroom for storage of M&TE is planned for the new I&C shop. The licensee plans to assign an individual to check M&TE in and out, which will provide much tighter controls. This item will remain open pending NRC review of the new I&C, M&TE storage facility.
- c. (Closed) Unresolved Item (331/85013-03): Control and storage of maintenance, receipt inspection, procurement, and calibration records prior to being microfilmed (two year period). The licensee issued Procedure No. 1406.8, "Control of Plant Records" on January 8, 1986, and Procedure No. 2406.1, "Record Processing" on December 19, 1985, to address concerns identified by this unresolved item. Records held temporarily, waiting for microfilming, are stored in one-hour fire rated storage files and the microfilming activities are performed one, two, and three times per year, depending on the type of records rather than the two-year time interval previously experienced. Changes were also made in the "Records" section of the QA Manual, Chapter 15, Revision 2, to address this improvement in the program for records processing. This item is closed.

- d. (Closed) Open Item (331/85013-04): Warehouse procedure not issued for proper maintenance of items in storage. The licensee revised two Procedures; No. 1405.1, "Receiving," Revision 1, and No. 1405.2, "Material Identification and Inventory Control," Revision 2, in response to this concern. The licensee now has appropriate reference to the requirements for maintenance of items in storage. This item is closed.
- e. (Open) Open Item (331/85013-05): Temperature and humidity indicator to be installed in the warehouse. The licensee has this item under consideration for future procurement. This item will remain open pending the acquisition and installation of the appropriate instrument.
- f. (Closed) Open Item (331/85013-06): Large items on hold not segregated from accepted items. The licensee has taken additional steps to provide for the clear identification of large items on hold when too large to move into the normal hold area. Roped off areas and additional tagging and marking is performed to isolate the large item. A revision has been proposed for administrative Procedure No. 1405.4, "Material Requests and Warehouse Issues," Paragraphs 3.2 and 3.3, to further emphasize this policy. This item is closed.

One violation was identified.

3. High Pressure Coolant (HPCI) System and Reactor Core Isolation Cooling (RCIC) System Reliability Assessment Followup

The inspector reviewed the status of the licensee's progress in addressing the 12 recommendations previously made by NRC in Inspection Report No. 50-331/85036 and responded to by the licensee in letter dated February 21, 1986. This review consisted of interviews, review of procedures, and a limited review of Corrective Maintenance Action Requests (CMARs) and Deviation Report (DRs). The inspector determined that the licensee had made considerable progress in implementation of the recommendations; however, none of the recommendations could be closed at this time. An in depth review of this area will be performed during a later inspection when decisions regarding closure of the recommendations will be made. Status of the twelve recommendations is as follows:

- a. (Open) Recommendation (331/85036-R01): Place increased emphasis on the determination of the root cause of events and equipment malfunctions. The licensee had completed the training of maintenance and technical personnel on root cause determination. Review of 14 completed evaluations for DRs showed that good information was provided about root cause. Nine CMARs associated with the DRs were reviewed. Recording of work performed on the CMAR could be improved to provide more details about the work performed.

- b. (Open) Recommendation (331/85036-R02): Increase management attention relative to required engineering reviews. The licensee increased the engineering staff for engineering reviews. The licensee also hired temporary employees to evaluate the backlog of DRs. The licensee had a backlog of about 900 DRs at the conclusion of the inspection and has a goal to close these out by April 30, 1987.
- c. (Open) Recommendation (331/85036-R03): Investigate the obvious trends in the DR listings. An individual was assigned the responsibility for trending and there was evidence that trending of DR listings has increased. A procedure describing methods for trending was issued.
- d. (Open) Recommendation (331/85036-R04): Reduce the excessive use of cause codes "unknown" and "other." The inspector's review of DRs indicated an apparent decrease in these cause codes. The "unknown" cause code was still used, but evaluations provided much better information concerning the events.
- e. (Open) Recommendation (331/85036-R05): Give increased attention to manufacturers/vendor recommendation for reliability: The reevaluation of GE Service Information Letters (SILs) was completed. Procedure No. 1402.1 "Industry-Related Operating Experience Information Processing Procedure 1" was issued for review of vendor recommendations. The licensee indicated that the program to document reviews still needs some work.
- f. (Open) Recommendation (331/85036-R06): Implement the planned maintenance history and trending program as soon as practicable. The licensee indicated the maintenance history program was implemented and the trending program was in progress.
- g. (Open) Recommendation (331/85036-R07): Rewrite Procedure No. GPM-007 to reflect current maintenance practices and train personnel in its implementation. The procedure was revised, issued, and implemented. The licensee indicated training on No. GPM-007 was been completed.
- h. (Open) Recommendation (331/85036-R08): Include valve packing inspections and Limitorque motor operated valve switch settings in the PM Program: Interviewees stated that some work was done but the final PM Program for Limitorques was not finalized.
- i. (Open) Recommendation (331/85036-R09): Establish training objectives, a training schedule, and training program for continuing training for journeymen level and supervisory maintenance personnel. The licensee implemented a maintenance training program and submitted the program to INPO for accreditation.
- j. (Open) Recommendation (331/85036-R10): Strengthen the corrective maintenance procedure relative to root cause determination and documentation, and train the responsible personnel in its implementation. The licensee revised the Corrective Maintenance Procedure No. 1408.1 "Corrective Maintenance," Revision 10, to

require improved documentation of information to aid in the determination of the root cause of a failure. The instruction for documenting "action taken" on the CMAR could be improved by being more specific about what should be documented. This information can aid in the determination of the root cause. As noted in Paragraph "a.," documentation of actions taken on CMARs was weak.

- k. (Open) Recommendation (331/85036-R11): Include more QC or peer type inspection on LCO-related maintenance to ensure root cause determination. This item was not reviewed.
- l. (Open) Recommendation (331/85036-R12): Investigate the practice of removing lantern rings from valves without an engineering evaluation and identify any generic implications. In the written response to this recommendation, the licensee indicated that a change of this kind would now require a formal design change and an engineering evaluation. The inspector noted in his review of the corrective maintenance procedure No. 1408.1, Revision 10, that there was no guidance to evaluate the CMAR to determine if the corrective maintenance involved a design change and to follow design change procedures if it did. The licensee agreed to revise Procedure No. 1408.1 to include such instructions.

No violations were identified.

4. Surveillance Tests, Procedures, and Records

The purpose of this portion of the inspection was to respond to a concern expressed by the senior resident inspector about the quality of surveillance test procedures.

The inspector reviewed implementation of the licensee's surveillance testing program to verify that surveillance tests of safety-related systems and components were being performed in accordance with approved procedures as required by Section 4 of the Technical Specifications (TS). The review included observation of surveillance tests in progress, review of records of completed surveillance tests, and review of technical content and clarity of selected surveillance test procedures.

a. Inspection Results

(1) Observation of Surveillance Tests

- (a) The inspector observed a portion of the tests specified in Procedure No. STP 47E001, "MSIV-Leakage Control System Operability Test," Revision 10. This test was performed to verify the requirements of TS No. 4.7.E.1.b., c., and d. Technical Specification No. 4.7.E.1.b required that operability of both blowers in the leakage control system be verified once a month. Operability of the blowers was determined by verifying that the indicator lights

illuminated when the blower control switches were placed in the "TEST" position. This action did not assure that the blowers were actually running. The inspector discussed this with the licensee who changed the procedure to require verification of blower operability by observation of the system flow meters and physical verification that the motors were running when the blower test switch was in the "TEST" position.

- (b) The inspector observed the performance of monthly and quarterly tests specified in Procedures No. STP 45 J002-M "River Water Supply Monthly Operability Test," Revision 19, and No. ST 45 J002-QA "River Water Supply System Quarterly/Annual Operability Test," Revision 3. The inspector noted that the independent verification checklist for post-STP completion of the screen wash system, as specified in Procedure No. ST 45 J002-QA, only required valve positions be verified. The positions for two hand switches, which were manipulated during the testing, were not required to be independently verified following performance of testing. The inspector discussed the lack of verification of switch positions with the licensee who changed the checklist to require independent verification of the hand switch positions.

During the performance of testing, it was noted by the inspector in the control room that a recorder that was being used to establish flow for the test was tagged "DO NOT USE." After the test, this was brought to the attention of control room personnel. Investigation by control room personnel determined that the recorder flow indication was in calibration, but there had been some problem with the chart drive. The recorder had been incorrectly marked with a "DO NOT USE" tag. The recorder was appropriately identified with a tag that indicated the recorder was degraded, but operable.

The inspector noted in the control room that several (11) indicators and recorders had calibration stickers which indicated the calibrations had expired. This was brought to the licensee's attention. Review by the licensee indicated new calibration frequencies had been established or were being established but new stickers had not been attached to the instruments. Following the licensee's review of this item, new calibration stickers with the new calibration frequencies were attached to the instruments.

The inspector was concerned that control room personnel did not notify the I&C shop about the above items and the calibration stickers were not changed by the responsible personnel when the calibration frequencies were changed. This concern was discussed with the licensee during the exit interview.

- (c) The inspector observed a portion of the tests specified in Procedure No. STP 42A010 "Reactor Lo Lo Water Level Recirc M-G ATWS Trip," and Lo Lo Water Level Group I Isolation Trip Functional Test/Calibration," Revision 18. The inspector noted during testing of Switch 3 (Recirc Trip) and Switch 1 (MSIV Trip), that both switches were connected to the same pressure source. The procedure required checking the setpoint on Switch 3 and recalibrating if required, and then decreasing pressure to check Switch 1 setpoint and recalibrating if required.

During the test, both switches required recalibration and adjustments. After recalibration, it appeared that Switch 3 adjustments could affect Switch 1, although in this case it did not. With the possible interaction between switches, "as-found" data for each switch should have been recorded prior to adjusting either switch. As found settings are needed to verify compliance with TS requirements and to provide trending information. Based on the discussion with the the inspector, the licensee agreed to revise the procedure and record as found switch settings prior to making any adjustments.*

- (d) The inspector observed the performance of testing specified in Procedure No. STP 41A001 "Reactor High Press (RPs) Instrument Functional Test and Calibration." Two pressure switches required recalibration during the test; however, the test was successfully run.

(2) Surveillance Procedures Review

The inspector verified that surveillance procedures had been prepared for 15 selected TS requirements. The following surveillance test procedures associated with TS requirements were reviewed for technical content and clarity of instructions.

- (a) STP 41 A001, "Reactor High Pressure (RPs) Instrument Functional Test and Calibration," Revision 12.
- (b) STP 41A012, "Mode Switch in Shutdown Instrument Functional," Revision 5.
- (c) STP 42A010, "Reactor Lo Lo Water level (Recirc M-G ATWS Trip) and Lo Lo Water Level (Group I Isolation Trip) Functional Test/Calibration," Revision 18.
- (d) STP 42A015, "Main Condenser Loss of Vacuum Instrument Functional Test and Calibration," Revision 9.

*Open Item, see Page 11.

- (e) STP 42B027, "Safety Relief Valve Position Indicator Relay Functional Test," Revision 4.
- (f) STP 42H006, "Safety Relief Valve Pressure Switch Calibration," Revision 7.
- (g) STP 43B002, "Control Rod Drive Housing Support Inspection," Revision 2.
- (h) STP 45A001 Q-A, "Core Spray Quarterly and Annual Operability Tests," Revision 7.
- (i) STP 45A001-M, "Core Spray System Monthly Operability Tests," Revision 19.
- (j) STP 45A002-M, "LPCI System Monthly Operability Tests," Revision 24.
- (k) STP 45A002 Q-A, "LPCI System Quarterly and Annual Operability Test," Revision 10.
- (l) STP 45B001, "Containment and Torus Spray Headers and Nozzles Functional Test," Revision 4.
- (m) STP 450001-M, "HPCI System Monthly Operability Tests," Revision 30.
- (n) STP 45E001-M, Cy, "RCIC System Monthly/Once Per Cycle Operability Tests," Revision 22.
- (o) STP 47A001, "Suppression Chamber and Drywell Visual Inspection," Revision 1.
- (p) STP 413C001, "RCIC Room Deluge System Operability Test," Revision 5.
- (q) STP 413C002, "HPCI Room Stand by Filter Unit Charcoal Bed Deluge System Operability Test," Revision 6.
- (r) STP 413C005, "Standby Gas Treatment System Charcoal Bed Deluge System Operability Test," Revision 0.
- (s) STP 413F003, "Raceway Wrap Fire Proofing Inspection," Revision 0.
- (t) STP 413F004, "Structural Steel Fire Proofing Inspection," Revision 0.

The inspector reviewed these procedures and determined that improvements could be made to the procedures as discussed with cognizant license personnel who agreed to review the comments and make revisions as appropriate.* Listed below are some general comments concerning the procedures.

- Instructions were not detailed enough for valving instruments in and out of service.
- The procedures did not specify how to connect test equipment. There were several cases where the procedure simply stated "Connect test equipment."
- Several surveillance procedures required operability to be verified, but no instructions were provided about how to do it. Examples include, procedures listed above in (h), (i), (j), (k), (m), and (n). These procedures included requirements for verification of unit cooler operability for RCIC, HPIC, Core Spray, and RHR pump rooms during surveillance testing of the associated pumps as required by TS 4.5.1. Instructions only specified energizing the room air conditioner and verifying local operation, or simply starting the air conditioner but not actually verifying operability such as by sensing air blowing from the fan.
- When originally written, the procedures included a Section 4, which specified detailed procedural steps, and a Section 6, referred to as test data sheets. Section 6 was used for signing off completion of the Section 4 steps. For most of the current procedures, Section 4 had been deleted and Section 6 used for the detailed procedure steps. Many of the procedures did not have Section 6 upgraded to provide the details that Section 4 had provided. Also, Section 6 was not generally written in the imperative mode, that is to require the operator or technician to perform a function or observe an action. For example, instead of specifying "Close Valve X," it would specify in Section 6, "X Valve Closed" implying that some other person had completed the actions.
- In some procedures separate Section 6 data sheets were not used for each channel being tested; however, the licensee was in the process of revising procedures for inclusion of separate data sheets.

The above items were discussed with the licensee at the exit meeting. The licensee agreed with the inspector's comments and will use them during reviews and revisions of procedures.*

*Open Item, see Page 11.

(3) Surveillance Test Records Review

For the surveillance procedures listed in Section (2), the inspector verified by review of completed surveillance test records that the surveillance tests had been performed as required by the TS. During review of completed 1986 surveillance test records for STP 45A001-M and STP 45A002-M, the inspector noted several cases where the person who signed off for completion of a step in the procedure was the same person who signed off the independent verification data sheet as having independently verified that same step. Further review of this item indicated that the person who signed off the procedure step was in the control room directing the test and signed for actions actually performed by someone else in the plant. The person in the control room would then go out into the plant and physically perform the independent verifications. The licensee stated that a system would be developed to document the different persons who performed procedural steps and the independent verification.*

The inspector reviewed personnel and training records for three individuals who performed surveillance tests and verified that those personnel were qualified.

Those items identified by an asterisk (*) in Paragraphs 4.a.(1)(c), 4.a.(2) and 4.a.(3) collectively are considered an open item pending NRC review of licensee actions (331/86019-02).

- b. Based on the above observations and reviews, the inspector concluded that surveillance tests, procedures, and records were acceptable with the following exceptions:
- Surveillance tests did not truly verify operability, as-found data were not recorded and control room indicators were improperly used or erroneously indicated calibration status.
 - Surveillance test procedures did not provide clear and detailed instructions for placing equipment in/out of service, connecting test equipment, verifying operability, or documenting completion of test actions.
 - Surveillance test records indicated a problem with independent verification of operation actions.

It was further concluded that surveillance testing personnel appeared to be well qualified which mitigated the significance of the above stated weaknesses. As stated above in Paragraph a., the apparent weaknesses will be reviewed by the licensee and followed up by the NRC during a subsequent inspection.

No violations were identified.

5. Calibration

The inspector reviewed the licensee's implementation of the program for calibration of equipment associated with safety-related systems to verify conformance with the TS and other regulatory requirements.

Inspection Results

The inspector verified that calibration procedures had been prepared for seven TS required calibrations. The inspector also verified by review of completed records that calibrations had been performed at the required frequencies during the past year.

The inspector selected 18 instruments from reactor systems that were not specifically required by the TS to be calibrated. By review of records and procedures, the inspector verified that the instruments were calibrated at specified frequencies, and procedures had been prepared and used for the calibrations. Non-TS required calibrations were controlled by the preventive maintenance action request (PMAR) program. Licensee personnel indicated there was no backlog of calibrations controlled by the PMAR Program.

The inspector noted during the review of calibration records that the calibration cards, which specify input and other data, and are used to record calibration data, were not kept with the field calibration procedures. The input and other data had to be transcribed by hand from the last completed card to the card used for the current calibration. This system has the potential for error when data was copied although no errors were observed by the inspector. The licensee was in the process of revising field calibration procedures to include calibration data sheets. This ensures that calibration data sheets received the same approval (four signatures) as the procedure, where as, with the old system only one approval was required on a calibration card.

Inspector observations of the surveillance tests and calibration areas indicated that personnel performing those activities were well trained and qualified which compensated somewhat for the marginal procedures.

No violations were identified.

6. Annual Review of Q.A. Program Implementation

The inspector reviewed the Iowa Electric (IE) QA Program to verify conformance with regulatory requirements, commitments, industry guides and standards, and the implementation of the accepted changes to the QA Program (QAP) Definition Document, Section 17.2 of the Updated Final Safety Analysis Report (UFSAR).

a. Reference Documents

- (1) UFSAR/DAEC-1, Section 17.2, "Quality Assurance During the Operations Phase," Revision 4.

(2) UFSAR/DAEC-1, Section 17.2, "Quality Assurance During the Operations Phase," Revision 5.

(3) Plant Technical Specifications

b. Results of Inspection

The inspector reviewed ten changes to the QAP and four amendments to the TS. The inspector determined that the licensee could not readily retrieve information which showed the specific functional organizations and procedures impacted by the QAP changes. Also, the licensee could not readily show full compliance with the changes made, in Revision 5 of the QAP. The QA staff located sufficient information to show that there was some response to implementing the changes, or provisions existed in various procedures and instructions, which related to the changes.

ANSI N.18.7-1976 Paragraph 5.1, "Program Description," requires the licensee to have a summary document, an index, that relates the source documents to the requirements of ANSI N.18.7, and provides a consolidated base for the description of the QA program. The inspector determined that the licensee did not have such an index; however, early in 1986, the licensee began the development of an index; and substantial progress has been made towards completion of that project. As of this inspection, a procedure or policy statement had not been developed to provide management direction for implementing this activity. This is an unresolved item pending a review of the procedure and results of the QAP indexing (331/86019-03).

The inspector determined that there was a similar situation with implementation of TS amendments. In mid 1986, a special program was initiated by the licensee to effectively respond to changes in the TS. A committee approach was used and the results were very good; however, a procedure, charter, or policy had not been developed to provide management direction and approval. The inspector reviewed four recent changes, amendments to the TS, and determined that all four had been controlled in an acceptable manner. The licensee committed to write a procedure to document the approach to effect implementation of TS changes. This is an open item pending NRC review of the procedure (331/86019-04).

As indicated above, there was evidence of management involvement in improving the tracking of QAP and TS changes.

No violations were identified; however, one unresolved item was identified.

7. Test and Experiments Program

The inspector reviewed the Tests and Experiments Program to verify that the licensee was operating in accordance with 10 CFR 50.59 and related commitments, or requirements.

a. Reference Documents

Nuclear Generation Division Procedures:

- (1) 102.10, "Preparation, Review and Processing of UFSAR Change Requests," Revision 1.
- (2) 102.11, "Preparation, Review and Processing of Technical Specification/Operating License Change Requests," Revision 0.
- (3) 102.2, "NRC and INPO Commitment Tracking," Revision 1.
- (4) 103.044, "10 CFR 50.59 Safety Evaluation for Design Change Packages," Revision 1.
- (5) 103.160, "Final Safety Evaluation," Revision 0

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- (1) 1402.3, "Plant Regulatory Reporting Activities," Revision 0.
- (2) 1410.8, "Post Scram Review," Revision 1.
- (3) 1410.9, "Locked Valve Program," Revision 0.

b. Results of Inspection

The inspector determined that implementation of Procedure No. 103.004, for 10 CFR 50.59 "Safety Evaluation for Design Change Package" was effective. The documented results of the safety evaluations were in accordance with requirements and commitments; however, there was no clearly established procedure for one part of the requirements for reports to the NRC.

10 CFR 50.59 requires that the licensee annually prepare a report about activities associated with changes, tests and experiments, and submit it to the NRC. The inspector determined that the licensee did not have a procedure to implement this requirement; however, annual reports had been prepared in the past even though a procedure had not been prepared for this activity. The licensee committed to prepare a procedure prior to the due date of the next annual report. This is an open item pending NRC review of the new procedure (331/86019-05).

No other concerns were identified in the review of the reference procedures for this area. Management attention was evident and improvements were being made in this area.

No violations were identified.

8. Design Change and Modifications Program:

The inspector reviewed the Design Change and Modification Program to verify that the licensee implemented the program in accordance with regulatory requirements, commitments, industry guides, and standards.

a. Reference Documents

Nuclear Generation Division Procedures:

- (1) 103.000, "Design Control Process," Revision 1.
- (2) 103.001, "Engineering Work Requests (EWR)," Revision 1.
- (3) 103.020, "Engineering Checklists," Revision 1.
- (4) 103.120, "External Design Interface," Revision 1.
- (5) 103.121, "Internal Design Interfaces," Revision 0.
- (6) 103.170, "Design Verification," Revision 1.
- (7) 103.410, "Revising Design Documents associated with Design Change Package," Revision 0.
- (8) 103.420, "Design Change Package Closure Activities," Revision 1.
- (9) 103.180, "Design Change Package Assembly, Review, and Approval," Revision 0.
- (10) 103.008, "Emergency Design Change Packages," Revision 1.
- (11) 114.2, "10 CFR Part 21, Reporting Requirements," Revision 1.

Duane Arnold Energy Center Procedure

1403.2, "Design Change Program," Revision 5.

Design Engineering Department Instruction

2206.5, "Preparation of Advance Information Drawings," Revision 1.

b. Results of Inspection

The inspector's review indicated that the program as defined and implemented by the above procedures generally met requirements and commitments, with the exception of timely closeout of Design Change Packages (DCPs). This contributed to problems with document control, the distribution and use of drawings, and Piping and Instrumentation Diagrams (P&ID's).

Nuclear Generation Division Procedure No. 103.420, Paragraph 5.1 states that DCP closure should be accomplished within 90 days of the date the construction DCP is received by the responsible design organization for closure. The inspector reviewed 15 drawings and determined for 3 drawings it took between 6 and 12 months for release and distribution of the drawings to the control room. The three drawings were M-115, M-116, and M-184.

It appeared that the word "should" in Procedure No. 103.420, for 90 day closure of DCPs was not effective in the timely closeout of the DCPs. The license will conduct a review of this policy and overall performance in this area. This is considered an open item pending review of licensee findings and planned action (331/86019-06).

Personnel in this area appeared to be trained and qualified; however, there was a lack of management attention in the closeout of design changes.

No violations were identified.

9. Document Control Program

The inspector reviewed the Document Control Program to verify that the licensee implemented the program in conformance with the UFSAR, TS, regulatory requirements, commitments, and applicable industry guides and standards.

Reference Documents

a. Nuclear Generation Division Procedures

- (1) 103.007, "Equipment Identification and Control Lists," Revision 0.
- (2) 103.141, "Engineering Drawings," Revision 0.
- (3) 106.4, "Distribution and Document Control," Revision 2.
- (4) 106.5, "Document Control - Advance Information Drawings," Revision 4.
- (5) 106.7, "Control of Design Document Changes (DDC)," Revision 0.
- (6) 115.1, "Corporate Services Document Control," Revision 1.

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- 1406.3, "Revision of Procedures and Instructions," Revision 5.

b. Results of Inspection

The inspector reviewed the status of Document Control and determined that the master indices for drawings, manuals, TS, UFSARS, instructions and procedures, were generally maintained in an acceptable manner. The required revisions of documents were distributed and used at the work locations with one exception. The set of P&IDs maintained in the control room for use by the operations staff was incomplete.

The inspector reviewed the status of a sample of 15 P&IDs and determined that revisions to three P&IDs were missing. The drawings included No. M-115, No. M-116, and No. M-184 which are the same drawings identified in Paragraph 8.b of this report. The licensee had previously checked the status of the P&IDs in November 1986, when all drawings were in the file; however, the licensee did not know which revisions were actually in the file. The inspector determined the actual status of these three P&IDs as follows:

- M-115, Reactor Vessel Instrumentation -
Revision 18 was completed April 2, 1986; however, Revision 19 was completed July 2, 1986, and Revision 20 was complete January 5, 1987.
- M-116, Reactor Recirculation System -
Revision 18 was completed April 24, 1986, and Revision 19 was completed July 18, 1986.
- M-117, Main Steam Isolation Valve Leakage Control -
Revision 5 was completed April 21, 1976; however, Revision 6, was completed January 16, 1986. Before the end of the inspection, P&ID M-117, Revision 6, was placed in the file, approximately one year from the date of revision.

The three P&IDs from the Control Room set were missing for an indeterminate period of time. In each case of the above three P&IDs, a copy of the corresponding Advanced Information Drawing (AID) was available in the control room. The AID included various proposed, in process, completed, and verified as-built changes, so the control room operator had some alternate information available.

Nevertheless, 10 CFR 50, Appendix B, Criterion VI, "Document Control" as implemented by Section 17.2.5.1 of the Iowa Electric UFSAR/DAEC-1 requires in part, that measures shall assure that documents, including changes, be approved for release and distributed to at the location where the prescribed activity is performed. The lack of control of the three P&IDs, is a violation (331/86019007).

One violation was identified.

10. Open Items

Open items are matters that have been discussed with the licensee, which will be reviewed further by the inspector, and involves some action on the part of the NRC, licensee, or both. Open items identified during this inspection are discussed in Paragraphs 4, 6, 7, and 8.

11. Unresolved Items

An unresolved item is a matter about which more information is required in order to ascertain whether it is an acceptable item, a deviation, or a violation. An unresolved item identified during this inspection is discussed in Paragraph 6.

12. Exit Meeting

The inspectors met with licensee representatives (denoted in Paragraph 1) at the conclusion of their inspection and summarized the purpose, scope, and results. The inspectors also discussed the likely content of this inspection report with regard to documents or processes reviewed by the inspectors. The licensee did not identify any such documents or processes as proprietary.