U.S. NUCLEAR REGULATORY COMMISSION
OFFICE OF INSPECTION AND ENFORCEMENT

REGION III

Report No. 50-331/81-12

Docket No. 50-331 License No. DPR-49

Licensee: Iowa Electric Light and Power Company
Post Office Box 351
Cedar Rapids, IA 52406

Facility Name: Duane Arnold Energy Center

Inspection At: Duane Arnold Energy Center, Palo, IA

Inspection Conducted: June 1-30, 1981

Inspectors: W. F. Christianson 9/10/81

for L. S. Clardy 9/10/81

Approved By: W. S. Little, Chief 9/10/81
Projects Section 2

Inspection Summary

Inspection on June 1-30, 1981 (Report No. 50-331/81-12)
Areas Inspected: Routine, unannounced resident inspection consisting of operational safety verification, monthly maintenance observation, monthly surveillance observation, plant trips, startup testing - refueling, start-up testing - modified systems, annual maintenance review and unique Report No. 81-12. The inspection involved 147 inspector-hours onsite by two NRC inspectors including ten inspector-hours onsite during off-shifts.
Results: Of the areas inspected, one item of noncompliance was identified, involving the incorrect preparation of a design change (Paragraph 9).

DETAILS

1. Persons Contacted

Iowa Electric Light and Power Company (IE)

R. McGaughy, Director Nuclear Generation
*D. Mineck, Chief Engineer
*D. Wilson, Assistant Chief Engineer, Rad. Prot./Security (Acting)
J. Vinquist, Assistant Chief Engineer, Technical Support (Acting)
*B. York, Assistant Chief Engineer, Operations
*D. Teply, Operations Supervisor
C. Mick, Assistant Operations Supervisor
*J. VanSickel, Technical Engineer
*K. Young, Radiation Protection Engineer
*L. Voss, Assistant Electrical Maintenance Supervisor, (Acting)
R. McCracken, Quality Control Supervisor
*G. VanMiddlesworth, Reactor & Plant Performance Engineer

In addition, the inspectors interviewed several other licensee personnel including shift supervising engineers, control room operators, engineering personnel, administrative personnel, and contractor personnel (representing the licensee).

*Denotes those contacted at the exit interview.

2. Operational Safety Verification

The inspector observed control room operations, reviewed applicable logs and conducted discussions with control room operators during the month of June. The inspector verified the operability of selected emergency systems, reviewed tagout records and verified proper return to service of affected components. Tours of the reactor building and turbine building were conducted to observe plant equipment conditions, including potential fire hazards, fluid leaks, and excessive vibrations and to verify that maintenance requests had been initiated for equipment in need of maintenance. The inspector by observation and direct interview verified that the physical security plan was being implemented in accordance with the station security plan.

The inspector observed plant housekeeping/cleanliness conditions and verified implementation of radiation protection controls. The inspector also witnessed portions of the radioactive waste system controls associated with radwaste shipments and barreling.

These reviews and observations were conducted to verify that facility operations were in conformance with the requirements established under technical specifications, 10 CFR, and administrative procedures.

No items of noncompliance were identified.

3. Monthly Maintenance Observation

Station maintenance activities of safety related systems and components listed below were observed/reviewed to ascertain that they were conducted in accordance with approved procedures, regulatory guides and industry codes or standards and in conformance with technical specifications.

The following items were considered during this review: the limiting conditions for operation were met while components or systems were removed from service; approvals were obtained prior to initiating the work; activities were accomplished using approved procedures and were inspected as applicable; functional testing and/or calibrations were performed prior to returning components or systems to service; quality control records were maintained; activities were accomplished by qualified personnel; parts and materials used were properly certified; radiological controls were implemented; and, fire prevention controls were implemented.

Work requests were reviewed to determine status of outstanding jobs and to assure that priority is assigned to safety related equipment maintenance which may affect system performance.

The maintenance activities involved with the removal and installation of the Steam Relief Valves were observed/reviewed.

No items of noncompliance were identified.

4. Monthly Surveillance Observation

The inspector observed technical specifications required surveillance testing on the Reactor Core Isolation Cooling System and verified that testing was performed in accordance with adequate procedures, that test instrumentation was calibrated, that limiting conditions for operation were met, that removal and restoration of the affected components were accomplished, that test results conformed with technical specifications and procedure requirements and were reviewed by personnel other than the individual directing the test, and that any deficiencies identified during the testing were properly reviewed and resolved by appropriate management personnel.

No items of noncompliance were identified.

5. Plant Trips

Following the plant trip on June 9, 1981 the inspector ascertained the status of the reactor and safety systems by observation of control room indicators and discussions with licensee personnel concerning plant parameters, emergency system status and reactor coolant chemistry. The inspector verified the establishment of proper communications and reviewed the corrective actions taken by the licensee.

All systems responded as expected, and the plant was returned to operation on June 10, 1981.

No items of noncompliance were identified.

6. Startup Testing - Refueling

The inspector observed the LPRM calibration tests and verified that the refueling outage startup testing was conducted in accordance with technically adequate procedures and that the facility was being operated within license limits.

No items of noncompliance were identified.

7. Startup Testing-Modified Systems

The inspector verified that the licensees startup testing of the Steam Relief Valves (SRV) was in accordance with regulatory requirements and licensee approved procedures and administrative controls. The preliminary data of the SRV/Torus testing was within the previously established criteria. A detailed test results report will be issued by G.E. at a later date.

No items of noncompliance were identified.

8. Maintenance

The inspector verified by observation and record review that maintenance activities on the systems listed below were conducted in accordance with approved procedures, regulatory guides and industry codes or standards and in conformance with Technical Specifications.

The following items were considered during this review: The required approvals were obtained prior to initiating the work; that limiting conditions for operation were met while the components or systems were removed from service; that inspections were made in accordance with provisions of the licensee's requirements; that functional testing and calibrations were completed prior to returning the systems to service; and that the activity was accomplished by qualified personnel.

Procedures for the maintenance activities were reviewed to insure they were technically adequate and included; provisions for fire protection/prevention and cleanliness, and housekeeping; inspection hole points; testing and acceptance reauirements; provisions for adherence to Technical Specifications during maintenance; properly specified parts and materials were used; consideration was given to radiological hazards involved.

Maintenance work orders for safety related systems were reviewed. The inspector determined that the work was done in a timely manner and that an excessive backlog was not developing.

Maintenance on the following systems was reviewed.

Reactor Core Isolation Cooling,
Rod Sequence Control,
Neutron Monitoring,
Containment Isolation,
Steam Relief and Auto Depressurization,
Reactor Water Cleanup,
Diesel Generators

No items of noncompliance were identified.

9. Unique Report 81-02

Unique Report 81-02 was submitted on June 12, 1981, by the licensee. It described how Design Change Request (DCR) 918 was prepared and implemented in such a way as to create an undesirable condition and which was not a part of the design basis for the change. Unique Report 81-02 is attached to this report on Attachment No. 1 and describes the scope of the problem and the steps taken to correct it. Attachment No. 2 is a summary prepared by the licensee which describes the steps taken by the licensee to assure that the DCR's implemented in 1980 were properly prepared and implemented.

The inspectors confirmed by interviewing operating personnel and by review of plant records, that during the time the Group 3 isolation logic had been improperly modified, the containment purge and vent isolation valves had been kept closed whenever the reactor was not in the cold shutdown or refueling mode in compliance with NRC letter to the licensee dated October 22, 1979. The licensee exercised administrative control over purging and venting by requiring management approval prior to these actions.

The inspectors stated that the failure to accurately prepare DCR-918, resulting in the failure to modify the Group 3 isolation valves logic as intended, was in violation of 10 CFR 50, Appendix B, Criterion III. Criteria III states, "Measures shall be established to assure that... the design basis,...for those structures, systems and components to which this appendix applies are correctly translated into specifications, drawings, procedures and instructions."

Since the inspectors have confirmed that the licensee has taken action to correct DCR-918 and to verify that other DCR's implemented in 1980 were done properly, the licensee in his reply to the noncompliance, will be asked to describe the steps that he has taken or will take to assure that DCR's are properly prepared, implemented and closed out.

10. Exit Interview

Due to the length of the inspection and the diversity of areas inspected, the exit interviews were conducted on a weekly basis between the NRC inspectors and the appropriate licensee personnel.

In each case the scope and findings of the individual inspection areas were summarized.