

U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Report No. 50-331/82-13(DPRP)

Docket No. 50-331

License No. DPR-49

Licensee: Iowa Electric Light and Power Company
IE Towers, P. O. Box 351
Cedar Rapids, IA 52406

Facility Name: Duane Arnold Energy Center

Inspection At: Palo, IA

Inspection Conducted: August 1 - September 30, 1982

Inspector: *[Signature]*
S. Clardy

11/8/82

Approved By: *[Signature]*
R. D. Walker, Chief
Projects Section 2C

11/8/82

Inspection Summary

Inspection on August 1-September 30, 1982 (Report No. 50-331/82-13(DPRP))

Areas Inspected: Routine resident inspection of Operational Safety Verifi-
cation; Monthly Maintenance Observation; Monthly Surveillance Observation;
Licensee Event Reports Followup; Review of Plant Operations; Plant Trips;
Independent Inspection and Followup of Regional Requests. The inspection
involved a total of 159 inspector-hours onsite by one NRC inspector including
20 inspector-hours onsite by one inspector during off-shifts.

Results: Of the eight areas inspected, no items of noncompliance or deviations
were identified.

DETAILS

1. Persons Contacted

- +L. Liu, President, Iowa Electric
- +S. Tuthill, Senior Vice President, Iowa Electric
- +L. Root, Assistant Vice President, Nuclear Generation
- +R. McGaughy, Director Nuclear Generation
- +*D. Mineck, Plant Superintendent - Nuclear
 - P. Ward, Manager Design Engineering
 - D. Wilson, Assistant Plant Superintendent - Rad Protection/Security
 - J. Vinqvist, Assistant Plant Superintendent - Technical Support
- *B. York, Assistant Plant Superintendent - Operations
- *D. Teply, Operations Supervisor
 - C. Mick, Assistant Operations Supervisor
 - K. Young, Radiation Protection Supervisor
- *L. Voss, Assistant Electrical Maintenance Supervisor
- R. McCracken, Quality Control Supervisor
- *E. Matthews, Corporate Quality Assurance Manager

In addition, the inspector 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 management meeting.
- *Denotes those contacted at the exit interviews.

2. Operational Safety Verification

The inspector observed control room operations, reviewed applicable logs and conducted discussions with control room operators during the inspection period. 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. During the inspection period, the inspector walked down the accessible portions of the High Pressure Coolant Injection, Diesel Generator and Reactor Core Isolation Cooling systems to verify operability. 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 or deviations 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 following maintenance activities were observed/reviewed:

High Pressure Coolant Injection Lube Oil Repairs
Reactor Core Isolations Cooling Flow Controller Repairs

Following completion of maintenance on the High Pressure Coolant Injection and Reactor Core Isolation Cooling Systems, the inspector verified that these systems had been returned to service properly.

No items of noncompliance or deviations were identified.

4. Monthly Surveillance Observation

The inspector observed/reviewed technical specifications required surveillance testing on the High Pressure Coolant Injection and Reactor Core Isolation Cooling Systems, 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 or deviations were identified.

5. Licensee Event Reports Followup

Through direct observations, discussions with licensee personnel, and review of records, the following event reports were reviewed to determine that reportability requirements were fulfilled, immediate corrective action was accomplished, and corrective action to prevent recurrence had been accomplished in accordance with technical specifications.

82-17/03-0	Closed	"A" Standby Filter Unit Inoperable. Procedures revised and appropriate personnel instructed.
82-18/03-0	Closed	Suppression Pool Level Transmitter Out of Calibration.
82-19/03-0	Closed	Main Steam Leak Detection TIS Out of Calibration.
82-20/01-0	Closed	IG-21 Diesel Generator Inoperable
01-1	Closed	These items are covered in IR 50-331/82-05(DPRP)
01-2	Closed	
82-21/03-0	Closed	Wet Charcoal in "A" Standby Gas Treatment. The charcoal was replaced and procedures revised to ensure heaters are energized for adequate time lengths to keep the charcoal dry.
82-22/03-0	Closed	High Pressure Coolant Injection Spring Can Hanger Damaged. The hanger was repaired and an engineering evaluation done for possible system degradation.
82-23/03-0	Closed	4KV Undervoltage Trip Out of Calibration.
82-24/03-0	Closed	Reactor Core Isolation Cooling DP Switch Out of Calibration.
82-25/03-0	Closed	Control Valve 43270 Inoperable.
82-26/03-0	Closed	"C" Main Steam Leakage Control System Inoperable.
82-27/03-0	Closed	Drywell Pressure Switches Out of Calibration.
82-28/03-0	Closed	RHR Keep Fill Piping Degradation. The piping was replaced.

No items of noncompliance or deviations were identified.

6. Review of Plant Operations

During the inspection period the inspector reviewed the following activities:

a. Training

The inspector verified by direct questioning of one new, one existing, and one temporary employee that administrative controls and procedures, radiological health and safety, industrial safety, controlled access and security procedures, emergency plan, and quality assurance training were provided as required by the licensee's technical specifications; verified by direct questioning of one craftsmen and one technician that on-the-job training, formal technical training commensurate with job classification, and fire fighting training were provided.

d. Environmental Protection

The inspector verified the installation and operability of selected environmental sampling (monitoring) stations and associated equipment and reviewed records for completeness and accuracy.

g. Licensee Action Concerning Identified Problems

The inspector reviewed corrective actions taken by the licensee pertaining to recurring failures and resolution of identified discrepancies involving safety-related components.

In addition, the inspector reviewed the licensee's Regulatory Improvement Program and its implementation.

No items of noncompliance or deviations were identified.

7. Plant Trips

Following the plant trip on August 26, 1982, the inspector ascertained the status of the reactor and safety systems by 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.

The initiating factor leading to the reactor trip was a failed open "B" Feedwater Regulating Valve. The valve failed open due to internal build up of dessicant in the electro-pneumatic controller causing the air supply valve to remain open. This controller is not disassembled and cleaned as part of its preventive maintenance. The licensee has committed to inspecting the "A" Feedwater Regulating Valve controller and the associated air lines during the next refueling outage. This is an open item (50-331/82-13-01). In addition, the licensee is performing a design review of his air system to ensure its adequacy.

No items of noncompliance or deviations were identified.

8. Independent Inspection

On May 11, 1982, while inerting the drywell licensee personnel identified that an oxygen deficiency existed in the Standby Gas Treatment Room. The licensee verified the correct damper line up for inerting the drywell and immediately locked the door to control access. The licensee now requires Health Physics coverage prior to entry and will place an oxygen analyzer in the room permanently. The licensee has committed to performing testing on a subsequent startup to see if this is a recurrent problem. This is an open item (50-331/82-12-02).

The inspector questioned several other Boiling Water Reactor (BWR) personnel on this problem and it has not been exhibited at other plants having a separate Standby Gas Treatment Room.

No items of noncompliance or deviations were identified.

9. Followup on Regional Requests

a. High Pressure Coolant Injection (HPCI)/Reactor Core Isolation Cooling (RCIC) Steam Flow Sensors

A potential generic item on the HPCI and RCIC high steam flow pressure switches has been discovered on some BWR's. The two switches on each system have a common low and high pressure sensing line but separate equalizing and isolation valves. If one equalizing valve leaks it can cause an erroneous actuation of the switches. The sensing lines at Duane Arnold were reviewed on both HPCI and RCIC and each switch has separate sensing lines and separate equalizing and isolation valves.

b. Iowa Electric Quality Control Qualification Program

The inspector reviewed the Iowa Electric Quality Control Engineering (QCE) qualification program. Although not assessed for content, and not fully implemented, the program appears to be an effective one. The program was discussed in detail with the licensee's Quality Assurance Manager.

No items of noncompliance or deviations were identified.

10. Management Meeting

On September 13, 1982, a management meeting was held in the Region III office to discuss the licensee's Regulatory Improvement Program. The licensee outlined the program they have put in place to correct previously identified weak areas and to prevent future problem areas from occurring. This is an ongoing program and periodic meetings will be held to assess licensee performance and progress.

11. Exit Interview

Due to the length of the inspection and the diversity of the areas inspected, exit interviews were conducted on a weekly basis between the NRC inspector and the appropriate licensee personnel. In each case, the scope and findings of the individual inspection areas were summarized.