February 14, 1984

Docket No. 50-331

Mr. Lee Liu
Chairman of the Board and
Chief Executive Officer
Iowa Electric Light and Power Company
Post Office Box 351
Cedar Rapids, Iowa 52406

Dear Mr. Liu:

The Commission has issued the enclosed Amendment No. 93 to Facility Operating License No. DPR-49 for the Duane Arnold Energy Center. This amendment consists of changes to the Technical Specifications in response to your application dated November 10, 1981.

The amendment revises the Duane Arnold Energy Center Technical Specifications to incorporate the following administrative changes:

(1) Section 3.2/4.2-H is added to provide a reference to Tables 3.2-H and 4.2-H.

(2) Table 3.2-G is revised to reflect that the trip level setting of greater than or equal to -38.5 in. indicated level is the reactor low-low water level rater than the reactor low water level. Also, the RPT system (response time) trip level setting is provided and the note that this value would be determined by testing is removed.

(3) Sections 3.13.B.2 and 3.13.B.3.b are revised to be consistent with the wording of Sections 3.13.A.3, 3.13.C.3 and 3.13.D.3. This is also consistent with Section 6.11.

(4) In Section 6.6 the Assistant Vice President - Nuclear Generation is replaced by Director, Nuclear Generation.

(5) Section 6.9 is revised to provide a proposed alternative to the requirements of 10CFR20 Paragraph 20.203(c)(2).

(6) Section 6.11 is revised to add Specification 3.13.B.2 to the Fire Protection Systems for which Special Reports shall be submitted. This is consistent with Section 3.13.B.

A copy of the related Safety Evaluation is also enclosed.

Sincerely,

Original signed by/

Mohan C. Thadani, Project Manager
Operating Reactors Branch #2
Division of Licensing

Enclosures:
1. Amendment No. 93 to
   License No. DPR-49
2. Safety Evaluation

cc w/enclosures:
See next page

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Mr. Lee Liu
Iowa Electric Light and Power Company
Duane Arnold Energy Center

cc:

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WASHINGTON, D. C. 20555

IOWA ELECTRIC LIGHT AND POWER COMPANY
CENTRAL IOWA POWER COOPERATIVE
CORN BELT POWER COOPERATIVE

DOCKET NO. 50-331

DUANE ARNOLD ENERGY CENTER

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 93
License No. DPR-49

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment by Iowa Electric Light & Power Company, et al, dated November 10, 1981, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;

   B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;

   C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;

   D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and

   E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment and paragraph 2.C.(2) of Facility Operating License No. DPR-49 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 93 , are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. The license amendment is effective as of the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Domenic B. Vassallo, Chief
Operating Reactors Branch #2
Division of Licensing

Attachment:
Changes to the
Technical Specifications

Date of Issuance: February 14, 1984

ATTACHMENT TO LICENSE AMENDMENT NO. 93

FACILITY OPERATING LICENSE NO. DPR-49

DOCKET NO. 50-331

Replace the following pages of the Appendix "A" Technical Specifications with the enclosed pages. The revised pages are identified by Amendment number and contain vertical lines indicating the area of changes.

AFFECTED PAGE
3.2-4
3.2-23
3.13-4
6.9-1
6.9-2
6.9-3
6.9-4
6.11-11

ADD PAGE
6.9-5

LIMITING CONDITION FOR OPERATION	SURVEILLANCE REQUIREMENT
G. Recirculation Pump Trip (ATWS) The limiting conditions for operation for the instrumentation that trips the recirculation pumps as a means of limiting the consequences of a failure to scram during an anticipated transient are given in Table 3.2-G. (EOC) The limiting conditions for operation for the instrumentation that trips the recirculation pumps during turbine stop valve or control valve fast closure for transient margin improvement (especially for end of cycle) are given in Table 3.2-G.	G. Recirculation Pump Trip Instrumentation and logic shall be functionally tested, calibrated, and response time tested as indicated on Table 4.2-G.
H. Accident Monitoring Instrumentation The limiting conditions for operation for the accident monitoring instrumentation are given in Table 3.2-H.	H. Accident Monitoring Instrumentation Instrumentation shall be checked and calibrated as indicated in Table 4.2-H.

TABLE 3.2-G

INSTRUMENTATION THAT INITIATES RECIRCULATION PUMP TRIP

Minimum Number of Operable Instrument Channels per Trip System (1)	Instrument	Trip Level Setting	Number of Instrument Channels Provided by Design	Action
1	(ATWS) Reactor High Pressure	$\leq$ 1120 psig	4	(2)
1	(ATWS) Reactor Low-Low Water Level	$\geq$ -38.5 in. indicated level	4	(2)
1	(EOC) RPT Logic	N/A	2	(3)
1	(EOC) RPT System (Response Time)	$\leq$ 140 msec (4)	2	(3)

NOTES FOR TABLE 3.2-G

1. Whenever the reactor is in the RUN Mode, there shall be one operable trip system for each parameter for operating recirculation pump. If this cannot be met, the indicated action shall be taken.

2. Reduce power and place the mode selector-switch in a mode other than the RUN Mode.

3. Two EOC RPT systems exist, either of which will trip both recirculation pumps. The systems will be individually functionally tested monthly. If the test period for one RPT systems exceeds 2 consecutive hours, the system will be declared inoperable. If both RPT systems are inoperable or if 1 RPT system is inoperable for more than 72 consecutive hours, an orderly power reduction shall be initiated and the reactor power shall be less than 85% within 4 hours.

4. This response time is from initiation of Turbine control valve fast closure or Turbine stop valve closure to actuation of the breaker secondary (auxiliary) contact.

LIMITING CONDITIONS FOR OPERATI	SURVEILLANCE REQUIREMENT
	h. At least once per 18 months, during shutdown, by verifying the diesel starts from ambient conditions on the auto-start signal and operates for ≥ 30 minutes while loaded with the fire pump.
	i. At least once per 31 days by verifying that the diesel day tank contains fuel for two hours' operation.
	j. At least once per month by verifying that each valve in the flow path is in its correct position.
2. When only one pump is operable, restore the second fire pump to operable status within 7 days or prepare and submit a Special Report to the Commission pursuant to specification 6.11 within the next 30 days outlining the plans and procedures to be used to provide for the loss of redundancy in this system.	2. When it is determined that only one pump is operable, that pump shall be demonstrated operable immediately and daily thereafter until Specification 3.13.B.1 can be met.
3. If no Fire Suppression Water System is operable:	
a. Establish a backup fire suppression water system within 24 hours; and	
b. Submit a Special Report to the Commission pursuant to Specification 6.11 within 30 days outlining the cause of the inoperability and the plans for restoring the system to operable status.	
c. If 3a above cannot be fulfilled, place the reactor in Hot Standby within the next six (6) hours and in Cold Shutdown within the following thirty (30) hours.	
4. When the maintenance on the circulating water/fire water pump pit is performed, the river water supply system will be maintained in a condition to restore fire water supply within one hour and a roving fire watch will be established in all power block buildings.	

6.9 RADIOLOGICAL PROCEDURES

6.9.1 Procedures for personnel radiation protection shall be prepared consistent with the requirements of 10 CFR Part 20 and shall be approved, maintained and adhered to for all operations involving personnel radiation exposure.

6.9.2 HIGH RADIATION AREA

In lieu of the "control device" or alarm signal" required by paragraph 20.203(c)(2) of 10 CFR 20, each high radiation area in which the intensity of radiation is greater than 100 mrem/hr but less than 1000 mrem/hr shall be barricaded and conspicuously posted as a high radiation area and entrance thereto shall be controlled by requiring issuance of a Radiation Work Permit.* Any individual or group of individuals permitted to enter such areas shall be provided with or accompanied by one or more of the following:

a. A radiation monitoring device which continuously indicates the radiation dose rate in the area.

b. A radiation monitoring device which continuously integrates the radiation dose rate in the area and alarms when a preset integrated dose is received. Entry into such areas with this monitoring device may be made after the dose rate level in the area has been established and personnel have been made knowledgeable of them.

c. A health physics qualified individual (i.e., qualified in radiation protection procedures) with a radiation dose rate monitoring device who is responsible for providing positive control over the activities within the area and shall perform periodic radiation surveillance at the frequency specified by the facility Health Physics Supervisor in the Radiation Work Permit.

6.9.3 In addition to the requirements of 6.9.2, areas accessible to personnel with radiation levels such that a major portion of the body could receive in one hour dose greater than 1000 mrem shall be provided with locked doors to prevent unauthorized entry, and the keys shall be maintained under the administrative control of the Shift Supervisor Engineer on duty and/or health physics supervision. Doors shall remained locked except during

periods of access by personnel under an approved Radiation Work Permit which shall specify the dose rate levels in the immediate work area and the maximum allowable stay time for individuals in that area. For individual areas accessible to personnel with radiation levels such that a major portion of the body could receive in one hour dose in excess of 1000 mrem** that are located within large areas, where no enclosure exists for purposes of locking, and no enclosure can be reasonably constructed around the individual areas, then that area shall be roped off, conspicuously posted and a flashing light shall be activated as a warning device. In lieu of the stay time specification of the RWP, direct or remote continuous surveillance may be made by personnel qualified in radiation protection procedures to provide positive exposure control over the activities within the area.

* Health Physics personnel or personnel escorted by Health Physics personnel shall be exempt from the RWP issuance requirement during the performance of their assigned radiation protection duties, provided they are following plant radiation protection procedures for entry into high radiation areas.

** Measurement made at 18" from source of radioactivity.

SPECIFICATION	SURVEILLANCE REQUIREMENT
6.9.4 Source Leakage Test Radioactive sources shall be leak tested for contamination. The leakage test shall be capable of detecting the presence of 0.005 microcurie of radioactive material on the test sample. If the test reveals the presence of 0.005 microcurie or more of removable contamination, it shall immediately be withdrawn from use, decontaminated and repaired, or be disposed of in accordance with Commission regulations. Those quantities of by-product material that exceed the quantities listed in 10 CFR 30.71 Schedule B are to be leak tested in accordance with the schedule shown in Surveillance Requirements. All other sources (including alpha emitters) containing greater than 0.1 microcurie are also to be leak tested in accordance with the Surveillance Requirements.	7.9.4 Source Leakage Test A. Test for leakage and/or contamination shall be performed by the licensee or by other persons specifically authorized by the Commission or an agreement State, as follows: 1. Each sealed source, except startup sources subject to core flux, containing radioactive material, other than Hydrogen 3, with a half-life greater than thirty days and in any form other than gas shall be tested for leakage and/or contamination at intervals not to exceed six months. 2. The periodic leak test required does not apply to sealed sources that are stored and not being used. The sources excepted from this test shall be tested for leakage prior to any use or transfer to another user unless they have been leak tested within six months prior to the date of use or transfer. In the absence of a certificate from a transferor indicating that a test has been made within six months prior to the transfer, sealed sources shall not be put into use until tested.

SPECIFICATION	SURVEILLANCE REQUIREMENT
	3. Startup sources shall be leak tested prior to and following any repair or maintenance and before being subjected to core flux.
B. Reporting Requirements Results of the leak tests performed on sources shall be included in the Annual Operating Report if the tests reveal the presence of 0.005 microcurie or more of removable contamination.	

6.9.4 BASES

Ingestion or inhalation of source material may give rise to total body or organ irradiation. This specification assures that leakage from radioactive material sources does not exceed allowable limits. In the unlikely event that those quantities of radioactive by-product materials of interest to this specification which are exempt from leakage testing are ingested or inhaled, they represent less than one maximum permissible body burden for total body irradiation. The limits for all other sources (including alpha emitters) are based upon 10 CFR 70.39(c) limits for plutonium.

a. Reactor vessel base, weld and heat affected zone metal test specimens (Specification 4.6.A.2).

b. I-131 dose equivalent exceeding 50% of equilibrium value (Specification 4.6.B.1.h).

c. Inservice inspection (Specification 4.6.G).

d. Reactor Containment Integrated Leakage Rate Test (Specification 4.7.A.2.f).

e. Auxiliary Electrical System - Operation with inoperable components (Specification 3.8.B.4).

f. Fire Protection Systems (Specifications 3.13.A.3, 3.13.B.2, 3.13.B.3, 3.13.C.3, and 3.13.D.3).

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 93 TO LICENSE NO. DPR-49

IOWA ELECTRIC LIGHT AND POWER COMPANY
CENTRAL IOWA POWER COOPERATIVE
CORN BELT POWER COOPERATIVE

DUANE ARNOLD ENERGY CENTER

DOCKET NO. 50-331

1.0 Introduction

By letter dated November 10, 1981 (IELP LDR-81-297) the Iowa Electric Light and Power Company (the licensee) requested changes to the Technical Specifications (Appendix A) appended to Facility Operating License No. DPR-49 for Duane Arnold Energy Center (DAEC). The proposed amendment would revise the Technical Specifications and incorporate the following administrative changes into the DAEC Technical Specifications: change a reference regarding Accident Monitoring Instrumentation Table; change the Reactor Pump Trip response time setting; change Special Reports section to require reports "within 30 days"; change a position title; change High Radiation Areas access requirements of 10CFR20.203; and add a reference to the Fire Protection System Special Reports section.

2.0 Evaluation

2.1 Background

Several administrative changes are being made to the Technical Specifications. These include a change regarding a reference to the Accident Monitoring Instrumentation tables, a revision to the section on Special Reports to include the requirement "within 30 days" for the purposes of achieving consistency throughout the Technical Specifications, a change in a position title, and a change adding a reference to the Fire Protection Systems Special Reports section. We find these changes to be purely administrative and, therefore, acceptable.

2.2 Reactor Pump Trip Response Time Setting

A new requirement has been added to assure that the Reactor Pump Trip response time will not exceed 140 milliseconds, measured from initiation of turbine control valve fast closure or turbine trip valve closure to actuation breaker secondary (auxiliary) contact. This requirement replaces the previous specifications which allows the response time to be determined by testing after installation.

The licensee has completed the response time tests and has determined that the response time will not exceed 140 milliseconds. No further response time tests are needed and the requested Technical Specification change which is intended to clearly specify the response time limit, is acceptable.

2.3 High Radiation Areas Access Requirements

Positive control of personnel access into high radiation areas is required. Each entry must be controlled unambiguously in a manner which in consistent with good radiation protection practice. The Standard Technical Specifications for high radiation area access control have been written to express clearly the manner in which positive control for entry into high radiation areas will be exercised. The Duane Arnold submittal of November 10, 1981 is acceptable because the modification establishes improved physical and administrative methods for access control and provides clear, definitive conditions for positive access control for entry into high radiation area. The proposed change is, therefore, acceptable.

3.0 Environmental Considerations

We have determined that the amendment does not authorize a change in effluent types or total amounts nor an increase in power level and will not result in any significant environmental impact. Having made this determination, we have further concluded that the amendment involves an action which is insignificant from the standpoint of environmental impact, and pursuant to 10 CFR §51.5(d)(4), that an environmental impact statement, or negative declaration and environmental impact appraisal need not be prepared in connection with the issuance of this amendment.

4.0 Conclusion

We have concluded, based on the considerations discussed above, that (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (2) such activities will be conducted in compliance with the Commission's regulations, and the issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Reviewer: M. Thadani

Dated: February 14, 1984