

February 1, 1985

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. 110 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 October 5, 1984.

The amendment revises the Technical Specifications to incorporate the requirements of automatic actuation of the automatic depressurization system (ADS) valves in accidents which do not involve a high containment pressure, and provides for surveillance requirements of manual override switches.

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. 110 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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UNITED STATES
NUCLEAR REGULATORY COMMISSION
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. 110
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 October 5, 1984, 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:

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(2) Technical Specifications

- The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 110, 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 1, 1985

ATTACHMENT TO LICENSE AMENDMENT NO. 110

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 contains vertical lines indicating the area of changes.

AFFECTED PAGES

3.2-8
3.2-10
3.2-11
3.2-27
3.2-33

TABLE 3.2-B

INSTRUMENTATION THAT INITIATES OR CONTROLS THE CORE AND CONTAINMENT COOLING SYSTEMS

Minimum No. of Operable Instrument Channels Per Trip System (1)	Trip Function	Trip Level Setting	Number of Instrument Channels Provided by Design	Remarks
2	Reactor Low-Low Water Level	> + 119.5 in. indicated Level (4)	4 HPCI & RCIC Instrument Channels	Initiates HPCI & RCIC
2	Reactor Low-Low-Low Water Level	> + 18.5 in. indicated Level (4)	4 Core Spray & RHR Instrument Channels 4 ADS Instrument Channels	1. In conjunction with Low Reactor Pressure initiates Core Spray and LPCI 2. In conjunction with confirmatory low level, 120 second time delay and LPCI or Core Spray pump interlock initiates Auto Blowdown (ADS) 3. Initiates starting of Diesel Generator
2	Reactor High Water Level	< + 211 in. indicated Level (4)	2 Instrument Channels	Trips HPCI and RCIC turbines

TABLE 3.2-8 (Continued)

INSTRUMENTATION THAT INITIATES OR CONTROLS THE CORE
AND CONTAINMENT COOLING SYSTEMS

Minimum No. of Operable Instrument Channels Per Trip System (1)	Trip Function	Trip Level Setting	Number of Instrument Channels Provided by Design	Remarks
1	Reactor Low Pressure	$p \leq 135$ psig	2 Instrument Channels	In conjunction with PCIS signal permits closure of RHR (LPCI) injection valves
2	Reactor Low Pressure	≥ 900 psig	4 Instrument Channels	Prevents actuation of LPCI break detection circuit (1 Recirc Pump Running)
1	Core Spray Pump Start Timer	5 sec	2 timers	In conjunction with loss of power initiates the starting of CSCS pump
1	LPCI Pump Start Timer	10 sec 15 sec	2 timers 2 timers	In conjunction with loss of power initiates the starting of LPCI pumps.

TABLE 3.2-B (Continued)

INSTRUMENTATION THAT INITIATES OR CONTROLS THE CORE AND CONTAINMENT COOLING SYSTEMS

Minimum No. of Operable Instrument Channels Per Trip System (1)	Trip Function	Trip Level Setting	Number of Instrument Channels Provided by Design	Remarks
1	Auto Blowdown Timer	120 sec \pm sec	2 timers	In conjunction with Low Reactor Water Level and LPCI or Core Spray Pump running interlock, initiates Auto Blowdown
2	RHR (LPCI) Pump Discharge Pressure Interlock	125 \pm 25 psig	4 channels	Defers ADS actuation pending confirmation of Low Pressure core cooling system operation (LPCI or Core Spray Pump running interlock)
2	Core Spray Pump Discharge Pressure Interlock	145 \pm 20 psig	4 channels	" "
1	RHR (LPCI) Trip System bus power monitor	Not applicable (6)	2 Inst. Channels	Relay which continuously monitors availability of power to logic systems and annunciates upon loss of power
1	Core Spray Trip System bus power monitor	Not applicable (6)		" "

TABLE 4.2-B (Continued)

MINIMUM TEST AND CALIBRATION FREQUENCY FOR CSCS

<u>Logic System Functional Test (4), (6)</u>	<u>Calibration Frequency(9)</u>
1) Core Spray Subsystem	Once/6 months
2) Low Pressure Coolant Injection Subsystem	Once/6 months
3) Containment Spray Subsystem	Once/6 months
4) HPCI Subsystem	Once/6 months
5) HPCI Subsystem Auto Isolation	Once/6 months
6) ADS Subsystem (10)	Once/6 months
7) RCIC Subsystem Auto Isolation	Once/6 months
8) Area Cooling for Safeguard System	Once/6 months
9) Low-Low Set Function	Once/6 months

These instrument channels will be calibrated using simulated electrical signals.

4. Simulated automatic actuation shall be performed once each operating cycle. Where possible, all logic system functional tests will be performed using the test jacks.
5. Reactor low water level, high drywell pressure and high radiation main steam line tunnel are also included on Table 4.1-2.
6. The logic system functional tests shall include a calibration of time delay relays and timers necessary for proper functioning of the trip systems.
7. These signals are not PCIS trip signals but isolate the Reactor Water Cleanup system only.
8. This instrumentation is excepted from the functional test definition. The functional test will consist of comparing the analog signal of the active thermocouple element feeding the isolation logic to a redundant thermocouple element.
9. Functional tests and calibrations are not required on the part of the system that is not required to be operable or is tripped. Functional tests shall be performed prior to returning the system to an operable status with a frequency not less than once per month. Calibrations shall be performed prior to returning the system to an operable status with a frequency not less than those defined in the applicable table. However, if maintenance has been performed on those components, functional tests and calibration shall be performed prior to returning to service.
10. A functional test shall be performed for the ADS manual inhibit switches as part of the ADS subsystem tests.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 110 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 October 5, 1984, the Iowa Electric Light and Power Company (the licensee) proposed changes to the Duane Arnold Energy Center (DAEC) Technical Specifications to incorporate changes resulting from the licensee's commitment to modify the (DAEC) automatic depressurization system (ADS) logic. The present ADS configuration will require manual actuation of the ADS in accidents which do not involve a high containment pressure. The proposed change would require automatic actuation of the ADS without the presence of containment high pressure. A manual switch is provided to permit the operators to override the automatic ADS actuation if the operators determine that ADS actuation is not needed. The proposed request will add the testing requirement for the manual override switch to the Technical Specifications. The operation of the facility in the proposed manner would result in automatic initiation of the blowdown where manual blowdown was permitted by the plant configurations, and would require testing (during surveillance) of the manual override switches to be added to the Technical Specifications.

2.0 Evaluation

By a letter dated June 6, 1984, the NRC staff informed the licensee that its commitments to modify ADS actuation logic satisfied the requirements of TMI Action Item II.K.3.18, and were acceptable. Subsequently, by a letter dated October 5, 1984, the licensee proposed Technical Specification changes which account for the committed modifications for the ADS actuation and manual override. The licensee has indicated that the proposed modifications are planned for the forthcoming refueling outage commencing in February 1985. We have reviewed the licensee's request and find that the inclusion of the automatic actuation of ADS and the surveillance of manual override switch in the Technical Specifications is consistent with the objectives of the Action Item II.K.3.18. We therefore find that the proposed changes are acceptable.

3.0 Environmental Considerations

This amendment involves a change in the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20.

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The staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that this amendment involves no significant hazards consideration and there has been no public comment on such finding. Accordingly, this amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need 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 Contributor: Mohan C. Thadani

Dated: February 1, 1985