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APR 12 1982

Mr. Duane Arnold, President  
 Iowa Electric Light and Power  
 Company  
 P. O. Box 351  
 Cedar Rapids, Iowa 52406

Dear Mr. Arnold:

The Commission has issued the enclosed Amendment No. 73 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 9, 1980 and subsequent discussions between the NRC staff and your staff. These changes have been discussed with and agreed to by members of your staff.

These changes to the Technical Specifications incorporate surveillance requirements for the scram discharge volume (SDV) vent and drain valves and limiting conditions for operation/surveillance requirements for reactor protection system and control rod withdrawal block SDV level instrumentation.

Our contractor, the Franklin Research Center (FRC), has reviewed your submittal and concluded that the proposed Technical Specification changes are acceptable.

We have reviewed the FRC Technical Evaluation Report (TER) and agree with its conclusions. The enclosed Safety Evaluation Report (SER) documents our findings.

A copy of the Notice of Issuance is also enclosed.

Sincerely,

ORIGINAL SIGNED BY

Kenneth T. Eccleston, Project Manager  
 Operating Reactors Branch #2  
 Division of Licensing

Enclosures:

1. Amendment No. 73 to DPR-49
2. FRC TER
3. SER
4. Notice of Issuance

cc w/enclosures:

See next page

OFFICE	ORB#2:DL	ORB#2:DL	C-ORB#2:DL	AD-OR:DI	OELD		
SURNAME	SNorris	KEccleston	DVassallo	INovak	V.D. Lator		
DATE	4/6/82	4/2/82:cb	4/6/82	4/1/82	4/8/82		

*no legal objection*

Mr. Duane Arnold  
Iowa Electric Light & Power Company

cc:

Mr. Robert Lowenstein, Esquire  
Harold F. Reis, Esquire  
Lowenstein, Newman, Reis and Axelrad  
1025 Connecticut Avenue, N. W.  
Washington, D. C. 20036

Office for Planning and Programming  
523 East 12th Street  
Des Moines, Iowa 50319

Chairman, Linn County  
Board of Supervisors  
Cedar Rapids, Iowa 52406

Iowa Electric Light & Power Company  
ATTN: D. L. Mineck  
P. O. Box 351  
Cedar Rapids, Iowa 52406

U.S. Environmental Protection Agency  
Region VII Office  
Regional Radiation Representative  
324 East 11th Street  
Kansas City, Missouri 64106

Cedar Rapids Public Library  
428 Third Avenue, S.E.  
Cedar Rapids, Iowa 52401

U.S. Nuclear Regulatory Commission  
Resident Inspector's Office  
Rural Route #1  
Palo, Iowa 52324

James G. Keppler  
Regional Administrator, Region III  
U.S. Nuclear Regulatory Commission  
799 Roosevelt Road  
Glen Ellyn, IL 60137



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

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 73  
License No. DPR-49

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by Iowa Electric Light and Power Company, et. al., dated October 9, 1980, 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. 73, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

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

FOR THE NUCLEAR REGULATORY COMMISSION

A handwritten signature in black ink, appearing to read "D. B. Vassallo", with a long horizontal stroke extending to the right.

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

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: April 12, 1982

ATTACHMENT TO LICENSE AMENDMENT NO. 73

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 change.

REMOVE

3.2-16  
3.2-18  
3.2-28  
3.3-2

REPLACE

3.2-16  
3.2-18  
3.2-28  
3.3-2

TABLE 3.2-C

Minimum No.  
of Operable  
Instrument  
Channels Per  
Trip System

Instrument

Trip Level Setting

Number of  
Instrument Channels  
Provided by Design

Action

2	APRM Upscale (Flow Biased)	$\leq (0.66 W + 42) \left( \frac{\text{FRP}}{\text{MFLPD}} \right)^{(2)}$	6 Inst. Channels	(1)
2	APRM Upscale (Not in Run Mode)	$\leq 12$ indicated on scale	6 Inst. Channels	(1)
2	APRM Downscale	$\geq 5$ indicated on scale	6 Inst. Channels	(1)
1 (7)	Rod Block Monitor (Flow Biased)	$\leq (0.66 W + 39) \left( \frac{\text{FRP}}{\text{MFLPD}} \right)^{(2)}$	2 Inst. Channels	(1)
1 (7)	Rod Block Monitor Downscale	$\geq 5$ indicated on scale	2 Inst. Channels	(1)
2	IRM Downscale (3)	$\geq 5/125$ full scale	6 Inst. Channels	(1)
2	IRM Detector not in Startup Position	(8)	6 Inst. Channels	(1)
2	IRM Upscale	$\leq 108/125$	6 Inst. Channels	(1)
2 (5)	SRM Detector not in Startup Position	(4)	4 Inst. Channels	(1)
2 (5) (6)	SRM Upscale	$\leq 10^5$ counts/sec.	4 Inst. Channels	(1)
1	Scram Discharge Volume Water Level-High	$\leq 24$ gallons	1 Inst. Channel	(9)

Amendment No. 67 73

3.2-16

5. One of the four SRM inputs may be bypassed.
6. This SRM function is bypassed when in the IRM range switches are on a range 0 or above.
7. The trip is bypassed when the reactor power is  $\leq$  30%.
8. This function is bypasses when the mode switch is placed in Run.
9. If the number of operable channels is less than required by the minimum number of operable instrument channels per trip system requirement, place the inoperable channel in the tripped condition within one hour.

Table 4.2-C  
Minimum Test and Calibration Frequency  
for Control Rod Blocks Actuation

Trip Function (Instrument)	Instrument Functional Test (9)	Calibration (9)	Instrument Check
<u>Rod Block Monitor</u>			
a. Upscale	(1) (3)	Once/6 months	Once/day
b. Downscale	(1) (3)	Once/6 months	Once/day
<u>APRM</u>			
a. Upscale	(1) (3)	Once/3 months	Once/day
b. Downscale	(1) (3)	Once/3 months	Once/day
<u>Source Range Monitors (SRM)</u>			
a. Detector Not in Startup Position	(2)	Refuel	N/A
b. Upscale	(2) (3)	Startup or Control Shutdown	(2)
<u>Intermediate Range Monitor (IRM)</u>			
a. Detector Not in Startup Position	(2)	Refuel	N/A
b. Upscale	(2) (3)	Startup or Control Shutdown	(2)
c. Downscale	(2) (3)	Startup or Control Shutdown	(2)
<u>Scram Discharge Volume</u>			
a. Water Level-High	once/3 months	Refuel	N/A

LIMITING CONDITION FOR OPERATION

SURVEILLANCE REQUIREMENT

- b. The control rod directional control valves for inoperable control rods shall be disarmed electrically and the control rods shall be in such position that Specification 3.3.A.1 is met.
- c. Control rods with inoperable accumulators or those whose position cannot be positively determined shall be considered inoperable.
- d. Control rods with a failed "Full-in" or "Full-out" position switch may be bypassed in the Rod Sequence Control System and considered operable if the actual rod position is known. These rods must be moved in sequence to their correct positions (full-in on insertion or full-out on withdrawal).
- e. Control rods with scram times greater than those permitted by Specification 3.3.C.3 are inoperable, but if they can be inserted with control rod drive pressure they need not be disarmed electrically.
- f. Inoperable control rods shall be positioned such that Specification 3.3.A.1 is met.

- b. A second licensed operator shall verify the conformance to Specification 3.3.A.2d before a rod may be bypassed in the Rod Sequence Control System.
- c. Once per week when the plant is in operation, check status of pressure and level alarms for each CRD accumulator.
- d. Once per month verify that:
  - (1) the Scram Discharge Volume (SDV) vent and drain valves close within 30 seconds after receipt of a close signal, and
  - (2) after removal of the close signal, that the SDV vent and drain valves are open.
- e. Once per cycle verify that:
  - (1) the SDV vent and drain valves close within 30 seconds after receipt of a signal for the control rods to scram, and
  - (2) open when the scram signal is reset.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 73 TO LICENSE NO. DPR-49

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

DOCKET NO. 50-331

DUANE ARNOLD ENERGY CENTER

Author: Kenneth T. Eccleston

1.0 Introduction

As a result of events involving common cause failures of Scram Discharge Volume (SDV) limit switches and SDV drain valve operability, the NRC staff issued IE Bulletin 80-14 on June 12, 1980. In addition we sent a letter dated July 7, 1980 to all operating BWR licensees requesting that they propose Technical Specification changes to provide surveillance requirements for SDV vent and drain valves and Limiting Conditions of Operation (LCO) and surveillance requirements on SDV limit switches. Model Technical Specifications were enclosed with this letter to provide guidance to licensees for preparation of the requested submittals.

2.0 Evaluation

The enclosed report (TER-C5506-70) was prepared by Franklin Research Center (FRC) as a part of a technical assistance contract program. Their report provides their technical evaluation of the compliance of the licensee's submittal with NRC provided criteria.

FRC has concluded that the Iowa Electric Light and Power Company's (licensee) October 9, 1980 response does not meet the explicit requirements of paragraph 3.3-6 and Table 3.3.6-1 of the NRC staff's Model Technical Specifications (TS). However, the FRC report concludes that technical bases are defined on p. 50 of our "Generic Safety Evaluation Report BWR Scram Discharge System", dated December 1, 1980 that permit consideration of this departure from the explicit requirements of the Model Technical Specifications. We conclude that these technical bases justify a deviation from the explicit requirements of the Model TS.

In addition, FRC has also concluded that the proposed Duane Arnold Energy Center (DAEC) TSs do not meet our Model TS requirements of paragraph 4.3.1.1 and Table 4.3.1.1-1 for SDV water level high channel functional test requirements. However, the FRC TER concludes that the proposed surveillance requirements for SDV water level high are acceptable, since

the present DAEC design incorporates two instrument volumes and the licensee is providing four reactor protection system (RPS) level instruments for each of the two instrument volumes, for a total of eight instruments for the RPS. The model TSs were developed for plants which have only one instrument volume (four level instruments); therefore, the second instrument volume significantly improves the design and reliability of the SDV. Taking this into account, we conclude that these technical bases justify a deviation from the explicit requirements of the model TSs.

FRC has concluded that the licensee's proposed TS revisions (as modified by subsequent discussions with the licensee) meet our criteria without need for further revision.

### 3.0 Summary

Based upon our review of the contractor's report of its evaluations, we conclude that the licensee's proposed TS satisfy our requirements for surveillance of SDV vent and drain valves and for LCOs and surveillance requirements for SDV level instrumentation. Consequently, we find the licensee's proposed TS acceptable.

### 4.0 Environmental Considerations

We have determined that this 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 Section 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.

### 5.0 Conclusion

We have concluded, based on the considerations discussed above, that: (1) because the amendment does not involve a significant increase in the probability or consequences of accidents previously considered and does not involve a significant decrease in a safety margin, the amendment does not involve a significant hazards consideration, (2) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (3) 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.

Dated: April 12, 1982

UNITED STATES NUCLEAR REGULATORY COMMISSIONDOCKET NO. 50-331IOWA ELECTRIC LIGHT AND POWER COMPANY, ET AL.NOTICE OF ISSUANCE OF AMENDMENT TO FACILITY  
OPERATING LICENSE

The U. S. Nuclear Regulatory Commission (the Commission) has issued Amendment No. 73 to Facility Operating License No. DPR-49 issued to Iowa Electric Light and Power Company, Central Iowa Power Cooperative, and Corn Belt Power Cooperative, which revises the Technical Specifications for operation of the Duane Arnold Energy Center, located in Linn County, Iowa. The amendment is effective as of its date of issuance.

The amendment modifies the Technical Specifications to incorporate surveillance requirements for Scram Discharge Volume (SDV) vent and drain valves and limiting conditions for operation and surveillance requirements for SDV level instrumentation.

The application for the amendment complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations. The Commission has made appropriate findings as required by the Act and the Commission's rules and regulations in 10 CFR Chapter I, which are set forth in the license amendment. Prior public notice of this amendment was not required since the amendment does not involve a significant hazards consideration.

The Commission has determined that the issuance of this amendment will not result in any significant environmental impact and that pursuant to 10 CFR 51.5(d)(4) an environmental impact statement or negative declaration and environmental impact appraisal need not be prepared in connection with issuance of this amendment.

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For further details with respect to this action, see (1) the application for amendment dated October 9, 1980, (2) Amendment No. 73 to License No. DPR-49, and (3) the Commission's related Safety Evaluation. All of these items are available for public inspection at the Commission's Public Document Room, 1717 H Street, N.W., Washington, D. C. and at the Cedar Rapids Public Library, 426 Third Avenue, S.E., Cedar Rapids, Iowa 52401. A copy of items (2) and (3) may be obtained upon request addressed to the U. S. Nuclear Regulatory Commission, Washington, D. C. 20555, Attention: Director, Division of Licensing.

Dated at Bethesda, Maryland this 12th day of April 1982.

FOR THE NUCLEAR REGULATORY COMMISSION



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