

July 9, 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. 103 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 January 27, 1984.

This amendment revises the Technical Specifications to incorporate changes to the Duane Arnold Energy Center (DAEC) Technical Specifications. The January 27, 1984 application requested several changes related to NUREG-0737 requirements contained in NRC Generic Letter 83-36, and other miscellaneous items. This Amendment, however, relates only to items II.F.1.1 and II.F.1.2 of Generic Letter 83-36. Other items in the January 27, 1984 application will be handled in separate actions.

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. 103 to License No. DPR-49
2. Safety Evaluation

cc w/enclosures:  
See next page

DISTRIBUTION  
Docket File  
NRC PDR  
Local PDR  
ORB#2 Reading

DEisenhut  
SNorris  
MThadani  
OELD  
LJHarmon

ELJordan  
JNGrace  
TBarnhart (4)  
WJones  
DBrinkman

ACRS (10)  
OPA, CMiles  
RDiggs  
Gray File  
Extra - 5

DL:ORB#2  
SNorris:ajs  
06/13/84

DL:ORB#2  
MThadani  
06/12/84

DL:ORB#2  
DVassallo  
06/13/84

OELD  
W. D. Patton  
06/15/84

DL:AO/OR  
GLainas  
06/18/84

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PDR ADOCK 05000331  
P PDR

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

cc:

Jack Newman, Esquire  
Harold F. Reis, Esquire  
Newman and Holtzinger  
1025 Connecticut Avenue, N. W.  
Washington, D. C. 20036

Mr. Thomas Houvenagle  
Regulatory Engineer  
Iowa Commerce Commission  
Lucas State Office Building  
Des Moines, Iowa 50319

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 and Power Company  
ATTN: D. L. Mineck  
Post Office 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

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

James G. Keppler  
Regional Radiation Representative  
Region III Office  
U. S. Nuclear Regulatory Commission  
799 Roosevelt Road  
Glen Ellyn, Illinois 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

DUANE ARNOLD ENERGY CENTER

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 103  
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 January 27, 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. 103, 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 its 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: July 9, 1984

ATTACHMENT TO LICENSE AMENDMENT NO. 103

FACILITY OPERATING LICENSE NO. DPR-49

DOCKET NO. 50-331

Revise the Appendix A Technical Specifications as indicated below. The revised areas are identified by vertical lines.

Remove

3.2-4  
3.2-23a  
-  
3.2-34a  
3.2-45a

Insert

3.2-4  
3.2-23a  
3.2-23b  
3.2-34a  
3.2-45a

LIMITING CONDITION FOR OPERATIONG. 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.

H. Accident Monitoring Instrumentation

The limiting conditions for operation of accident monitoring instrumentation are given in Table 3.2-H.

SURVEILLANCE REQUIREMENTG. 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

Instrumentation shall be calibrated and checked as indicated in Table 4.2-H in all operational modes other than COLD SHUTDOWN or refueling.

TABLE 3.2-H

## ACCIDENT MONITORING INSTRUMENTATION

Instrument	Total Number of Channels	Type Indication and Range	Minimum Channels Operable	Action
Safety/Relief Valve Position Indicator (Primary Detector)	1/Valve(1)	NA	1/Valve(2)	
Safety/Relief Valve Position Indicator (Backup-Thermocouple)	1/Valve	NA	0	
Safety Valve Position Indicator (Primary Detector)	1/Valve(1)	NA	1/Valve(2)	
Safety Valve Position Indicator (Backup-Thermocouple)	1/Valve	NA	0	
<b>Extended Range Effluent Radiation Monitors:</b>				
a) Reactor Building Exhaust Stack	3	Recorder, Indicator $5 \times 10^{-2}$ to $10^5 \mu\text{Ci/cc}$	1	(5)
b) Turbine Building Exhaust Stack	1	Recorder, Indicator $5 \times 10^{-2}$ to $10^5 \mu\text{Ci/cc}$	1	(5)
c) Offgas Stack	1	Recorder, Indicator $5 \times 10^{-2}$ to $10^5 \mu\text{Ci/cc}$	1	(5)
Reactor Coolant, Containment Atmosphere, and Torus Water Post-Accident Sampling	2(each)	N/A	1(each)	(3)(4)

## NOTES FOR TABLE 3.2-H

NOTES FOR TABLE 3.2-H

- (1) Each channel is comprised of three instruments (pressure switches) which are arranged in a "two out of three" logic connected to a relay.
- (2) From and after the date that a channel is inoperable, the torus temperature will be monitored at least once per shift to observe any unexplained temperature increase which might be indicative of an open SRV; continued reactor operation is permissible only during the succeeding 30 days, unless such channel is sooner made operable.
- (3) When the ability to obtain a sample has been lost:
  - a. Within 7 days confirm a sample can be obtained within 24 hours of the time a decision is made to sample; and
  - b. Within 90 days, restore the sampling capability.
  - c. If the requirements of notes 6(a) and 6(b) cannot be met, be in at least a HOT SHUTDOWN Condition within the next 24 hours
- (4) When the ability to analyze a sample has been lost:
  - a. Within 7 days, confirm that alternative sample analytical support services can be initiated within 24 hours of the time a decision is made to sample; and
  - b. Within 90 days, restore sample analysis capability.
  - c. If the requirements of notes 7(a) and 7(b) cannot be met, be in at least a HOT SHUTDOWN Condition within the next 24 hours.
- (5) With the number of operable channels (both indicator and recorder inoperable) less than the Minimum Channels Operable Requirement, initiate the preplanned alternate method of monitoring the appropriate parameter(s) within 72 hours, and:
  - a. either restore the inoperable channel(s) to operable status within seven (7) days following the event, or
  - b. prepare and submit a Special Report to the Commission within 14 days following the event describing the action taken, the cause of the inoperability and the plans and schedule for restoring the system to operable status.

TABLE 4.2-H

## ACCIDENT MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

<u>Instrument</u>	<u>Calibration Frequency</u>	<u>Instrument Check (2)</u>
Safety/Relief Valve Position Indicator (Primary) (1)(2)	Once/operating cycle	Once/month
Safety/Relief Valve Position Indicator (Backup-Thermocouple)	Once/operating cycle	Once/month
Safety Valve Position Indicator (Primary) (1)(2)	Once/operating cycle	Once/month
Safety Valve Position Indicator (Backup-Thermocouple)	Once/operating cycle	Once/month
Extended Range Effluent Radiation Monitors:		
a) Reactor Building Exhaust Stacks	Once/operating cycle (3)	Once/week
b) Turbine Building Exhaust Stack	Once/operating cycle (3)	Once/week
c) Offgas Stack	Once/operating cycle (3)	Once/week
Reactor Coolant and Torus Water Post-Accident Sampling	Once/operating cycle (4)	N/A

NOTES FOR TABLE 4.2-H

1. Functional test of the relay is done once/3 months.
2. Instrument check shall consist of the qualitative assessment of channel behavior during operation by observation. This determination shall include, where possible, comparison of the channel indication and/or status with other indications and/or status derived from independent instrument channels (e.g. backup thermocouple) measuring the same parameter.
3. Accident range effluent monitors shall be calibrated by means of a built-in check source or a known radioactive source.
4. Not a calibration, but demonstration of system operability.

Surveillance tests other than a monthly functional check of the bus power monitors for the RHR, Core Spray, ADS, HPCI and RCIC trip systems are not required since they serve as annunciators for complete loss of power and do not monitor reduction of voltage. The subject functional check consists of opening the appropriate circuit breakers and observing the loss of power annunciator activation.

The accident monitoring instrumentation listed in Table 3.2-H were specifically added to comply with the requirements of NUREG-0737 and Generic Letter 83-36. The instrumentation listed is designed to provide plant status for accidents that exceed the design basis accidents discussed in Chapter 15 of the DAEC UFSAR.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 103 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 January 27, 1984, the Iowa Electric Light and Power Company (licensee) requested changes to the Duane Arnold Energy Center (DAEC) Technical Specifications. The licensee's request was primarily in response to the requirements contained in the NRC Generic Letter 83-36 (GL 83-36) related to NUREG-0737 action items. The request also contained other miscellaneous items. This Safety Evaluation relates to NUREG-0737 action items II.F.1.1 and II.F.1.2 only. Other items in the January 27, 1984 application will be handled in separate actions.

Item II.F.1.1 relates to the operability of noble gas effluent monitor, and item II.F.1.2 relates to capability to collect and analyze or measure representative samples of radioactive iodines and particulates in plant gaseous effluents during and after an accident.

2.0 Evaluation

In GL 83-36 the licensees were provided guidance to implement the requirements of NUREG-0737 action items II.F.1.1 and II.F.1.2. In GL 83-36 we stated that the noble gas monitors provide information, during and following an accident, to aid operators in assessing the plant condition. In our guidance for item II.F.1.1 we stated that these monitors be operable at all times during plant operation. In case of failures of the monitors, appropriate action should be taken to restore the operability of the monitors in seven days. An alternate method of monitoring be initiated as soon as practicable, but no later than 72 hours after the identification of the failure of the monitors. The staff review of the licensee's proposal indicates that the proposed Technical Specification changes meet the guidance provided in GL 83-36, item II.F.1.1. The proposed change is, therefore, acceptable.

Operating nuclear power reactors should have the capability to collect and analyze or measure representative samples of radioactive iodines and particulates in the gaseous effluents following an accident. In GL 83-36 guidance we stated that an administrative program should be established, implemented and maintained to ensure this capability. The staff reviewed the licensee's proposal to Technical Specification changes for II.F.1.2 and finds that the proposed changes meet the guidance provided in GL 83-36. The proposed changes are, therefore, acceptable.

### 3.0 Environmental Considerations

This amendment involves a change in the installation or use of a facility component located within the restricted area. The staff has determined that the amendment involves no significant increase in the amounts of any effluents that may be released offsite and that there is no significant increase in individual or cumulative occupation 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: R. Fell

Dated: July 9, 1984