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 ACRS (16)  
 OPA (Clare Miles)

Docket No. 50-331

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

Gentlemen:

The Commission has issued the enclosed Amendment No. 36 to Facility License No. DPR-49 for the Duane Arnold Energy Center. This amendment consists of changes to the Technical Specifications and is in response to your application dated May 27, 1977.

This amendment will temporarily increase the 31 days surveillance interval for inaccessible hydraulic shock suppressors (snubbers) to 120 days.

Copies of the related Safety Evaluation and the FEDERAL REGISTER Notice are also enclosed.

Sincerely,

Original signed by

George Lear, Chief  
 Operating Reactors Branch #3  
 Division of Operating Reactors

Enclosures:

1. Amendment No. 36
2. Safety Evaluation
3. FEDERAL REGISTER Notice

cc w/enclosures:  
 See next page

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OFFICE →	ORB #3	ORB #3	OELD	ORB #3		
SURNAME →	CParrish	JWetmore	W. D. Paton	GLear		
DATE →	6/6/77	6/6/77	6/10/77	6/10/77		



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

June 16, 1977

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Sincerely,

A handwritten signature in cursive script that reads "George Lear".

George Lear, Chief  
Operating Reactors Branch #3  
Division of Operating Reactors

Enclosures:

1. Amendment No. 36
2. Safety Evaluation
3. FEDERAL REGISTER Notice

cc w/enclosures:  
See next page

Iowa Electric Light & Power Company - 2 -

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: Ellery L. Hammond  
P. O. Box 351  
Cedar Rapids, Iowa 52406

Chief, Energy Systems Analysis Branch (AW-459)  
Office of Radiation Programs  
U. S. Environmental Protection Agency  
Room 645, East Tower  
401 M Street, S. W.  
Washington, D. C. 20460

U. S. Environmental Protection Agency  
Region VII  
ATTN: EIS COORDINATOR  
1735 Baltimore Avenue  
Kansas City, Missouri 64108

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



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. 36  
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, Central Iowa Power Cooperative, and Corn Belt Power Cooperative (the licensees) dated May 27, 1977, 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.

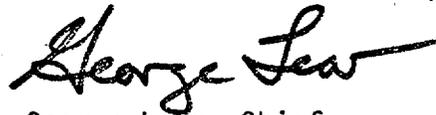
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. DPR-49 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 36, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

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

FOR THE NUCLEAR REGULATORY COMMISSION



George Lear, Chief  
Operating Reactors Branch #3  
Division of Operating Reactors

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: June 16, 1977

ATTACHMENT TO LICENSE AMENDMENT NO. 36

TO THE TECHNICAL SPECIFICATIONS

FACILITY OPERATING LICENSE NO. DPR-49

DOCKET NO. 50-331

Replace the following page of the Appendix "A" Technical Specifications with the enclosed page. The revised page is identified by Amendment number and contains vertical lines indicating the area of change.

Remove

3.6-10b

Replace

3.6-10b

**LIMITING CONDITIONS FOR OPERATION**

**SURVEILLANCE REQUIREMENTS**

2. From and after the time that a snubber is determined to be inoperable, continued reactor operation is permissible only during the succeeding 72 hours unless the snubber is sooner made operable or replaced.
3. If the requirements of 3.6.H.1 and 3.6.H.2 cannot be met, an orderly shutdown shall be initiated and the reactor shall be in a cold shutdown condition within 36 hours.
4. If a snubber is determined to be inoperable while the reactor is in the shutdown or refuel mode, the snubber shall be made operable or replaced prior to reactor startup.
5. Snubbers may be added to safety related systems without prior License Amendment to Tables 4.6-3 or 4.6-4 provided that a revision to Table 4.6-3 or 4.6-4 is included with the next License Amendment request.

\* For inaccessible snubbers temporarily increase the first inspection from 31 days +25% to <120 days. This temporary change will expire and the snubber inspection will be completed on or before September 10, 1977.

analysis to be compatible with the operating environment shall be visually inspected. This inspection shall include, but not necessarily be limited to, inspection of the hydraulic fluid reservoir, fluid connections and linkage connections to the piping and anchor to verify snubber operability in accordance with the following schedule:

Number of Snubbers Found Inoperable	Next Required Inspection Interval
0	18 months ± 25%
1	12 months ± 25%
2	6 months ± 25%
3, 4	124 days ± 25%
5, 6, 7	62 days ± 25%
* ≥ 8	31 days ± 25%

The required inspection interval shall not be lengthened more than one step at a time.

Snubbers are categorized in two groups, "accessible and inaccessible" based on their accessibility for inspection during reactor operation. These two groups will be inspected independently according to the above schedule.

2. All hydraulic snubbers whose seal materials are other than ethylene propylene or other material that has been demonstrated to be compatible with the operating environment shall be visually inspected for operability every 31 days.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 36 TO LICENSE NO. DPR-49

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

DOCKET NO. 50-331

DUANE ARNOLD ENERGY CENTER

Introduction

By letter dated May 27, 1977, Iowa Electric Light and Power Company (IELP) proposed a change to the Technical Specifications appended to Facility Operating License No. DPR-49 for the Duane Arnold Energy Center (DAEC). The proposed change would temporarily increase the 31 day hydraulic shock suppressor (snubber) surveillance interval to 120 days.

Discussion

Shock suppressors (snubbers) are designed to prevent unrestrained pipe motion under dynamic loads as might occur during an earthquake or severe transient, while allowing normal thermal movement during startup and shutdown. The consequences of an inoperable snubber would be an increase in the probability of structural damage to piping resulting from a seismic or other postulated event which initiates dynamic loads. It is, therefore, necessary that snubbers installed to protect safety system piping be operable during reactor operation and be inspected at appropriate intervals to assure their operability.

The current DAEC Technical Specifications require that safety related hydraulic snubbers be visually inspected for overall integrity and operability. Snubbers are categorized in two groups: "accessible" and "inaccessible", based on the accessibility for inspection during reactor operation. The inspection for both groups includes verification of proper orientation, adequate hydraulic fluid level and proper attachment of snubber to piping and structures. The inspection frequency is based upon maintaining a constant level of snubber protection. Thus the required inspection interval varies inversely with the observed snubber failures. The number of inoperable snubbers found during a required inspection determines the time interval for the next required inspection. In addition, once each refueling cycle a representative sample of hydraulic snubbers are required to be functionally tested for operability, including verification of proper piston movement, lock-up and bleed.

### Evaluation

As a result of the safety related hydraulic snubber surveillance program required by the current DAEC Technical Specifications, the licensee found for a one year surveillance interval, a total of 7% of all snubbers to be inoperable due to loss of hydraulic fluid. Finding this number of inoperable snubbers during this period would require, by the current Technical Specifications, the next inspection to be conducted on a 31 day schedule. This would apply to both "accessible" and "inaccessible" snubbers. In the case of the "inaccessible" snubbers, the reactor would have to be shutdown to allow access for inspection of these snubbers. IELP has proposed a temporary increase in the 31 day inspection interval for both "accessible" and "inaccessible" snubbers to 120 days to allow continuous operation of DAEC through the summer peak electric load period.

To support this request, IELP has supplied information which indicates that all hydraulic snubbers (i.e., both "accessible" and "inaccessible" snubbers) were functionally tested during the spring 1977 refueling outage. The tests included verification of proper lock-up velocity and bleed rate, and subjected the snubber seals to sufficient forces to verify their integrity. The 7% of the snubbers that were inoperable were repaired. Consequently, no snubbers were inoperable at the beginning of the current fuel cycle which began in mid-May. Based on our review of the failure rate information provided by the licensees, the fact that 100% of the snubbers were known to be operable at the beginning of the current fuel cycle, and in consideration of the fact that the reactor would have to be shutdown to inspect the "inaccessible" snubbers, we have concluded that the proposed temporary increase in inspection interval for the "inaccessible" snubbers would maintain adequate assurance of snubber operability; and thus is acceptable.

However, in the case of the "accessible" snubbers, a reactor shutdown is not required to conduct the inspections. Since the inspection of these snubbers can be conducted without affecting plant operation, our position is that they should continue to be inspected in accordance with the inspection interval required by the current Technical Specifications (i.e., a 31 day interval). This position has been discussed with and concurred in by the licensee, and the proposed Technical Specification has been modified to allow a temporary increase in surveillance interval for "inaccessible" snubbers only. Therefore, the proposed change, as modified, is acceptable.

### Environmental Considerations

We have determined that the amendment does not involve 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.

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: June 16, 1977

UNITED STATES NUCLEAR REGULATORY COMMISSION

DOCKET NO. 50-331

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

NOTICE OF ISSUANCE OF AMENDMENT TO FACILITY  
OPERATING LICENSE

The U. S. Nuclear Regulatory Commission (the Commission) has issued Amendment No. 36 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 revised 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 consists of changes to the Technical Specifications which will temporarily increase the 31 days surveillance interval for inaccessible hydraulic shock suppressors (snubbers) to 120 days.

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.

For further details with respect to this action, see (1) the application for amendment dated May 27, 1977, (2) Amendment No. 36 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 Operating Reactors.

Dated at Bethesda, Maryland, this 16th day of June 1977.

FOR THE NUCLEAR REGULATORY COMMISSION

A handwritten signature in black ink that reads "George Lear". The signature is written in a cursive, flowing style.

George Lear, Chief  
Operating Reactors Branch #3  
Division of Operating Reactors