June 1, 2000

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Mr. Eliot Protsch
President
IES Utilities Inc.
200 First Street, SE.
P.O. Box 351
Cedar Rapids, IA 52406-0351

SUBJECT: DUANE ARNOLD ENERGY CENTER - ISSUANCE OF AMENDMENT RE: HIGH PRESSURE COOLANT INJECTION AND REACTOR CORE COOLING SYSTEMS (TAC NO. MA5013)

Dear Mr. Protsch:

The U.S. Nuclear Regulatory Commission has issued the enclosed Amendment No. 231 to Facility Operating License No. DPR-49 for the Duane Arnold Energy Center (DAEC). This amendment consists of changes to the Technical Specifications (TS) in response to your application dated February 18, 1999, as supplemented September 15, 1999, and March 16, 2000.

The amendment revises the DAEC TS Table 3.3.6.1-1, "Primary Containment Isolation Instrumentation," by deleting the manual initiation function of the high pressure coolant injection (HPCI) system and reactor core isolation cooling (RCIC) system isolation. A related condition as well as corresponding surveillance requirements and bases would also be deleted.

A copy of the related Safety Evaluation is also enclosed. Notice of Issuance will be included in the Commission's next biweekly Federal Register notice.

Sincerely,

/RA/

Brenda L. Mozafari, Project Manager, Section 1
Project Directorate III
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-331

Enclosures: 1. Amendment No. 231to License No. DPR-49
2. Safety Evaluation

cc w/encls: See next page

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OFFICE	PM:PD3-1	LA:PD3-1	SPLB	OGC	SC:PD3-1
NAME	BMozafari	THarris	SE dated	RHoefling	CCraig
DATE	05/15/00	05/16/00	05/02/00	05/22/00	05/3 /00

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

June 1, 2000

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President
IES Utilities Inc.
200 First Street, SE.
P.O. Box 351
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Sincerely,

Brenda Mozafari

Brenda L. Mozafari, Project Manager, Section 1
Project Directorate III
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-331

Enclosures: 1. Amendment No. 231 to License No. DPR-49
2. Safety Evaluation

cc w/encls: See next page

Duane Arnold Energy Center

cc:

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

IES UTILITIES INC.

CENTRAL IOWA POWER COOPERATIVE

CORN BELT POWER COOPERATIVE

DOCKET NO. 50-331

DUANE ARNOLD ENERGY CENTER

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 231
License No. DPR-49

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

   A. The application for amendment by IES Utilities Inc., et al., dated February 18, 1999, as supplemented September 15, 1999, and March 16, 2000, complies with the standards and requirements of the Atomic Energy Act of I954, 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 I0 CFR Part 5I of the Commission's regulations and all applicable requirements have been satisfied.

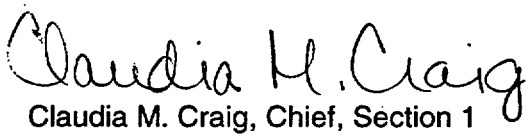
2. Accordingly, the license is amended by changes to the Technical Specifcations as indicated in the attachment to this license amendment and paragraph 2.C.(2) of Facility Operating License No. DPR-49 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 231, 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 and shall be implemented within 30 days of the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Claudia M. Craig, Chief, Section 1
Project Directorate III
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical Specifications

Date of Issuance: June 1, 2000

ATTACHMENT TO LICENSE AMENDMENT NO. 231

FACILITY OPERATING LICENSE NO. DPR-49

DOCKET NO. 50-331

Replace the following pages of the Appendix A Technical Specifications with the attached revised pages. The revised areas are identified by amendment number and contain marginal lines indicating the areas of change.

Remove	Insert
3.3-52	3.3-52
3.3-55	3.3-55
3.3-56	3.3-56
3.3-59	3.3-59
3.3-60	3.3-60

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
F. As required by Required Action C.1 and referenced in Table 3.3.6.1-1.	F.1 Isolate the affected penetration flow path(s).	1 hour
G. [Deleted]		
H. As required by Required Action C.1 and referenced in Table 3.3.6.1-1. OR Required Action and associated Completion Time for Condition F not met.	H.1 Be in MODE 3. AND H.2 Be in MODE 4.	12 hours 36 hours
I. As required by Required Action C.1 and referenced in Table 3.3.6.1-1.	I.1 Declare Standby Liquid Control (SLC) System inoperable. OR I.2 Isolate the Reactor Water Cleanup System.	1 hour 1 hour

(continued)

SURVEILLANCE REQUIREMENTS

----------NOTES----------

1. Refer to Table 3.3.6.1-1 to determine which SRs apply for each Primary Containment Isolation Function.

2. When a channel is placed in an inoperable status solely for performance of required Surveillances, entry into associated Conditions and Required Actions may be delayed as follows: (a) for up to 6 hours for Function 5.a; and (b) for up to 6 hours for Functions other than 5.a provided the associated Function maintains isolation capability.

SURVEILLANCE		FREQUENCY
SR 3.3.6.1.1	Perform CHANNEL CHECK.	12 hours
SR 3.3.6.1.2	Perform CHANNEL CHECK.	24 hours
SR 3.3.6.1.3	Perform CHANNEL FUNCTIONAL TEST.	31 days
SR 3.3.6.1.4	Perform CHANNEL FUNCTIONAL TEST.	92 days
SR 3.3.6.1.5	Perform CHANNEL CALIBRATION.	92 days
SR 3.3.6.1.6	Perform CHANNEL CALIBRATION.	184 days
SR 3.3.6.1.7	Perform CHANNEL CALIBRATION.	12 months

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.3.6.1.8	Perform CHANNEL CALIBRATION.	24 months
SR 3.3.6.1.9	Perform LOGIC SYSTEM FUNCTIONAL TEST.	24 months

Table 3.3.6.1-1 (page 3 of 5)
Primary Containment Isolation Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION C.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
3. HPCI System Isolation (continued)					
b. HPCI Steam Supply Line Pressure – Low	1,2,3	2	F	SR 3.3.6.1.4 SR 3.3.6.1.8 SR 3.3.6.1.9	≥ 50 psig and ≤ 147.1 psig
c. HPCI Turbine Exhaust Diaphragm Pressure - High	1,2,3	2	F	SR 3.3.6.1.4 SR 3.3.6.1.8 SR 3.3.6.1.9	≥ 2.5 psig
d. Drywell Pressure -High	1,2,3	1	F	SR 3.3.6.1.4 SR 3.3.6.1.8 SR 3.3.6.1.9	≤ 2.2 psig
e. Suppression Pool Area Ambient Temperature – High	1,2,3	1	F	SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.8 SR 3.3.6.1.9	≤ 153.3°F
f. HPCI Leak Detection Time Delay	1,2,3	1	F	SR 3.3.6.1.4 SR 3.3.6.1.8 SR 3.3.6.1.9	N/A
g. Suppression Pool Area Ventilation Differential Temperature - High	1,2,3	1	F	SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.8 SR 3.3.6.1.9	≤ 51.5°F
h. HPCI Equipment Room Temperature - High	1,2,3	1	F	SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.8 SR 3.3.6.1.9	≤ 178.3°F
i. HPCI Room Ventilation Differential Temperature - High	1,2,3	1	F	SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.8 SR 3.3.6.1.9	≤ 51.5°F

(continued)

Table 3.3.6.1-1 (page 4 of 5)
Primary Containment Isolation Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION C.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
4. Reactor Core Isolation Cooling (RCIC) System Isolation					
a. RCIC Steam Line Flow – High	1,2,3	1	F	SR 3.3.6.1.4 SR 3.3.6.1.8 SR 3.3.6.1.9	≤ 164 inches (inboard) ≤ 159 inches (outboard)
b. RCIC Steam Supply Line Pressure - Low	1,2,3	2	F	SR 3.3.6.1.4 SR 3.3.6.1.8 SR 3.3.6.1.9	≥ 50.3 psig
c. RCIC Turbine Exhaust Diaphragm Pressure - High	1,2,3	2	F	SR 3.3.6.1.4 SR 3.3.6.1.6 SR 3.3.6.1.9	≥ 3.3 psig
d. Drywell Pressure – High	1,2,3	1	F	SR 3.3.6.1.4 SR 3.3.6.1.8 SR 3.3.6.1.9	≤ 2.2 psig
e. RCIC Suppression Pool Area Ambient Temperature - High	1,2,3	1	F	SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.8 SR 3.3.6.1.9	≤ 153.3°F
f. RCIC Leak Detection Time Delay	1,2,3	1	F	SR 3.3.6.1.4 SR 3.3.6.1.8 SR 3.3.6.1.9	N/A
g. RCIC Suppression Pool Area Ventilation Differential Temperature - High	1,2,3	1	F	SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.8 SR 3.3.6.1.9	≤ 51.5°F
h. RCIC Equipment Room Temperature - High	1,2,3	1	F	SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.8 SR 3.3.6.1.9	≤ 178.3°F
i. RCIC Room Ventilation Differential Temperature - High	1,2,3	1	F	SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.8 SR 3.3.6.1.9	≤ 51.5°F

(continued)

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 231 TO FACILITY OPERATING LICENSE NO. DPR-49

IES UTILITIES INC.

CENTRAL IOWA POWER COOPERATIVE

CORN BELT POWER COOPERATIVE

DUANE ARNOLD ENERGY CENTER

DOCKET NO. 50-331

1.0 INTRODUCTION

By letters dated February 18, 1999, as supplemented September 15, 1999, and March 16, 2000, Alliant Utilities, Inc. (IES Utilities, Inc.,) the licensee for the Duane Arnold Energy Center (DAEC), proposed a change to the DAEC technical specifications (TSs) that would revise TS Table 3.3.6.1-1, "Primary Containment Isolation Instrumentation," by deleting the manual initiation function of the high pressure coolant injection (HPCI) system and reactor core isolation cooling (RCIC) system isolation. In addition, an implementing TS Action (3.3.6.1.G.) and surveillance requirement (3.3.6.1.10) would be deleted and several other minor conforming changes would be made. These additional changes are all necessary to implement the removals from the table; for example, the TS Action would only be triggered if the instruments being removed from the table became inoperable. The September 15, 1999, and March 16, 2000, letters provided clarifying information that was within the scope of the original *Federal Register* notice, and did not change the staff's initial proposed no significant hazards consideration determination.

2.0 EVALUATION

Typically, power-operated containment isolation valves (CIVs) can be individually opened and closed by the manual operation of their control switches in the main control room. However, the switches to be deleted from the TS are in addition to the typical switches for the power-operated CIVs. The pushbutton hand switches addressed by the proposed TS change are HS2242 for HPCI and HS2481 for RCIC. The typical switches for the CIVs will remain intact and maintain all the functions currently designed for the switches including manual and automatic isolation. These typical hand switches are HS2239 for HPCI and HS2401 for RCIC.

The pushbutton hand switches (HS2242, HS2481) are redundant to the typical switches (HS2239, HS2401) in all respects except one, which will be discussed below. In other words, all but one of the functions of the pushbutton hand switches can also be performed by the

typical switches. The pushbutton hand switches are unusual; most plants only have the typical switches, and additional switches like the pushbutton hand switches are not part of standard containment insolation system design.

There is one function that is not duplicated by the typical switches. If a valid injection signal is present for either HPCI or RCIC, the typical switches can be manually operated to close their CIVs, but the CIVs will reopen a moment after reaching a fully-closed position. The control logic gives precedence to the injection signal and will cause the CIVs to reopen. However, the pushbutton hand switch for RCIC only (not HPCI) will "seal in" its closing signal and the RCIC CIV will stay closed until a reset button is pressed, even in the presence of an injection signal.

Although the additional function of the RCIC pushbutton hand switch is desirable, it is not essential. The pushbutton hand switches are not assumed to be used in any accident or transient analysis in the Duane Arnold updated final safety analysis report (UFSAR). Also, with the current TS, a failure of either pushbutton hand switch would eventually lead to a plant shut down, despite their redundant nature. We conclude that the enhancement to safety provided by the one additional function of the RCIC pushbutton hand switch is not significant enough to require it to be included in the TS, considering the consequences (forced shutdown) of its failure with the current TS. Also, the HPCI pushbutton hand switch is completely redundant. Therefore, we find the proposed TS changes to be acceptable.

3.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Iowa State official was notified of the proposed issuance of the amendment. The State official had no comments.

4.0 ENVIRONMENTAL CONSIDERATIONS

This amendment changes a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 or changes a surveillance requirement. The staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluent 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 the amendment involves no significant hazards consideration and there has been no public comment on such finding (64 FR 17026). Accordingly, the 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 the amendment.

5.0 CONCLUSION

The staff has 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, (2) such activities will be conducted in compliance with the

Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: J. Pulsipher, SPLB/DSSA/NRR

Date: June 1, 2000