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ENCLOSURE

NOTORIZED 7-27-76 PROPOSED CHANGE RTS-68 TO DAEC TECH SPEC

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FOR ACTION/INFORMATION 8-11-76 RLB

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IOWA ELECTRIC LIGHT AND POWER COMPANY

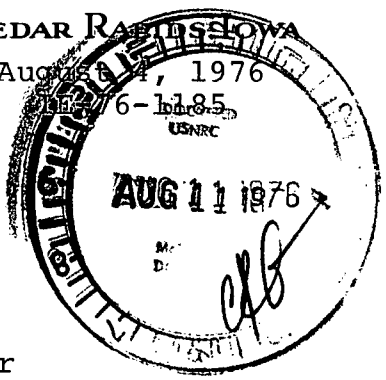
General Office

CEDAR RAPIDS, IOWA

August 4, 1976

IE-76-1185

LEE LIU
VICE PRESIDENT - ENGINEERING



50-331

Mr. B. C. Rusche, Director
Office of Nuclear Reactor Regulation
Nuclear Regulatory Commission
Washington, D.C. 20545

Dear Mr. Rusche:

On July 27, 1976, Iowa Electric Light and Power Company transmitted to the NRC two separate requests for Technical Specification changes described in letters IE-76-1143 and IE-76-1144. These two transmittals did not contain the sheets which show the proposed changes. For this reason these two transmittals are being resubmitted with the aforementioned sheets attached.

Iowa Electric Light and Power Company

By: _____
Lee Liu
Vice President-Engineering

LL/OAS/D
cc: D. Arnold w/o encl.
J. Newman w/o encl.
J. Keppler
J. Shea
L. Root

8141

IOWA ELECTRIC LIGHT AND POWER COMPANY

General Office

CEDAR RAPIDS, IOWA

July 27, 1976
IE-76-1143

LEE LIU
VICE PRESIDENT – ENGINEERING

Mr. B. C. Rusche, Director
Office of Nuclear Reactor Regulation
Nuclear Regulatory Commission
Washington, D.C. 20545

Dear Mr. Rusche:

Transmitted herewith, in accordance with the requirements of 10CFR50.59 and 50.90, is an application for amendment of DPR-49 to incorporate proposed changes in the Technical Specifications (Appendix A to license) for the Duane Arnold Energy Center (DAEC), described in the enclosure hereto.

This proposed change, identified as RTS-68, has been reviewed and approved by the DAEC Operations Committee and the DAEC Safety Committee and does not involve a significant hazards consideration.

Three signed and notarized originals and 37 additional copies of this application are transmitted herewith. This application, consisting of the foregoing letter and enclosure hereto, is true and accurate to the best of my knowledge and belief.

Iowa Electric Light and Power Company

By _____
Lee Liu
Vice President-Engineering

LL/OS/D
cc: W/encl.
D. Arnold
J. Newman
J. Keppler
J. Shea

Sworn and subscribed to before me
on this 27th day of July, 1976.

_____
Notary Public in and for the State
of Iowa.

Joan A. Smith
NOTARY PUBLIC
STATE OF IOWA
Commission Expires
September 30, 1978

PROPOSED CHANGE RTS-68 TO DAEC TECHNICAL SPECIFICATIONS

I. Affected Technical Specifications

Appendix A of the Technical Specifications for the DAEC (DPR-49) provides as follows:

Specification 3.12.B, Linear Heat Generation Rate (LHGR), states in part as follows:

> "During reactor power operation, the linear heat generation rate (LHGR) of any rod in any fuel assembly at any axial location shall not exceed the maximum allowable LHGR as calculated by the following equation:
>
> $$LHGR_{max} \leq LHGR_d \left[1 - \left\{ (\Delta P/P)_{max} (L/LT) \right\} \right]$$
>
> $LHGR_d$ = Design LHGR = 18.5 KW/ft (7 x 7 array) or
> 13.4 KW/ft (8 x 8 array) "

II. Proposed Changes in Technical Specifications

The licensees of DPR-49 propose the following changes in the Technical Specifications set forth in I above:

Change "in any fuel" to "in any 7 x 7 fuel" and delete "or 13.4 KW/ft (8 x 8 array)" so that the specification states in part as follows:

> "During reactor power operation, the linear heat generation rate (LHGR) of any rod in any 7 x 7 fuel assembly at any axial location shall not exceed the maximum allowable LHGR as calculated by the following equation:
>
> $$LHGR_{max} \leq LHGR_d \left[1 - \left\{ (\Delta P/P)_{max} (L/LT) \right\} \right]$$
>
> $LHGR_d$ = Design LHGR = 18.5 KW/ft (7 x 7 array)"

III. Justification for Proposed Change

The power spiking penalty effect for 8 x 8 fuel is included in the basic equations used in the analysis for 8 x 8 fuel. Therefore, the technical specification power spiking equation is not needed for 8 x 8 fuel. The basic approach of this new method is documented in Supplement 3, Appendix B, to NEDO-20360 (Reference Number 2 of Specification 3.12).

IV. Review Procedure

This proposed change has been reviewed by the DAEC Operations Committee and Safety Committee which have found that this proposed change does not involve a significant hazards consideration.

LIMITING CONDITION FOR OPERATION	SURVEILLANCE REQUIREMENT
B. Linear Heat Generation Rate (LHGR) During reactor power operation, the linear heat generation rate (LHGR) of any rod in any 7 x 7 fuel assembly at any axial location shall not exceed the maximum allowable LHGR as calculated by the following equation: $LHGR_{max} \leq LHGR_d \left[1 - \{(\Delta P/P)_{max}(L/LT)\}\right]$ $LHGR_d$ = Design LHGR = 18.5 KW/ft (7 x 7 array) $(\Delta P/P)_{max}$ = Maximum power spiking penalty = 0.026 LT = Total core length - 12 feet L = Axial position above bottom of core. If at any time during reactor power operation it is determined by normal surveillance that the limiting value for LHGR is being exceeded, action shall then be initiated within 15 minutes to restore operation to within the prescribed limits. If the LHGR is not returned to within the prescribed limits within two hours, the reactor shall be brought to the cold shutdown condition within 36 hours. Surveillance and corresponding action shall continue until the prescribed limits are again being met.	B. Linear Heat Generation Rate (LHGR) The LHGR as a function of core height shall be checked daily during reactor operation at $\geq$ 25% rated thermal power.

IOWA ELECTRIC LIGHT AND POWER COMPANY

General Office

CEDAR RAPIDS, IOWA

July 27, 1976
IE-76-1144

LEE LIU
VICE PRESIDENT – ENGINEERING

Mr. B. C. Rusche, Director
Office of Nuclear Reactor Regulation
Nuclear Regulatory Commission
Washington, D. C. 20545

Dear Mr. Rusche:

Transmitted herewith, in accordance with the requirements of 10CFR50.59 and 50.90, is an application for amendment of DPR-49 to incorporate proposed changes in the Technical Specifications (Appendix A to license) for the Duane Arnold Energy Center (DAEC), described in the enclosure hereto.

These proposed changes identified as RTS70 and RTS71, have been reviewed and approved by the DAEC Operations Committee and the DAEC Safety Committee and do not involve a significant hazards consideration.

Three signed and notarized originals and 37 additional copies of this application are transmitted herewith. This application, consisting of the foregoing letter and enclosures hereto, is true and accurate to the best of my knowledge and belief.

Iowa Electric Light and Power Company

By _____
Lee Liu
Vice President-Engineering

Sworn and subscribed to before me
on this 29th day of July, 1976.

_____
Notary Public in and for the State
of Iowa.

Joan R. Smith
NOTARY PUBLIC
STATE OF IOWA
Commission Expires
September 30, 1978

LL/OS/D
cc: W/encl.
D. Arnold
J. Newman
J. Keppler
J. Shea

PROPOSED CHANGE RTS-70 TO DAEC TECHNICAL SPECIFICATIONS

I. Affected Technical Specifications

Appendix A of the Technical Specifications for the DAEC (DPR-49) provides as follows:

Table 4.1-2 provides calibration requirements for the Reactor Protection System instrumentation.

II. Proposed Change in Technical Specifications

The licensees of DPR-49 propose the following change in the Technical Specifications set forth in I above:

After the column heading "Minimum Frequency" on pages 3.1-12 and 3.1-13, add "(2)" so that it reads as follows:

"Minimum Frequency (2)"

Change note (2) to read as follows:

> "Calibration test is not required on the part of the system that is not required to be operable or is tripped. If calibration is not performed on parts not required to be operable or is tripped, then the calibration test shall be performed prior to returning the system to an operable status with a frequency not to exceed those defined in the applicable table."

III. Justification for Proposed Change

Note (2) is already a part of the Technical Specifications on page 3.1-14 and states as follows:

> "Calibration test is not required on the parts of the system that are not required to be operable or are tripped but is required prior to return to service."

Note (2) has always been a part of the Technical Specifications, but the reference to it was inadvertently not made on Table 4.1-2 when the Technical Specifications were submitted to the NRC for approval. The note itself was revised so that a calibration test is not required prior to returning a system to service if it has already been tested within the required frequency.

IV. Review Procedures

This proposed change has been reviewed by the DAEC Operations Committee and Safety Committee which have found that this proposed change does not involve a significant hazards consideration.

TABLE 4.1-2

REACTOR PROTECTION SYSTEM (SCRAM) INSTRUMENT CALIBRATION
MINIMUM CALIBRATION FREQUENCIES FOR REACTOR PROTECTION INSTRUMENT CHANNELS

Instrument Channel	Group (1)	Calibration (4)	Minimum Frequency (2)
IRM High Flux	C	Comparison to APRM on Controlled Shutdowns	On Controlled Shutdown
APRM High Flux			
Output Signal	B	Heat Balance	Daily
Flow Bias Signal	B	With Standard Pressure Source	Every refueling
LPRM Signal	B	TIP System Traverse	Every 1,000 EFPH
High Reactor Pressure	A	Standard Pressure Source	Every 3 months
High Drywell Pressure	A	Standard Pressure Source	Every 3 months
Reactor Low Water Level	A	Pressure Standard	Every 3 months
High Water Level in Scram Discharge Volume	A	Water Column	Every refueling
Main Steam Line Isolation Valve Closure	A	Note (5)	Note (5)
Main Steam Line High Radiation	B	Standard Current Source (3)	Every 3 months
Turbine First Stage Pressure Permissive	A	Standard Pressure Source	Every 6 months
Turbine Control Valve Oil Pressure Trip	A	Note (6)	Once per operating cycle

TABLE 4.1-2 (Continued)

REACTOR PROTECTION SYSTEM (SCRAM) INSTRUMENT CALIBRATION
MINIMUM CALIBRATION FREQUENCIES FOR REACTOR PROTECTION INSTRUMENT CHANNELS

Instrument Channel	Group (1)	Calibration (4)	Minimum Frequency (2)
Turbine Stop Valve Closure	A	Note (5)	Note (5)
Reactor Pressure Permissive	A	Standard Pressure Source	Every 6 months

NOTES FOR TABLE 4.1-2

1. A description of three groups is included in the bases of this Specification.

2. Calibration test is not required on the part of the system that is not required to be operable or is tripped. If calibration is not performed on parts not required to be operable or are tripped, then the calibration test shall be performed prior to returning the system to an operable status with a frequency not to exceed those defined in the applicable table.

3. The current source provides an instrument channel alignment. Calibration using a radiation source shall be made each refueling outage.

4. Response time is not a part of the routine instrument channel test but will be checked once per operating cycle.

5. Physical inspection and actuation of these position switches will be performed during the refueling outages.

6. Measure time interval base line data for each operating cycle as follows: From energization of fast acting solenoid, measure time interval to response of oil pressure switch, HFA relay (RPS) and position response of control valves

PROPOSED CHANGE RTS-71 TO DAEC TECHNICAL SPECIFICATIONS

I. Affected Technical Specifications

Appendix A of the Technical Specifications for the DAEC (DPR-49) provides as follows:

Specification 4.2 applies to the surveillance requirements of the instrumentation that initiates and controls protective functions of the DAEC.

II. Proposed Change in Technical Specifications

The licensees of DPR-49 propose the following change in the Technical Specifications set forth in I above:

On Tables 4.2-A, 4.2-B, 4.2-C, 4.2-D and 4.2-E add "(9)" after the column headings for Instrument Functional Test and Calibration Frequency.

On Table 4.2-F add "(9)" after the column heading for Calibration Frequency.

On page 3.2-33, Notes for Tables 4.2-A Through 4.2-F, add note 9 as follows:

> "Functional tests and calibrations are not required on the part of the system that is not required to be operable or is tripped. If functional tests are not performed on parts not required to be operable or are tripped, then they shall be performed prior to returning the system to an operable status with a frequency not to exceed once per month. If calibrations are not performed on parts not required to be operable or are tripped, then they shall be performed prior to returning the system to an operable status with a frequency not to exceed those defined in the applicable table."

III. Justification for Proposed Change

The purpose of this proposed change is to remove functional test and calibration requirements for those systems which are tripped or not required for long periods of time such as during a plant refueling. By waiting to perform functional tests or calibrations until a system or part of a system is required for operation would not decrease the system's reliability and would still meet the intent of the Technical Specifications concerning scheduled surveillance, since the tests or checks are performed before the system is required for operation. This is not a new concept since it is already employed in Table 4.1-1, Reactor Protection System (SCRAM) Instrument Functional Tests.

IV. Review Procedures

This proposed change has been reviewed by the DAEC Operations Committee and Safety Committee which have found that this proposed change does not involve a significant hazards consideration.

TABLE 4.2-A

MINIMUM TEST AND CALIBRATION FREQUENCY FOR PCIS

Instrument Channel (5)	Instrument Functional Test (9)	Calibration Frequency (9)	Instrument Check
1) Reactor Low Pressure (Shutdown Cooling Permissive)	(1)	Once/3 months	None
2) Reactor Low-Low Water Level	(1)	Once/3 months	Once/day
3) Main Stream High Temp.	(1)	Once/operating cycle	Once/day
4) Main Steam High Flow	(1)	Once/3 months	None
5) Main Steam Low Pressure	(1)	Once/3 months	None
6) Reactor Water Cleanup High Flow (7)	(1)	Once/3 months	Once/day
7) Reactor Water Cleanup High Temp. (7)	(1)	Once/3 months	None
8) Reactor Cleanup Area High Temp. (8)	(1)	Once/operating cycle	None
9) Loss of Main Condenser Vacuum	(1)	Once/operating cycle	None
Logic System Functional Test (4) (6)			
1) Main Steam Line Isolation Valves Main Steam Line Drain Valves Reactor Water Sample Valves		Once/6 months	
2) RHR - Isolation Valve Control Shutdown Cooling Valves Head Spray		Once/6 months	
3) Reactor Water Cleanup Isolation		Once/6 months	

TABLE 4.2-A (Continued)

MINIMUM TEST AND CALIBRATION FREQUENCY FOR PCIS

Logic System Functional Test (4) (6)	Calibration Frequency (9)
4) Drywell Isolation Valves TIP Withdrawal Atmospheric Control Valves Sump Drain Valves	Once/6 months
5) Standby Gas Treatment System Reactor Building Isolation	Once/6 months

TABLE 4.2-B

MINIMUM TEST AND CALIBRATION FREQUENCY FOR CSCS

Instrument Channel	Instrument Functional Test (9)	Calibration Frequency (9)	Instrument Check
1) Reactor Water Level	(1)	Once/3 months	Once/day
2) Drywell Pressure	(1)	Once/3 months	None
3) Reactor Pressure	(1)	Once/3 months	None
4) Auto Sequencing Timers	N/A	Once/operating Cycle	None
5) ADS - LPCI or CS Pump Discharge Pressure Interlock	(1)	Once/3 months	None
6) Trip System Bus Power Monitors	(1)	Not applicable	None
7) Recirculation System d/p	(1)	Once/3 months	Once/day
8) Core Spray Sparger d/p	(1)	Once/3 months	Once/day
9) Steam Line High Flow (HPCI & RCIC)	(1)	Once/3 months	None
10) Steam Line High Temp. (HPCI & RCIC)	(1)	Once/operating cycle	Once/day
11) HPCI and RCIC Steam Line Low Pressure	(1)	Once/3 months	None
12) HPCI Suction Source Levels	(1)	Once/3 months	None
13) 4KV Emergency Power System Voltage Relays	Once/operating cycle	Once/5 years	None
14) Instrument A.C. and battery bus undervoltage relays	(1)	Once/operating cycle	None

TABLE 4.2-B (Continued)

MINIMUM TEST AND CALIBRATION FREQUENCY FOR CSCS

Logic System Functional Test (4) (6)	Calibration Frequency (9)
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	Once/6 months
7) RCIC Subsystem Auto Isolation	Once/6 months
8) Area Cooling for Safeguard System	Once/6 months

TABLE 4.2-C

MINIMUM TEST AND CALIBRATION FREQUENCY FOR CONTROL ROD BLOCKS ACTUATION

	Instrument Channel	Instrument Functional Test (9)	Calibration (9)	Instrument Check
1)	APRM - Downscale	(1) (3)	Once/3 months	Once/day
2)	APRM - Upscale	(1) (3)	Once/3 months	Once/day
3)	IRM - Upscale	(2) (3)	Startup or Control Shutdown	(2)
4)	IRM - Downscale	(2) (3)	Startup or Control Shutdown	(2)
5)	RBM - Upscale	(1) (3)	Once/6 months	Once/day
6)	RBM - Downscale	(1) (3)	Once/6 months	Once/day
7)	SRM - Upscale	(2) (3)	Startup or Control Shutdown	(2)
8)	SRM - Detector Not in Startup Position	(2)	Refuel	N/A
9)	IRM - Detector Not in Startup Position	(2)	Refuel	N/A

TABLE 4.2-D

MINIMUM TEST AND CALIBRATION FREQUENCY FOR RADIATION MONITORING SYSTEMS

Instrument Channels	Instrument Functional Test (9)	Calibration (9)	Instrument Check
1) Refuel Area Exhaust Monitors - Upscale/Downscale	(1)	Once/3 months	Once/day
2) Reactor Building Area Exhaust Monitors - Upscale/Downscale	(1)	Once/3 months	Once/day
3) Offgas Radiation Monitors	(1)	Once/3 months	Once/day

Logic System Functional Test (4) (6)	Frequency (9)
1) Reactor Building Isolation	Once/6 months
2) Standby Gas Treatment System Actuation	Once/6 months
3) Steam Jet Air Ejector Offgas Line Isolation	Once/6 months

TABLE 4.2-E

MINIMUM TEST AND CALIBRATION FREQUENCY FOR DRYWELL LEAK DETECTION

Instrument Channel	Instrument Functional Test (9)	Calibration (9)	Instrument Check
1) Equipment Drain Sump Flow Integrator	None	Once/3 months	Once/day
2) Floor Drain Sump Flow Integrator	None	Once/3 months	Once/day
3) Air Sampling System	(1)	Once/3 months	Once/day
4) Equipment and Floor Drain Sump Flow Timers	Once/3 months	Once/Operating Cycle	None

TABLE 4.2-F

MINIMUM TEST AND CALIBRATION FREQUENCY FOR SURVEILLANCE INSTRUMENTATION

	Instrument Channel	Calibration Frequency (9)	Instrument Check
1)	Reactor Level	Once/6 months	Once Each Shift
2)	Reactor Pressure	Once/6 months	Once Each Shift
3)	Drywell Pressure	Once/6 months	Once Each Shift
4)	Drywell Temperature	Once/6 months	Once Each Shift
5)	Suppression Chamber Temperature	Once/6 months	Once Each Shift
6)	Suppression Chamber Water Level	Once/6 months	Once Each Shift
7)	Control Rod Position	NA	Once Each Shift
8)	Neutron Monitoring	Prior to Reaching 20% Power and once per day when in Run Mode (APRM Gain Adjust when in Run Mode)	Once Each Shift (When in Startup or Run Mode)

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 not included on Table 4.2-A since they are tested 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. If functional tests are not performed on parts not required to be operable or are tripped, then they shall be performed prior to returning the system to an operable status with a frequency not to exceed once per month. If calibrations are not performed on parts not required to be operable or are tripped, then they shall be performed prior to returning the system to an operable status with a frequency not to exceed those defined in the applicable table.