

January 20, 1987

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. 139 to Facility Operating License No. DPR-49 for the Duane Arnold Energy Center (DAEC). This amendment consists of changes to the Technical Specifications in response to your application dated May 22, 1986.

The amendment revises the DAEC Technical Specifications (TS) relative to diesel generator testing to make them responsive to Generic Letters 83-30 and 84-15 and Information Notice 85-32 and includes changes which meet the intent of Generic Letter (GL) 84-15 to reduce unnecessary diesel generator testing. All the changes were acceptable except one in TS Section 4.5.G.1 which the staff determined went beyond the intent of GL-84-15. The licensee agreed and furnished a page which returned the wording to that which is presently in the TS.

A copy of the Safety Evaluation is also enclosed. Notice of Issuance will be included in the Commission's Bi-Weekly Federal Register Notice.

Sincerely,

~~Original signed by~~
Robert A. Gilbert, Project Manager
BWR Project Directorate #2
Division of BWR Licensing

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Enclosures:

- 1. Amendment No. 139 to License No. DPR-49
- 2. Safety Evaluation

cc w/enclosures:
See next page

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Mr. Lee Liu
Iowa Electric Light and Power Company

Duane Arnold Energy Center

cc:

Jack Newman, Esquire
Kathleen H. Shea, Esquire
Newman and Holtzinger
1615 L Street, 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 and Power Company
ATTN: D. L. Mineck
Post Office Box 351
Cedar Rapids, Iowa 52406

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

Regional Administrator, Region III
U. S. Nuclear Regulatory Commission
799 Roosevelt Road
Glen Ellyn, Illinois 60137

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



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. 139
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 May 22, 1986, 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 Appendix A, as revised through Amendment No. 139, 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



Daniel R. Muller, Director
BWR Project Directorate #2
Division of BWR Licensing

Attachment:
Changes to the Technical
Specifications

Date of Issuance: January 20, 1987

ATTACHMENT TO LICENSE AMENDMENT NO. 139

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 areas are indicated by marginal lines.

Pages

3.5-2
3.5-3
3.5-5
3.5-9
3.5-10
3.5-12
3.5-16
3.5-17
3.5-23
3.5-25
3.8-1
3.8-2
3.8-6
3.8-11
3.8-12
3.8-13
3.8-14

LIMITING CONDITION FOR OPERATION	SURVEILLANCE REQUIREMENT	
	<u>Item</u>	<u>Frequency</u>
	d. Pump flow rate - Both loops shall deliver at least 3020 gpm against a system head corresponding to a reactor vessel pressure of 113 psig.	Once/3 months
2. From and after the date that one of the core spray subsystems is made or found to be inoperable for any reason, continued reactor operation is permissible during the succeeding seven days provided that during such seven days all active components of the other core spray subsystem and active components of the LPCI subsystem and the diesel generators are OPERABLE.	2. When it is determined that one core spray subsystem is inoperable, the OPERABLE core spray subsystem and the LPCI subsystem shall be demonstrated to be OPERABLE immediately. The OPERABLE core spray subsystem shall be demonstrated to be OPERABLE daily thereafter.	
3. The LPCI Subsystem shall be OPERABLE whenever irradiated fuel is in the reactor vessel, and prior to reactor startup from a COLD CONDITION, except as specified in 3.5.A.4, 3.5.A.5 and 3.5.G.3 below.	3. LPCI Subsystem Testing shall be as follows:	
	a. Simulated Automatic Actuation Test	Once/OPERATING CYCLE
	b. Pump Operability	Once/month

LIMITING CONDITION FOR OPERATION

SURVEILLANCE REQUIREMENT

	<u>Item</u>	<u>Frequency</u>
	c. Motor Operated Valve Operability	Once/month
	d. Pump Flow Rate	Once/3 months
	Three LPCI pumps shall deliver 14,400 gpm against a system head corresponding to a vessel pressure of 20 psig based on individual pump tests.	
4. From and after the date that one of the RHR (LPCI) pumps is made or found to be inoperable for any reason, continued reactor operation is permissible only during the succeeding thirty days provided that during such thirty days the remaining active components of the LPCI subsystem, the containment cooling subsystem, and all active components of both core spray subsystems and the diesel-generators are OPERABLE.	4. When it is determined that one of the RHR (LPCI) pumps is inoperable at a time when it is required to be OPERABLE, the remaining active components of the LPCI subsystem, the containment spray subsystem and both core spray subsystems shall be demonstrated to be OPERABLE immediately and the OPERABLE LPCI pump daily thereafter.	
5. From and after the date that two RHR pumps (LPCI mode) are made or found to be inoperable for any reason, continued reactor operation is permissible only during the succeeding 7 days unless at least one of the inoperable pumps is sooner made OPERABLE, provided that during such 7 days all active components of both core spray subsystems, the containment spray subsystem and the diesel-generators required for operation of such components are OPERABLE.	5. When it is determined that the LPCI subsystem is inoperable, both core spray subsystems and the containment spray subsystem shall be demonstrated to be OPERABLE immediately and daily thereafter.	

LIMITING CONDITION FOR OPERATION	SURVEILLANCE REQUIREMENT
<p>2. From and after the date that one of the RHR Service Water subsystem pumps is made or found to be inoperable for any reason, reactor operation must be limited to thirty days unless OPERABILITY of that pump is restored within this period. During such thirty days all other active components of the RHR Service Water subsystem are OPERABLE.</p>	<p>2. When it is determined that one RHR Service Water pump is inoperable, the remaining components of that subsystem and the other subsystems shall be demonstrated to be OPERABLE immediately and daily thereafter.</p>
<p>3. From and after the date that one RHR Service Water pump in each subsystem is made or found to be inoperable for any reason, reactor operation is limited to seven days unless OPERABILITY of at least one pump is restored within this period. During such seven days all active components of both RHR Service Water subsystems and their associated diesel generators required for operation of such components (if no external source of power were available), shall be OPERABLE.</p>	<p>3. When one RHR Service Water pump in each subsystem becomes inoperable, the remaining components of both subsystems shall be demonstrated to be OPERABLE immediately and daily thereafter.</p>
<p>4. From and after the date that one RHR Service Water subsystem is made or found to be inoperable for any reason, reactor operation is limited to seven days unless OPERABILITY of one pump is restored within this period. During such seven days all active components of the other RHR Service Water subsystem, and its associated diesel-generator required for operation of such components (if no external source of power were available), shall be OPERABLE.</p>	<p>4. When one RHR Service Water subsystem becomes inoperable, the OPERABLE subsystem shall be demonstrated to be OPERABLE immediately and daily thereafter.</p>
<p>5. If the requirements of 3.5.C cannot be met, an orderly SHUTDOWN of the reactor shall be initiated and the reactor shall be in the COLD SHUTDOWN Condition within 24 hours.</p>	

LIMITING CONDITIONS FOR OPERATION

SURVEILLANCE REQUIREMENT

F. Automatic Depressurization System (ADS)

1. The Automatic Depressurization Subsystem shall be OPERABLE whenever there is irradiated fuel in the reactor vessel and the reactor pressure is greater than 100 psig and prior to a startup from a Cold Condition, except as specified in 3.5.F.2 below.
2. From and after the date that one valve in the automatic depressurization subsystem is made or found to be inoperable for any reason, continued reactor operation is permissible only during the succeeding thirty days unless such valve is sooner made OPERABLE, provided that during such thirty days the HPCI subsystem is OPERABLE.
3. If the requirements of 3.5.F cannot be met, an orderly SHUTDOWN shall be initiated and the reactor pressure shall be reduced to at least 100 psig within 24 hours.

G. Minimum Low Pressure Cooling and Diesel Generator Availability

1. During any period when one diesel generator is inoperable, continued reactor operation is permissible only during the succeeding seven days unless such diesel generator is sooner made OPERABLE, provided

F. Automatic Depressurization System (ADS)

1. During each operating cycle the following tests shall be performed on the ADS:
 - a. A simulated automatic actuation test shall be performed prior to startup after each REFUELING OUTAGE.
 - b. During each REFUELING OUTAGE the ADS Nitrogen Accumulator check valves will be leak tested for a maximum acceptable system leakage rate of 25 scc/minute.
2. When it is determined that one valve of the ADS is inoperable, the ADS subsystem actuation logic for the other ADS valves and the HPCI subsystem shall be demonstrated to be OPERABLE immediately and at least daily thereafter.

G. Minimum Low Pressure Cooling and Diesel Generator Availability

1. When it is determined that one diesel generator is inoperable, the remaining diesel generator shall be demonstrated to be OPERABLE within eight (8) hours and daily thereafter. In addition, all low pressure core cooling and containment cooling subsystems supported by the OPERABLE diesel shall be demonstrated to be OPERABLE immediately and daily thereafter.

LIMITING CONDITIONS FOR OPERATION

SURVEILLANCE REQUIREMENT

- that the remaining diesel generator and all the low pressure core and containment cooling subsystems supported by the OPERABLE diesel generator are OPERABLE. If this requirement cannot be met, an orderly SHUTDOWN shall be initiated and the reactor shall be placed in the COLD SHUTDOWN Condition within 24 hours.
2. Any combination of inoperable components in the core and containment cooling systems shall not defeat the capability of the remaining OPERABLE components to fulfill the cooling functions.
 3. When irradiated fuel is in the reactor vessel and the reactor is in the COLD SHUTDOWN Condition, both core spray systems, the LPCI and containment cooling subsystems may be inoperable, provided no work is being done which has the potential for draining the reactor vessel.
 4. During a REFUELING OUTAGE, refueling operations may continue with the suppression pool volume below the minimum values specified in Specification 3.7.A.1 provided all of the following conditions are met:
 - (a) The reactor head is removed, the cavity is flooded, the spent fuel pool gates are removed and spent fuel pool water level is maintained within the limits of Specification 3.9.C.

LIMITING CONDITION FOR OPERATIONSURVEILLANCE REQUIREMENTJ. River Water Supply System

1. Except as specified in 3.5.J.2 below, at least one pump in each river water supply system loop shall be OPERABLE whenever irradiated fuel is in the reactor vessel and reactor coolant temperature is greater than 212°F.

2. From and after the date that one river water supply system loop is made or found to be inoperable for any reason, reactor operation must be limited to seven days unless OPERABILITY of that subsystem is restored within this period. During such seven days all active components of the other river water supply loop and its associated diesel generator required for operation of such components shall be OPERABLE.
3. If the requirements of 3.5.J.2 cannot be met, an orderly SHUTDOWN shall be initiated and the reactor shall be in a COLD SHUTDOWN condition within 24 hours.

J. River Water Supply System

1. River Water Supply System Testing:

<u>Item</u>	<u>Frequency</u>
a. Simulated automatic actuation Test.	Each REFUELING OUTAGE.
b. Pump and motor operated valve operability.	Once/3 months
c. Flow Rate Test	
Each river water supply system pump shall deliver at least 6000 gpm at TDH of 46 ft. or more.	After major pump maintenance and monthly. Daily when river elevation is less than 727 feet.
d. Operating Pump Flow Rate Demonstration	
Each Operating River Water Supply System Pump shall deliver at least 6000 gpm.	Daily
2. When one river water supply system loop becomes inoperable, the OPERABLE loop shall be demonstrated to be OPERABLE immediately and daily thereafter.	

Using the results developed in this reference, the repair period is found to be 1/2 the test interval. This assumes that the core spray subsystems and LPCI constitute a 1 out of 3 system; however, the combined effect of any of the two subsystems to limit excessive clad temperatures must also be considered. The test interval specified in Specification 4.5 is 1 month. Should a subsystem fail, a daily test is called for on the remaining systems to ensure that they will function.

Should one core spray subsystem become inoperable, the remaining core spray and the LPCI subsystem are available should the need for core cooling arise. To assure that the remaining core spray and LPCI subsystems are available, they are demonstrated to be operable. This demonstration includes a manual initiation of the pumps and associated valves. The diesel generator monthly surveillance test assures diesel generator availability.

Should the loss of one LPCI pump occur, a nearly full complement of core and containment spray equipment is available. The remaining three LPCI pumps and a core spray subsystem will perform the core cooling function. Because of the availability of the majority of the core cooling equipment, which will be demonstrated to be operable, a thirty day repair period is justified. If the LPCI subsystem is not available, at least

1 LPCI pump must be available to fulfill the containment spray function. The 7 day repair period is set on this basis.

B&C Containment Spray and RHR Service Water

The containment spray subsystem for DAEC consists of 2 loops each with 2 LPCI pumps and 2 RHR service water pumps per loop. The design of these systems is predicted upon use of 1 LPCI, and 2 RHR service water pumps for heat removal after a design basis event. Thus, there are ample spares for margin above the design conditions. Loss of margin should be avoided and the equipment maintained in a state of operability so a 30-day out-of-service time is chosen for this equipment. If one loop is out-of-service, or one pump in each loop is out-of-service, reactor operation is permitted for seven days with daily testing of the operable loop(s). The diesel generator monthly surveillance test assures diesel generator availability.

With components or subsystems out-of-service, overall core and containment cooling reliability is maintained by demonstrating the operability of the remaining cooling equipment. The degree of operability to be demonstrated depends on the nature of the reason for the out-of-service equipment. For routine out-of-service periods caused by preventative

G. Minimum Low Pressure Cooling and Diesel Generator Availability

The purpose of Specification G is to assure that adequate core cooling equipment is available at all times. It is during refueling outages that major maintenance is performed and during such time that all low pressure core cooling systems may be out of service. This specification provides that should this occur, no work will be performed on the primary system which could lead to draining the vessel. This work would include work on certain control rod drive components and recirculation system. Thus, the specification precludes the events which could require core cooling. Since the system cannot be pressurized during refueling, the potential need for core flooding only exists and the specified combination of the core spray or the LPCI system can provide this. Specification 3.8 must also be consulted to determine other requirements for the diesel generators. To prevent extensive wear and stress on the diesel engines, the diesels are manually started and the speed incrementally increased to synchronous speed.

H. Maintenance of Filled Discharge Pipe

If the discharge piping of the core spray, LPCI subsystem, HPCI, and RCIC are not filled, a water hammer can develop

J. River Water Supply System

Four river water supply pumps in two loops of two pumps each are provided. Both loops discharge into the wet-pit sump of the RHR and emergency service water system. One river water supply pump is sufficient to supply water to an entire train of RHR and emergency service water pumps, which in turn provide sufficient service water for containment and component cooling after a loss-of-coolant accident. An additional pump is required to be operable in Specification 3.5.J.1 to provide a completely redundant river water supply for the other RHR and emergency service water train. Because of the almost continuous operation of the river water supply system during normal operation, two additional pumps, for a total of four, have been installed to provide flexibility in maintenance and operation as well as additional system reliability.

In the event that one river water supply system loop becomes inoperable, plant operation is restricted to seven days provided both pumps in the operable loop are tested daily. The diesel generator monthly surveillance test assures diesel generator availability.

LIMITING CONDITION FOR OPERATION

3.8 AUXILIARY ELECTRICAL SYSTEM

Applicability:

Applies to the auxiliary electrical power system.

Objective:

To assure an adequate supply of electrical power for operation of those systems required for safety.

Specification:A. Auxiliary Electrical Equipment

The reactor shall not be made critical unless all of the following conditions are satisfied:

1. Both off-site sources and the startup transformers and standby transformers are available and capable of automatically supplying power to the 4kV emergency buses.
2. The two diesel-generators shall be operable and there shall be a minimum of 35,000 gallons of diesel fuel in the diesel fuel oil tank.
3. All station 24, 125 and 250 volt battery systems shall be operable. The associated battery chargers for the 24 volt batteries, two of the three battery chargers for the 125 volt station batteries, and one of the two 250 volt battery chargers shall be OPERABLE.
4. The emergency 4160 volt buses 1A3 and 1A4, and 480 volt buses 1B3, 1B4, 1B9 and 1B20 shall be energized and OPERABLE.

SURVEILLANCE REQUIREMENT

4.8 AUXILIARY ELECTRICAL SYSTEM

Applicability:

Applies to the periodic testing requirements of the auxiliary electrical systems.

Objective:

Verify the operability of the auxiliary electrical system.

Specification:A. Auxiliary Electrical Equipment

1. Diesel-Generators

a. Monthly Start Test

- 1) Once each month both diesel-generators shall be manually started, the speed increased from idle to synchronous and then manually loaded to demonstrate operational readiness. The test shall continue for at least a one-hour period at rated load.

During the monthly generator test the diesel-generator starting air compressor shall be checked for operation and its ability to recharge air receivers. The operation of the diesel fuel oil transfer pumps shall also be demonstrated during this test; or

- 2) Once each six (6) months both diesel-generators shall be manually started and loaded to demonstrate that they will reach rated frequency and voltage within specified time limits. This test is to be run in lieu of the regular monthly test.

LIMITING CONDITION FOR OPERATION

SURVEILLANCE REQUIREMENT

During the semiannual test the same checks to the air start system and fuel oil pumps performed during monthly testing shall be performed. In addition, the diesel starting time to reach rated frequency and voltage shall be logged.

- b. Once per OPERATING CYCLE the condition under which the diesel-generator is required will be simulated and a test conducted to demonstrate that it will start and accept the emergency load within the specified time sequence. The diesel-generator shall be operated loaded for a minimum of 5 minutes. The results shall be logged.
 - c. The quantity of diesel fuel available shall be logged monthly and after each use of the diesels.
 - d. Once a month a sample of diesel fuel shall be checked for viscosity, water and sediment. The values for viscosity, water and sediment shall be within the acceptable limits specified in Table 1 of ASTM D975-77 and logged.
 - e. Each diesel-generator shall be given an annual inspection in accordance with instructions based on the manufacturer's recommendations.
 - f. A sample test and record shall be made of each oil delivery before it is placed in the storage tank.
2. Unit Batteries
 - a. Every week the specific gravity, the voltage and temperature of the pilot cell and overall battery voltage shall be measured and logged.

LIMITING CONDITION FOR OPERATION	SURVEILLANCE REQUIREMENT
C. <u>Emergency Service Water System</u>	C. <u>Emergency Service Water System</u>
1. Except as specified in 3.8.C.2 below, both emergency service water system loops shall be OPERABLE whenever irradiated fuel is in the reactor vessel and reactor coolant temperature is greater than 212°F.	1. Emergency Service Water Subsystem Testing a. Simulated automatic actuation test. each REFUELING OUTAGE
2. From and after the date that one of the emergency service water system pumps or loops is made or found to be inoperable for any reason, reactor operation must be limited to seven days unless OPERABILITY of that system is restored within this period. During such seven days all active components of the other Emergency Service Water System shall be OPERABLE, provided the requirements of 3.5.G are met.	b. Pump and motor operated valve operability once/3 months c. Flow Rate Test Each emergency service water pump shall deliver at least that flow determined from Figure 4.8.C-1 for the existing river water temperature. after major pump maintenance and every month, except weekly during periods of time the river water temperature exceeds 80°F.
3. If the requirements of 3.8.C cannot be met, an orderly SHUTDOWN shall be initiated and the reactor shall be in a COLD SHUTDOWN condition within 24 hours.	2. When one emergency service water system pump or loop becomes inoperable, the OPERABLE pump and loop shall be demonstrated to be OPERABLE immediately and daily thereafter. In addition, the requirements of 4.5.G.1 shall be met.

4.8 BASES:

The monthly tests of the diesel-generators are conducted to demonstrate satisfactory system performance and operability. To prevent extensive wear and stress on the diesel engines, the diesels are manually started and the speed incrementally increased to synchronous speed. Once every six months, a test is performed to demonstrate the fast start capabilities of the diesel engines to accelerate to rated speed as required for the design basis for the plant. The test of the automatic starting circuits will prove that each diesel will receive all automatic start signals. The loading of each diesel-generator is conducted to demonstrate proper operation at maximum expected emergency loading and at equilibrium operating conditions. Generator experience at other generator stations, and NRC published guidance (Generic Letter 84-15), indicates that the testing frequency is adequate to assure a high reliability of operation should the system be required.

Each diesel-generator has two independent starting air supply systems. One consists of a motor driven air compressor which automatically recharges two air receivers and the other consists of a diesel driven air compressor which is manually operated to recharge a third air receiver. During the monthly check of the diesel-generator, both air start systems will be checked for proper operation.

Following the tests (at least monthly) or other operation of the units, the fuel volume remaining in the diesel oil storage tank will be checked.

At the end of the monthly loads test of the diesel-generator, the fuel oil transfer pump will be operated to refill the day tank and to check the operation of this pump. The day tank level indicator and alarm switches and fuel oil transfer pump control switches will be checked at this time.

The test of the diesels once each operating cycle will be more comprehensive in that it will functionally test the system; i.e., it will check starting and closure of breakers and sequencing of loads. The units will be started by simulation of a loss-of-coolant accident. In addition, a loss of normal power condition will be imposed to simulate a loss of off-site power. The timing sequence will be checked to assure proper loading in the time required. Periodic tests check the capability of the units to start in the required time and to deliver the expected emergency load requirements. Periodic testing of the various components plus a functional test each operating cycle are sufficient to maintain adequate reliability.

Logging the diesel fuel supply after each operation (at least monthly) assures that the minimum fuel supply requirements will be

maintained. During the monthly test for quality of the diesel fuel oil, a viscosity test and water and sediment test will be performed as described in ASTM D975-77 (reference LDR-80-111). The quality of the diesel fuel oil will be acceptable if the results of the tests are within the limiting requirements for diesel fuel oils shown on Table 1 of ASTM D975-77.

Although the station batteries will deteriorate with time, utility experience indicates there is almost no possibility of precipitous failure. The type of surveillance described in this specification is that which has been demonstrated over the years to provide an indication of a cell becoming irregular or unserviceable long before it becomes a failure.

The rated load discharge test provides adequate indication and assurance that the batteries have the specified ampere hour capacity. The rate of discharge during this test shall be in accordance with the manufacturer's discharge characteristic curves. The results of these tests will be logged and compared with the manufacturer's recommendations of acceptability.

The emergency Service Water System has two loops one pump each. If one emergency service water system loop becomes inoperable, the other loop provides cooling to components sufficient to assure performance of the safety function after an accident. Continued plant operation with one loop inoperable is restricted to a seven-day period during which time the operable emergency service water loop is tested immediately and daily thereafter. The diesel-generator providing emergency power to the operable loop is tested within eight (8) hours and every three days thereafter.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 139 TO FACILITY OPERATING 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 May 22, 1986, Iowa Electric Light and Power Company (the licensee) (IELP) proposed to revise the Duane Arnold Energy Center (DAEC) Technical Specifications in response to Generic Letter (GL) 83-30 relating to deletion of diesel generator surveillance requirements, GL 84-15 relating to improvement and maintenance of diesel generator reliability and Information Notice 85-32 relating to engine failures of diesel generators.

Specifically, the licensee proposes to delete the excessive diesel generator surveillance requirements, update the American Society of Testing Materials (ASTM) standards for diesel fuel testing and revise the action requirements for Emergency Core Cooling System (ECCS) operability when a diesel generator is declared inoperable.

2.0 EVALUATION

IELP has proposed the following changes to Technical Specifications to accomplish its objective to reduce unnecessary testing of the diesel generator (DG). The staff has for some time been evaluating the frequency of DG testing and the associated potential for severe degradation of engine parts due to excessive testing. The test interval is established conservatively on a per nuclear unit basis rather than on a per diesel basis. Thus, improper diagnosis of a DG failure could potentially result in more frequent testing of all the diesel generators. Also, test intervals that are too short could have an adverse impact on DG reliability. The staff concludes that this test frequency can be reduced to minimize this potential without affecting the overall DG reliability. The licensee was also encouraged to propose TS changes in additional areas identified below to reduce excessive DG testing. These changes are made as an interim action on DG testing prior to final resolution of Generic Issue B-56, and are consistent with Generic Letter 84-15 guidelines. The guidelines are summarized as follows:

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- (1) Reduced testing of diesel generators from every 8 hours to once within 24 hours when a DG or an offsite supply is inoperable.
- (2) Testing of diesel generators based on the number of failures on a per DG basis rather than unnecessarily testing all diesel generators in the nuclear plant.
- (3) Reduced test frequency for an individual DG based on the number of failures from the present minimum interval of every three (3) days to a minimum of seven (7) days.

The staff has reviewed the proposed changes to determine whether these changes are in line with the above guidelines. The result of our review follows:

1. TS Section 4.5.A.2, 4.5.A.4, 4.5.A.5, 4.5.C.3 and 4.5.C.4

Present Technical Specifications (TS) require that whenever subsystems of the Emergency Core Cooling System (ECCS) are declared inoperable, the diesel generators are required to be tested. The licensee has proposed to delete this requirement from the TS. The staff has recognized that only plants which were licensed earlier have this requirement in their TS. Currently, the staff does not require that diesel generators should be tested whenever any subsystems of the ECCS are declared inoperable. Since this excessive unnecessary testing results in degradation of the diesel engine and deletion of these surveillance requirements will make DAEC consistent with the majority of the plants and guidelines of Generic Letter 84-15, the staff finds the proposed change acceptable.

2. TS Section 3.5.G.1

The proposed amendment clarifies the Limiting Condition for Operation (LCO) 3.5.G.1. DAEC TS currently require that should a DG be declared inoperable, all of the low pressure core and containment cooling subsystems be demonstrated operable. This requirement is being revised to require only those low pressure core and containment cooling subsystems that depend on the operable DG for emergency power be demonstrated operable. This change is consistent with the Standard Technical Specification and, therefore, is acceptable.

3. TS Section 4.5.G.1

Surveillance Requirement 4.5.G.1 is revised to increase the time allowed to verify that a DG is operable after declaring a DG, or an offsite power source and a diesel generator to be inoperable from immediately to eight hours. Another revision allowed the operable DG to be tested every three days thereafter instead of daily testing. The first change meets the intent of GL 84-15 and

hence is acceptable. However, the second change goes beyond the intent of GL 84-15 and Standard Technical Specifications and hence is not acceptable. The staff has discussed this with the licensee who agrees with the staff's conclusion. Therefore, the present wording in the TS remains.

4. TS Sections 3/4.5.J.2 and 4.8.C.2

Since the inoperability of an emergency service water pump/loop results in the inoperability of the corresponding DG due to loss of cooling, TS section 3.4.J.2 has been revised to clarify the wording. In addition, to clarify the surveillance requirement in Section 4.8.C.2 for operation with an inoperable DG, the licensee has added a reference to the surveillance requirement in Section 4.5.G.1. Also, the surveillance requirement in Section 4.5.J.2 to demonstrate operability of the DG has been deleted as this will be covered by Section 4.8.C.2. These changes are editorial in nature and hence are acceptable.

5. TS Section 4.8.A.1.a

The proposed change will revise the Surveillance Requirement of 4.8.A.1.a to allow monthly DG slow starts, in lieu of the current fast starts, with a required fast start once every six months. Generic Letter 84-15 recommends a reduction in the frequency of DG fast start tests from ambient conditions. By performing DG starts for surveillance testing using engine prelube and other manufacturer recommended procedures, engine stress and wear can be reduced. This change is consistent with the intent of the guideline of GL 84-15 and, therefore, is acceptable.

6. TS Section 4.8.A.1.b

Generic Letter 83-30 deleted the requirement for DG load interruption, reconnection and resequencing testing as the TS surveillance requirement was not consistent with the provisions of GDC 17, Regulatory Guide 1.108 and NRC Standard Review Plans (SRP 8.2 and 8.3.1). The change in TS Section 4.8.A.1.b will correct this inconsistency and hence the change is acceptable.

7. TS Section 4.8.A.2.d

This change updates the diesel fuel testing criteria to ASTM D975-77 from the present ASTM D975-68. The staff finds this acceptable.

The licensee has proposed general reductions in the test frequency requirements for the onsite emergency diesel generators in DAEC Technical Specifications. These changes involve both routine surveillance testing and special testing due to restriction of the plant operation. The staff has reviewed the licensee's submittals and as discussed in the evaluation section has accepted all the proposed changes except for one change to TS Section 4.5.G.1.

The staff notes that the proposed change to the surveillance requirement which is not approved at this time is part of the ongoing generic issue GIB-56 on Diesel Generator Reliability. Some of the above approved changes are acceptable as an interim action on diesel generator testing prior to final resolution of GIB-56 and are consistent with Generic Letter 84-15 guidelines.

3.0 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 and changes surveillance requirements. The staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents 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. 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.

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 the amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributors: H. Garg and R. Gilbert

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