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DESCRIPTION:

Ltr notarized 1-29-75...trans the following:

ENCLOSURES:

Amdt to OL/Change to Tech Specs: Consisting of revisions to Appendix A.....

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PLANT NAME: Duane Arnold

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IOWA ELECTRIC LIGHT AND POWER COMPANY

General Office

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CHARLES W. SANDFORD
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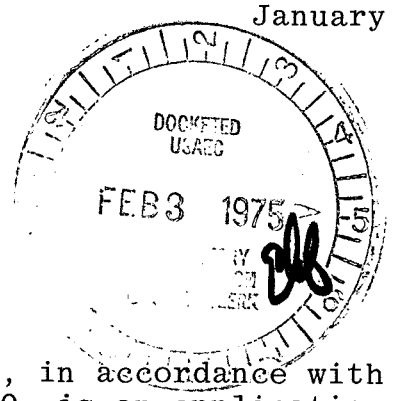
January 28, 1975



Mr. E. G. Case
Acting Director of Licensing
Nuclear Regulatory Commission
Washington, D.C. 20545

Dear Mr. Case:

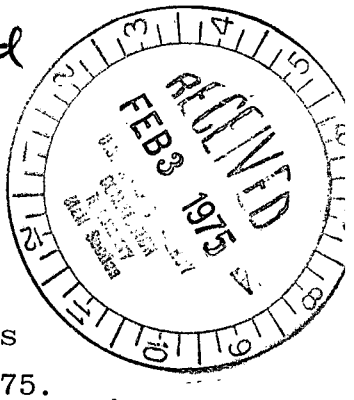
Transmitted herewith, in accordance with the requirements of 10 CFR 50.59 and 50.90, is an application for amendment of DPR-49 to incorporate proposed changes in the technical specifications (Appendix A to License) for the Duane Arnold Energy Center. These changes are in response to a request from the NRC Directorate of Licensing.

The proposed changes 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 thirty-seven 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 Charles W. Sandford
Charles W. Sandford
Executive Vice President



OS/CWS/D
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D. Arnold
W. Paulson
J. Keppler
J. Newman

Sworn and subscribed to me this 29th day of January, 1975.

Marjorie E. McDonald
Notary Public in and for the State of Iowa.

Marjorie E. McDonald
NOTARY PUBLIC
State of Iowa
Commission Expires
September 30, 1976

1163

PROPOSED CHANGE RTS-40 TO TECHNICAL SPECIFICATIONS

I. Affected Technical Specifications

The technical specifications for the DAEC (DPR-49, Appendix A) provide as follows:

(A) Specifications 3.7.B and 4.7.B (Limiting Conditions for Operation, Surveillance Requirements and Bases) for the Standby Gas Treatment System, pages 3.7-14 through 3.7-16 and 3.7-41 through 3.7-46.

(B) Specifications 3.10.A and 4.10.A (Limiting Conditions for Operation, Surveillance Requirements and Bases) for the Main Control Room Ventilation System, pages 3.10-1, 3.10-2 and 3.10-3.

II. Proposed Change in Technical Specifications

The licensees of DPR-49 propose the following changes in the technical specifications set forth in I, above:

(A) Delete present Specifications 3.7.B and 4.7.B and replace with proposed Specifications 3.7.B and 4.7.B (Attachment A).

(B) Delete present Specifications 3.10.A and 4.10.A and replace with proposed Specifications 3.10.A and 4.10.A (Attachment B).

III. Justifications for Proposed Change

The subject changes to the filter systems are being submitted at the request of the AEC (Letter; Mr. G. Lear, Chief, Operating Reactors Branch #3, Directorate of Licensing to Mr. D. Arnold, President, Iowa Electric Light and Power Company; dated December 18, 1974). The AEC's reason for requesting the changes are to ensure higher confidence that the systems will function reliably, when needed, at a degree of efficiency equal to or better than that assumed in the accident analyses.

The attached proposed changes comply in all respects with the Commission's letter of December 18, 1974 with the exceptions noted below which reflect specific design characteristics for DAEC.

(1) In Specification 3.7.B.2.b the carbon sample analysis shall be performed at 150°F rather than 190°F to correspond to the design of the DAEC system.

(2) In Specification 4.7.B.1.a the required pressure drop across the combined high efficiency and charcoal filters was changed from 6 inches of water to 11 inches of water to conform with DAEC system design and acceptance criteria.

(3) In Specification 4.7.B.1 the air distribution measurement across the charcoal beds was deleted as the DAEC system design does not allow this measurement to be made.

(4) In Specification 4.7.B.1 DOP testing of gaskets was deleted. In the DAEC system in-leakage past the gaskets is not deleterious as the Standby Gas Treatment System units are located outside of the secondary containment and leakage as such is not a bypass of the secondary containment atmosphere past the filters.

(5) In the Specification 3.7 and 4.7 Bases, the description of charcoal sampling was revised to indicate the DAEC design facilitating "grain-thief" sampling.

(6) Specification 3.10.A.3 was revised to indicate that the DAEC has redundant control room standby filter units. In addition, since this is a redundant system the allowable system outage time was changed from 7 days to 30 days.

(7) The Specification 3.10.A and 4.10.A Bases were revised to indicate the presence of redundant control room standby filter units. The description of the carbon sampling method was also changed to indicate that DAEC has removable carbon test cartridges.

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.

LIMITING CONDITION FOR OPERATION		SURVEILLANCE REQUIREMENTS	
(3.7)		(4.7)	
B.	Standby Gas Treatment System	B.	Standby Gas Treatment System
1.	Except as specified in 3.7.B.2 below, both trains of the standby gas treatment system and the diesel generators required for operation of such trains shall be operable at all times when secondary containment integrity is required.	1.a	At least once per operating cycle it shall be demonstrated that pressure drop across the combined high efficiency and charcoal filters is less than 11 inches of water at 4,000 cfm.
		b.	At least once per operating cycle demonstrate that the inlet heaters on each train are capable of an output of at least 11 Kw.
		c.	At least once per operating cycle demonstrate that air distribution is uniform within 20% of averaged flow per unit across HEPA filters.
		d.	At least once per operating cycle automatic initiation of each branch of the standby gas treatment system shall be demonstrated.
		e.	At least once per operating cycle manual operability of the bypass system for filter cooling shall be demonstrated.
		f.	System drains shall be inspected quarterly for adequate water level in loop seals.
2.a	The results of the in-place cold DOP and halogenated hydrocarbon tests at design flows on HEPA filters and charcoal adsorber banks shall show ≥ 99% DOP removal and ≥ 99% halogenated hydrocarbon removal.	2.a.	The tests and sample analysis of Specification 3.7.B.2 shall be performed initially and at least once per year for standby service or after every 720 hours of system operation and following significant painting, fire or chemical release in any ventilation zone communicating with the system.

LIMITING CONDITION FOR OPERATION	SURVEILLANCE REQUIREMENTS
b. The results of laboratory carbon sample analysis shall show $\leq$ 1.0% penetration of radioactive methyl iodide at 70% R. H., 150°F, 40±4 FPM face velocity with an inlet concentration of 0.5 to 1.5 mg/m^3 inlet concentration methyl iodide.	b. Cold DOP testing shall be performed after each complete or partial replacement of the HEPA filter bank or after any structural maintenance on the system housing.
c. Fans shall be shown to be capable of operation from 1800 to 4000 cfm.	c. Halogenated hydrocarbon testing shall be performed after each complete or partial replacement of the charcoal adsorber bank or after any structural maintenance on the system housing.
	d. Each circuit shall be operated with the heaters on at least 10 hours every month.
3. From and after the date that one train of the standby gas treatment system is made or found to be inoperable for any reason, continued reactor operation or fuel handling is permissible only during the succeeding seven days unless such train is sooner made operable, provided that during such seven days all active components of the other standby gas treatment train shall be operable.	3. When one train of the standby gas treatment system becomes inoperable, the operable train shall be demonstrated to be operable immediately and daily thereafter.
4. If Specifications 3.7.B.1, 3.7.B.2 and 3.7.B.3 are not met, the reactor shall be placed in the cold shutdown condition and fuel handling operations shall be prohibited.	

3.7.B and 4.7.B BASES

7. Standby Gas Treatment System and Secondary Containment

The secondary containment is designed to minimize any ground level release of radioactive materials which might result from a serious accident. The reactor building provides secondary containment during reactor operation, when the drywell is sealed and in service; the reactor building provides primary containment when the reactor is shut down and the drywell is open, as during refueling. Because the secondary containment is an integral part of the complete containment system, secondary containment is required at all times that primary containment is required as well as during refueling.

The standby gas treatment system is designed to filter and exhaust the reactor building atmosphere to the stack during secondary containment isolation conditions, with a minimum release of radioactive materials from the reactor building to the environs. Both standby gas treatment fans are designed to automatically start upon containment isolation and to maintain the reactor building pressure at approximately a negative 1/4-inch water gauge pressure; all leakage should be in-leakage. Only one of the two standby gas treatment systems is

needed to cleanup the reactor building atmosphere upon containment isolation. If one system is found to be inoperable, there is no immediate threat to the containment system performance and reactor operation or refueling operation may continue while repairs are being made. If neither circuit is operable, the plant is brought to a condition where the standby gas treatment system is not required.

High efficiency particulate absolute (HEPA) filters are installed before and after the charcoal adsorbers to minimize potential release of particulates to the environment and to prevent clogging of the iodine adsorbers. The charcoal adsorbers are installed to reduce the potential release of radioiodine to the environment. The in-place test results should indicate a system leak tightness of less than 1 percent bypass leakage for the charcoal adsorbers and a HEPA efficiency of a least 99 percent removal of DOP particulates. The laboratory carbon sample test results should indicate a radioactive methyl iodide removal efficiency of at least 99 percent for expected accident conditions. If the efficiencies of the HEPA filters and charcoal adsorbers are as specified, the resulting doses will be less than the 10 CFR 100 guidelines for

the accidents analyzed, as the FSAR analysis shows compliance with 10 CFR 100 guidelines with an assumed efficiency of 90% for the adsorber. Operation of the fans significantly different from the design flow envelope will change the removal efficiency of the HEPA filters and charcoal adsorbers.

Pressure drop across the combined HEPA filters and charcoal adsorbers of less than 11 inches of water at the system design flow rate will indicate that the filters and adsorbers are not clogged by excessive amounts of foreign matter. Heater capability, pressure drop and air distribution should be determined at least once per operating cycle to show system performance capability.

The frequency of tests and sample analysis are necessary to show that the HEPA filters and charcoal adsorbers can perform as evaluated. Tests of the charcoal adsorbers with halogenated hydrocarbon refrigerant shall be performed in accordance with USAEC Report DP-1082. Iodine removal efficiency tests shall follow RDT Standard M-16-1T. (The design of the SGTS system allows the removal of charcoal samples from the bed directly through the use of a grain thief.) Each sample should be at least two inches in diameter and a length equal to the thickness of the bed. If test results are unacceptable, all adsorbent in the system shall be replaced with an adsorbent qualified according

to Table 1 of Regulatory Guide 1.52. Tests of the HEPA filters with DOP aerosol shall be performed in accordance to ANSI N101.1-1972. Any HEPA filters found defective shall be replaced with filters qualified pursuant to Regulatory Position C.3.d of Regulatory Guide 1.52.

All elements of the heater are demonstrated to be functional and operable during the test of heater capacity. Demonstration of 11 KW capability assures relative humidity below 70%.

System drains are present in the filter/adsorber banks, loop-seal water level is checked to ensure no bypass leakage from the banks.

If significant painting, fire or chemical release occurs such that the HEPA filter or charcoal adsorber could become contaminated from the fumes, chemicals or foreign material, the same tests and sample analysis shall be performed as required for operational use. The determination of significant shall be made by the operator on duty at the time of the incident. Knowledgeable staff members should be consulted prior to making this determination.

Demonstration of the automatic initiation capability and operability of filter cooling is necessary to assure system performance capa-

bility. If one standby gas treatment system is inoperable, the other system must be tested daily. This substantiates the availability of the operable system and thus reactor operation or refueling operation can continue for a limited period of time.

Initiating reactor building isolation and operation of the standby gas treatment system to maintain at least a 1/4 inch of water vacuum within the secondary containment provides an adequate test of the operation of the reactor building isolation valves, leaktightness of the reactor building and performance of the standby gas treatment system. Functionally testing the initiating sensors and associated trip channels demonstrates the capability for automatic actuation. Performing these tests prior to refueling will demonstrate secondary containment capability prior to the time the primary containment is opened for refueling. Periodic testing gives sufficient confidence of reactor building integrity and standby gas treatment system performance capability.

LIMITING CONDITIONS FOR OPERATION	SURVEILLANCE REQUIREMENTS
(3.10)	(4.10)
A. MAIN CONTROL ROOM VENTILATION	A. MAIN CONTROL ROOM VENTILATION
1. Except as specified in Specification 3.10.A.3 below, the control room air treatment system and the diesel generators required for operation of this system shall be operable at all times when containment integrity is required.	1. At least once per operating cycle, the pressure drop across the combined HEPA filters and charcoal adsorber banks shall be demonstrated to be less than 6 inches of water at system design flow rate.
2.a. The results of the in-place cold DOP and halogenated hydrocarbon tests at design flows on HEPA filters and charcoal adsorber banks shall show $\geq$99% DOP removal and $\geq$99% halogenated hydrocarbon removal.	2.a. The tests and sample analysis of Specification 3.10.A.2 shall be performed initially and at least once per year for stand-by service or after every 720 hours of system operation and following significant painting, fire or chemical release in any ventilation zone communicating with the system.
b. The results of laboratory carbon sample analysis shall show $\geq$90% radioactive methyl iodide removal at a face velocity of 40 fpm, 0.05 to 0.15 mg/m^3 inlet iodide concentration, $\geq$95% R.H. and $\geq$125°F.	b. Cold DOP testing shall be performed after each complete or partial replacement of the HEPA filter bank or after any structural maintenance on the system housing.
c. System flow shall be 1000 cfm $\pm$ 100 cfm.	c. Halogenated hydrocarbon testing shall be performed after each complete or partial replacement of the charcoal adsorber bank or after any structural maintenance on the system housing.
	d. Each circuit shall be operated at least 10 hours every month.

LIMITING CONDITIONS FOR OPERATION	SURVEILLANCE REQUIREMENTS
(3.10)	(4.10)
3. From and after the date that one of the control room air treatment systems is made or found to be inoperable for any reason, reactor operation or refueling operations is permissible only during the succeeding thirty days unless such circuit is sooner made operable.	3. At least once per operating cycle automatic initiation of the control room air treatment system shall be demonstrated.
4. If these conditions cannot be met, reactor shutdown shall be initiated and the reactor shall be in cold shutdown within 24 hours for reactor operations and refueling operations shall be terminated immediately.	

3.10.A BASES

MAIN CONTROL ROOM VENTILATION

The control room air treatment system is designed to filter the control room atmosphere for intake air and/or for recirculation during control room isolation conditions. The control room air treatment system is designed to automatically start upon control room isolation and to maintain the control room pressure to the design positive pressure so that all leakage should be out leakage.

High efficiency particulate absolute (HEPA) filters are installed before the charcoal adsorbers to prevent clogging of the iodine adsorbers. The charcoal adsorbers are installed to reduce the potential intake of radioiodine to the control room. The in-place test results should indicate a system leak tightness of less than 1 percent bypass leakage for the charcoal adsorbers and a HEPA efficiency of at least 99 percent removal of DOP particulates. The laboratory carbon sample test results should indicate a radioactive methyl iodide removal efficiency of at least 90 percent for expected accident conditions. If the efficiencies of the HEPA

filters and charcoal adsorbers are as specified, the resulting doses will be less than the allowable levels stated in Criterion 19 of the General Design Criteria for Nuclear Power Plants, Appendix A to 10 CFR Part 50. Operation of the fans significantly different from the design flow will change the removal efficiency of the HEPA filters and charcoal adsorbers.

If one of the systems is found to be inoperable, the second unit provides protection and reactor operation or refueling operation may continue for a limited period of time while repairs are being made. If the system cannot be repaired within thirty days, the reactor is shutdown and brought to cold shutdown within 24 hours or refueling operations are terminated.

4.10.A BASES

MAIN CONTROL ROOM VENTILATION

Pressure drop across the combined HEPA filters and charcoal adsorbers of less than 6 inches of water at the system design flow rate will indicate that the filters and adsorbers are not clogged by excessive amounts of foreign matter. Pressure drop should be determined at least once per operating cycle to show system performance capability.

The frequency of tests and sample analysis are necessary to show that the HEPA filters and charcoal adsorbers can perform as evaluated. Tests of the charcoal adsorbers with halogenated hydrocarbon shall be performed in accordance with USAEC Report DP-1082. Iodine removal efficiency tests shall follow RDT Standard M-16-1T. Test cartridges are provided to allow removal of a representative charcoal sample without affecting the operation of the bed. If test results are unacceptable, all adsorbent in the system shall be replaced with an adsorbent qualified according to Table 1 of Regulatory Guide 1.52. The replacement tray for the adsorber tray removed for the test should meet the same adsorbent quality. Tests of the HEPA filters with DOP aerosol shall be performed

in accordance to ANSI N101.1-1972. Any HEPA filters found defective shall be replaced with filters qualified pursuant to Regulatory Position C.3.d of Regulatory Guide 1.52.

Operation of the system for 10 hours every month will demonstrate operability of the filters and adsorber system and remove excessive moisture built up on the adsorber.

If significant painting, fire or chemical release occurs such that the HEPA filter or charcoal adsorber could become contaminated from the fumes, chemicals or foreign materials, the same tests and sample analysis shall be performed as required for operational use. The determination of significant shall be made by the operator on duty at the time of the incident. Knowledgeable staff members should be consulted prior to making this determination.

Demonstration of the automatic initiation capability is necessary to assure system performance capability.