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

DESIGNATED ORIGINAL

Certified By Patricia J. Noonan

OMAHA PUBLIC POWER DISTRICT

DOCKET NO. 50-285

FORT CALHOUN STATION, UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 65
License No. DPR-40

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

   A. The application for amendment by the Omaha Public Power District (the licensee) dated November 17, 1981, as supplemented by letter dated March 22, 1982 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, Facility Operating License No. DPR-40 is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 3.B. of Facility Operating License No. DPR-40 is hereby amended to read as follows:

   B. Technical Specifications

   The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 65, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

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

FOR THE NUCLEAR REGULATORY COMMISSION

for Charles M. Trammell
Robert A. Clark, Chief
Operating Reactors Branch #3
Division of Licensing

Attachment:
Changes to the Technical
Specifications

Date of Issuance: June 18, 1982

ATTACHMENT TO LICENSE AMENDMENT NO. 65

FACILITY OPERATING LICENSE NO. DPR-40

DOCKET NO. 50-285

Revise Appendix "A" Technical Specifications as indicated below. The revised pages are identified by amendment number and contain vertical lines indicating the area of change.

Remove Pages	Insert Pages
2-62	2-62
2-63	2-63
2-64	2-64
2-64a	2-64a
2-65	2-65
2-68	2-68
-	2-68a
2-70	2-70
2-70a	2-70a
3-12a	3-12a
6-3	6-3

(3) Containment High Radiation (Air Monitoring) (Continued)

The set points for the isolation function have been selected to limit radioactivity concentrations at the boundary of the restricted area to approximately 0.25 of 10 CFR 20 limits, assuming existence of annual average meteorology.

Each channel is supplied from a separate instrument a.c. bus and each auxiliary relay requires power to operate. On failure of a single A.C. supply, the A and B matrices will assume a one-out-of-two logic.

(4) Low Steam Generator Pressure

A signal is provided upon sensing a low pressure in a steam generator to close the main steam isolation valves in order to minimize the temperature reduction in the reactor coolant system with resultant loss of water level and possible addition of reactivity. The setting of 500 psia includes a ±22 psi uncertainty and was the setting used in the safety analysis.(3)

As part of the AFW actuation logic, a separate signal is provided to terminate flow to a steam generator upon sensing a low pressure in that steam generator if the other steam generator pressure is greater than the pressure setting. This is done to minimize the temperature reduction in the reactor coolant system in the event of a main steamline break. The setting of 466.7 psia includes a +31.7 psi uncertainty; therefore, a setting of 435 psia was used in the safety analysis.

(5) SIRW Tank Low Level

Level switches are provided on the SIRW tank to actuate the valves in the safety injection pump suction lines in such a manner so as to switch the water supply from the SIRW tank to the containment sump for a recirculation mode of operation after a period of approximately 24 minutes following a safety injection signal. The switchover point of 16 inches above tank bottom is set to prevent the pumps from running dry during the 10 seconds required to stroke the valves and to hold in reserve approximately 28,000 gallons of at least 1700 ppm borated water. The FSAR loss of coolant accident analysis (4) assumed the recirculation started when the minimum usable volume of 283,000 gallons had been pumped from the tank.

(6) Low Steam Generator Water Level

As part of the AFW actuation logic, a signal is provided to initiate AFW flow to one or two steam generators upon sensing a low water level in the steam generator(s) if the

2.0 LIMITING CONDITIONS FOR OPERATION

2.14 Engineered Safety Features System Initiation Instrumentation Settings (Continued)

(6) Low Steam Generator Water Level (Continued)

absolute steam generator pressure criteria or differential steam generator pressure criteria are satisfied. This function ensures adequate steam generator water level is maintained in the event of a failure to deliver main feedwater to either steam generator. The setting of 28.2% of wide range tap span includes a +13.2% uncertainty; therefore, a setting of 15% of wide range tap span was used in the safety analysis.

(7) High Steam Generator Delta Pressure

As part of the AFW actuation logic, a high steam generator differential pressure signal is generated to provide AFW to the higher pressure steam generator with a concurrent low level signal if both steam generator pressures are less than 466.7 psia. If the differential pressure between steam generators is less than the setting, neither steam generator is supplied with AFW in the presence of a low level signal. The setting of 119.7 psid includes a -15.3 psi uncertainty; therefore, a setting of 135 psid was used in the AFW safety analysis.

References

(1) FSAR, Section 14.1.3

(2) FSAR, Section 11.2.3.2

(3) FSAR, Section 14.12

(4) FSAR, Section 14.15

(5) FSAR, Section 7.4.6

(6) FSAR, Section 7.5.2.5

(7) FSAR, Section 14.4.1

TABLE 2-1

Engineered Safety Features System Initiation Instrument Setting Limits

Functional Unit	Channel	Setting Limit
1. High Containment Pressure	a. Safety Injection b. Containment Spray(3) c. Containment Isolation d. Containment Air Cooler DBA Mode	$\leq$ 5 psig
2. Pressurizer Low/Low Pressure	a. Safety Injection b. Containment Spray(3) c. Containment Isolation d. Containment Air Cooler DBA Mode	$\geq$ 1600 psia(1)
3. Containment High Radiation	Containment Ventilation Isolation(4)	$\leq$ RM-050, 9.6×10^{-2} µci/sec $\leq$ RM-051, 1.5×10^{-3} µci/cc $\leq$ RM-060, 9.6×10^{-2} µci/sec $\leq$ RM-061, 9.6×10^{-2} µci/sec $\leq$ RM-062, 1.5×10^{-3} µci/cc
4. Low Steam Generator Pressure	a. Steam Line Isolation b. Auxiliary Feedwater Actuation	$\geq$ 500 psia(2) $\geq$ 466.7 psia
5. SIRW Low Level Switches	Recirculation Actuation	16 inches +0, -2 in. above tank bottom
6. 4.16 KV Emergency Bus Low Voltage	a. Loss of Voltage	(2995.2 + 104) volts - 20.8 $\leq$5.9(5) seconds } Trip
	b. Degraded Voltage 1) Bus 1A3 Side	> 3825.52 volts (4.8 $\pm$ .5) seconds } Trip

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TABLE 2-1 (Continued)

Engineered Safety Features System Initiation Instrument Setting Limits

Functional Unit	Channel	Setting Limit
6. (Continued)	b. (Continued)	
	ii) Bus 1A4 Side	> 3724.08 volts (4.8 ± .5) seconds } Trip
7. Low Steam Generator Water Level	Auxiliary Feedwater Actuation	≥ 28.2% of wide range tap span
8. High Steam Generator Delta Pressure	Auxiliary Feedwater Actuation	≤ 119.7 psid

(1) May be bypassed below 1700 psia and is automatically reinstated above 1700 psia.
(2) May be bypassed below 550 psia and is automatically reinstated above 550 psia.
(3) Simultaneous high containment pressure and pressurizer low/low pressure.
(4) RM-050 and RM-051 may be inoperable or out of service with respect to containment monitoring, provided that the containment ventilation isolation valves are closed. RM-061 and RM-062 may be inoperable, provided that RM-050 and RM-051 are monitoring the ventilation stack. RM-060 may be inoperable, provided that (1) iodine samples are taken from the ventilation stack and analyzed each eight hours and (2) gas decay tank releases are not made.
(5) Applicable for bus voltage ≤ 2995.2 - 20.8 volts only. (For voltage ≥ (2995.2 - 20.8) volts, time delay shall be > 5.9 seconds.)

2.0 LIMITING CONDITIONS FOR OPERATION

2.15 Instrumentation and Control Systems

Applicability

Applies to plant instrumentation systems.

Objective

To delineate the conditions of the plant instrumentation and control systems necessary to assure reactor safety.

Specifications

The operability of the plant instrument and control systems shall be in accordance with Tables 2-2 through 2-5.

In the event the number of channels of a particular system in service falls below the limits given in the columns entitled "Minimum Operable Channels" or "Minimum Degree of Redundancy", except as conditioned by the column entitled "Permissible Bypass Conditions", the reactor shall be placed in a hot shutdown condition within 12 hours; however, operation can continue without containment isolation signals available if the ventilation isolation valves are closed. If minimum conditions are not met within 24 hours, the reactor shall be placed in a cold shutdown condition within 24 hours.

If, during power operation, the rod block function of the secondary CEA position indication system and rod block circuit are inoperable for more than 24 hours, or the plant computer PDIL alarm, CEA group deviation alarm and the CEA sequencing function are inoperable for more than 48 hours, the CEA's shall be withdrawn and maintained at fully withdrawn and the control rod drive system mode switch shall be maintained in the off position except when manual motion of CEA Group 4 is required to control axial power distribution.

Basis

During plant operation, the complete instrumentation systems will normally be in service. Reactor safety is provided by the reactor protection system, which automatically initiates appropriate action to prevent exceeding established limits. Safety is not compromised, however, by continuing operation with certain instrumentation channels out of service since provisions were made for this in the plant design. This specification outlines limiting conditions for operation necessary to preserve the effectiveness of the reactor control and protection system when any one or more of the channels are out of service.

All reactor protection and almost all engineered safety feature channels are supplied with sufficient redundancy to provide the capability for channel test at power, except for backup channels such as derived circuits in engineered safeguards control system.

TABLE 2-3

Instrument Operating Requirements for Engineered Safety Features

No.	Functional Unit		Minimum Operable Channels	Minimum Degree of Redundancy	Permissible Bypass Conditions
1	Safety Injection				
A	Manual		1	None	None
B	High Containment Pressure	A	2(a) (d)	1	During Leak Test
		B	2(a) (d)		
C	Pressurizer Low/Low Pressure	A	2(a) (d)	1	Reactor Coolant Pressure Less Than 1700 psia(b)
		B	2(a) (d)	1	
2	Containment Spray				
A	Manual		1	None	None
B	High Containment Pressure	A	2(a)(c)(d)	1	During Leak Test
		B	2(a)(c)(d)	1	
C	Pressurizer Low/Low	A	2(a)(c)(d)	1	Reactor Coolant Pressure Less Than 1700 psia(b)
		B	2(a)(c)(d)	1	
3	Recirculation				
A	Manual		1	None	None
B	SIRW Tank Low Level	A	2(a) (d)	1	None
		B	2(a) (d)	1	
4	Emergency Off-Site Power Trip				
A	Manual		1(e)	None	None
B	Emergency Bus Low Voltage (Each Bus) - Loss of voltage		2(d)	1	Reactor Coolant Temperature Less Than 300°F
	- Degraded voltage		2(a)(d)	1	

TABLE 2-3 (Continued)

Instrument Operating Requirements for Engineered Safety Features

No.	Functional Unit	Minimum Operable Channels	Minimum Degree of Redundancy	Permissible Bypass Conditions
5	Auxiliary Feedwater			
A	Manual	1	None	None
B	Auto. Initiation A B			Operating Modes 3, 4, and 5
	- Steam Generator Low Level	3(a)(f)	1	
	- Steam Generator Low Pressure	3(a)(g)	1	
	- Steam Generator Differential Pressure	3(a)(g)	1	

a A and B actuation circuits each have 4 channels.

b Auto removal of bypass above 1700 psia.

c Coincident high containment pressure and pressurizer low/low pressure signals required for initiation of containment spray.

d One of the inoperable channels must be in the tripped condition.

e Control switch on incoming breaker.

f Two channels are allowed to be inoperable provided that one and only one is in the low level actuation permissive condition.

g Three channels required because bypass or failure results in auxiliary feedwater actuation block, in the affected channel.

TABLE 2-5

Instrumentation Operating Requirements for Other Safety Feature Functions

No.	Functional Unit	Minimum Operable Channels	Minimum Degree of Redundancy	Permissible Bypass Conditions
1	CEA Position Indication Systems	1	None	None
2	Pressurizer Level	1	None	Not Applicable
3	Subcooling Margin Monitor	1	None	Not Applicable
4	PORV Acoustic Position Indication-Direct	1 [ac]	None	Not Applicable
5	Safety Valve Acoustic Position Indication	1 [ac]	None	Not Applicable
6	PORV/Safety Valve Tail Pipe Temperature	1 [db]	None	Not Applicable

NOTES:

a One channel per valve.
b One RTD for both PORV's; two RTD's, one for each code safety.
c If item 6 is operable, requirements of specification 2.15 are modified for items 4 and 5 to "Restore inoperable channels to operability within 7 days or be in hot shutdown within 12 hours."
d If items 4 and 5 are operable, requirements of specification 2.15 are modified for item 6 to "Restore inoperable channels to operability within 7 days or be in hot shutdown within 12 hours."

TABLE 2-6

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TABLE 3-2 (Continued)

MINIMUM FREQUENCIES FOR CHECKS, CALIBRATIONS AND TESTING OF ENGINEERED SAFETY FEATURES, INSTRUMENTATION AND CONTROLS

	Channel Description	Surveillance Function	Frequency	Surveillance Method
22.	Auxiliary Feedwater			
	a. Steam Generator Water Level Low (Wide Range)	a. Check	S	a. Compare independent level readings.
		b. Calibration	R	b. Known signal applied to sensor.
	b. Steam Generator Pressure Low	a. Check	S	a. Compare independent pressure readings.
		b. Calibration	R	b. Known Signal applied to sensor.
	c. Steam Generator Differential Pressure High	a. Calibrate	R	a. Known signal applied to sensor.
	d. Actuation Circuitry	a. Test	M	a. Functional check of initiation circuits.
		b. Test	R	b. System functional test of AFW initiation circuits.

S - Each Shift
D - Daily
M - Monthly
Q - Quarterly
R - 18 Months
P - Prior to Each Start-Up if Not Done Previous Week
MP - Monthly during designated modes and prior to taking the reactor critical if not completed within the previous 31 days (not applicable to a fast trip recovery)

6.0 INTERIM SPECIAL TECHNICAL SPECIFICATIONS

6.3 Auxiliary Feedwater Automatic Initiation Setpoint

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