5/2/78

Docket No. 50-298

Nebraska Public Power District
ATTN: Mr. J. M. Pilant, Director
Licensing & Quality Assurance
P. O. Box 499
Columbus, Nebraska 68601

Gentlemen:

The Commission has issued the enclosed Amendment No. 45 to Facility License No. DPR-46 for the Cooper Nuclear Station.

On April 11, 1978, we issued Amendment No. 43 which provides for the addition of certain components in the electrical and control systems of the facility which would enhance protection against potential occurrence of undervoltage on the grid. Due to delay in equipment delivery this work could not be completed at this refueling outage. The installation of such equipment will require that the plant be in shutdown condition for approximately five days. Accordingly, the licensee has requested that we delete the requirements resulting from Amendment No. 43. We have concluded that this is unnecessary and instead have modified the requirements of Amendment No. 43 to become effective upon the first cold shutdown of greater than 5 days duration following receipt of equipment on site. The licensee has agreed. In the interim, the requirements which were effective immediately prior to Amendment No. 43 are effective.

The existing plant equipment and the corresponding Technical Specifications contained in this amendment provide an acceptable level of undervoltage protection until new undervoltage protection relays can be obtained and there is an opportunity for their installation during a scheduled outage. The level of protection provided until the new relays are installed is, in fact, the same level of protection as existed prior to April 11, 1978.

OFFICE➤						
SURNAME➤						
DATE➤						

Since the amendment applies to administrative details, we have determined that the amendment does not authorize a change in effluent types or total amounts nor an increase in power level, and will not result in any significant environmental impact. Having made this determination, we have further concluded that the amendment involves an action which is insignificant from the standpoint of environmental impact and pursuant to 10 CFR 51.5(d)(4) that an environmental impact statement, negative declaration or environmental impact appraisal need not be prepared in connection with the issuance of this amendment.

Since the amendment applies only to administrative details, it does not involve significant new safety information of a type not considered by a previous Commission safety review of the facility. It does not involve a significant increase in the probability or consequences of an accident, does not involve a significant decrease in a safety margin, and therefore does not involve a significant hazards consideration. We have also concluded that there is reasonable assurance that the health and safety of the public will not be endangered by this action.

A copy of the related Notice of Issuance is also enclosed.

Sincerely,

George Lear, Chief
Operating Reactors Branch #3
Division of Operating Reactors

Enclosures:
1. Amendment No. 45 to DPR-46
2. Notice

cc w/enclosures:
see next page

OFFICE ➤	ORB#3	ORB#3	OELD	ORB#3		
SURNAME ➤	*SSheppard	*VRooney:acr	*VHarding	for GLear		
DATE ➤	5/ /78	5/ /78	5/ /78	5/ 7 /78		

Since the amendment applies only to administrative details, it does not involve significant new safety information of a type not considered by a previous Commission safety review of the facility. It does not involve a significant increase in the probability or consequences of an accident, does not involve a significant decrease in a safety margin, and therefore does not involve a significant hazards consideration. We have also concluded that there is reasonable assurance that the health and safety of the public will not be endangered by this action.

A copy of the related Notice of Issuance is also enclosed.

Sincerely,

George Lear, Chief
Operating Reactors Branch #3
Division of Operating Reactors

Enclosures:
1. Amendment No. to DPR-46
2. Notice

cc w/enclosures:
see next page

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Concurrence is conditioned on imposing a Tech Spec which would require that the undervoltage be installed at ~~the~~ the first opportunity — See note from Joe Scinto to Brian Grimes

OFFICE➤	ORB#3	ORB#3	OELD	ORB#3		
SURNAME➤	SSheppard	VRooney:acr	V. Harding	GLear		
DATE➤	5/ 1 /78	5/ 1 /78	5/ 1 /78	5/ /78		

cc w/enclosures:
Mr. G. D. Watson, General Counsel
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P. O. Box 499
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Mr. Arthur C. Gehr, Attorney
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Cooper Nuclear Station
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Station Superintendent
P. O. Box 98
Brownville, Nebraska 68321

Auburn Public Library
118 - 15th Street
Auburn, Nebraska 68305

Director
Nebraska Dept. of Environmental Control
P. O. Box 94877, State House Station
Lincoln, Nebraska 68509

Mr. William Siebert, Commissioner
Nemaha County Board of Commissioners
Nemaha County Courthouse
Auburn, Nebraska 68305

Chief, Energy Systems Analyses
Branch (AW-459)
Office of Radiation Programs
U. S. Environmental Protection Agency
Room 645, East Tower
401 M Street, S. W.
Washington, D. C. 20460

U. S. Environmental Protection Agency
Region VII
ATTN: EIS COORDINATOR
1735 Baltimore Avenue
Kansas City, Missouri 64108

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

NEBRASKA PUBLIC POWER DISTRICT

DOCKET NO. 50-298

COOPER NUCLEAR STATION

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 45
License No. DPR-46

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

   A. The facility will operate in conformity with the provisions of the Atomic Energy Act of 1954, as amended, and the rules and regulations of the Commission;

   B. 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;

   C. 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

   D. 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 License No. DPR-46 is hereby amended to read as follows:

   (2) Technical Specifications

   The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 45, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. The modifications to the pages made by Amendment No. 43, dated April 11, 1978, shall be effective immediately following completion of the first cold shutdown of greater than 5 days duration following receipt of required components; however, in the interim, the attached pages are effective immediately.

FOR THE NUCLEAR REGULATORY COMMISSION

for George Lear, Chief
Operating Reactors Branch #3
Division of Operating Reactors

Attachment:
Changes to the Technical
Specifications

Date of Issuance: May 2, 1978

ATTACHMENT TO LICENSE AMENDMENT NO. 45

FACILITY OPERATING LICENSE NO. DPR-46

DOCKET NO. 50-298

Revise Appendix A as follows:

Insert the following pages:

55a
71a
193a
194a
198a
200a

Marginal lines indicate revised area.

COOPER NUCLEAR STATION
TABLE 3.2.B (PAGE 3)
RESIDUAL HEAT REMOVAL SYSTEM (LPCI MODE) CIRCUITRY REQUIREMENTS

Instrument	Instrument I.D. No.	Setting Limit	Minimum Number of Operable Components Per Trip System (1)	Action Required When Component Operability Is Not Assured
RHR Pump Low Flow	RHR-dPIS-125 A & B	$\geq$2500 gpm	1	A
Time Delays	RHR-TDR-K45, 1A&1B	4.25$\leq$T$\leq$5.75 min.	1	A
RHR Pump Start Time Delay	RHR-TDR-K75A, K70B RHR-TDR-K70A, K75B	4.5$\leq$T$\leq$5.5 sec. $\leq$.5 sec.	1 1	A A
RHR Heat Exchanger Bypass T.D.	RHR-TDR-K93, A & B	1.8$\leq$T$\leq$2.2 min.	1	B
RHR Crosstie Valve Position	RHR-LMS-2	Valve not closed	(3)	E
Bus 1A Low Volt. Aux. Relay	27 X 3/1A	Loss of Voltage	1	B
Bus 1B Low Volt. Aux. Relay	27 X 3/1B	Loss of Voltage	1	B
Bus 1F Low Volt. Aux. Relays	27 X 1/1F 27 X 2/1F	Loss of Voltage Loss of Voltage	1 1	B B
Bus 1G Low Volt. Aux. Relays	27 X 1/1G 27 X 2/1G	Loss of Voltage Loss of Voltage	1	B
Pump Discharge Line	CM-PS-266	$\geq$5 psig	(3)	D

Amendment No. 25, ~~32~~, ~~43~~, 45

COOPER NUCLEAR STATION
TABLE 4.2.B (Page 2)
RHR SYSTEM TEST & CALIBRATION FREQUENCIES

Item	Item I.D. No.	Functional Test Freq.	Calibration Freq.	Instrument Check
Instrumentation				
1. Drywell High Pressure	PC-PS-101, A,B,C & D	Once/Month (1)	Once/3 Months	None
2. Reactor Vessel Shroud Level	NBI-LITS-73, A & B #1	Once/Month (1)	Once/3 Months	Once/1
3. Reactor Low Pressure	RR-PS-128 A & B	Once/Month (1)	Once/3 Months	None
4. Reactor Low Pressure	NBI-PS-52 A & C NBI-PIS-52 B & D	Once/Month (1)	Once/3 Months	None
5. Drywell Press.-Containment Spray	PC-PS-119, A,B,C & D	Once/Month (1)	Once/3 Months	None
6. RHR Pump Discharge Press.	RHR-PS-120, A,B,C & D	Once/Month (1)	Once/3 Months	None
7. RHR Pump Discharge Press.	RHR-PS-105, A,B,C & D	Once/Month (1)	Once/3 Months	None
8. RHR Pump Low Flow Switch	RHR-dPIS-125 A & B	Once/Month (1)	Once/3 Months	None
9. RHR Pump Start Time Delay	RHR-TDR-K70, A & B	Once/Month (1)	Once/Oper. Cycle	None
10. RHR Pump Start Time Delay	RHR-TDR-K75, A & B	Once/Month (1)	Once/Oper. Cycle	None
11. RHR Heat Exchanger Bypass T.D.	RHR-TDR-K93, A & B	Once/Month (1)	Once/Oper. Cycle	None
12. RHR Cross Tie Valve Position	RHR-LMS-2	Once/Cycle (1)	N.A.	
13. Low Voltage Relays	27 X 3/1A	(7)		None
14. Low Voltage Relays	27 X 3/1B	(7)		None
15. Low Voltage Relays	27 X 2/1F, 27 X 2/1G	(7)		None
16. Low Voltage Relays	27 X 1/1F, 27 X (1)/1G	(7)		None
17. Pump Disch. Line Press. Low	CM-PS-266	Once/3 Months	Once/3 Months	None

Amendment No. 23, ~~32~~, ~~43~~, 45

LIMITING CONDITIONS FOR OPERATION	SURVEILLANCE REQUIREMENTS
3.9 AUXILIARY ELECTRICAL SYSTEM	4.9 AUXILIARY ELECTRICAL SYSTEM
Applicability:	Applicability:
Applies to the auxiliary electrical power system.	Applies to the periodic testing requirements of the auxiliary electrical systems.
Objective:	Objective:
To assure an adequate supply of electrical power for operation of those systems required for safety.	Verify the operability of the auxiliary electrical system.
Specification:	Specification:
A. Auxiliary Electrical Equipment	A. Auxiliary Electrical Equipment
The reactor shall not be made critical from a Cold Shutdown Condition unless all of the following conditions are satisfied:	
1. Both off-site sources (345KV and 69KV) and the startup transformer and emergency transformer are available and capable of automatically supplying power to the 4160 Volt emergency buses 1F and 1G.	1. Diesel Generators
2. Both diesel generators shall be operable and there shall be a minimum of 45,000 gal. of diesel fuel in the fuel oil storage tanks.	a. The diesel-generators shall be started from a cold ambient condition and loaded to 2000 KW within 30 seconds a combined total of 298 times. Each test shall continue until rated engine temperatures are reached. The test shall be run 100 times with no more than one failure prior to loading fuel. After the first 100 tests are completed, the test shall be performed a minimum of 12 times per month until a combined total of 298 tests is reached. The acceptance criteria for the 298 tests will be that no more than 1 failure per 100 starts is observed. See notes 1 and 2.
3. The 4160V critical buses 1F and 1G and the 480V critical buses 1F and 1G are energized.	After the test program of 298 starts each diesel-generator shall be started manually and loaded to not less than 35% of rated load for no less than 2 hours once each month to demonstrate operational readiness.
4. The four unit 125V/250V batteries and their chargers shall be operable.	

LIMITING CONDITIONS FOR OPERATION	SURVEILLANCE REQUIREMENTS
3.9.A	4.9.A (cont'd.)

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 and fuel oil day tank level switches shall be demonstrated, and the diesel starting time to reach rated voltage and frequency shall be logged.

Note 1: Failure to synchronize within 30 seconds will not be construed as a failure, but that particular test will be repeated.

Note 2: Factory tests, which duplicates the conditions of this test, will be included in the total number.

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 results shall be logged.

c. Once a month the quantity of diesel fuel available shall be logged.

d. Every three months and upon delivery a sample of diesel fuel shall be checked for quality. The quality shall be within the acceptable limits specified in Table 1 of ASTM D975-68 for Nos. 1D or 2D and logged.

e. Each diesel generator shall be given an annual inspection in accordance with instructions based on the manufacturer's recommendations.

2. Unit Batteries

a. Every week the specific gravity, the voltage and temperature of the pilot

3.9 BASES

The general objective of this Specification is to assure an adequate source of electrical power to operate the auxiliaries during plant operation, to operate facilities to cool and lubricate the plant during shutdown and to operate the engineered safeguards following the accident. There are three sources of ac electrical energy available; namely, the startup transformer, the emergency transformer and two diesel generators. The dc supply is required for switch gear and engineered safety feature systems. This supply consists of two 125V DC and two 250V DC batteries and their related chargers. Specification 3.9.A states the required availability of ac and dc power; i.e., active off-site ac sources and the required amount of on-site ac and dc sources.

Auxiliary power for CNS is supplied from the startup transformer and the unit auxiliary transformer. Both of these transformers are sized to carry 100% of the station auxiliary load. The emergency transformer is about one third the size of these two transformers and is equal in size to both emergency diesel generators.

If the startup or emergency transformer is lost, the unit can continue to operate since the unit auxiliary transformer is in service, and the emergency or startup transformer and the diesels are available.

If both the startup and emergency transformers become inoperable, the power level must be reduced to a value where by the unit can safely reject the load and continue to supply auxiliary electric power to the station.

In the normal mode of operation, the startup and emergency transformers are energized and two diesel generators are operable. One diesel generator may be allowed out of service based on the availability of power from the startup transformer and the fact that one diesel generator carries sufficient engineered safeguards equipment to cover all breakers. With the startup transformer and one diesel generator out of service, the off site transmission line corresponding to the emergency transformer must be available. Upon the loss of one on-site and one off-site power source, power would be available from the other immediate off-site power source and the two operable on-site diesels to carry sufficient engineered safeguards equipment to cover all breaks. In addition to these two power sources, removal of the Isolated Phase Bus "quick" disconnect links would allow backfeed of power through the main transformer to the unit auxiliary transformer and provide power to carry the full station auxiliary load. The time required to perform this operation is comparable to the time the reactor could remain on RCIC operation before controlled depressurization need be initiated.

A battery charger is supplied with each of the 125/250 Volt batteries. The 125 Volt battery system shall have a minimum of 105 Volts at the battery terminals to be considered operable. The 250 Volt portion of the 125/250 Volt battery system shall have a minimum of 210 Volts at the battery terminals to be considered operable.

4.9 BASES (cont'd.)

fuel could contribute to excessive damage to the diesel engine.

When it is determined that some auxiliary electrical equipment is out of service, the increased surveillance required in Section 4.5.F is deemed adequate to provide assurance that the remaining equipment will be operable.

The initial test program, which requires 298 successful starts from the cold ambient condition, is to establish the engine reliability. This test program is to be conducted in conjunction with the program currently in progress on similar diesel units at the Zion Station. The total number of starts from both stations must be 298 in order to comply with the reliability test requirements.

UNITED STATES NUCLEAR REGULATORY COMMISSION

DOCKET NO. 50-298

NEBRASKA PUBLIC POWER DISTRICT

NOTICE OF ISSUANCE OF AMENDMENT TO FACILITY OPERATING LICENSE

The U. S. Nuclear Regulatory Commission (the Commission) has issued Amendment No. 45 to Facility Operating License No. DPR-46, issued to the Nebraska Public Power District (the licensee), which revised the Technical Specifications for operation of the Cooper Nuclear Station (the facility) located in Nemaha County, Nebraska. The amendment is effective as of the date of issuance.

This amendment revises Technical Specifications related to undervoltage protection equipment in order that the same Technical Specifications exist as were in effect prior to the issuance of Amendment No. 43 on April 11, 1978. We have modified the requirements of Amendment No. 43 to require that installation of new equipment be complete by the end of the next cold shutdown of more than 5 days duration after equipment becomes available. The change is necessary because of the unavailability of equipment for installation during the present refueling outage. The existing plant equipment and the corresponding Technical Specifications contained in this amendment provide an acceptable level of undervoltage protection until new undervoltage protection relays can be obtained and there is an opportunity for their installation during a scheduled outage.

The Commission has made appropriate findings as required by the Atomic Energy Act of 1954, as amended (the Act), and the Commission's

rules and regulations in 10 CFR Chapter I, which are set forth in the license amendment. Prior public notice of this amendment was not required since the amendment does not involve a significant hazards consideration.

The Commission has determined that the issuance of this amendment will not result in any significant environmental impact and that pursuant to 10 CFR §51.5(d)(4) an environmental impact statement or negative declaration and environmental impact appraisal need not be prepared in connection with issuance of this amendment.

For further details with respect to this action, see (1) Amendment No. 45 to License No. DPR-46, and (2) the Commission's related letter to the licensee dated May 2, 1978. All of these items are available for public inspection at the Commission's Public Document Room, 1717 H Street, N. W., Washington, D. C. and at the Auburn Public Library, 118 - 15th Street, Auburn, Nebraska 68305. A single copy of items (1) and (2) may be obtained upon request addressed to the U. S. Nuclear Regulatory Commission, Washington, D. C. 20555, Attention: Director, Division of Operating Reactors.

Dated at Bethesda, Maryland this 2nd day of May 1978.

FOR THE NUCLEAR REGULATORY COMMISSION

David M. Verrelli, Acting Chief
Operating Reactors Branch #3
Division of Operating Reactors