November 7, 1988

Docket No. 50-298

Mr. George A. Trevors, Division
Manager - Nuclear Support
Nuclear Power Group
Nebraska Public Power District
Post Office Box 499
Columbus, Nebraska 68601

Dear Mr. Trevors:

SUBJECT: COOPER NUCLEAR STATION - AMENDMENT NO. 126 TO FACILITY OPERATING LICENSE NO. DPR-46 (TAC NO. 67835)

The Commission has issued the enclosed Amendment No. 126 to Facility Operating License No. DPR-46 for the Cooper Nuclear Station. The amendment consist of changes to the Technical Specifications in response to your application dated March 25, 1988 as supplemented August 26, 1988.

The amendment changes the Technical Specifications to add Limiting Conditions for Operation and Surveillance Requirements for the recently installed Alternate Shutdown System. This amendment will become effective on December 31, 1988 to allow for orderly preparation and implementation of new procedures.

A copy of our related Safety Evaluation is enclosed. Notice of Issuance will be included in the Commission's next Bi-weekly Federal Register notice.

Sincerely,

/s/

Paul W. O'Connor, Project Manager
Project Directorate - IV
Division of Reactor Projects - III,
IV, V and Special Projects
Office of Nuclear Reactor Regulation

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DOCUMENT NAME: COOPER AMENDMENT TAC 67835
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10/21/88	10/13/88	10/27/88	10/ /88	10/ /88

R. Anand
10/27/88

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10/27/88

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

November 7, 1988

Docket No. 50-298

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Paul W. O'Connor

Paul W. O'Connor, Project Manager
Project Directorate - IV
Division of Reactor Projects - III,
IV, V and Special Projects
Office of Nuclear Reactor Regulation

Enclosures:
1. Amendment No. 126 to
License No. DPR-46
2. Safety Evaluation

cc w/enclosures:
See next page

Mr. George A. Trevors
Nebraska Public Power District

Cooper Nuclear Station

cc:
Mr. G. D. Watson, General Counsel
Nebraska Public Power District
P. O. Box 499
Columbus, Nebraska 68601

Cooper Nuclear Station
ATTN: Mr. Guy R. Horn, Division
Manager of Nuclear Operations
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Brownville, Nebraska 68321

Dennis Grams, Director
Nebraska Department of Environmental
Control
P. O. Box 98922
Lincoln, Nebraska 68509-8922

Mr. Larry Bohlken, Chairman
Nemaha County Board of Commissioners
Nemaha County Courthouse
1824 N Street
Auburn, Nebraska 68305

Senior Resident Inspector
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U.S. Nuclear Regulatory Commission
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Arlington, Texas 76011

Mr. Harold Borchart, Director
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Department of Health
301 Centennial Mall, South
P. O. Box 95007
Lincoln, Nebraska 68509-5007

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. 126
License No. DPR-46

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

   A. The application for amendment by Nebraska Public Power District (the licensee) dated March 25, 1988 as supplemented August 26, 1988, 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, as amended, 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 license 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-46 is hereby amended to read as follows:

   2. Technical Specifications

      The Technical Specifications contained in Appendix A, as revised through Amendment No. 126, 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 December 31, 1988.

FOR THE NUCLEAR REGULATORY COMMISSION

Paul W O'Connor

for Jose A. Calvo, Director
Project Directorate - IV
Division of Reactor Projects - III, IV, V and Special Projects
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical Specifications

Date of Issuance: November 7, 1988

ATTACHMENT TO LICENSE AMENDMENT NO. 126

FACILITY OPERATING LICENSE NO. DPR-46

DOCKET NO. 50-298

Replace the following pages of the Appendix A Technical Specifications with the enclosed pages. The revised areas are indicated by marginal lines.

Pages

i
48
49
67c
67d
82b
87a

TABLE OF CONTENTS

LIMITING CONDITION FOR OPERATION

3.2 (cont'd.)

D. Radiation Monitoring Systems - Isolation & Initiation Functions

1. Steam Jet Air Ejector Off-Gas System

   a. Operability of the Steam Jet Air Ejector Off-Gas System monitor is defined in Table 3.21.A.2.

   b. The time delay setting for closure of the steam jet air ejector isolation valves shall not exceed 15 minutes.

   c. Other limiting conditions for operation are given on Table 3.2.D and Specifications 3.21.A.2 and 3.21.C.6.

2. Reactor Building Isolation and Standby Gas Treatment Initiation

   The limiting conditions for operation are given on Table 3.2.D and Specification 3.21.A.2.

3. Liquid Radwaste Discharge Isolation

   The limiting conditions for operation are given on Table 3.2.D and Specification 3.21.B.

4. Main Control Room Ventilation Isolation

   The limiting conditions for operation are given on Table 3.2.D and the Section entitled "Additional Safety Related Plant Capabilities."

5. Mechanical Vacuum Pump Isolation

   a. The mechanical vacuum pump shall be capable of being automatically isolated and secured by a signal of high radiation in the main steam line tunnel whenever the main steam isolation valves are open.

   b. If the limits of (3.2.D.5.a) are not met, the vacuum pump shall be isolated.

SURVEILLANCE REQUIREMENTS

4.2 (cont'd.)

D. Radiation Monitoring Systems - Isolation & Initiation Functions

1. Steam Jet Air Ejector Off-Gas System

   Instrumentation surveillance requirements are given on Table 4.2.D.

2. Reactor Building Isolation and Standby Gas Treatment Initiation

   Instrumentation surveillance requirements are given on Table 4.2.D.

3. Liquid Radwaste Discharge Isolation

   Instrumentation surveillance requirements are given on Table 4.2.D.

4. Main Control Room Ventilation Isolation

   The instrument surveillance requirements are given on Table 4.2.D.

5. Mechanical Vacuum Pump Isolation

   The instrument surveillance requirements are given on Tables 4.1.1, 4.1.2, and 4.2.D.

LIMITING CONDITION FOR OPERATION

E. Drywell Leak Detection

The limiting conditions of operation for the instrumentation that monitors drywell leak detection are given in Table 3.2.E.

F. Primary Containment Surveillance Information

The limiting conditions of operation for the instrumentation that provides surveillance information readouts are given in Table 3.2.F.

G. Recirculation Pump Trip

The limiting conditions for operation for the instrumentation that trips the recirculation pumps as a means of limiting the consequences of a failure to scram during an anticipated transient are given in Table 3.2.G.

H. Post-Accident Monitoring

The limiting conditions for operation for the instrumentation that monitors post-accident conditions are given in Table 3.2.H.

I. Alternate Shutdown Capability

1. The alternate shutdown instruments listed in Table 3.2.I-1 and controls listed in Table 3.2.I-2 shall be operable during reactor power operations and when the reactor coolant temperature is above 212°F.

2. With less than the minimum equipment specified in Table 3.2.I-1 and 3.2.I-2 operable, restore the inoperable equipment to operable status within 30 days, or notify the NRC and provide plans to restore alternate shutdown capability.

SURVEILLANCE REQUIREMENTS

E. Drywell Leak Detection

Instrumentation shall be calibrated and checked as indicated in Table 4.2.E.

F. Primary Containment Surveillance Information

Instrumentation shall be calibrated and checked as indicated in Table 4.2.F.

G. Recirculation Pump Trip

Instrumentation shall be functionally tested and calibrated as indicated on Table 4.2.G.

H. Post-Accident Monitoring

Instrumentation shall be functionally tested and calibrated as indicated on Table 4.2.H.

I. Alternate Shutdown Capability

1. Each monitoring instrumentation channel of Table 3.2.I-1 shall be demonstrated operable by performing the Instrument Check and Channel Calibration at the frequencies shown on Table 4.2.I.

2. Each isolation switch, power supply, and control circuit for the components listed in Table 3.2.I-2 shall be demonstrated operable at least once per cycle by operating each actuated component from the Alternate Shutdown Panels.

Table 3.2.I-1

Alternate Shutdown Instruments

Instrument	Readout Location	Minimum Channels
HPCI Turbine Steam Inlet Pressure (Reactor Pressure)	HPCI-ASD Panel	1
HPCI Pump Discharge Flow	HPCI-ASD Panel	1
Reactor Water Level (fuel zone)	HPCI-ASD Panel	1
Reactor Shroud Level	HPCI-ASD Panel	1
Suppression Chamber Level	HPCI-ASD Panel	1
Emergency Condensate Storage Tank Level	HPCI-ASD Panel	1
RHR System Loop B Flow	RHR-ASD Panel	1
Torus Temperature	ADS-ASD Panel	1

Table 3.2.I-2

Alternate Shutdown Controls

Controls

HPCI Turbine
HPCI Auxiliary Lube Oil Pump
HPCI Fan Coil Unit
HPCI Flow Controller
HPCI Flow Transmitter (FT-82)
HPCI-MO-14 Turbine Steam Supply Isolation
HPCI-MO-15 Steam Supply Inboard Isolation
HPCI-MO-16 Steam Supply Outboard Isolation
HPCI-MO-17 HPCI Pump Suction ECST
HPCI-MO-19 HPCI Injection
HPCI-MO-20 HPCI Pump Discharge
HPCI-MO-21 HPCI Test Bypass to ECST
HPCI-MO-24 HPCI Test Bypass Shutoff
HPCI-MO-25 HPCI Minimum Flow Bypass
HPCI-MO-58 HPCI Pump Suction from Suppression Pool
RHR-MO-12B RHR HX B Outlet
RHR-MO-13D RHR Pump D Suction from Torus
RHR-MO-15D RHR Pump D Shutdown Cooling Suction
RHR-MO-16B RHR Pump B and D Minimum Flow
RHR-MO-27B RHR Loop B Injection Outboard Throttle
RHR-MO-34B Suppression Chamber Cooling Loop B Inboard Isolation
RHR-MO-39B Suppression Chamber Cooling Loop B Outboard Isolation
RHR-MO-65B RHR HX B Inlet
RHR-MO-66B RHR HX B Bypass Throttle
REC Pumps 1C and 1D
MS-RV-71E Safety Relief Valve Main Steamline-C
MS-RV-71F Safety Relief Valve Main Steamline-C
MS-RV-71G Safety Relief Valve Main Steamline-D
Diesel Generator No. 2 Engine - Local Isolation, Control and Indication
Diesel Generator No. 2 Generator Relay and Control - Local Isolation, Control and Indication

Table 4.2.I

Alternate Shutdown Instrumentation Surveillance Frequencies

Instrument	Instrument Check	Channel Calibration
HPCI Turbine Steam Inlet Pressure (Reactor Pressure)	Note 1	Note 1
HPCI Pump Discharge Flow	Note 1	Note 1
Reactor Water Level (fuel zone)	once/month	once/cycle
Reactor Shroud Level	once/month	once/cycle
Suppression Chamber Level	once/month	once/cycle
Emergency Condensate Storage Tank Level	once/month	once/cycle
RHR System Loop B Flow	Note 1	Note 1
Torus Temperature	once/month	once/cycle

Note 1 - This instrument will be checked and calibrated at the same time as the control room instrument that shares the same sensor.

3.2 BASES (Cont'd)

F. Primary Containment Surveillance Information

For each parameter monitored, as listed in Table 3.2.F, there are two (2) channels of instrumentation. By comparing readings between the two (2) channels, a near continuous surveillance of instrument performance is available. Any deviation in readings will initiate an early recalibration, thereby maintaining the quality of the instrument readings.

The operability of the reactor water level instrumentation in Tables 3/4.2.F ensures that sufficient information is available to monitor and assess accident situations.

G. Recirculation Pump Trip

The recirculation pump trip has been added as a means of limiting the consequences of the unlikely occurrence of a failure to scram during an anticipated transient. The response of the plant to this postulated event falls within the envelope of study events given in General Electric Company Topical Report, NEDO-10349, dated March, 1971.

H. Post-Accident Monitoring

The post-accident monitoring instrumentation supplements existing instrumentation that was designed to monitor primarily the normal operational ranges of these parameters. Post-accident monitoring instrumentation provides information for the ranges that may exist during the extreme conditions postulated to occur during and after some accidents.

I. Alternate Shutdown Capability

The purpose of the Alternate Shutdown System is to provide the capability to shut down the plant in the unlikely event of a fire which disables the controls and instrumentation necessary to shut down the plant from the control room. As documented in the CNS Response to 10CFR50, Appendix R, "Fire Protection of Safe Shutdown Capability," Volume III, there are five areas of the plant that necessitate alternate shutdown capability in accordance with Section III.G.3 of Appendix R. Those areas are: the control room, the cable spreading room, the cable expansion room, the auxiliary relay room and the northeast corner of the Reactor Building 903' elevation.

The Alternate Shutdown (ASD) System provides a means of controlling the High Pressure Coolant Injection (HPCI), Automatic Depressurization (ADS), Residual Heat Removal (RHR) Torus Cooling, and Reactor Equipment Cooling Systems independent of the five plant areas requiring alternate shutdown. Using the alternate shutdown system, the plant can be cooled down and depressurized independent of a fire in any of the five plant areas necessitating ASD capability.

REFERENCES

1. "Low-Low Set Relief Logic System and Lower MSIV Water Level Trip for Cooper Nuclear Station", NEDE 22197, December 1982, General Electric Company.

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 126 TO FACILITY OPERATING LICENSE NO. DPR-46

NEBRASKA PUBLIC POWER DISTRICT

COOPER NUCLEAR STATION

DOCKET NO. 50-298

1.0 INTRODUCTION

During the Cycle 10 refueling outage modifications were performed to provide alternate shutdown (ASD) capability in accordance with 10 CFR 50.48. By letter dated January 15, 1987 the licensee was advised that appropriate Limiting Conditions for Operation (LCOs) and Surveillance Requirements (SRs) should be requested in light of the newly installed equipment. This letter also forwarded generic guidance representing the staff position on LCOs and SRs for ASD instrumentation and controls. By letter March 25, 1988 the licensee forwarded an amendment application proposing LCOs and SRs for the alternate shutdown system. The staff met with the licensee's operations personnel at Cooper Nuclear Station on May 25, 1988 to discuss the proposed amendment. At this meeting it was agreed that changes to the proposed surveillance requirements were necessary in view of design limitations on capability of the equipment to be tested during plant operation. In a letter dated August 26, 1988 the application was revised in accordance with the staff proposals and recommendations presented at the meeting.

2.0 DISCUSSION

The ASD system was installed at Cooper Nuclear Station during the facility's Cycle 10 refueling outage. The purpose of the ASD system is to provide the capability to establish and maintain hot shutdown of the plant from outside the control room in the event of a fire which disables both of the redundant divisions of control and instrumentation used to shutdown the plant from the control room. The ASD system is comprised of instrumentation and control panels in an ASD Room in the Reactor building, local controls for Diesel Generator No. 2, and various other panels. These panels provide capability for manual operation of selected pumps, valves, and circuit breakers. The Cooper ASD system has been previously evaluated by the staff wherein it was concluded that it met the requirements of 10 CFR Part 50, Appendix R, Sections III.G.3 and III.L (Ref: Safety Evaluation dated April 16, 1984).

The proposed amendment will require, for most ASD instruments, that an instrument check be performed monthly and a calibration once-per-cycle during shutdown, on each ASD instrument. Operability of switches, controls, and power supplies will be tested once-per-cycle during shutdown. This is consistent with the generic staff guidance which the staff recommended in its January 15, 1987 letter. However, the proposed amendment takes exceptions to the monthly testing requirement for certain instruments in which cases such monthly testing would require isolation of the normal control room instrumentation during plant operation. The staff determined that actuation of isolation switches as necessary to perform operability "channel" checks during operation would pose unnecessary risks by temporarily depriving control room operators of vital instrumentation and control functions provided by the normal control room instruments. For these limited situations, once-per-cycle testing during shutdown was deemed acceptable. Based on our review the staff concludes that the revised amendment application is acceptable.

3.0 ENVIRONMENTAL CONSIDERATION

The amendment involves a change in the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. 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 exposures. 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 Section 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

The staff has 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.

Date: November 7, 1988

Principal Contributors: W. Long