

Docket No. 50-298

APR 10 1986

Mr. J. M. Pilant, Technical  
Staff Manager  
Nuclear Power Group  
Nebraska Public Power District  
Post Office Box 499  
Columbus, Nebraska 68601

Dear Mr. Pilant:

The Commission has issued the enclosed Amendment No. 98 to Facility Operating License No. DPR-46 for the Cooper Nuclear Station. This amendment is in response to your application dated May 31, 1985 as revised by letter dated August 21, 1985.

The amendment changes the Technical Specifications to reflect the addition of a Halon fire suppression system and fire detectors in the station service water pump room as part of the Appendix R fire protection program.

A copy of the Safety Evaluation is also enclosed. The notice of issuance will be included in the Commission's Biweekly Federal Register Notice.

Sincerely,

Original signed by

William O. Long, Project Manager  
BWR Project Directorate #2  
Division of BWR Licensing

Enclosures:

1. Amendment No. 98 to License No. DPR-46
2. Safety Evaluation

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See next page

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Docket No. 50-298

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w/comment  
JHOLMAN  
3/20/86

Mr. J. M. Pilant  
Nebraska Public Power District

Cooper Nuclear Station

cc:

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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. 98  
License No. DPR-46

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by Nebraska Public Power District dated May 31, 1985, as supplemented by submittal dated August 21, 1985, 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 licensee 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:

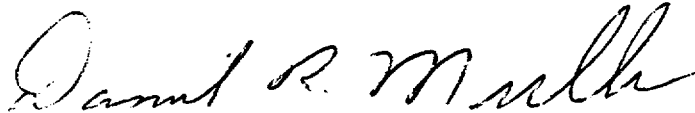
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(2) Technical Specification

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. , 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 its date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

A handwritten signature in cursive script, appearing to read "Daniel R. Muller".

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

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: April 10, 1986

ATTACHMENT TO LICENSE AMENDMENT NO. 98

FACILITY OPERATING LICENSE NO. DPR-46

DOCKET NO. 50-298

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

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2. Add the following new page.

216k1

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## LIMITING CONDITIONS FOR OPERATION

### 3.16 (cont'd)

#### SPECIFICATIONS

- A. The Automatic Sprinkler Systems protecting the Cable Spreading Room, Cable Expansion Room, and Northeast Corner - 903 Ft. Elev. of Reactor Building shall be operable.
- B. If the requirement of 3.16.A cannot be met, establish a continuous fire watch with backup fire suppression equipment for the unprotected area within 1 hour; restore the system to OPERABLE status within 14 days or prepare and submit a Special Report to the Commission within the next 30 days outlining the action taken, the cause of the inoperability and the plans and schedule for restoring the system to OPERABLE status.

### 3.17 CARBON DIOXIDE AND HALON SYSTEMS

#### APPLICABILITY

Applies to the operational status of the High Pressure Carbon Dioxide Extinguishing System protecting the Diesel Generator Rooms and the Halon Suppression System protecting the Service Water Pump Room.

#### OBJECTIVE

To assure continuous Automatic Fire Protection for the Diesel Generator Rooms and the Service Water Pump Room.

#### SPECIFICATIONS

- A. The High Pressure Carbon Dioxide Extinguishing System protecting the Diesel Generator Rooms shall be operable.
- B. The Halon 1301 Fire Suppression System protecting the Service Water Pump Room shall be operable with at least one storage tank charged to at least 95% of the design quantity (650 lbs) and 90% of full charge pressure.

## SURVEILLANCE REQUIREMENTS

### 4.16 (cont'd)

#### SPECIFICATIONS

- A. The Automatic Sprinkler Systems protecting the Cable Spreading Room, Cable Expansion Room, and Northeast Corner - 903 Ft. Elev. of Reactor Building shall be demonstrated to be operable by:

- 1. At least once per 12 months by cycling each testable valve in the flow path through at least one complete cycle of full travel.
- 2. At least once per 18 months:
  - a) By performing a system functional test which includes simulated automatic actuation of the system, and
    - 1) Verifying that the automatic valves in the flow path actuate to their correct positions on a test signal, and
    - 2) Cycling each valve in the flow path that is not testable during plant operation through at least one complete cycle of full travel.
  - b) By inspection of the spray headers to verify their integrity.

### 4.17 CARBON DIOXIDE AND HALON SYSTEMS

#### APPLICABILITY

Applies to the operational status of the High Pressure Carbon Dioxide Extinguishing System protecting the Diesel Generator Rooms and the Halon Suppression System protecting the Service Water Pump Room.

#### SPECIFICATIONS

- A. The High Pressure Carbon Dioxide Extinguishing System protecting the Diesel Generator Rooms shall be demonstrated operable by:
  - 1. At least once per 6 months, the High Pressure Carbon Dioxide storage cylinders should be weighed.



## LIMITING CONDITIONS FOR OPERATION

### 3.17 (cont'd)

- C. If the requirement of 3.17.A and 3.17.B cannot be met:
1. Establish a continuous fire watch with backup fire suppression equipment for the unprotected area(s) within 1 hour; restore the system to OPERABLE status within 14 days or prepare and submit a Special Report to the Commission within the next 30 days outlining the action taken, the cause of the inoperability and the plans and schedule for restoring the system to OPERABLE status.

### 3.18 FIRE HOSE STATIONS

#### APPLICABILITY

Applies to the operational status of the Fire Hose Stations in the Control and Reactor Buildings.

#### OBJECTIVE

To assure continuous manual fire fighting capability provided by existing Fire Hose Stations.

#### SPECIFICATIONS

- A. The Fire Hose Stations shown in Table 3.18 shall be operable.
- B. If the requirement of 3.18.A cannot be met, route an additional hose to the area protected by the inoperable Fire Hose Station from an operable Fire Hose Station of equivalent capacity within 1 hour.

## SURVEILLANCE REQUIREMENTS

### 4.17 (cont'd)

2. At least once per 18 months by verifying the system valves, alarms, and associated ventilation motor interlocks and dampers actuate to a simulated automatic and manual actuation signal. A brief air flow test ("Puff Test") shall be made to verify flow from each nozzle.
- B. The Halon 1301 Fire Suppression System protecting the Service Water Pump Room shall be demonstrated operable:
1. At least once per six months by recording the quantity of Halon and the pressure of each Halon storage tank.
  2. At least once per 18 months by verifying the system valves, alarms, and associated ventilation motor interlocks and dampers actuate to a simulated automatic and manual actuation signal and by performing an inspection to assure the nozzles are unobstructed.

### 4.18 FIRE HOSE STATIONS

#### APPLICABILITY

Applies to the operational status of the Fire Hose Stations in the Control and Reactor Buildings.

#### SPECIFICATIONS

- A. The Fire Hose Stations in the Control Building and Reactor Building shall be demonstrated to be operable by:
  1. At least once per 31 days by:
    - a) Visual inspection to assure all required equipment is at the station.
  2. At least once per 18 months by:
    - a) Removing the hose for inspection and re-racking, and
    - b) Replacement of all degraded gaskets in couplings.
  3. At least once per 3 years by:
    - a) Partially opening each hose station valve to verify valve OPERABILITY and no flow blockage, and

TABLE 3.14

## FIRE DETECTION INSTRUMENTS

	INSTRUMENT ID NO.
1 <u>Reactor Building</u>	
859 & 881 Elev. (Covers RCIC, Core Spray, RHR, and HPCI Pumps)	FD-TD-18-2 FP-TD-18-3 FP-TD-19-2 FP-TD-19-3 FP-TD-20-2 FP-TD-20-3 FP-TD-20-4 FP-TD-20-5 FP-TD-21-2 FP-TD-21-3
903 Elev.	FP-SD-18-1 FP-TD-18-4 FP-SD-19-1 FP-SD-20-1 FP-SD-21-1
931 Elev.	FP-SD-23-1 FP-SD-23-2 FP-SD-23-3 FP-SD-23-4
958 Elev.	FP-SD-24-1 FP-SD-24-2 FP-SD-24-3 FP-SD-24-4 FP-SD-24-5 FP-SD-24-6
976 Elev. Covers Standby Liquid Control Pump and Standby Gas Treatment	FP-SD-26-1 FP-SD-26-2 FP-SD-25-1 FP-SD-25-2 FP-SD-25-3 FP-SD-25-4 FP-TD-25-5
1001 Elev. Also Fuel Storage Area	FP-TD-26-3 FP-TD-26-4 FP-TD-25-6 FP-TD-25-7
<u>Legend</u>	
FP = Fire Protection	H = Halon 1301
TD = Thermal Detector	CO <sub>2</sub> = Carbon Dioxide
FD = Flame Detector	DG = Diesel Generator
SD = Smoke Detector	1st Digit Instr. ID No. = Zone
	2nd Digit Instr. ID No. = Instr. No.

## INSTRUMENT LOCATION

## INSTRUMENT ID NO.

2     Control RoomFP-SD-17-1  
FP-SD-17-2  
FP-SD-17-33     Cable Spreading RoomFP-SD-16-1  
FP-SD-16-2  
FP-SD-16-3  
FP-SD-16-4  
FP-SD-16-5  
FP-SD-16-6Cable Expansion RoomFP-SD-16-7  
FP-SD-16-84     Switchgear Rooms

## DC Switchgear Rooms

FP-SD-15-2  
FP-SD-15-3

## Critical Switchgear Room

FP-SD-22-1  
FP-SD-22-25     Station Battery RoomsFP-SD-15-1  
FP-SD-15-4  
FP-SD-15-1A  
FP-SD-15-4A6     Diesel Generator RoomsFP-SD-10-1  
FP-SD-10-2  
FP-SD-10-3  
FP-SD-10-4  
CO2-SD-DG-1A  
CO2-SD-DG-1B  
CO2-SD-DG-1C  
CO2-SD-DG-1D  
CO2-SD-DG-2A  
CO2-SD-DG-2B  
CO2-SD-DG-2C  
CO2-SD-DG-2D7     Diesel Fuel Storage RoomsCO2-TD-DG-1A  
CO2-TD-DG-1B

## INSTRUMENT LOCATION

## INSTRUMENT ID NO.

8 Safety Related Equipment not in Reactor Building

RHR Service Water Booster Pumps

FP-SD-14-3

Emergency Condensate Storage Tanks

FP-SD-14-1

Service Water Pumps

FP-SD-32-1

FP-SD-32-2

FP-SD-32-3

FP-SD-32-4

FP-FD-32-5

FP-FD-32-6

HSW-SD-H1

HSW-SD-H2

HSW-SD-H3

HSW-SD-H4

HSW-SD-H5

HSW-SD-H6

HSW-TD-H11

HSW-TD-H12

HSW-TD-H13

HSW-TD-H14

HSW-TD-H15

HSW-TD-H16

9 Auxiliary Relay Room & Reactor Protection System Rooms

Auxiliary Relay Room

FP-SD-15-9

Reactor Protection System Room 1A

FP-SD-15-7

Reactor Protection System Room 1B

FP-SD-15-8

### 3.14-3.19/4.14-4.19 BASES

#### 3.14/4.14 FIRE DETECTION INSTRUMENTATION

OPERABILITY of the fire detection instrumentation ensures that adequate warning capability is available for the prompt detection of fires. This capability is required in order to detect and locate fires in their early stages. Prompt detection of fires will reduce the potential for damage to safety related equipment and is an integral element in the overall facility fire protection program.

In the event that a portion of the fire detection instrumentation is inoperable, the establishment of frequent fire patrols in the affected areas is required to provide detection capability until the inoperable instrumentation is returned to service.

#### 3.15-3.18/4.15-4.18 FIRE SUPPRESSION SYSTEMS

THE OPERABILITY of the fire suppression systems ensures that adequate fire suppression capability is available to confine and extinguish fires occurring in any portion of the facility where safety related equipment is located. The fire suppression system consists of the water system, spray and/or sprinklers, CO<sub>2</sub>, Halon 1301, and fire hose stations. The collective capability of the fire suppression systems is adequate to minimize potential damage to safety related equipment and is a major element in the facility fire protection program. The Halon Fire Suppression System consists of two storage tanks, each exceeding the design capacity required for extinguishment of a fire in the service water pump room in accordance with the National Fire Codes. Each tank, containing 650 lbs. of Halon 1301, can flood the Service Water Pump Room to a uniform concentration of 8 percent, exceeding the 3.5 percent level sufficient to extinguish a flame in the region.

In the event that portions of the fire suppression systems are inoperable, alternate backup fire fighting equipment is required to be made available in the affected areas until the affected equipment can be restored to service.

In the event the fire suppression water system becomes inoperable, immediate corrective measures must be taken since this system provides the major fire suppression capability of the plant. The requirement for twenty-four hour report to the Commission provides for prompt evaluation of the acceptability of the corrective measures to provide adequate fire suppression capability for the continued protection of the nuclear plant.

#### 3.19/4.19 FIRE BARRIER PENETRATION SEALS

The functional integrity of the fire barrier penetration seals ensures that fires will be confined or adequately retarded from spreading to adjacent portions of the facility. This design feature minimizes the possibility of a single fire rapidly involving several areas of the facility prior to detection and extinguishment. The fire barrier penetration seals are a passive element in the facility fire protection program and are subject to periodic inspections.

During periods of time when the seals are not functional, a continuous fire watch is required to be maintained in the vicinity of the affected seal until the seal is restored to functional status.

Fire barrier penetration seals include cable penetration barriers, fire doors, and fire dampers.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
SUPPORTING AMENDMENT NO. 98 TO FACILITY OPERATING LICENSE NO. DPR-46  
NEBRASKA PUBLIC POWER DISTRICT  
COOPER NUCLEAR STATION  
DOCKET NO. 50-298

1.0 INTRODUCTION

By letters dated May 31, 1985 and August 21, 1985 (Change No. 22) the Nebraska Public Power District (the licensee) requested an amendment to Facility Operating License No. DPR-46 for the Cooper Nuclear Station. The proposed amendment would change the Technical Specifications (TS), to incorporate Limiting Conditions for Operating (LCO), Surveillance Requirements (SR), and Bases for the station service water pump room Halon fire suppression system and fire detectors.

2.0 DISCUSSION AND EVALUATION

By letter dated June 28, 1982, the licensee requested an exemption from the requirements of Appendix R to 10 CFR 50 for the service water intake structure due to inadequate separation between service water pumps. As part of the exemption request, the licensee proposed to install an automatic fire suppression system and a detection system. By letter dated September 21, 1983, we granted the exemption. The proposed amendment would add LCO's and SR's for the Halon system and the fire detectors to the TS.

We have reviewed the proposed TS for conformance to the staff's guidance of NUREG-0123 (BWR Standard Technical Specifications). The additional fire detectors would be included under the existing LCO's and SR's applicable to the other detectors. The licensee has not included a SR to periodically verify that each valve in the Halon flow path is in its correct position because the system includes only check valves and explosive-actuated valves. Due to restricted quarters the licensee has also not included a SR to periodically weigh the Halon tanks to verify Halon content. As an alternative, the licensee proposes to verify Halon content by use of a dipstick for each tank. The licensee has also not included a "puff test" SR to periodically verify that nozzles are unobstructed. In lieu of a puff test a visual and tactile inspection will be performed. This eliminates the need to break the mechanical integrity of the system for testing. These features are acceptable to the staff. The proposed amendment is otherwise consistent with the Standard TS and is acceptable.

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### 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 this amendment involves no significant hazards consideration and there has been no public comment on such finding. Accordingly, this amendment meets the eligibility criteria for categorical exclusion set fourth 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 this 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 this amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributors: K. West and W. Long

Dated: April 10, 1986