

Docket Nos. 50-252/306

50-253

DEC 06 1976

Northern States Power Company
ATTN: Mr. L. O. Mayer, Manager
Nuclear Support Services
414 Nicollet Mall - 8th Floor
Minneapolis, Minnesota 55401

Gentlemen:

RE: PRAIRIE ISLAND NUCLEAR GENERATING PLANT, UNIT NOS 1/2
MONTICELLO NUCLEAR GENERATING PLANT

By letter dated September 30, 1976, we requested that you submit proposed Technical Specifications on fire protection for Prairie Island Unit Nos. 1 and 2 and Monticello. The enclosed sample Technical Specifications are intended to provide guidance in the scope and types of such specifications. The enclosure uses the Standard Technical Specification format and may require some adaptation to conform with the format of your Technical Specifications. Blanks or parentheses appear where the information is plant specific. These sample Technical Specifications are not intended to alter the AEC positions given in Appendix A to Branch Technical Position 9.5-1 which has been previously sent to you. The essential part of this guidance is to indicate the scope of material to be included in the Technical Specifications for your facilities in the areas of equipment and administrative requirements, and the actions that we would find appropriate if a limiting condition for operation could not be met. Your letter of November 22, 1976, indicates that you have a scheduled date of March 12, 1977, for submittal of your fire hazards analysis. In addition, you have suggested that Technical Specifications not be prepared until we had provided guidance and allowed time for industry comment prior to licensee submittal of proposed Technical Specifications. We agree with your suggestion, however, the request in the September 30, 1976 letter was for Technical Specifications on your present fire protection system. This is to assure that your present fire protection system is properly available during the interim period while your fire hazard analysis is evaluated and Technical Specifications are prepared for that program.

77

T

OFFICE ➤						
SURNAME ➤						
DATE ➤						

DEC 08 1976

In our previous letter we requested that you submit your proposed Technical Specifications for Fire Protection by December 1, 1976. Since we have now provided the enclosed guidance, we are changing the requested submittal date to January 10, 1977.

We are also enclosing an Errata Sheet for Appendix A to Branch Technical Position APCSB 9.5-1, "Guidance for Fire Protection for Nuclear Power Plants."

Sincerely,

Original Signed by:

Dennis L. Ziemann

Dennis L. Ziemann, Chief
Operating Reactors Branch #2
Division of Operating Reactors

Enclosure:

1. Sample Technical Specifications
2. Errata Sheet

cc w/enclosures:

See next page

DISTRIBUTION

DOCKET (3)

NRC PDR (3)

Local PDR

ORB #2 Reading

VStello

TJCarter

DLZiemann

RMDiggs (2)

MGrotenhuis

EAREeves

RPSnaider

PWO'Connor

TVWambach

OELD -GLewis/SLewis/Riddle

OI&E (3)

DEisenhut

TBAbernathy

JRBuchanan

ACRS (16)

OFFICE ➤	DOR:ORB #2	DOR:ORB #2	DOR:ORB #1	DOR:ORB #2		
SURNAME ➤	MGrotenhuis:an	RPSnaider	TVWambach	DLZiemann		
DATE ➤	12/3/76	12/6/76	12/03/76	12/06/76		

Northern States Power Company

- 3 -

DEC 06 1976

cc w/enclosure:

Gerald Charnoff, Esquire
Shaw, Pittman, Potts and
Trowbridge
1800 M Street, N. W.
Washington, D. C. 20036

Arthur Renquist, Esquire
Vice President - Law
Northern States Power Company
414 Nicollet Mall
Minneapolis, Minnesota 55401

Howard J. Vogel, Esquire
Legal Counsel
2750 Dean Parkway
Minneapolis, Minnesota 55416

Mr. Steve J. Gadler
2120 Carter Avenue
St. Paul, Minnesota 55108

Mr. Kenneth Dzugan
Environmental Planning Consultant
Office of City Planner
Grace Building
421 Wabasha Street
St. Paul, Minnesota 55102

Sandra S. Gardebring, Esquire
Special Assistant Attorney General
Minnesota Pollution Control Agency
1935 W. County Road B2
Roseville, Minnesota 55113

Anthony Z. Roisman, Esquire
Roisman, Kessler and Cashdan
1025 15th Street, N. W., 5th Floor
Washington, D. C. 20005

The Environmental Conservation Library
Minneapolis Public Library
300 Nicollet Mall
Minneapolis, Minnesota 55401

NOV 03 1976

DEFINITIONS

The following definition should be added to Section 1.0, DEFINITIONS, of facility technical specifications to complement the Fire Protection Program:

"FIRE SUPPRESSION WATER SYSTEM:

A FIRE SUPPRESSION WATER SYSTEM shall consist of: a water source(s); gravity tank(s) or pump(s); and distribution piping with associated sectionalizing control or isolation valves. Such valves include yard hydrant curb valves, and the first valve ahead of the water flow alarm device on each sprinkler, hose standpipe or spray system riser."

NOV 03 1976

INSTRUMENTATION

FIRE DETECTION

LIMITING CONDITION FOR OPERATION

3.3.3.8 The fire detection instrumentation for each fire detection zone shown in Table 3.3-8 shall be OPERABLE.

APPLICABILITY: All modes

ACTION:

With the number of instruments OPERABLE less than required by the Minimum Instruments OPERABLE requirement;

1. Establish a fire watch patrol to inspect the zone with the inoperable instrument(s) at least once per hour; and
2. Restore the inoperable instrument(s) to OPERABLE status within 14 days, or
3. Prepare and submit a special report to the Commission, pursuant to Specification 6.9.2, within the next 10 days outlining the cause of the malfunction and the plans for restoring the instrument(s) to OPERABLE status.

SURVEILLANCE REQUIREMENTS

- 4.3.3.8.1 Each of the above fire detection instruments shall be demonstrated OPERABLE by performance of the manufacturer's recommended tests at least once per 6 months.
- 4.3.3.8.2 The circuitry associated with the detector alarms shall be demonstrated OPERABLE at least once per 62 days for all NFPA Code 72D class A supervised circuits.

NOV 03 1976

FIRE DETECTION INSTRUMENTS

INSTRUMENT LOCATION (Illustrative)*

MINIMUM INSTRUMENTS OPERABLE
HEAT SMOKE

1. Containment
 - Zone 1 Elevation _____
 - Zone 2 Elevation _____
2. Control Room
3. Cable Spreading
 - Zone 1 Elevation _____
 - Zone 2 Elevation _____
4. Computer Room
5. Switchgear Room
6. Remote Shutdown Panels
7. Station Battery Rooms
 - Zone 1 Elevation _____
 - Zone 2 Elevation _____
8. Turbine
 - Zone 1 Elevation _____
 - Zone 2 Elevation _____
9. Diesel Generator
 - Zone 1 Elevation _____
 - Zone 2 Elevation _____
10. Diesel Fuel Storage
11. Safety Related Pumps
 - Zone 1 Elevation _____
 - Zone 2 Elevation _____
12. Fuel Storage
 - Zone 1 Elevation _____
 - Zone 2 Elevation _____

*List all detectors protecting safety related equipment or located in areas which contain potential fire hazards to safety related equipment.

NOV 03 1976

PLANT SYSTEMS

FIRE SUPPRESSION

WATER SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.11.1 The FIRE SUPPRESSION WATER SYSTEM shall be OPERABLE with;

- a. high pressure pumps each with a capacity of _____ gal./min. with their discharge aligned to the fire suppression header.
- b. separate water supplies containing a minimum of _____ gallons each.
- c. automatic initiation logic for each fire pump.

APPLICABILITY: All modes

ACTION:

- a. With an inoperable redundant component;
 1. In MODES 1, 2, 3 or 4 restore the component to OPERABLE status within 7 days or be in at least HOT STANDBY within 6 hours and in COLD SHUTDOWN within the following 30 hours.
 2. In MODES 5 or 6, restore the component to OPERABLE status within 7 days or prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within the next 10 days outlining the cause of inoperability and the plans for restoring the component to OPERABLE status.
- b. With the FIRE SUPPRESSION WATER SYSTEM inoperable;
 1. In MODES 1, 2, 3 or 4:
 - a. Be in at least HOT STANDBY within 6 hours and in COLD SHUTDOWN within the following 30 hours, and
 - b. Initiate and complete within _____ hours the procedures to provide for a backup water supply system.
 2. In MODES 5 or 6 initiate and complete within _____ hours the procedures to provide for a backup water supply system.

PLANT SYSTEMS

NOV 03 1976

FIRE SUPPRESSION

WATER SYSTEM

SURVEILLANCE REQUIREMENTS

4.7.11.1 The FIRE SUPPRESSION WATER SYSTEM shall be demonstrated OPERABLE:

- a. At least once per 24 hours by verifying the level of water in the storage tanks.
- b. At least once per 31 days on a STAGGERED TEST BASIS by starting each pump and operating it for 15 minutes on recirculation flow.
- c. At least once per 92 days by cycling each testable valve through one complete cycle.
- d. At least once per 6 months by a system flush.
- e. At least once per 12 months:
 1. By performing a system functional test which includes simulated automatic actuation of the system throughout its operating sequence and verifying that each automatic valve in the flow path actuates to its correct position, and
 2. By verifying that each pump will develop a flow of at least (2500) gpm at a system head of (250) feet.
- f. At least once per 3 years by verifying the hydraulic performance of the system.

NOV 03 1976

PLANT SYSTEMS

SPRAY AND/OR SPRINKLER SYSTEMS

LIMITING CONDITION FOR OPERATION

3.7.11.2 The spray and/or sprinkler systems located in the following areas shall be OPERABLE:

- a.
- b. (Plant dependent)
- c.

APPLICABILITY: All modes

ACTIONS:

With a spray and/or sprinkler system inoperable establish a continuous fire watch with backup fire suppression equipment in the unprotected area(s), and

1. In MODES 1, 2, 3 or 4 restore the system to OPERABLE status within 7 days or be in at least HOT STANDBY within 6 hours and in COLD SHUTDOWN within the following 30 hours.
2. In MODES 5 or 6 restore the system to OPERABLE status within 7 days or prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within the next 10 days outlining the cause of inoperability and the plans for restoring the system to OPERABLE status.

SURVEILLANCE REQUIREMENTS

4.7.11.2 The spray and/or spinkler systems shall be demonstrated to be OPERABLE:

- a. At least once per 92 days by cycling each testable valve through one complete cycle.
- b. At least once per 12 months:
 1. By performing a system functional test which includes simulated automatic actuation of the system and verifying that the automatic valves in the flow path actuate to their correct positions.
 2. By inspection of spray headers to verify their integrity
 3. By inspection of each nozzle to verify no blockage.

NOV 03 1976

PLANT SYSTEMS

CO₂ SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.11.3 The CO₂ systems located in the following areas shall be OPERABLE with a minimum level of ___ and a minimum pressure of ___ in the associated storage tank(s).

a.

b. (Plant dependent)

c.

APPLICABILITY: All modes

ACTION:

a. With a CO₂ system inoperable establish a continuous fire watch with backup fire suppression equipment in the unprotected area(s), and

1. In MODES 1, 2, 3 or 4 restore the system to OPERABLE status within 7 days or be in at least HOT STANDBY within 6 hours and in COLD SHUTDOWN within the following 30 hours.

2. In MODES 5 or 6 restore the system to OPERABLE status within 7 days or prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within the next 10 days outlining the cause of inoperability and the plans for restoring the system to OPERABLE status.

SURVEILLANCE REQUIREMENTS

4.7.11.3 The CO₂ system shall be demonstrated OPERABLE:

a. At least once per 7 days by verifying each CO₂ storage tank level and pressure.

b. At least once per 12 months by verifying the system valves and associated ventilation dampers actuate automatically and manually to a simulated actuation signal. A brief flow test shall be made to verify flow from each nozzle. ("Puff Test").

NOV 03 1976

PLANT SYSTEMS

HALON SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.11.4 The Halon systems located in the following areas shall be OPERABLE and the storage tanks shall have at least 95% of the full charge weight and 90% of full charge pressure

- a.
- b. (Plant dependent)
- c.

APPLICABILITY: All modes

ACTION:

- a. With a Halon system inoperable establish a continuous fire watch with (backup fire suppression equipment) in the unprotected area(s), and
 - 1. In MODES 1, 2, 3 or 4 restore the system to OPERABLE status within 7 days or be in at least HOT STANDBY within 6 hours and in COLD SHUTDOWN within the following 30 hours.
 - 2. In MODES 5 or 6 restore the system to OPERABLE status within 7 days or prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within the next 10 days outlining the cause of inoperability and the plans for restoring the system to OPERABLE status.

SURVEILLANCE REQUIREMENTS

4.7.11.4 The Halon system shall be demonstrated OPERABLE:

- a. At least once per 3 months by verifying each Halon storage tank weight and pressure
- b. At least once per 12 months by verifying the system including associated ventilation dampers actuate automatically to a simulated actuation signal. A flow test through headers and nozzles shall be performed to assure no blockage. The operability of the manual initiating system will also be verified.

FIRE HOSE STATIONS

LIMITING CONDITIONS FOR OPERATION

3.7.11.5 The fire hose stations in the following locations shall be OPERABLE:

- 1.
2. (Plant dependent)
- 3.

APPLICABILITY: All modes

ACTION:

With a hose station inoperable, route an additional hose to the unprotected area from an OPERABLE hose station.

SURVEILLANCE REQUIREMENTS

4.7.11.5 Each fire hose station shall be verified to be OPERABLE:

- a. At least once per 7 days by visual inspection of the station to assure all equipment is available and the pressure in the standpipe is within limits.
- b. At least once per 12 months by removing the hose for inspection and re-racking and replacing all gaskets in the couplings.
- c. At least once per 5 years, partially open hose station valves to verify valve operability and no blockage.

NOV 03 1976

PLANT SYSTEMS

FIRE BARRIER PENETRATION FIRE SEALS

LIMITING CONDITION FOR OPERATION

3.7.12 All fire barrier penetration fire seals protecting safety related areas shall be intact

APPLICABILITY: All modes

ACTION:

With a fire barrier penetration fire seal not intact, a continuous fire watch shall be established on each side of the penetration.

SURVEILLANCE REQUIREMENTS

4.7.12 Fire barrier penetration fire seals shall be verified to be functional by:

- a. A visual inspection at least once per 6 months, and
- b. A visual inspection of a fire barrier penetration seal and a local leak test for those performing a pressure sealing function after repair.

PROPOSED TECHNICAL SPECIFICATION ADDITIONS TO ADMINISTRATIVE

CONTROLS SECTION FOR FIRE PROTECTION

The following additions should be made to the Administrative Controls Section of facility technical specifications to complement the Fire Protection Program.

1. Add a requirement to the Facility Staff specification as follows:

A Fire Brigade of ___ members shall be maintained on site at all times. This excludes ___ members of the minimum shift crew necessary for safe shutdown and any personnel required for other essential functions during a fire emergency.

2. Add provisions to include the organizational arrangement for performance and monitoring of the Fire Protection Program to the appropriate organization charts and specifications.

3. Add a new section to the training requirements as follows:

A training program for the Fire Brigade shall be maintained under the direction of the (Fire Protection Program Manager) and shall meet or exceed the requirements of Section 27 of the NFPA Code-1976.

4. Add to those items listed for audit by the Company Nuclear Review and Audit Group (Corporate or Off-Site Comm.) the following:

The Facility Fire Protection Program and implementing procedures at least once per 24 months.

5. Add to those items listed as requiring written procedures the following:

Fire Protection Program implementation.

6. Add a section as follows:

Fire Protection Inspection

1. An independent fire protection and loss prevention inspection and audit shall be performed annually utilizing either qualified off-site licensee personnel or an outside fire protection firm.
2. An inspection and audit by an outside qualified fire consultant shall be performed at intervals no greater than 3 years.

ERRATA SHEET

FOR

Appendix A to Branch Technical Position APCSB 9.5-1,
"Guidelines for Fire Protection for Nuclear Power Plants"

Tabulated below are corrections to errors noted in Appendix A to Branch Technical Position APCSB 9.5-1.

1. Page 4 - Under B. add 1.
2. Page 8 - Change 3. to (c)
3. Page 9 - Change 4. to (d)
4. Page 22 - Line 4 change "have" to "hour."
5. Page 23 - Change C. to E.
6. Page 32 - Line 3 under 6. After 10A add "Installation" after "Portable Fire Extinguishers"
7. Page 32 - Change D. to F.
8. Page 47 - Change E. to G.

Also for your convenience, attached is a comparison of the Table of Contents for Branch Technical Position 9.5-1, Appendix A to BTP 9.5-1 and Regulatory Guide 1.120. It should be noted that (1) while the BTP and the Regulatory Guide contain almost verbatim identical information, the format and sequence of information presented in the two documents differ somewhat, and (2) the information sequence in Appendix A to BTP 9.5-1 parallels that in Regulatory Guide 1.120 rather than BTP 9.5-1.

BRANCH TECHNICAL
POSITION 9.5-1APPENDIX A TO
BTP 9.5-1REGULATORY
GUIDE 1.120

I. Definitions		
II. Introduction		A. Introduction
III. Discussion		B. Discussion
IV. Positions	<u>Positions</u>	C. Regulatory Position
A. Overall Requirements of a Nuclear Plant Fire Protection Program	A. Overall Requirements of Nuclear Plant Fire Protection Program	1. Overall Requirements of the Fire Protection Program
	B. Administrative Procedures, Controls and Fire Brigade	2. Administrative Procedures, Controls, and Fire Brigade
	C. Quality Assurance Program	3. Quality Assurance Program
B. General Guidelines for Plant Protection	D. General Guidelines for Plant Protection	4. General Plant Guidelines
1. Building Design	1. Building Design	a. Building Design
2. Control of Combustibles	2. Control of Combustibles	b. Control of Combustibles
3. Electrical Cable Construction, Cable Trays and Cable Penetrations	3. Electric Cable Construction, Cable Trays and Cable Penetrations	c. Electrical Cable Construction, Cable Trays, and Cable Penetrations
4. Ventilation	4. Ventilation	d. Ventilation
5. Lighting and Communications	5. Lighting and Communications	e. Lighting and Communications
6. Administrative Procedures, Controls and Fire Brigade		
7. Quality Assurance		
C. Fire Detection and Suppression	E. Fire Detection and Suppression	5. Fire Detection and Suppression
D. Guidelines for Specific Plant Areas	F. Guidelines for Specific Plant Areas	6. Guidelines for Specific Plant Areas
E. Special Protection Guidelines	G. Special Protection Guidelines	7. Special Protection Guidelines
V. References		D. Implementation References