

15.3.14 FIRE PROTECTION SYSTEM

Applicability

Applies to the fire protection components which provide fire protection capability for equipment required for safe plant shutdown at all times when those systems are required to be operable.

The provisions of Specification 15.3.0 are not applicable to these specifications.

Objective

To specify the requirements for fire protection components which would be employed to mitigate the consequences of fires which could affect equipment required for safe plant shutdown.

Specification

A. Fire Suppression Systems

1. Fire Main Loop Water Supply

- a. Both fire pumps shall be operable; or
- b. With one pump inoperable, restore the inoperable equipment to operable status within 7 days or, in lieu of any other report required by Specification 15.6.6, prepare and submit a special report to the Commission pursuant to Specification 15.6.9.3.G.
- c. With the fire suppression water system otherwise inoperable:
 - (1) Establish a backup fire suppression water system within 24 hours, and
 - (2) In lieu of any other report required by Specification 15.6.6, submit a special report in accordance with Specification 15.6.9.3.G.

2. Water Sprinkler System

- a. The water sprinkler systems listed in Table 15.3.14-1 shall be operable whenever equipment protected by the system is required to be operable.

- b. A water sprinkler system listed in Table 15.3.14-1 may be inoperable provided that:

- (1) Within one hour of determining that one or more of the above required spray and/or sprinkler systems are inoperable, for those areas in which redundant systems or components could be damaged, establish an hourly fire watch inspection and provide backup fire suppression capability. For other areas, establish an hourly fire watch inspection. Restore the system to operable status within 14 days or, in lieu of any other report required by Specification 15.6.6, prepare and submit a special report pursuant to Specification 15.6.9.3.G.

3. Fire Hose Stations

- a. Fire hose stations for the area listed in Table 15.3.14-1 shall be operable whenever equipment in the areas protected by the fire hose stations is required to be operable.
- b. Within one hour of determining that one or more of the fire hose stations shown in Table 15.3.14-1 are inoperable, route backup water suppression capability or provide portable fire suppression capability to the unprotected area(s). Restore the fire hose station to operable status within 14 days or, in lieu of any other report required by Specification 15.6.6, prepare and submit a special report pursuant to Specification 15.6.9.3.G.

4. Halon Gaseous Suppression Systems

- a. The Halon Gaseous suppression systems listed in Table 15.3.14-1 shall be operable whenever equipment protected by the Halon system is required to be operable.

- b. One supply source of Halon for the gaseous suppression systems in Table 15.3.14-1 may be inoperable provided that within one hour of determining the condition, fire hose station suppression capability for the affected area is provided.
- c. Both supply sources of Halon for the gaseous suppression systems listed in Table 15.3.14-1 may be inoperable provided that:
 - (1) Within 1 hour of determining the condition any hourly fire watch inspection is established and that backup fire suppression capability is provided for those areas in which redundant systems or components could be damaged; for other areas, establish an hourly fire watch inspection. Restore the system to operable status within 14 days, or in lieu of any other report required by Specification 15.6.6, prepare and submit a special report pursuant to Specification 15.6.9.3.G.

B. Fire Detection

1. Fire Detection Systems

- a. The fire detection system components for each area listed in Table 15.3.14-1 shall be operable whenever equipment protected by the fire detection components is required to be operable.
- b. The control room annunciation for the fire detection system may be inoperable provided that within one hour of determining the condition, the area control panels for each area listed in Table 15.3.14-1 are surveilled hourly.
- c. Area control panels for the areas listed in Table 15.3.14-1 may be inoperable provided that:
 - (1) Within one hour of determining that the area control panel is inoperable, the affected area is inspected to assure that potential fire hazards are minimized;

- (2) Activity in the affected area is restricted to that which is necessary for continued operation;
 - (3) A fire watch inspection is performed in the affected area hourly.
- d. For each area listed in Table 15.3.14-1 which is not protected by a Halon gaseous suppression system:
- (1) A single detection device may be inoperable.
 - (2) As long as at least 75% of an area's detection devices remain operable, multiple non-adjacent detection devices may be inoperable.
 - (3) More than 25% of an area's detection devices or multiple adjacent detection devices may be inoperable provided that:
 - (a) Within one hour of determining that the detection devices are inoperable, the affected area is inspected to assure that potential fire hazards are minimized.
 - (b) Activity in the affected area is restricted to that which is necessary for continued operation;
 - (c) A fire watch inspection is performed in the affected area hourly.
- e. For each area listed in Table 15.3.14-1 which is protected by Halon gaseous suppression system, any number of detection device(s) may be inoperable provided that:
- (1) Within one hour of determining that the detection device(s) are inoperable, the affected area is inspected to assure that potential fire hazards are minimized;
 - (2) Activity in the affected area is restricted to that which is necessary for continued operation;
 - (3) A fire watch inspection is performed in the affected area hourly.

- f. Restore the inoperable instrument(s) to operable status within 14 days, or in lieu of any other report required by Specification 15.6.6, prepare and submit a special report pursuant to Specification 15.6.9.3.G.

C. Fire Barriers

1. Fire Barrier Penetration Seals

- a. All fire barrier penetration seals protecting safety-related areas shall be operable.
- b. A fire barrier penetration seal may be inoperable provided that:
 - (1) Within one hour of determining that the fire barrier penetration seal is inoperable, the immediate area on each side of the fire barrier is inspected to assure that potential fire hazards are minimized;
 - (2) Activity in the immediate area on each side of the fire barrier is restricted to that which is necessary:
 - (a) for continued operation;
 - (b) To enable restoration of penetration seal operability.
 - (3) A fire watch inspection shall be performed on each side of the fire barrier hourly.
 - (4) Restore the inoperable fire barrier to operable status within 7 days or, in lieu of any other report required by Specification 15.6.6, prepare and submit a special report pursuant to Specification 15.6.9.3.G.

Basis

The overall fire protection program at Point Beach Nuclear Plant utilizes the principles of defense in depth. This includes early warning fire detection and redundant fire suppression capability. Collectively, these measures ensure equipment operability, provide adequate capability to prevent and minimize damage to safety-related equipment, and allow safe plant shutdown in the event of a

fire occurrence. Should a portion of component of the fire protection system be inoperable, these specifications provide assurance that redundant methods of fire protection are readily available and that the capability to mitigate the consequences of a fire is maintained.

TABLE 15.3.14-1
SAFE SHUTDOWN AREA FIRE PROTECTION

AREA	ELEVATION	AUTOMATIC SUPPRESSION		MANUAL SUPPRESSION	FIRE DETECTION
		WATER SPRINKLER SYSTEM	GAS SUPPRESSION SYSTEM	FIRE HOSE STATION	
1. Auxiliary Building South	8'			X	X
2. Auxiliary Building Center A. Safety Injection Pumps B. Component Cooling Water Pump	8'	X X		X	X
3. Auxiliary Building North	8'			X	X
4. Auxiliary Building West	8' and Below			X	X
5. Auxiliary Building South	26'			X	X
6. Auxiliary Building Center	26'			X	X
7. Auxiliary Building North	26'			X	X
8. Auxiliary Building Center	46'			X	X
9. Auxiliary Feedwater Pump Room	8'		X	X	X
10. Vital Switchgear & Battery Room	8'		X	X	X
11. 3D Diesel Generator Room	8'	X		X	X
12. 4D Diesel Generator Room	8'	X		X	X
13. Cable Spreading Room	26'		X	X	X
14. Circulating Water Pumphouse A. Service Water Pumps	8'	X		X	X

15.4.15 FIRE PROTECTION SYSTEM

Applicability

Applies to the periodic inspection and testing requirements of fire protection equipment specified in Section 15.3.14.

Objective

To verify the operability of fire protection system components.

Specification

A. Fire Suppression Systems

1. Fire Main Loop Water Supply

<u>Test</u>	<u>Frequency</u>
a. Flowpath valve position verification	Monthly
b. Fire pump functional test	Monthly
c. Fire pump capacity test	Yearly
d. Diesel driven fire pump engine	
(1) Fuel volume verification	Monthly
(2) Diesel fuel sample analysis	Quarterly
(3) Periodic inspection	18 months
e. Diesel driven fire pump battery and charger	
(1) Battery voltage verification	Weekly
(2) Electrolyte level	Weekly
(3) Electrolyte specific gravity	Quarterly
(4) Periodic inspection	18 months

2. Water Sprinkler Systems

a. Flowpath valve position verification	Monthly
b. Inspector's test	Yearly
c. Visual header and nozzle inspection	18 months

3. Fire Hose Stations

<u>Test</u>	<u>Frequency</u>
a. Visual inspection	Monthly
b. Hose Hydrostatic test	2 years
c. Valve cycle test	3 years

4. Halon Gaseous Suppression Systems

a. Halon quantity verification	6 months
b. Functional test	Yearly
c. Visual header and nozzle inspection	Yearly

B. Fire Detection

1. Fire Detection System	
a. Channel functional test	6 months

C. Fire Barriers

1. Fire Barrier Penetration Seals	
a. Visual inspection	18 months

Basis

Normally, the fire protection is not in use. However, the system components are required to perform as designed in the event of a fire emergency. The National Fire Protection Association and the plant insurance carrier have specified periodic tests and inspections to demonstrate fire protection equipment operability. The listed tests and inspection are based upon the requirements of these organizations. Testing more frequently than that listed is not considered necessary to ensure operability and performance.

15.6.9.3 UNIQUE REPORTING REQUIREMENTS

G. Fire Protection System Degradation

Degradation of fire protection systems or components as described in Specification 15.3.4 which render the system inoperable shall be the subject of a special report, prepared and submitted within 30 days. The report will outline action(s) taken, the cause of the inoperability, and the plans and schedule for restoring the system to OPERABLE status.