3.22 FIRE PROTECTION SYSTEM

3.22.1 FIRE DETECTION INSTRUMENTATION

LIMITING CONDITIONS FOR OPERATION

3.22.1.1 The minimum fire detection instrumentation for each fire detection zone shown in Table 3.22.1 shall be OPERABLE.

APPLICABILITY: At all times when equipment in that fire detection zone is required to be OPERABLE.

ACTION:

With the number of instruments OPERABLE less than required by Table 3.22.1.

1. Except the detectors located inside containment, restore the inoperable detectors to operable status within 24 hours, or within the next hour, establish a fire watch patrol to inspect the zone with the inoperable instrument(s) at least once per hour.

2. For detectors located inside containment, restore the inoperable detector(s) to operable status within 24 hours, or within the next hour, at least once per hour, view with the TV camera the zone containing the inoperable detector or view the zone located above the detector.

   If a fire in containment is confirmed, be in at least hot standby within the next 6 hours and in cold shutdown within the following 30 hours.

3. The provision of Specifications 3.0.3 and 3.0.4 are not applicable.

BASIS

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. None of the Fire Detection Instruments required to be OPERABLE by Table 3.22.1 actuate fire suppression systems.

Inside containment, the only combustible is cable insulation which emits a thick black smoke as a product of its combustion. Therefore surveillance by TV camera can be used to confirm a fire in any zone where detectors are inoperable.

Proposed

TABLE 3.22.1

	FIRE DETECTION ZONE	NUMBER OF DETECTORS	TYPE OF DETECTORS	MINIMUM INSTRUMENTS OPERABLE
1.	Cable Spreading Room and I-C Switchgear Rm, Col M-28	1	Water Flow Sw	1
2.	Switchgear Room 1D Col G-28	1	Water Flow Sw	1
3.	North Penetration Room, Col G-22	1	Water Flow Sw	1
4.	Cableway Room 328, Col G-22	1	Water Flow Sw	1
5.	Electrical Equipment Room, Col G-28	1	Water Flow Sw	1
6.	Charging Pump Room, Col E-28	1	Water Flow Sw	1
7.	Diesel Generator Room 1-1, Col J-28	1	Water Flow Sw	1
8.	Diesel Generator Room 1-2, Col M-28	1	Water Flow Sw	1
9.	Southwest Cable Penetration, Col H-10	1	Water Flow Sw	1
10.	Intake Structure 590', Col Y. 5-7	1	Water Flow Sw	1
11.	Control Room and Room 325	7	Smoke	5
12.	Control Room Adjacent Offices, Rooms 324 & 320	2	Smoke	1
13.	Cable Spreading Room (224) Area	8	Smoke	6
14.	Refueling and Spent Fuel Area, Rm 220	4	Smoke	2
15.	Switchgear Room 1-D, Room 223	4	Smoke	3
16.	North Penetration, Room 332	2	Smoke	1
17.	Switchgear Room 1-C, Room 116A	2	Smoke	1
18.	Southwest Cable Penetration, Rm 250	2	Smoke	1
19.	Engineered Safeguards Panel Area	3	Smoke	2
20.	Stairwell Outside Engineered Safeguards Panel Area	1	Smoke	1
21.	Component Cooling Pump Room 123	2	Smoke	1

Proposed

TABLE 3.22.1 (Contd)

	FIRE DETECTION ZONE	NUMBER OF DETECTORS	TYPE OF DETECTORS	MINIMUM INSTRUMENTS OPERABLE
22.	Safeguard Area Room 4	3	Smoke	2
23.	Safeguard Area Room 5	2	Smoke	1
24.	Corridor 106 on 590' Elevation	6	Smoke	4
25.	Charging Pump Room 104	2	Smoke	1
26.	Containment, Interior North Penetration Area	3	Smoke	2
27.	Containment, Interior Southwest Penetration Area	3	Smoke	2
28.	Containment Instrument Air Room	3	Smoke	2
29.	Auxiliary Feed Pump Room, 570' Level of Turbine Building	1	Smoke	1
30.	Battery Room 225A	1	Smoke	1
31.	Battery Room 225B	1	Smoke	1
32.	HVAC Equipment Rooms & Chase			
	West Mechanical Equipment Room	1	Smoke	1
	East Mechanical Equipment Room	1	Smoke	1
	Duct Chase	1	Smoke	1
33.	Air Handling Units V-95 & V-96 Inlet Ducts	2	Smoke	2
34.	Electrical Equipment Room	4	Smoke	3
35.	Technical Support Center	2	Smoke	1

Proposed

3.22 FIRE PROTECTION SYSTEM

3.22.2 FIRE SUPPRESSION WATER SYSTEM

LIMITING CONDITIONS FOR OPERATION

3.22.2.1 The fire suppression water system required for fire sprinkler system and fire hose stations defined in Section 3.22.3 and 3.22.4, respectively, shall be OPERABLE with:

a. Two pumps, one of which is the south diesel pump, each with a capacity of at least 1500 gpm with their discharge aligned to the fire suppression header.

b. Automatic initiation logic for each fire pump.

APPLICABILITY: At all times.

ACTION:

a. With the diesel fire pump located south of the fire barrier (Room 136) or with two fire pumps or one water supply inoperable, restore the inoperable equipment to operable status within 7 days or provide an alternate backup pump or supply. The provisions of Specifications 3.03 and 3.04 are not applicable.

b. With the fire suppression water system otherwise inoperable, establish a backup Fire Suppression Water System within 24 hours.

c. If a. or b. above cannot be fulfilled, place the reactor in Hot Standby with the next six (6) hours, and in Cold Shutdown within the following thirty (30) hours.

3.22 FIRE PROTECTION SYSTEM

3.22.2 FIRE SUPPRESSION WATER SYSTEM

LIMITING CONDITIONS FOR OPERATION

Basis

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, sprinklers, and fire hose stations. The collective capability of the fire suppression system is adequate to minimize potential damage to safety-related equipment and is a major element in the facility fire protection program.

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 inoperable equipment is 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.

In the event of a fire in the Screen House Room, a fire is postulated to render the service water pumps, the north diesel fire pump, and the electric fire pump inoperable; or, to render the south diesel fire pump inoperable. The radiant heat shield located on the north and east sides of the south diesel fire pump will prevent a fire from causing both diesel fire pumps to become inoperable.

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 restored to OPERABILITY.

Those hose stations that are supplied by the service water system in the containment will be primarily used during normal refueling operations.

3.22 FIRE PROTECTION SYSTEM

3.22.3 FIRE SPRINKLER SYSTEM

LIMITING CONDITIONS FOR OPERATION

3.22.3.1 The sprinkler system located in the following areas shall be OPERABLE:

a. Cable Spreading Room/Switchgear Room 1C
b. Switchgear Room ID
c. Diesel Generator Room 1-1
d. Diesel Generator Room 1-2
e. Southwest Cable Penetrating Room
f. Cable Way Room 328
g. Intake Structure Room 136 and 136A
h. North Cable Penetration Room
i. Electrical Equipment Room
j. Charging Pump Rooms 104, 104A, and 104B

APPLICABILITY:

Whenever equipment in the sprinkler protected area is required to be operable.

ACTION:

1. With one or more of the above required sprinkler systems inoperable, within one hour establish a continuous fire watch with equivalent manual fire suppression equipment for those areas in which redundant systems or components could be damaged; for other areas, establish a hourly fire watch patrol.

2. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

Basis

Refer to Basis Section 3.22.2.

3.22 FIRE PROTECTION SYSTEM

3.22.4 FIRE HOSE STATIONS

LIMITING CONDITIONS FOR OPERATION

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

a. Corridor, Room 39
b. Viewing Gallery, Room 320
c. Corridor, Room 106
d. Corridor, Room 125
e. Fire Hose Station #3
f. Turbine Building 590', Col Y-5
g. Turbine Building 590', Col Y-18
h. Spent Fuel Pool, Room 220
i. Turbine Building 609', Col H-9
j. Outside Fire Hose Station #5
k. North Stairway in containment 612' level
l. South Stairway in containment 612' level

APPLICABILITY:

Whenever equipment in the area protected by that hose station is required to be operable.

ACTION:

1. With the hose station inoperable, provide an additional hose for the unprotected area at an OPERABLE hose station within one hour except k and l listed above.

2. With the hose station inside containment (k & l above) inoperable:

   a. When containment integrity is required, provide portable fire fighting equipment (e.g. water fire extinguishers) at the entrance to containment within one hour.

   b. When containment integrity is not required, provide portable fire fighting equipment (e.g. water fire extinguishers) at the hose station within one hour.

3. The provisions of Technical Specifications 3.03 and 3.04 are not applicable.

Basis

Refer to Basis Section 3.22.2.

Proposed

3.22 FIRE PROTECTION SYSTEM

3.22.5 FIRE RATED AND FIRE PROTECTION ASSEMBLIES

LIMITING CONDITIONS FOR OPERATION

3.22.5.1 All fire rated assemblies (walls, floors, ceilings, cable tray enclosed, cable wraps), fire protection assemblies (radiant heat shields) and sealing devices in fire rated assembly penetrations (fire doors, fire dampers, cable, piping, and ventilation duct penetration seals) which protect safety related fire areas or separate portions of redundant systems important to safe shutdown within a fire area, shall be OPERABLE.

APPLICABILITY: Whenever the equipment protected by the fire rated assembly(ies) must be OPERABLE.

ACTION:

1. With one or more of the above required fire rated assemblies or penetration sealing devices inoperable, a continuous fire watch shall be established on at least one side of the affected assembly within one hour, or verify the OPERABILITY of fire detectors on at least one side of the inoperable assembly and establish an hourly fire inspection.

2. With a fire protection assembly located outside containment rendered inoperable, within one hour establish an hourly fire inspection in that area.

3. With a fire protection assembly located inside containment rendered inoperable, restore the assembly to operable status within 24 hours or be in at least hot standby within the next six (6) hours or be in at least cold shutdown within the subsequent 30 hours.

4. The provisions of Technical Specifications 3.03 and 3.04 are not applicable.

Basis

The functional integrity of the fire rated assemblies, penetration sealing devices and fire protection assemblies ensures that fires will be confined or adequately retarded from spreading to adjacent portions of the facility. These design features minimize the possibility of a single fire rapidly involving several areas of the facility prior to detection and extinguishment. The fire rated assemblies, fire protection assemblies and penetration sealing devices are passive elements in the facility fire protection program and are subject to periodic inspections.

Proposed

4.17. FIRE PROTECTION SYSTEM

4.17.4 FIRE HOSE STATIONS

SURVEILLANCE REQUIREMENTS

4.17.4.1 Each fire hose station defined in Section 3.22.4.1 a through j shall be verified to be OPERABLE:

a. At least once per month by visual inspection of the station to assure all equipment is available.

b. At least once per 18 months by removing the hose for inspection and reracking and replacing all gaskets in the couplings as required.

c. At least once per 3 years by:

1) Partially opening each hose station valve to verify valve operability and now flow blockage, and

2) Conducting a hose hydrostatic test at a pressure of 150 psig or at least 50 psig greater than the maximum fire main operating pressure, which ever is greater.

4.17.4.2 Each fire hose station defined in Section 3.22.4.1 k & l shall verified to be operable:

a. At least once per month during normal refueling outage by visual inspection of the station to assure all equipment is available.

b. At least once per refueling outage by removing the hose for inspection and replacing all gaskets in the couplings as required.

c. At least once per 3 years by:

1) Partially opening each hose station valve to verify valve operability and no flow blockage, and

2) Conducting a hose hydrostatic test at a pressure 150 psig or at least 50 psig greater than the maximum fir main operating pressure, whichever is greater.

Proposed

4.17.5 FIRE PROTECTION SYSTEM

4.17.5 FIRE RATED AND FIRE PROTECTION ASSEMBLIES

LIMITING CONDITIONS FOR OPERATION

4.17.5.1 Fire rated assemblies, fire protection assemblies and penetration sealing devices (except fire doors per 4.17.5.2), shall be verified OPERABLE at least once per refueling outage by performing an inspection of:

a. The exposed surfaces of each fire rated assembly (visual),

b. the structural integrity of fire protection assemblies (visual),

c. all penetration sealing devices (visual, and

d. fire dampers and associated hardware (functional where practicable).

4.17.5.2 At least once per six months, all fire doors shall be verified OPERABLE by visually inspecting the structural integrity, automatic hold-open, release, closing mechanism and latches and by verifying:

a. At least once per 31 days, the OPERABILITY of the fire door supervision system for each electrically supervised fire door.

b. At least once per seven days, that each locked closed fire door is closed.

c. At least once per 24 hours, that doors with automatic hold-open and release mechanisms are free of obstructions.

d. At least once per 24 hours, that each unlocked fire door without electrical supervision is closed.

Proposed