

NOV 03 1978

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.

8011140 525

INSTRUMENT LOCATION (Illustrative)*

MINIMUM INSTRUMENTS OPERABLE	
HEAT	SMOKE
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10
11	11
12	12
13	13
14	14
15	15
16	16
17	17
18	18
19	19
20	20
21	21
22	22
23	23
24	24
25	25
26	26
27	27
28	28
29	29
30	30
31	31
32	32
33	33
34	34
35	35
36	36
37	37
38	38
39	39
40	40
41	41
42	42
43	43
44	44
45	45
46	46
47	47
48	48
49	49
50	50
51	51
52	52
53	53
54	54
55	55
56	56
57	57
58	58
59	59
60	60
61	61
62	62
63	63
64	64
65	65
66	66
67	67
68	68
69	69
70	70
71	71
72	72
73	73
74	74
75	75
76	76
77	77
78	78
79	79
80	80
81	81
82	82
83	83
84	84
85	85
86	86
87	87
88	88
89	89
90	90
91	91
92	92
93	93
94	94
95	95
96	96
97	97
98	98
99	99
100	100

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.

PLANT SYSTEMS

NOV 03 1976

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.

I. Definitions

II. Introduction

III. Discussion

IV. Positions

Positions

A. Overall Requirements of a
Nuclear Plant Fire Protection Program

- A. Overall Requirements of Nuclear Plant Fire Protection Program
- B. Administrative Procedures, Controls, and Fire Brigade
- C. Quality Assurance Program
- D. General Guidelines for Plant Protection

B. General Guidelines for Plant Protection

1. Building Design
2. Control of Combustibles
3. Electrical Cable Construction, Cable Trays and Cable Penetrations
4. Ventilation
5. Lighting and Communications
6. Administrative Procedures, Controls and Fire Brigade
7. Quality Assurance

C. Fire Detection and Suppression

D. Guidelines for Specific Plant Areas

E. Special Protection Guidelines

E. Fire Detection and Suppression

F. Guidelines for Specific Plant Areas

G. Special Protection Guidelines

1. Overall Requirements of the Fire Protection Program
2. Administrative Procedures, Controls, and Fire Brigade
3. Quality Assurance Program
4. General Plant Guidelines

a. Building Design

b. Control of Combustibles

c. Electrical Cable Construction, Cable Trays, and Cable Penetrations

d. Ventilation

e. Lighting and Communications

5. Fire Detection and Suppression

6. Guidelines for Specific Plant Areas

7. Special Protection Guidelines

D. Implementation
References

V. References