

ATTACHMENT B

FIRE PROTECTION REVISED TECHNICAL SPECIFICATION

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B. Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. , are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

C. Records

Boston Edison shall keep facility operating records in accordance with the requirements of the Technical Specifications.

D. Equalizer Valve Restriction - DELETED

E. Recirculation Loop Inoperable

The reactor shall not be operated with one recirculation loop out of service for more than 24 hours. With the reactor operating, if one recirculation loop is out of service, the plant shall be placed in a hot shutdown condition within 24 hours unless the loop is sooner returned to service.

F. Fire Protection

Boston Edison shall implement and maintain in effect all provisions of the approved fire protection program as described in the Final Safety Analysis Report for the facility and as approved in the SER dated December 21, 1978 as supplemented subject to the following provision:

Boston Edison may make changes to the approved fire protection program without prior approval of the Commission only if those changes would not adversely affect the ability to achieve and maintain safe shutdown in the event of a fire.

G. Physical Protection

The licensee shall fully implement and maintain in effect all provisions of the Commission-approved physical security, guard training and qualification, and safeguards contingency plans including amendments made pursuant to provisions of the miscellaneous Amendments and Search Requirements revisions to 10 CFR 73.55 (51 FR 27817 and 27822) and to the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The plans, which contain Safeguards information protected under 10 CFR 73.21, are entitled:

LIMITING CONDITION FOR OPERATION3.12 Fire ProtectionAlternate Shutdown Panels

1. Alternate shutdown panels for the following systems shall be OPERABLE:

1. Core Spray
2. RHR
3. RBCCW
4. Salt Service Water
5. HPCI
6. RCIC
7. Automatic Depressurization
8. Diesel Generators

APPLICABILITY:

At all times that the system is required to be OPERABLE.

ACTION:

With any of the alternate shutdown panels inoperable,

- a) Immediately verify that fire detection with automatic fire suppression for the Cable Spreading Room is Operable. If fire detection with automatic fire suppression cannot be determined operable, within one (1) hour from the time the system is determined to be inoperable, establish a continuous Fire Watch with backup fire suppression.
- b) Immediately verify that the fire detector zones listed on Table 3.12 are operable for the respective system fire zone(s) for which the panel(s) provided alternate shutdown capability.

If a fire detection zone cannot be determined operable, establish an hourly fire watch patrol to inspect the affected zone(s).

SURVEILLANCE REQUIREMENTS4.12 Fire ProtectionAlternate Shutdown Panels

The alternate shutdown panels shall be demonstrated to be OPERABLE according to the following:

1. The motor operated valves of the core spray system shall be operated from the alternate shutdown panels once each cycle.
2. The motor operated valves of the RHR system shall be operated once each cycle utilizing the MCC B-17 alternate power source.
3. The pumps of the SSW system shall be operated from the alternate shutdown panels once each cycle.
4. The pumps and motor operated valves of the RBCCW system shall be operated from the alternate shutdown panels once each cycle.
5. Alternate shutdown panel capability for the RCIC and HPCI systems shall be verified to be OPERABLE once each cycle.
6. After each refueling outage and prior to startup, perform a test from the alternate shutdown panel to verify that the relief valve solenoids of the Automatic Depressurization System (ADS) actuate.
7. Once each refueling outage, the diesel generator control circuits shall be isolated from the Cable Spreading Room and the diesel generator started.

Table 3.12
Fire Detector
Zones Associated with
Alternate Shutdown Panels

Alternate Shutdown System	Fire Zone	Detection Panel/Det. Zones
Core Spray	1.1 & .2	C-224/4A
RHR	1.1 & .2	C223/3C
RBCCW	1.21 & .22	C-222/2A & 2B
SSW	5.1 & .2 & .3	N/A
HPCI	1.3 & .4	C-223/3D & 3E
RCIC	1.5	C-223/3A & 3B
ADS	1.1 & .2	C-224/4A
DGS	4.1 & .3	C-93/1 & 2

BASES:

3/4.12 Fire Protection

The alternate shutdown system, independent of cabling and equipment in the Cable Spreading Room, is provided to effect safe shutdown of Pilgrim in the event of a fire in the Cable Spreading Room. This is accomplished by installing isolation switches for safety-related equipment that will provide the capability for the plant operators to reach a safe shutdown condition. These switches will isolate their associated equipment from the CSR cables, thus transfer control from the Control Room to the local emergency shutdown stations outside the CSR. These isolation switches are located in alternate shutdown panels and are located as close as practical to the equipment or switchgear they serve.

An emergency shutdown procedure, which is compatible with the design modifications and plant operator availability, provides step-by-step actions to initiate safe shutdown operation. Operator actions to isolate safety-related cables passing through the CSR is initiated as soon as a fire which is not immediately extinguishable is detected and confirmed in the CSR.

Alternate shutdown panels are provided for the following systems:

- a. Core Spray
- b. RHR
- c. RBCCW
- d. Salt Service Water
- e. HPCI
- f. RCIC
- g. Automatic Depressurization System
- h. Diesel Generators

Inoperability of the above listed systems does not require entry into LCO action statements for the alternate shutdown panels.

A surveillance frequency of once per cycle is considered prudent and more frequent testing not warranted. The frequency of once per refueling outage for testing the diesel generators prevents unnecessarily rendering them inoperable during normal power operation. The frequency of once per refueling outage for the Automatic Depressurization System is consistent with the existing surveillance frequency for this system. Requiring this surveillance to be performed during a refueling outage will also assure that plant conditions will allow for safe access to the ADS solenoids.

(The next page is 206K)

6.0 ADMINISTRATIVE CONTROLS

2. When the unit is in an operational mode other than cold shutdown or refueling, a person holding a Senior Reactor Operator License shall be present in the control room at all times. In addition to this Senior Operator, a Licensed Operator or Senior Operator shall be present at the controls when fuel is in the vessel.
3. At least two Licensed Operators shall be present in the control room during reactor startup, scheduled reactor shutdown and during recovery from reactor trips.
4. An individual qualified in radiation protection procedures shall be on site when fuel is in the reactor.
5. ALL CORE ALTERATIONS performed while fuel is in the reactor vessel after the initial fuel loading shall be directly supervised by either a licensed Senior Reactor Operator or Senior Reactor Operator Limited to Fuel Handling who has no other concurrent responsibilities during this operation.
- 6 Deleted
7. The Chief Operating Engineer, Nuclear Watch Engineers, and Nuclear Operations Supervisors shall hold a Senior Reactor Operator License. The Nuclear Plant Operators shall hold a Reactor Operator License.

6.3 UNIT STAFF QUALIFICATIONS

The qualifications with regard to educational and experience backgrounds of the unit staff at the time of appointment to the active position shall meet the requirements as described in the American National Standards Institute N18.1-1971, "Selection and Training of Personnel for Nuclear Power Plants." In addition, the individual performing the function of Radiation Protection Manager shall meet or exceed the qualifications of Regulatory Guide 1.8, September, 1975.

6.4 TRAINING

A retraining and replacement training program for the unit staff shall be maintained under the direction of the Nuclear Training Department Manager. The training programs for the licensed personnel shall meet or exceed the requirements and recommendations of Section 5.5 of ANSI N18.1-1971 and 10CFR Part 55.

6.5.A.6 RESPONSIBILITIES (Continued)

- e. Review of facility operations to detect potential safety hazards.
- f. Review of the Station Security Plan and implementing procedures and changes to the plan and procedures.
- g. Review of the Emergency Plan and implementing procedures and changes to the plan and procedures.
- h. Performance of special reviews and investigations and reports thereon as requested by the Nuclear Safety Review and Audit Committee (NSRAC) Chairman.
- i. Investigation of all violations of the Technical Specifications and shall prepare and forward a report covering evaluation and recommendations to prevent recurrence to the Station Director, the NSRAC Chairman, and the Senior Vice President - Nuclear.
- j. Review of the Station Fire Protection Program and implementing procedures and changes to the Program and implementing procedures.

The ORC Chairman may appoint subcommittees composed of personnel who are not members of ORC to perform staff work necessary to the efficient functioning of ORC.

7. AUTHORITY

- a. Recommend in writing to the Station Director the approval or disapproval of items considered under 6.5.A.6(a) through (d) above.
- b. Render determinations in writing with regard to whether or not each item considered under 6.5.A.6(a) through (d) above constitutes an unreviewed safety question.
- c. Provide written notification within 24 hours to the Station Director, the Nuclear Safety Review and Audit Committee, and the Senior Vice President - Nuclear of disagreement between the ORC Members and the ORC Chairman. The Station Director shall have responsibility for resolution of such disagreements.

8. RECORDS

The ORC shall maintain written minutes of each meeting and copies shall be forwarded to the Station Director and the NSRAC Chairman.

ATTACHMENT C

FIRE PROTECTION MARKED-UP TECHNICAL SPECIFICATION

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Revision 146

Amendment No. 72, 27, 42, 24, 29, 112, 114

Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 136 are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

Records

Boiler shall keep facility operating records in accordance with the requirements of the Technical Specifications.

Equalizer Valve Restriction - DELETED

Recirculation Loop Inoperable

The reactor shall not be operated with one recirculation loop out of service for more than 24 hours. With the reactor operating, if one recirculation loop is out of service, the plant shall be placed in a hot shutdown condition within 24 hours unless the loop is sooner returned to service.

F. Fire Protection

SEE INSERT

The licensee may proceed with and is required to complete the modifications identified in Paragraphs 3.1.1 through 3.1.19 of the NRC's Fire Protection Safety Evaluation (SE), dated December 21, 1978 for the facility. The Safety Evaluation is supplemented by Amendment No. 123 dated October 13, 1988, as it relates to fire barrier ratings. These modifications will be completed in accordance with the schedule in Table 3.1.

In addition, the licensee shall submit the additional information identified in Table 3.2 of this SE in accordance with the schedule contained therein. In the event these dates for submittal cannot be met, the licensee shall submit a report, explaining the circumstances, together with a revised schedule.

The licensee is required to implement the administrative controls identified in Section 6 of the SE. The administrative controls shall be in effect by December 31, 1978.

G. Physical Protection

The licensee shall fully implement and maintain in effect all provisions of the Commission-approved physical security, guard training and qualification, and safeguards contingency plans including amendments pursuant to provisions of the Miscellaneous Amendments and Search Requirements revisions to 10 CFR 73.55 (51 FR 27817 and 27822) and to the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The plans, which contain Safeguards Information protected under 10 CFR 73.21, are entitled:

3.12 FIRE PROTECTION

A. Fire Detection Instrumentation

The minimum fire detection instrumentation for fire detection zone shown in Table 3.12-1 shall be OPERABLE.

APPLICABILITY:

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

ACTION:

With the number of minimum OPERABLE fire detection instruments less than required by Table 3.12-1;

- a. Within 1 hour, establish a fire watch patrol to inspect the zone with the inoperable instrument(s) at least once per hour; and
- b. Restore the inoperable instrument(s) to OPERABLE status within 14 days to assure the minimum operable detectors for each detection zone, or prepare and submit a report to the Commission within the next 30 days outlining the action taken, the cause of the malfunction and the plans for restoring the instrument(s) to OPERABLE status.
- c. For inoperable fire detectors controlling fire suppression systems, see the respective fire suppression system section, i.e., Section 3.12C for water suppression systems or 3.12D for gaseous suppression systems.

4.12 FIRE PROTECTION

A. Fire Detection Instrumentation

As a minimum, the number of fire detectors noted in Table 3.12-1 in the column entitled "Minimum Instruments Operable in Zone," shall be demonstrated OPERABLE in accordance with the applicable NFPA 72A or 72D Codes by a functional test at least once per 6 months.

*The text of this page
is moved to FSAR
Section 10.8.4.1 (REV 13)
and deleted from
Technical Specifications*

LIMITING CONDITION FOR OPERATION

SURVEILLANCE REQUIREMENTS

B. Fire Water Supply System

The Fire Water Supply System shall be operable with:

1. Two (2) 2000 gpm/125 psig fire pumps which are arranged to start automatically.
2. Two (2) water supplies with a minimum storage quantity of 240,000 gallons of water in each.
3. Two (2) independent water flow paths from Item Nos. 1 & 2 above to each fire water suppression system. (3.12.C and 3.12.E)

APPLICABILITY

At all times when any safety related equipment is required to be OPERABLE.

ACTION:

- a. With less than the above required equipment, restore the inoperable equipment to OPERABLE status within 7 days or prepare and submit a report to the Commission within the next 30 days outlining the plans and procedures to be used to provide for the loss of redundancy in this system.
- b. With no FIRE SUPPRESSION WATER SYSTEM OPERABLE:
 1. Establish the backup Fire Water Supply System within 24 hrs.
 2. If the requirement of b.1 above cannot be met, an orderly shutdown of the reactor shall be initiated and the reactor shall be in the cold shutdown condition within 24 hrs.

B. Fire Water Supply System

1. The Fire Water Supply System shall be tested and verified to be OPERABLE:

- a. by checking the volume of water in each fire water tank at least once every 7 days.
- b. by automatically starting each fire pump at least once every month and running each pump for thirty minutes at that time.
- c. by visually checking every shutoff valve on the fire water supply system at least once every month for proper position.
- d. by cycling each fire water supply system shutoff valve through its full operation at least once per cycle.
- e. by verifying at least once per cycle that each pump starts and delivers at least 2000 gpm while maintaining a system pressure of at least 125 psig.
- f. by performing a water flow test on the fire water yard loop at least once every year.
- g. by verifying at least once every month that the diesel fire pump fuel storage tank contains a minimum of 175 gallons of fuel oil.
- h. at least once per operating cycle by subjecting the diesel to an inspection in accordance with procedures prepared in conjunction with the manufacturer's recommendations for the class of service.

This is moved to FSAR Section 10.8.4.2 (Rev 13) and deleted from Technical Specifications

~~B. Fire Water Supply System (cont'd)~~

- ~~i. by verifying at least once per 3 months that a sample of diesel fuel from the fuel storage tank, obtained in accordance with ASTM D4057-81 or D4177-82, is within the acceptable limits specified in Table 1 of ASTM D375-81 with respect to viscosity, water content, and sediment.~~
- ~~j. by demonstrating that the diesel starting 24-volt battery bank and charger are OPERABLE as follows:~~
 - ~~1. at least once per week by verifying that the electrolyte level of each battery is above the plates and battery voltage is at least 24 volts.~~
 - ~~2. at least once per 3 months by verifying that the specific gravity is appropriate for continued service of the battery.~~
 - ~~3. at least once per operating cycle by verifying that the batteries, all plates, and battery racks show no visual indication of physical damage or abnormal deterioration and the battery-to-battery and terminal connections are clean, tight, free of corrosion, and coated with anti-corrosion material.~~

*This is moved to FSAR
Section 10.8.4.2 (REV13)
and deleted from
Technical Specifications*

LIMITING CONDITION FOR OPERATION

C. Spray and/or Sprinkler Systems

The spray and/or sprinkler systems located in the following areas shall be OPERABLE except as noted below:

1. Diesel Generator Room Preaction sprinkler systems (including detectors).
2. Diesel Fire Pump Fuel Oil Storage Room wet pipe sprinkler system.
3. Auxiliary Boiler Room wet pipe sprinkler system.
4. Recirculation Pump MG Set Room wet pipe sprinkler system.
5. Hydrogen Seal Oil Supply Unit preaction sprinkler system. (including detectors)
6. Turbine Basement Addition wet pipe sprinkler system.
7. Reactor Building Elev. 23'-0", North Side wet pipe sprinkler system.
8. Reactor Building Elev. 51'-0", North and South Side wet pipe sprinkler systems.
9. Reactor Auxiliary Building, Water Treatment Area, wet pipe sprinkler system.
10. Health Physics Access Area wet pipe sprinkler system.

APPLICABILITY:

At all times when equipment in the spray/sprinkler protected area is required to be OPERABLE.

SURVEILLANCE REQUIREMENTS

C. Spray and/or Sprinkler Systems

The spray and/or sprinkler systems shall be demonstrated to be OPERABLE according to the following:

1. Each sprinkler system and water spray system alarm shall be tested at least once every year by opening the alarm bypass or inspector test valve. Alarms in high rad area are to be tested once per cycle.
2. Each wet pipe sprinkler system shall be proven to be unobstructed by opening the inspector test connection at least once per cycle.
3. Each preaction sprinkler system shall be trip tested at least once per cycle.
4. Each water spray system shall be trip tested automatically by simulated actuation of the heat detectors at least once per cycle.
5. At least once per 3 years, a flow test through each open head spray/sprinkler header shall be performed and each open head spray/sprinkler nozzle shall be verified to be unobstructed.

*This is moved to FEAR
Section 10.8.4.3 (REV13)
and deleted from
Technical Specifications*

C Spray and/or Sprinkler Systems
(cont'd)

ACTION:

- a. From and after the date that a spray and/or sprinkler system is made or found to be INOPERABLE, within one hour establish a continuous fire watch with backup suppression, except as specified in 3.12.C.b. and 3.12.C.c.
- b. If the suppression system of 3.12.C.1, or 3.12.C.4 is INOPERABLE, establish an hourly fire watch patrol with backup suppression provided that the detection system in that fire area and the detection and suppression system for the redundant fire area is OPERABLE.
- c. If two or more detectors of 3.12.C.1 are found or made to be INOPERABLE, within one hour charge that sprinkler system piping with water.
- d. Restore the system to OPERABLE status within 14 days or prepare and submit a report to the Commission within the next 30 days outlining the action taken, the cause of inoperability and the plans for restoring the system to OPERABLE status.

*This is moved to
FSAP Section 10.8.4.3
(REV13) and deleted
from Technical Specifications.*

C. Spray and/or Sprinkler Systems
(cont'd)

EXCEPTION: When the entire fire area protected by a spray and/or sprinkler system is designated, "HIGH RADIATION AREA/AIRBORNE RADIOACTIVITY AREA", an hourly fire watch patrol may be established (e.g., for ALARA considerations in lieu of a continuous fire watch). If a zone of the fire area is so designated, one of the following shall apply: (1) If the zone is adequately inspectable from a non-High Radiation Area, the continuous fire watch shall be located in the non-High Radiation Area, or (2) If (1) cannot be accomplished, a fire watch patrol shall enter the High Radiation Area once every eight (8) hours.

*This is moved to FSAR
Section 10.8.4.3 (REV.13)
and deleted from Technical
Specifications*

D. Halon System

The Halon System for the Cable Spreading Room shall be OPERABLE with each of the five (5) storage tanks charged to at least 95% of the minimum quantity of Halon (217 lbs. per tank) necessary to extinguish a fire and minus or plus 10% of the pressure stamped on the Data Plate on the tank corresponding to an ambient temperature of 70°F. Detectors associated with the automatic initiation of the Halon System shall be operable, except that an individual detector may be inoperable if the other detector in the same bay is operable and both detectors in ALL adjacent bays are operable.

APPLICABILITY:

At all times when the safety related equipment in the Cable Spreading Room is required to be operable.

D. Halon System

The Halon System shall be demonstrated OPERABLE:

1. At least once per month by verifying the Halon storage tank pressure and that the control panel is in the automatic mode.
2. At least once per 6 months by verifying the quantity of Halon in the storage tank(s).
3. a. At least once per refueling outage verifying that the system and associated devices actuate upon receipt of a simulated actuation signal and
b. Performance of an inspection to assure the nozzles are unobstructed.

3/4.12 D "Halon System" is moved to FSAR Section

ACTION:

Within one (1) hour from and after the time that the system is found to be inoperable, establish a continuous fire watch with backup fire suppression equipment.

E. Fire Hose Stations

The interior fire hose stations shown in Table 3.12-2 shall be OPERABLE.

APPLICABILITY:

At all times when the equipment in the area protected by the fire hose station is required to be operable.

ACTION:

With a hose station inoperable, provide an additional equivalent capacity hose for the unprotected area at/from an OPERABLE hose station within 1 hour.

3/4.12 E "Fire Hose Stations" is moved to FSAR Section 10.8.4.5 (REV 13) and deleted from Technical Specifications

E. Fire Hose Stations

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

1. At least once per month by visual inspection of the station to assure that the hose and nozzle are properly installed.
2. At least once per cycle by removing the hose for inspection, replacing any degraded coupling gaskets, and reracking.
3. at least once per three (3) years by
 - a. partially opening each hose station valve to verify valve operability, and no obstruction.
4. by annually conducting a hydrostatic test of each hose
 - a. at a pressure 50 psig greater than the maximum available pressure at that hose station, or
 - b. at the applicable service test pressure as listed in Table 8-3 of the "Standard for Care, Maintenance of Fire Hose Including Connection and Nozzles," NFPA No. 1962-1979, or
 - c. by replacing each nontested hose with a new or used hose which has been hydrostatically tested in accordance with the pressures specified in 4.12.E.4.a or 4.12.E.4.b.

LIMITING CONDITION FOR OPERATION

F. Fire Barrier System

All fire barrier systems providing separation of redundant safe shutdown systems shall be functional.

APPLICABILITY:

At all times when the safe shutdown systems are required to be operable.

ACTION:

With one or more of the required fire barrier systems nonfunctional, within one hour either establish a continuous fire watch on one side of the affected barrier or verify the OPERABILITY of an automatic fire detection or suppression system on at least one side of the nonfunctional fire barrier and establish an hourly fire watch patrol.

EXCEPTION: When the Fire Areas on BOTH sides of the affected fire barrier are designated "HIGH RADIATION AREAS/AIRBORNE RADIOACTIVITY AREA", an hourly fire watch patrol may be established (e.g. for ALARA considerations) in lieu of a continuous fire watch.

3/4.12 F "Fire Barrier System" is moved to FSAR Section 10.8.4.6 and deleted from T.S.

G. Alternate Shutdown Panels

1. Alternate shutdown panels for the following systems shall be OPERABLE:

1. Core Spray
2. RHR
3. RBCCW
4. Salt Service Water
5. HPCI
6. RCIC
7. Automatic Depressurization
8. Diesel Generators

3.12 FIRE PROTECTION

SURVEILLANCE REQUIREMENTS

F. Fire Barrier Penetrations

Surveillance requirements for penetrations in fire barriers described in specification 3.12.F are as follows:

1. Fire Barrier Penetration Seals

Each fire barrier penetration seal shall be verified to be functional by a visual inspection at least once per operating cycle and subsequent to any installation, modification or maintenance affecting the seal.

2. Fire Doors

Each fire door shall be tested once per cycle for operability of closure and latching mechanisms and for integrity.

3. Fire Dampers

Each fire damper shall be tested once per cycle for operability and integrity.

G. Alternate Shutdown Panels

The alternate shutdown panels shall be demonstrated to be OPERABLE according to the following:

1. The motor operated valves of the core spray system shall be operated from the alternate shutdown panels once each cycle.
2. The motor operated valves of the RHR system shall be operated once each cycle utilizing the MCC B-17 alternate power source.

Revision 117

Amendment No. 88, 88, 76, 114

206e-y

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Alternate Shutdown Panels (cont.)

Alternate Shutdown Panels (cont.)

APPLICABILITY:

At all times that the system is required to be OPERABLE.

ACTION:

With any of the alternate shutdown panels inoperable,

- a) Immediately verify that fire detection with automatic fire suppression for the Cable Spreading Room is Operable. If fire detection with automatic fire suppression cannot be determined operable, take appropriate action as described in Section 3.12.D of the Tech. Spec.

- b) Immediately verify that fire detectors are operable, per Tech. Spec. Section 3.12.A, for the respective system fire zone(s) for which the panel(s) provided alternate shutdown capability.

If ^a fire detection ^{zone} cannot be determined operable, establish an hourly fire watch patrol to inspect the affected zone(s).

3. The pumps of the SSW system shall be operated from the alternate shutdown panels once each cycle.
4. The pumps and motor operated valves of the RBCCW system shall be operated from the alternate shutdown panels once each cycle.
5. Alternate shutdown panel capability for the RCIC and HPCI systems shall be verified to be OPERABLE once each cycle.
6. After each refueling outage and prior to startup, perform a test from the alternate shutdown panel to verify that the relief valve solenoids of the Automatic Depressurization System (ADS) actuate.
7. Once each refueling outage, the diesel generator control circuits shall be isolated from the Cable Spreading Room and the diesel generator started.

zones listed on Table 3.12 are operable

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NOW APPEARS ON NEW PAGE

2.06.

within one (1) hour from the time the system is determined to be inoperable, establish a continuous Fire Watch with backup fire suppression.

DELETED FROM TS; MOVED TO FSAR TABLE 10.8-1

TABLE 3.12-1

FIRE DETECTION INSTRUMENTS

Building Fire Area	Elevation	Local Panel No./ Zone No.	Total No. Detectors In Zone	Minimum* Instruments Operable In Zone
Reactor Building Clothes Change Area	91'3"	C225/5 C-2	2	1
Reactor Building RBCCW "A"	3'0"	C222/2A	11	6
Reactor Building RBCCW "B"	3'0"	C222/B	13	7
Reactor Building Recirc. Pump M.G. Set Room	51'0"	C96/A/B	8	4
Turbine Building Switchgear Room "A"	37'	C94/3	11	6
Turbine Building Switchgear Room "B"	23'	C221/1B C94/2	7 13	4 7
Turbine Building Battery Room "A"	37'	C94/7	3	2
Turbine Building Battery Room "B"	23'	C94/8	3	2
Off Gas Retention Building	23'	C113/1	6	3

* No more than two (2) adjacent detectors shall be out of service.

DELETED FROM TS; MOVED TO FSAR TABLE 10.8-1

TABLE 3.12-1

FIRE DETECTION INSTRUMENTS (Cont'd)

Building Fire Area	Elevation	Local Panel No./ Zone No.	Total No. Detectors In Zone	Minimum* Instruments Operable In Zone
Control Room Cabinets	37'	C 94/6	1	1
		C221/3	3	2
		C221/4	3	2
		C221/5	3	2
		C221/6	3	2
		C221/7	3	2
		C221/8	3	2
		C221/2	5	3
Vital M.G. Set Room	23'	C221/1A	5	3
Reactor Building RHR - Core Spray "A"	(-)17'6"	C224/4A	3	2
Reactor Building RHR - Core Spray "B"	(-)17'6"	C223/3C	3	2
Reactor Building HPCI	(-)17'6"	C223/3D	2	1
		C223/3E	2	1
Reactor Building RCIC	(-)17'6"	C223/3A	2	1
		C223/3B	2	1
Reactor Building CRD - East		C224/4E	12	6
		C224/4F	7	4
		C224/4C	9	5
		C224/4D	9	5
		C224/4G	5	3
		C224/4H	2	1

* No more than two (2) adjacent detectors shall be out of service.

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Amendment No. 114

206F-1

DELETED FROM TS; MOVED TO FSAR TABLE 10.8-1

TABLE 3.12-1

FIRE DETECTION INSTRUMENTS (Cont'd)

Building Fire Area	Elevation	Local Panel No./ Zone No.	Total No. Detectors In Zone	Minimum* Instruments Operable In Zone
Reactor Building CRD - West	23'	C223/3F	9	5
		C223/3J	10	5
		C223/3G	10	5
		C223/3H	11	6
		C223/3I	2	1
Reactor Building	51'	C225/5A1	18	9
		C225/5A2	6	3
		C225/5A3	2	1
		C225/5A4	4	2
Reactor Building Fuel Pool Heat Exchanger Area	74'3"	C225/5B2	8	4
Reactor Building North Side	74'3"	C225/5B1	18	9
		C225/5B3	2	1
Reactor Building Standby Liquid Control System Tank Area	91'3"	C225/5C3	6	3
Reactor Building	91'3"	C225/5C1	25	13

* No more than two (2) adjacent detectors shall be out of service.

DELETED FROM TS; MOVED TO FSAR TABLE 10.8-2

TABLE 3.12-2

FIRE HOSE STATIONS

REACTOR BUILDING

Sta. #

RB-13-117
RB-06-117
RB-12-91
RB-05-91

North Wall, Elev. 117'
South Wall, Elev. 117'
North Wall, Elev. 81'
Standby Liquid Control,
System Area, Elev. 91'

RB-11-74
RB-04-74

North Wall, Elev. 74'
Fuel Pool Heat Exchanger
Area, Elev. 74'

RB-09-51
RB-03-51

North Wall, Elev. 51'
Outside MG Set Room -
West Wall, Elev. 51'

RB-10-51

Inside North MG Set Airlock
Elev. 51'

RB-14-23

Decontamination Room

RB-07-23

North Wall, Elev. 23'
West Wall, RHR Loop B
Stairway, Elev. 23'

RB-02-23

West Wall, RCIC Stairway
Elev. 23'

RB-16-23

Reactor Bldg. Access
Lock Elev. 23'

RB-15-03

CRD Quadrant
Elev. 2'9"

RB-17-03

RHR Quad Loop A
Elev. 2'9"

RB-01-03

RCIC Quad
Elev. 2'9"

SECONDARY CONTAINMENT ACCESS LOCK

Sta. #

SL-81-23

Reactor Bldg. Truck Lock
Elev. 23'

REACTOR AUX. BAY

RA-41-23

Auxiliary Plant Heating Boiler Room
Elev. 23'

RA-42-06

RBCOM Loop B Area
Elev. 3'

RA-44-06

Condensate Demin./Resin Corridor
Area Elev. 3'

RADWASTE & CONTROL AREA

RC-57-01

Radwaste Stairway to Turbine
Bldg. Elev. -1'

RC-69-01

Outside Radwaste Control
Room Elev. -1'

RC-56-23

Water Box Scavenging Pump
Area, Elev. 23'

RC-58-23

Stairway Outside Vital MG Set
Room Elev. 23'

RC-72-23

Corridor Switchgear Room B
Elev. 23'

TB-39-51

East Wall Near B-8 Load Center
Elev. 51'

DELETED FROM TS; MOVED TO FSAR TABLE 10.8-2

TABLE 3.12-2

FIRE HOSE STATIONS (Cont d)

TURBINE BUILDING

Sta. #

TB-35-06 West End Elev. 6'
TB-29-06 East Wall Elev. 6'

TB-31-51 South Wall Elev. 51'
TB-34-51 West Wall Elev. 51'

TURBINE AUX. BAY

TA-86-51 Outside Standby Gas Room

OFF-GAS RETENTION BUILDING

OR-91-23 Retention Building, Elev. 23'
OR-93-05 Retention Building, Elev. 5'

DIESEL GENERATORS

DG-46-23 Diesel Generator Room A
DG-47-23 Diesel Generator Room B

INTAKE STRUCTURE

IS-96-23 Near Fire Pumps

RADWASTE & CONTROL AREA (Continued)

RC-59-37 Stairway Outside Control Room
Elev. 37'
RC-66-37 Radiation Chemical Lab
Elev. 37'

BASES:

3/4.12A 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 the 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, increasing the frequency of fire watch patrols in the affected areas is required to provide detection capability until the inoperable instrumentation is returned to operability.

3/4.12B, C, D, E 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, the Halon System 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.

The surveillance requirements provide assurances that the minimum OPERABILITY requirements of the fire suppression systems are met. The allowance is based on the minimum quantity of Halon necessary to extinguish a fire. The minimum quantity is 217 lbs. per tank, and the system requires a minimum of 5 tanks at all times. This is in accordance with the National Fire Codes. Operability is assured by verifying the quantity of Halon and pressure in the tank(s).

The backup Fire Water Supply System is established by connecting the Pilgrim water distribution system to the city system through a booster pump truck (stationed onsite). The truck connects to the Plymouth city water system at a predesignated location in close proximity to the plant; dedicated hoses and auxiliary equipment for this purpose are staged onsite.

The backup Fire Water Supply System does not provide 100% backup to the entire primary fire water system but rather provides a temporary means of supplying water until at least one train of the fire suppression water system is declared operable.

In the event that portions of the fire suppression system 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.

DELETED FROM TS

BASES:

3/4.12B, C, D, E FIRE SUPPRESSION SYSTEMS, Continued

In the event that portions of the fire suppression water system become 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 that 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.

DELETED FROM TS

3/4.12F FIRE BARRIER SYSTEM

The functional integrity of the fire barrier system ensures that fires will be confined or adequately retarded from spreading to adjacent portions of the facility. A functional fire barrier system, is considered to be the barrier itself with all penetration seals, doors and dampers intact or operable. 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 systems are a passive element in the facility fire protection program and are subject to periodic inspections.

Safe shutdown systems are those systems which must operate after a loss of off-site power and are required to achieve and maintain safe shutdown (hot and cold shutdown) conditions.

During periods of time when the barriers are not functional, either, 1) a continuous fire watch is required to be maintained in the vicinity of the affected barrier, or 2) the automatic fire detection or suppression system on at least one side of the affected barrier must be verified OPERABLE and an hourly fire watch patrol established until the barrier is restored to functional status. A fire watch patrol is a compensatory measure to survey area(s) in which the active and/or passive fire detection, suppression or barrier system(s) are in a degraded mode and is utilized for detection and reporting of fires.

The surveillance requirements are considered to be adequate since they were determined using accepted industry reference material as a basis applying good engineering judgement and station operating considerations.

DELETED FROM TS

BASES:

3/4.12 G Alternate Shutdown Panels ← FIRE PROTECTION

The alternate shutdown system, independent of cabling and equipment in the Cable Spreading Room is provided to effect safe shutdown of Pilgrim in the event of a fire in the Cable Spreading Room. This is accomplished by installing isolation switches for safety-related equipment that will provide the capability for the plant operators to reach a safe shutdown condition. These switches will isolate their associated equipment from the CSR cables, thus transfer control from the Control Room to the local emergency shutdown stations outside the CSR. These isolation switches are located in alternate shutdown panels and are located as close as practical to the equipment or switchgear they serve.

The operability of the fire suppression and detection system in the Cable Spreading Room in conjunction with the passive element of cable coating ensures that adequate fire protection/detection/suppression capability is available to quickly detect, confine and extinguish fires occurring in any portion of the room where safety-related equipment is located. The fire detection/suppression system consists of an independent smoke detection system, an automatic Halon 1301 Fire Suppression system and fire hose stations available outside the doorways to the Cable Spreading Room. The collective capability of passive protection and detection with either manual or automatic suppression is adequate to minimize potential damage to safety-related equipment and is a major element in the facility fire protection program.

An emergency shutdown procedure, which is compatible with the design modifications and plant operator availability, provides step-by-step actions to initiate safe shutdown operation. Operator actions to isolate safety-related cables passing through the CSR is initiated as soon as a fire which is not immediately extinguishable is detected and confirmed in the CSR.

Alternate shutdown panels are provided for the following systems:

- a. Core Spray
- b. RHR
- c. RBCCW
- d. Salt Service Water
- e. HPCI
- f. RCTC
- g. Automatic Depressurization System
- h. Diesel Generators

Inoperability of the above listed systems does not require entry into LCO action statements for the alternate shutdown panels.

A surveillance frequency of once per cycle is considered prudent and more frequent testing not warranted. The frequency of once per refueling outage for testing the diesel generators prevents unnecessarily rendering them inoperable during normal power operation. The frequency of once per refueling outage for the Automatic Depressurization System is consistent with the existing surveillance frequency for this system. Requiring this surveillance to be performed during a refueling outage will also assure that plant conditions will allow for safe access to the ADS solenoids.

(THE NEXT PAGE IS 206K)

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206B

6.0 ADMINISTRATIVE CONTROLS

2. When the unit is in an operational mode other than cold shutdown or refueling, a person holding a Senior Reactor Operator License shall be present in the control room at all times. In addition to this Senior Operator, a Licensed Operator or Senior Operator shall be present at the controls when fuel is in the vessel.
3. At least two Licensed Operators shall be present in the control room during reactor startup, scheduled reactor shutdown and during recovery from reactor trips.
4. An individual qualified in radiation protection procedures shall be on site when fuel is in the reactor.
5. ALL CORE ALTERATIONS performed while fuel is in the reactor vessel after the initial fuel loading shall be directly supervised by either a licensed Senior Reactor Operator or Senior Reactor Operator Limited to Fuel Handling who has no other concurrent responsibilities during this operation.
6. A Fire Brigade of 5 members including a Fire Brigade Leader shall be maintained on site at all times. This excludes 3 members of the minimum shift crew necessary for safe shutdown and any personnel required for other essential functions during a fire emergency.
7. The Chief Operating Engineer, Nuclear Watch Engineers, and Nuclear Operations Supervisors shall hold a Senior Reactor Operator License. The Nuclear Plant Operators shall hold a Reactor Operator License.

MOVED TO FSAR
SECTION 10.8.4.7
(REV 13) & DELETED

6.3 UNIT STAFF QUALIFICATIONS

The qualifications with regard to educational and experience backgrounds of the unit staff at the time of appointment to the active position shall meet the requirements as described in the American National Standards Institute - 3.1-1971, "Selection and Training of Personnel for Nuclear Power Plants." In addition, the individual performing the function of Radiation Protection Manager shall meet or exceed the qualifications of Regulatory Guide 1.8, September, 1975.

6.4 TRAINING

A retraining and replacement training program for the unit staff shall be maintained under the direction of the Nuclear Training Department Manager. The training programs for the licensed personnel shall meet or exceed the requirements and recommendations of Section 5.5 of ANSI N18.1-1971 and Appendix A of 10CFR Part 55. The training programs for the Fire Brigade shall meet or exceed the requirements of NFPA Standard No. 27-1975 "Private Fire Brigade". Fire Protection Training sessions will be held quarterly.

Revision 145

Amendment No. 41, 46, 49, 50, 122, 125, 127

6.5.A.6 RESPONSIBILITIES (Continued)

- e. Review of facility operations to detect potential safety hazards.
- f. Review of the Station Security Plan and implementing procedures and changes to the plan and procedures.
- g. Review of the Emergency Plan and implementing procedures and changes to the plan and procedures.
- h. Performance of special reviews and investigations and reports thereon as requested by the Nuclear Safety Review and Audit Committee (NSRAC) Chairman.
- i. Investigation of all violations of the Technical Specifications and shall prepare and forward a report covering evaluation and recommendations to prevent recurrence to the Station Director, the NSRAC Chairman, and the Senior Vice President - Nuclear.
- j. Review the Station Fire Protection ^{PROGRAM} ~~Plan~~ and implementing procedures and changes to the ~~plan~~ ^{PROGRAM} and procedures. ^{IMPLEMENTING}

The ORC Chairman may appoint subcommittees composed of personnel who are not members of ORC to perform staff work necessary to the efficient functioning of ORC.

7. AUTHORITY

- a. Recommend in writing to the Station Director the approval or disapproval of items considered under 6.5.A.6(a) through (d) above.
- b. Render determinations in writing with regard to whether or not each item considered under 6.5.A.6(a) through (d) above constitutes an unreviewed safety question.
- c. Provide written notification within 24 hours to the Station Director, the Nuclear Safety Review and Audit Committee, and the Senior Vice President - Nuclear of disagreement between the ORC Members and the ORC Chairman. The Station Director shall have responsibility for resolution of such disagreements.

8. RECORDS

The ORC shall maintain written minutes of each meeting and copies shall be forwarded to the Station Director and the NSRAC Chairman.

ATTACHMENT D

List of Affected Pages

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Revised Replacement

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ATTACHMENT E

Fire exits in the Turbine Auxiliary Building (i.e., access area and time tunnel) are separated by smoke control doors.

Noncombustible shields are installed between the feedwater pumps (i.e., Turbine Building) to prevent oil from one pump from spraying on the other(s).

The diesel generator day tank room(s) are designed to prevent diesel fuel oil from entering the diesel generator room(s).

10.8.4 Inspection, Testing and Limiting Conditions for Operation for Fire Protection Equipment

The following provides surveillance frequencies, acceptance criteria and Limiting Conditions for Operation for equipment associated with fire prevention. This section reflects the guidance provided in Generic Letters 86-10 and 88-12.

10.8.4.1 Fire Detection Instrumentation

10.8.4.1.1 Fire Detection Instrumentation Limiting Conditions for Operation

The minimum fire detection instrumentation for each fire detection zone shown in Table 10.8-1 shall be operable at all times when equipment in that fire detection zone is required to be operable.

Action: With the number of minimum operable fire detection instruments less than required by Table 10.8-1:

- a. Within 1 hour, establish a fire watch patrol to inspect the zone with the inoperable instrument(s) at least once per hour; and
- b. Restore the inoperable instrument(s) to operable status within 14 days to assure the minimum operable detectors for each detection zone, or prepare and submit a report to the Commission within the next 30 days outlining the action taken, the cause of the malfunction and the plans for restoring the instrument(s) to operable status.
- c. For inoperable fire detectors controlling fire suppression systems, see the respective fire suppression system section, i.e., Section 10.8.4.3 for water suppression systems or 10.8.4.4 for gaseous suppression systems.

10.8.4.1.2 Fire Detection Instrumentation Surveillance Requirements

As a minimum, the number of fire detectors noted in Table 10.8-1 in the column entitled "Minimum Instruments Operable in Zone," shall be demonstrated operable in accordance with the applicable NFPA 72A or 72D Codes by a functional test at least once per 6 months.

10.8.4.2 Fire Water Supply System

10.8.4.2.1 Fire Water Supply System Limiting Conditions for Operation

At all times when any safety related equipment is required to be operable the Fire Water Supply System shall be operable with:

1. Two 2000 gpm / 125 psig fire pumps which are arranged to start automatically.
2. Two water supplies with a minimum storage quantity of 240,000 gallons of water in each.
3. Two independent water flow paths from 1 and 2 above to each fire water suppression system. (10.8.4.3 and 10.8.4.5)

Action: With less than the above required equipment, restore the inoperable equipment to operable status within 7 days or prepare and submit a report to the Commission within the next 30 days outlining the plans and procedures to be used to provide for the loss of redundancy in this system.

With no Fire Suppression Water System Operable:

1. Establish the backup Fire Water Supply System within 24 hours.
2. If the requirement of No. 1 above cannot be met, an orderly shutdown of the reactor shall be initiated and the reactor shall be in the cold shutdown condition within 24 hours.

10.8.4.2.2 Fire Water Supply System Surveillance Requirements

1. The Fire Water Supply System shall be tested and verified to be operable:
 - a. by checking the volume of water in each fire water tank at least once every 7 days.
 - b. by automatically starting each fire pump at least once every month and running each pump for thirty minutes at that time.
 - c. by visually checking every shutoff valve on the fire water supply system at least once every month for proper position.
 - d. by cycling each fire water supply system shutoff valve through its full operation at least once per cycle.
 - e. by verifying at least once per cycle that each pump starts and delivers at least 2000 gpm while maintaining a system pressure of at least 125 psig.
 - f. by performing a water flow test on the fire water yard loop at least once every year.

- g. by verifying at least once every month that the diesel fire pump fuel storage tank contains a minimum of 175 gallons of fuel oil.
- h. at least once per operating cycle by subjecting the diesel to an inspection in accordance with procedures prepared in conjunction with the manufacturer's recommendations for the class of service.
- i. by verifying at least once per 3 months that a sample of diesel fuel from the fuel storage tank, obtained in accordance with ASTM D4057-81 or D4177-82, is within the acceptable limits specified in Table 1 of ASTM D975-81 with respect to viscosity, water content, and sediment.
- j. by demonstrating that the diesel starting 24-volt battery bank and charger are operable as follows:
 - 1. at least once per week by verifying that the electrolyte level of each battery is above the plates and battery voltage is at least 24 volts.
 - 2. at least once per 3 months by verifying that the specific gravity is appropriate for continued service of the battery.
 - 3. at least once per operating cycle by verifying that the batteries, all plates, and battery racks show no visual indication of physical damage or abnormal deterioration and the battery-to-battery and terminal connections are clean, tight, free of corrosion, and coated with anti-corrosion material.

10.8.4.3 Spray and/or Sprinkler Systems

10.8.4.3.1 Spray and/or Sprinkler Systems Limiting Conditions for Operation

The spray and/or sprinkler systems located in the following areas shall be operable at all times when equipment in the spray/sprinkler protected area is required to be operable:

- 1. Diesel Generator Room Preaction sprinkler systems (including detectors).
- 2. Diesel Fire Pump Fuel Oil Storage Room wet pipe sprinkler system.
- 3. Auxiliary Boiler Room wet pipe sprinkler system.
- 4. Recirculation Pump MG Set Room wet pipe sprinkler system.
- 5. Hydrogen Seal Oil Supply Unit preaction sprinkler system (including detectors).

6. Turbine Basement Addition wet pipe sprinkler system.
7. Reactor Building Elevation 23'-0", North Side wet pipe sprinkler system.
8. Reactor Building Elevation 51'-0", North and South Side wet pipe sprinkler systems.
9. Reactor Auxiliary Building, Water Treatment Area, wet pipe sprinkler system.
10. Health Physics Access Area wet pipe sprinkler system.

EXCEPTION: When the entire fire area protected by a spray and/or sprinkler system is designated, "HIGH RADIATION AREA/AIRBORNE RADIOACTIVITY AREA", an hourly fire watch patrol may be established (e.g., for ALARA considerations in lieu of a continuous fire watch). If a zone of the fire area is so designated, one of the following shall apply: (1) If the zone is adequately inspectable from a non-High Radiation Area, the continuous fire watch shall be located in the non-High Radiation Area, or (2) If (1) cannot be accomplished, a fire watch patrol shall enter the High Radiation Area once every eight hours.

ACTION:

- a. From and after the date that a spray and/or sprinkler system is made or found to be inoperable, within one hour establish a continuous fire watch with backup suppression, except as specified in 10.8.4.3.1.b and 10.8.4.3.1.c.
- b. If the suppression system of Diesel Generator Room Preaction sprinkler systems (including detectors), or Recirculation Pump MG Set Room wet pipe sprinkler system is inoperable, establish an hourly fire watch patrol with backup suppression provided that the detection system in that fire area and the detection and suppression system for the redundant fire area is operable.
- c. If two or more detectors of the Diesel Generator Room Preaction Sprinkler System are found or made to be inoperable, within one hour charge that sprinkler system piping with water.
- d. Restore the system to operable status within 14 days or prepare and submit a report to the Commission within the next 30 days outlining the action taken, the cause of inoperability and the plans for restoring the system to operable status.

10.8.4.3.2 Spray and/or Sprinkler Systems Surveillance Requirements

The spray and/or sprinkler systems shall be demonstrated to be operable according to the following:

1. Each sprinkler system and water spray system alarm shall be tested at least once every year by opening the alarm bypass or inspector

test valve. Alarms in high radiation areas are to be tested once per cycle.

2. Each wet pipe sprinkler system shall be proven to be unobstructed by opening the inspector test connection at least once per cycle.
3. Each preaction sprinkler system shall be trip tested at least once per cycle.
4. Each water spray system shall be trip tested automatically by simulated actuation of the heat detectors at least once per cycle.
5. At least once per 3 years, a flow test through each open head spray/sprinkler header shall be performed and each open head spray/sprinkler nozzle shall be verified to be unobstructed.

10.8.4.4 Halon System

10.8.4.4.1 Halon System Limiting Conditions for Operation

The Halon System for the Cable Spreading Room shall be operable with each of the five storage tanks charged to at least 95% of the minimum quantity of Halon (217 lbs. per tank) necessary to extinguish a fire, and minus or plus 10% of the pressure stamped on the Data Plate on the tank corresponding to an ambient temperature of 70°F. Detectors associated with the automatic initiation of the Halon System shall be operable, except that an individual detector may be inoperable if the other detector in the same bay is operable and both detectors in all adjacent bays are operable.

The Halon system shall be operable at all times when the safety related equipment in the Cable Spreading Room is required to be operable.

ACTION: Within one hour from and after the time that the system is found to be inoperable, establish a continuous fire watch with backup suppression equipment.

10.8.4.4.2 Halon System Surveillance Requirements

The Halon System shall be demonstrated operable:

1. At least once per month by verifying the Halon storage tank pressure and that the control panel is in the automatic mode.
2. At least once per 6 months by verifying the quantity of Halon in the storage tank(s).
3. a. At least once per refueling outage by verifying that the system and associated devices actuate upon receipt of a simulated actuation signal, and
 - b. Performance of an inspection to assure the nozzles are unobstructed.

10.8.4.5 Fire Hose Stations

10.8.4.5.1 Fire Hose Stations Limiting Conditions for Operation

The interior fire hose stations shown in Table 10.8-2 shall be operable at all times when the equipment in the area protected by the fire hose station is required to be operable.

ACTION: With a hose station inoperable, provide an additional equivalent capacity hose for the unprotected area at/from an operable hose station within 1 hour.

10.8.4.5.2 Fire Hose Stations Surveillance Requirements

Each interior fire hose station shall be verified to be operable:

1. At least once per month by visual inspection of the station to assure that the hose and nozzle are properly installed.
2. At least once per cycle by removing the hose for inspection, replacing any degraded coupling gaskets, and reracking.
3. At least once per three years by partially opening each hose station valve to verify valve operability and no obstruction.
4. By annually conducting a hydrostatic test of each hose
 - a. at a pressure 50 psig greater than the maximum available pressure at that hose station, or
 - b. at the applicable service test pressure as listed in Table 8-3 of the "Standard for Care, Maintenance of Fire Hose Including Connection and Nozzles." NFPA No. 1962-1979, or
 - c. by replacing each nontested hose with a new or used hose which has been hydrostatically tested in accordance with the pressures specified in a or b above.

10.8.4.6 Fire Barrier System

10.8.4.6.1 Fire Barrier System Limiting Conditions for Operation

All fire barrier systems providing separation of redundant safe shutdown systems shall be functional at all times when the safe shutdown systems are required to be operable.

ACTION: With one or more of the required fire barrier systems nonfunctional, within one hour either establish a continuous fire watch on one side of the affected barrier or verify the OPERABILITY of an automatic fire detection or suppression system on at least one side of the nonfunctional fire barrier and establish an hourly fire watch patrol.

EXCEPTION: When the Fire Areas on both sides of the affected fire barrier are designated "HIGH RADIATION AREAS/AIRBORNE RADIOACTIVITY AREA", an hourly fire watch patrol may be established (e.g. for ALARA considerations) in lieu of a continuous fire watch.

10.8.4.6.2 Fire Barrier System Surveillance Requirements

Surveillance requirements for penetrations in fire barriers are as follows:

1. Fire Barrier Penetration Seals: Each fire barrier penetration seal shall be verified to be functional by a visual inspection at least once per operating cycle and subsequent to any installation, modification or maintenance affecting the seal.
2. Fire Doors: Each fire door shall be tested once per cycle for operability of closure and latching mechanisms and for integrity.
3. Fire Dampers: Each fire damper shall be tested once per cycle for operability and integrity.

10.8.4.7 Fire Brigade

A Fire Brigade of 5 members including a Fire Brigade Leader shall be maintained on site at all times. This minimum excludes 3 members of the minimum shift crew necessary for safe shutdown and any personnel required for other essential functions during a fire emergency.

The Fire Brigade training shall be in accordance with Boston Edison's Fire Protection Training Program. The Fire Protection training of Fire Brigade members shall be held quarterly.

10.8.5 References

1. Pilgrim Station 600, Unit 1, Boston Edison Company, Fire Protection System Evaluation, March 1, 1977
2. Safety Evaluation Report by the Office of Nuclear Reactor Regulation (Amendment 35 to License No. DPR-35) for Pilgrim Nuclear Power Station-1, December 21, 1978
3. Safety Evaluation Report (additional Fire Protection Information Review) for Pilgrim Nuclear Power Station-1, October 7, 1980.
4. Safety Evaluation Report by the Office of Nuclear Reactor Regulation Related to Amendment No. 123 to Facility Operating License No. DPR-35, dated October 13, 1988.

TABLE 10.8-1

FIRE DETECTION INSTRUMENTS

<u>Building Fire Area</u>	<u>Elevation</u>	<u>Local Panel No./ Zone No.</u>	<u>Total No. Detectors In Zone</u>	<u>Minimum* Instruments Operable In Zone</u>
Reactor Building Clothes Change Area	91'3"	C225/5 C-2	2	1
Reactor Building RBCCW "A"	3'0"	C222/2A	11	6
Reactor Building RBCCW "B"	3'0"	C222/B	13	7
Reactor Building Recirc. Pump M.G. Set Room	51'0"	C96/A/B	8	4
Turbine Building Switchgear Room "A"	37'	C94/3	11	6
Turbine Building Switchgear Room "B"	23'	C221/7B C94/2	7 13	4 7
Turbine Building Battery Room "A"	37'	C94/7	3	2
Turbine Building Battery Room "B"	23'	C94/8	3	2
Off Gas Retention Building	23'	C113/1	6	3

* No more than two (2) adjacent detectors shall be out of service.

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TABLE 10.8-1 (Cont)

FIRE DETECTION INSTRUMENTS

<u>Building Fire Area</u>	<u>Elevation</u>	<u>Local Panel No./ Zone No.</u>	<u>Total No. Detectors In Zone</u>	<u>Minimum* Instruments Operable In Zone</u>
Control Room Cabinets	37'	C 94/6	1	1
		C221/3	3	2
		C221/4	3	2
		C221/5	3	2
		C221/6	3	2
		C221/7	3	2
		C221/8	3	2
		C221/2	5	3
Vital M.G. Set Room	23'	C221/1A	5	3
Reactor Building RHR - Core Spray "A"	(-)17'5"	C224/4A	3	2
Reactor Building RHR - Core Spray "B"	(-)17'6"	C223/3C	3	2
Reactor Building HPCI	(-)17'6"	C223/3D	2	1
		C223/3E	2	1
Reactor Building RCIC	(-)17'5"	C223/3A	2	1
		C223/3B	2	1
Reactor Building CRD - East		C224/4E	12	6
		C224/4F	7	4
		C224/4C	9	5
		C224/4D	9	5
		C224/4G	5	3
		C224/4H	2	1

* No more than two (2) adjacent detectors shall be out of service.

TABLE 10.8-1 (Cont)

FIRE DETECTION INSTRUMENTS

<u>Building Fire Area</u>	<u>Elevation</u>	<u>Local Panel No./ Zone No.</u>	<u>Total No. Detectors In Zone</u>	<u>Minimum* Instruments Operable In Zone</u>
Reactor Building CRD - West	23'	C223/3F	9	5
		C223/3J	10	5
		C223/3G	10	5
		C223/3H	11	6
		C223/3I	2	1
Reactor Building	51'	C225/5A1	18	9
		C225/5A2	6	3
		C225/5A3	2	1
		C225/5A4	4	2
Reactor Building Fuel Pool Heat Exchanger Area	74'3"	C225/5B2	8	4
Reactor Building North Side	74'3"	C225/5B1	18	9
		C225/5B3	2	1
Reactor Building Standby Liquid Control System Tank Area	91'3"	C225/5C3	6	3
Reactor Building	91'3"	C225/5C1	25	13

* No more than two (2) adjacent detectors shall be out of service.

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TABLE 10.8-2

FIRE HOSE STATIONS

REACTOR BUILDING

Sta. #

RB-13-117	North Wall, Elev. 117'
RB-06-117	South Wall, Elev. 117'
RB-12-91	North Wall, Elev. 91'
RB-05-91	Standby Liquid Control, System Area, Elev. 91'
RB-11-74	North Wall, Elev. 74'
RB-04-74	Fuel Pool Heat Exchanger Area, Elev. 74'
RB-09-51	North Wall, Elev. 51'
RB-03-51	Outside MG Set Room - West Wall, Elev. 51'
RB-10-51	Inside North MG Set Airlock Elev. 51'
RB-14-23	Decontamination Room North Wall, Elev. 23'
RB-07-23	West Wall, RHR Loop B Stairway, Elev. 23'
RB-02-23	West Wall, RCIC Stairway Elev. 23'
RB-16-23	Reactor Bldg. Access Lock Elev. 23'
RB-15-03	CRD Quadrant Elev. 2'9"
RB-17-03	RHR Quad Loop A Elev. 2'9"
RB-01-03	RCIC Quad Elev. 2'9"

SECONDARY CONTAINMENT ACCESS LOCK

Sta. #

SL-81-23	Reactor Bldg. Truck Lock Elev. 23'
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REACTOR AUX. BAY

RA-41-23	Auxiliary Plant Heating Boiler Room Elev. 23'
RA-42-06	RBCCW Loop B Area Elev. 3'
RA-44-06	Condensate Demin./Resin Corridor Area Elev. 3'

RADWASTE & CONTROL AREA

RC-57-01	Radwaste Stairway to Turbine Bldg. Elev. -1'
RC-69-01	Outside Radwaste Control Room Elev. -1'
RC-56-23	Water Box Scavenging Pump Area, Elev. 23'
RC-58-23	Stairway Outside Vital MG Set Room Elev. 23'
RC-72-23	Corridor Switchgear Room B Elev. 23'
TB-39-51	East Wall Near B-B Load Center Elev. 51'

TABLE 10.8-2 (Cont)

FIRE HOSE STATIONS

TURBINE BUILDING

Sta. #

TB-35-06	West End Elev. 6'
TB-29-06	East Wall Elev. 6'
TB-31-51	South Wall Elev. 51'
TB-34-51	West Wall Elev. 51'

TURBINE AUX. BAY

TA-86-51	Outside Standby Gas Room
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OFF-GAS RETENTION BUILDING

OR-91-23	Retention Building, Elev. 23'
OR-13-05	Retention Building, Elev. 5'

DIESEL GENERATORS

DG-46-23	Diesel Generator Room A
DG-47-23	Diesel Generator Room B

INTAKE STRUCTURE

IS-96-23	Near Fire Pumps
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RADWASTE & CONTROL AREA (Continued)

RC-59-37	Stairway Outside Control Room Elev. 37'
RC-66-37	Radiation Chemical Lab Elev. 37'