

ATTACHMENT I  
PROPOSED  
TECHNICAL SPECIFICATIONS  
CHANGES RELATED TO  
FIRE PROTECTION MODIFICATIONS

POWER AUTHORITY OF THE STATE OF NEW YORK  
INDIAN POINT 3 NUCLEAR POWER PLANT  
DOCKET NO. 50-286  
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1. The reactor shall not be brought above the cold shutdown condition unless the following requirements are met:
  - a. Two component cooling pumps, (one of which is capable of being connected to the alternate electrical feed system) together with their associated piping and valves, are operable.
  - b. Two auxiliary component cooling pumps, one per each recirculation pump, together with their associated piping and valves, are operable.
  - c. Two component cooling heat exchangers, together with their associated piping and valves are operable.
  
2. The requirements of 3.3.E.1 may be modified to allow one of the following components to be inoperable at any one time:
  - a. One of the two operable component cooling pumps may be out of service, provided that the pump is restored to operable status within twenty-four hours. The pump connected to the alternate electrical feed system may be out of service for a period of thirty (30) days, provided that two other component cooling pumps are operable and a continuous fire watch is maintained in the entrance to the cable tunnels, cable spreading room and the switchgear room after the seventh day the pump is out of service. If the pump is out of service for more than thirty (30) days, the reactor shall be brought to a cold shutdown condition utilizing normal operating procedures.
  - b. Two auxiliary component cooling pumps serving the same recirculation pump may be out of service, provided at least one is restored to an operable status within 24 hours and at least one auxiliary component cooling pump serving the other recirculation pump is demonstrated to be operable.
  - c. One component cooling heat exchanger or other passive component may be out of service for a Period not to exceed 48 hours, provided the system will still operate at design accident capability.

3. Isolation shall be maintained between the essential and non-essential headers at all times when above cold shutdown conditions except that for a period of eight hours the headers may be connected while another essential header is being placed in service as described in F.2, above.
4. The reactor shall not be brought above cold shutdown unless the backup service water pump connected to the alternate electrical feed system, together with its associated piping and valves, is capable of providing cooling water flow to the service water system.
5. When the reactor is above cold shutdown, the requirements of 3.3.F.4 may be modified to allow the backup service water pump connected to the alternate electrical feed system to be out of service for a period of thirty (30) days, provided that a continuous fire watch is maintained in the entrance to the cable tunnels, cable spreading room, and the switchgear room after the seventh day the pump is out of service. If the pump is out of service for more than thirty (30) days, the reactor shall be brought to a cold shutdown utilizing normal operating procedures.

G. Hydrogen Recombiner System

1. The reactor  $T_{avg}$  shall not exceed  $350^{\circ}$  unless the following requirements are met:
  - a) Both hydrogen recombiner units together with their associated piping, valves, oxygen supply system and control system are operable.
  - b) The containment atmosphere sampling system including the sampling pump, piping and valves are operable.
  - c) Hydrogen and oxygen supplies shall not be connected to the hydrogen recombiner units except under conditions of an accident or those specified in 4.5.A.3.
2. The requirements of 3.3.G.1 may be modified to allow any one of the following components to be inoperable at any one time:

The four day out of service period for the Weld Channel and Penetration Pressurization System and the Isolation Valve Seal Water System is allowed because no credit has been taken for operation of these systems in the calculation of off-site accident doses should an accident occur. No other safeguards systems are dependent on operation of these systems. (11) The minimum pressure settings for the IVSWS and WC & PPS during operation assures effective performance of these systems for the maximum containment calculated peak accident pressure of 40.6 psig. (12)

The Component Cooling System is not required during the injection phase of a loss-of-coolant accident. The component cooling pumps are located in the primary Auxiliary Building and are accessible for repair after a loss-of-coolant accident. (6) During the recirculation phase following a loss-of-coolant accident, only one of the three component cooling pumps is required for minimum safeguards. (7) The component cooling pump, connected to the alternate electrical feed system, provides in conjunction with other equipment and components the capability of an alternate safe shutdown of the plant in the event of fire damage to the entrance to the cable tunnels, cable spreading room or switchgear room.

A total of six service water pumps are installed, only two of the set of three service water pumps on the header designated the essential header are required immediately following a postulated loss-of-coolant accident. (8) During the recirculation phase of the accident, two service water pumps on the non-essential header will be manually started to supply cooling water for one component cooling system heat exchanger, one control room air conditioner and one diesel generator; the other component cooling system heat exchanger, the other control room air conditioner, the two other diesel generators and remaining safety related equipment are cooled by the essential service water header. (14) The backup service water pump, connected to the alternate electrical feed system, provides in conjunction with other equipment and components the capability of an alternate safe shutdown of the plant in the event of a fire damage to the entrance to the cable tunnels, cable spreading room or switchgear room.

Two full rated recombination systems are provided in order to control the hydrogen evolved in the containment following a loss-of-coolant accident. Either system is capable of preventing the hydrogen concentration from exceeding 2% by volume within the containment. Each of the systems is separate from the other and is provided with redundant features. Power supplies for the blowers and ignitors are separate, so that loss of one power supply will not affect the remaining system. Hydrogen gas is used as the externally supplied fuel. Oxygen gas is added to the containment atmosphere through a separate containment feed to prevent depletion of oxygen in the air below the concentration required for stable operation of the combustor (12%). The containment atmosphere

F. Yard Fire Hydrants Hydrant Hose Houses

1. The yard fire hydrants and associated hydrant hose houses shown in Table 3.14.3 shall be operable while the unit is above cold shutdown.
2. With one or more of the yard fire hydrants or associated hydrant hose houses shown in Table 3.14.3 inoperable, within 1 hr. have sufficient additional lengths of 2 1/2 inch diameter hose located in an adjacent operable hydrant hose house to provide service to the unprotected area(s).
3. Restore the inoperable yard hydrants to service within 14 days or a Special Report shall be prepared and submitted to the commission pursuant to Specification 6.9.2.e within the next 30 days outlining the cause of inoperability and the plans for restoring the hydrant to operable status.

G. CO<sub>2</sub> Fire Protection System

1. As a minimum, one CO<sub>2</sub> Storage Tank shall be available with a minimum level of 60% and a minimum pressure of 175 psi to supply safety related areas whenever equipment in these areas are required to be operable in accordance with Section 3.0 of the Technical Specifications.
2. CO<sub>2</sub> System Fire Protection shall be available to the following safety related areas whenever equipment in those areas are required to be operable in accordance with Section 3.0 of the Technical Specifications.
  - a. Control Building (EL-33') - Cable Spreading Room
  - b. Control Building (EL-15') - Switchgear Room
  - c. Diesel Generator Building (EL-15')
3. If the requirements of 3.14.G.1 and 3.14.G.2 cannot be satisfied and the equipment in the areas is required to be operable:
  - a. A continuous fire watch with backup fire suppression equipment shall be established for the accessible unprotected areas(s) within 1 hour.
  - b. If the requirements of 3.14.G.1 and 3.14.G.2 are not satisfied within 14 days, a special report shall be prepared and submitted to the commission pursuant to specification 6.9.2.e within the next 30 days outlining the cause of inoperability and the plans for restoring the CO<sub>2</sub> system to operable status.

H. Alternate Electrical Feed System

1. Alternate electrical feeds from MCC 312A to a component cooling pump, a backup service water pump and a charging pump and the instrumentation isolation cabinet are available.
2. MCC 312A is capable of being powered, through Bus 312, from the 6.9 Kv Buses 1 or 3.

3. The alternate electrical feed system defined in 3.14.H.1 and 3.14.H.2 may be out of service for a period of thirty (30) days, provided that a continuous fire watch is maintained in the entrance to the cable tunnels, cable spreading room, and the switchgear room after the seventh day the system is out of service. If the system is out of service for more than thirty (30) days, the reactor shall be brought to cold shutdown utilizing normal operating procedures.

Basis

Containment is not considered normally accessible during plant operation.

These specifications are established to assure the operability of fire protection and detection systems provided to protect equipment utilized for safe shutdown of the unit. The fire protection and detection systems installed at IP3, conform to Appendix A of Branch Technical Position (BTP) APCS 9.5-1 "Fire Protection for Nuclear Power Plants", as approved by the NRC Regulatory Staff on March 6, 1979 as Amendment No. 24 to facility operating license No. DPR-64, and supplements thereto. Also, the CO<sub>2</sub> System Fire Protection availability by definition shall be interpreted to mean with the system in either the automatic or manual mode of operation with the automatic mode as the primary mode of operation.

- e. System Functional Test- Verification of proper actuation of this system throughout its operating sequence, and once/18 months
- (i) Verification that each automatic valve in the flow path actuates to its correct position, and
  - (ii) Verification that each fire suppression pump starts (sequentially) to maintain fire water suppression system pressure.
- f. Main Fire Pump Capacity and System Flow Check once/18 months  
Verification that each pump develops a flow of 2350 gpm at a system head of 250 feet.
- g. System Flow Test- once/3 years  
Performance of a flow test in accordance with Chapter 5, Section 11 of the Fire Protection Handbook, 14th Edition, published by the National Fire Protection Association for any portion of this system required for protection of safe shutdown systems.
- h. System Flush (May be done Concurrent with System Flow Test) once/3 years
- i. Exercise all breakers and switches (other than the transfer switches) associated with the instrumentation isolation cabinet, backup service water pump, charging pumps, and the component cooling pump connected to the alternate electrical system and verify that power is available to those components from the alternate electrical feed system. once/quarter
- j. Energize the alternate electrical feed system, operate the transfer switches, and verify proper operation of all breakers and switches associated with the instrumentation isolation cabinet, backup service water pump, charging pumps, and the component cooling pump connected to the alternate electrical system and verify that power is available to those components and that the pumps operate. once/refueling outage

2. Fire Pump Diesel Engine Testing Requirements:

<u>Item</u>	<u>Frequency</u>
a. Verify that the Fuel Oil Storage Tank contains at least 120 gal. of fuel.	once/month
b. Test diesel fuel sample to verify conformance with diesel manufacturers recommended minimum requirements for viscosity, water, and sediment.	once/3 months
c. Verify diesel starts from ambient conditions and operates for at least 30 minutes (May be done concurrent with 15 minute diesel pump test).	once/month
d. Conduct a thorough inspection of the diesel in accordance with procedures prepared in conjunction with the manufacturers recommendations and verify that the diesel starts from ambient conditions on the auto-start signal and is operated for greater than or equal to 30 minutes while loaded with the fire pump.	once/18 months

3. Fire Pump Diesel Starting 24-Volt Battery Bank and Charger Requirements:

<u>Item</u>	<u>Frequency</u>
a. Verify electrolyte level of each battery is above the plates and that the overall battery voltage is greater than or equal to 24 volts. Also verify that the specific gravity is appropriate for continued service of the battery.	once/month
b. Verify that the batteries and battery racks show no visual indication of physical damage or abnormal deterioration and that the battery terminal connections are clean, tight, and free of corrosion.	once/18 months

B. Electrical Tunnel, Diesel Generator Building and Containment Fan Cooler Fire Protection Spray and/or Sprinkler System Testing:

1. <u>Testing Requirements:</u>	
a. Verify that each valve (manual, power operated or automatic) in the flow path and which is accessible is in the correct position.	once/month



b. Valve Cycling Test-

Exercise each valve necessary for proper functioning of any portion of this system required for protection of safe shutdown systems through at least one complete cycle:

- (i) Valves testable with plant on line. once/12 months
- (ii) Valves not testable with plant on line once/18 months

c. System Functional Test-

Includes simulated automatic actuation of spray system and verification that automatic valves in the flow path actuate to their correct position.

once/18 months

d. Spray Header Visual Inspection-

To verify integrity.

once/18 months

e. Visual Inspection of Each

Spray Nozzle-

To verify that each nozzles spray area is unobstructed.

once/18 months

f. Air Flow Test-

Perform air flow test through each open spray/sprinkler header and verify each open spray/sprinkler nozzle is unobstructed.

once/3 years

2. The requirements of 4.12.B.1 shall not apply to self-actuated type spray nozzles which are capable of only one actuation and cannot be periodically cycled or tested. These self-actuated spray nozzles shall be visually inspected at least once per 18 months to verify that no nozzle damage exists and that the nozzles are unobstructed.

C. Penetration Fire Barrier Inspection:

1. The penetration fire barriers listed in specification 3.14.C.1 shall be verified to be functional by visual inspection:

- a. At least once per 18 months.
- b. Prior to declaring a fire penetration barrier functional following repairs or maintenance.

D. Fire Detection Systems Testing:

1. The operability of the fire detection instruments utilized in satisfying the requirements of specification 3.14.D.1 including the actuation of appropriate alarms (Channel Functional Test) shall be verified as follows:

<u>Item</u>	<u>Frequency</u>
a. <u>Smoke Detectors-</u>	once/6 months

ATTACHMENT II  
SAFETY EVALUATION OF  
PROPOSED TECHNICAL SPECIFICATIONS  
CHANGES RELATED TO  
FIRE PROTECTION MODIFICATIONS

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## Section I - Description of the Change

This proposed changes to the Technical Specifications are shown in Attachment I. Sections 3.3, 3.14 and 4.12 of the Technical Specifications have been revised in response to the NRC's April 21, 1983 letter and as result of the April 29, 1983 meeting held in Bethesda, regarding fire protection modifications related to Appendix R to 10 CFR 50.

## Section II - Purpose of the Change

The purpose of these changes is to expand the IP-3 Technical Specifications to reflect present fire protection modifications. The component cooling pump, backup service water pump, charging pumps and instrumentation isolation cabinet connected to the alternate electrical feed system, provide the capability to ensure an alternate safe shutdown of the plant in the event of a fire damage to the entrance to the cable tunnels, cable spreading room, or switchgear room.

## Section III - Impact of the Change

This change will not alter the conclusions reached in the FSAR and SER accident analyses nor will they impact the ALARA, Fire Protection Program IP3 or the Emergency Plan. This fire protection modification will enhance the overall plant capability to withstand the the consequences of fire damage.

## Section IV - Conclusion

The incorporation of these changes: a) will not change the probability nor the consequences of an accident or malfunction of equipment important to safety as previously evaluated in the Safety Analysis Report; b) will not increase the possibility of an accident or malfunction of a different type than any evaluated previously in the Safety Analysis Report; c) will not reduce the margin of safety as defined in the basis for any Technical Specification; d) does not constitute an unreviewed safety question; and e) involves no significant hazards considerations as defined in 10 CFR50.92.

## Section VI - References

- (a) IP-3 FSAR
- (b) IP-3 SER