

2.1.2.2. The Fire Protection for 33/11 kV or higher Primary Substation shall comply with **Chapter 9** and **Table 14.1.b.**

Table 14.1.b: Fire Protection Requirements for 33/11 kV or higher Primary Substations

OCCUPANCY	SYSTEM REQUIREMENTS	COMBINED FIRE PUMP AND WATER TANK CAPACITY
1. OFFICE 2. CORRIDOR 3. STORAGE 4. FIRE PUMP ROOM 5. CIRCULATION AREAS 6. HVAC ROOM	i. Sprinklers shall be provided as per Chapter 9. Section 3.5. ii. Sprinkler design densities shall be for as per Chapter 9. iii. Dry riser + Hose Reel/Rack System shall be provided throughout the substation building, as per Chapter 9. Section 3.2 and Section 3.3. iv. Separate breeching inlets shall be provided for sprinkler system, landing valves, water spray systems and labeled clearly.	v. Capacity of the combined fire pump set for Deluge Water Spray, automatic sprinkler system, wet riser system and yard hydrant system shall be 750 gpm at pressure as required to satisfy 6.9 bar at the most remote Landing valve. vi. Fire pump selection, design, installation and maintenance shall be as per Chapter 9.
7. OIL FILLED TRANSFORMERS WITH MORE THAN 500 GAL (1890 L) OIL CAPACITY (INDOOR OR OUTDOOR) 8. CABLE SPREAD AREAS	i. Automatic Deluge Water Spray as per Chapter 9. Section 3.8. shall be provided.	iii. Water tank shall have capacity of 60 minutes of operation, complete with low water level detection and instantaneous refilling arrangement. iv. Water tank shall comply with requirements of Chapter 9.
9. CABLE TUNNELS	i. Automatic Deluge Water Spray as per Chapter 9. Section 3.8. shall be provided. OR i. Automatic Water Mist System, as per Chapter 9. Section 3.10. shall be provided.	v. Where water mist is opted to be installed to protect Cable tunnels, capacity of the fire pump set for Water Mist shall be as per Manufacturer's specification and approved design and installation guideline.
10. SUBSTATION YARD	i. Yard Fire Hydrants shall be provided as per Chapter 9. Section 3.11., in a loop to cover the entire area.	
11. CONTROL ROOM 12. BATTERY CHARGER ROOM 13. RMU ROOM 14. LV/MV ROOM 15. COMMUNICATION ROOM 16. CABLE TRENCHES 17. INDOOR CAPACITOR BANK	i. Clean Agent system shall be provided as per Chapter 9. Section 3.14.	
18. SWITCHGEAR ROOM 19. DRY TRANSFORMERS 20. OIL FILLED TRANSFORMERS WITH LESS THAN 500 GAL OIL CAPACITY	i. No Requirement	