Table 8.1: General Requirements of Fire Detection and Alarm Systems

ITEMS	REQUIREMENTS
12. ALARM ZONES	i. Alarm zones shall be clearly defined in complex buildings where phased evacuation is required or in buildings where a stage alarm is to be provided. ii. Alarm zone may include of several detection zones and not visa- versa. iii. Alarm zone boundaries shall match those of fire compartments and/or detection zones. iv. The extent of any overlap of signals between alarm zones shall not be sufficient to result in confusion of occupants in any area of the building. v. At no time shall conflicting alarm warning or alarm signals be broadcast within one alarm zone.
13. WIRING	i. All Fire Detection and Alarm wiring shall be 2 hour fire rated and Civil Defence listed. ii. Metal conduits are not necessary where wiring is 2 hour fire rated and listed by Civil Defence. iii. Metal conduits are required where fire alarm wiring is in corrosive environment., irrespective of wiring fire rating. iv. Fire alarm system wiring and equipment, including all circuits controlled and powered by the fire alarm system, shall be installed in accordance with the requirements of this Code and of NFPA 70 Article 760. v. All fire detection alarm wiring shall be Class A type where circuit redundancy is ensured and operational capability continues even when single open condition, single ground fault and single fault in the circuitry exists. And such faults are annunciated in the control panel. vi. Loop isolators shall be installed to monitor and maintain wiring integrity and safeguard from short circuits. Loop isolators shall be installed as per manufacturer's guidelines.
14. FIRE ALARM CONTROL PANEL (FACP)	**1. GENERAL** i. Fire Alarm Control Panel shall be approved and listed by Civil Defence. ii. Fire Alarm Main Control Panel installed in all Highrise building shall have high performance and stability, tested for redundancy (CPU, I/O cards, Display etc. should have redundancy features to ensure continuous operation in case of failure of any of these components and shall have hot-swap features to repair and replace these components without turning off the main power supply and without compromising continuation of the fire alarm control panel performance. iii. FACP architecture shall be such that circuit modules can easily be added to upgrade the capacity of the Control panel to monitor the additional detectors or additional loops of detectors and desired output functions. iv. FACP shall be multi-functional, having feature to monitor and supervise Fire Detection, Gas Detection and Fire Suppression activation simultaneously. v. Generally FACP should have spare capacity to add 20% more detectors with additional wiring and interface modules without adding additional circuit boards (modules) to upgrade, to enable alterations and up gradation to the facility. vi. FACP shall be installed in a location which is attended by facility management or designated personnel at all times, such as reception areas, security guard houses, Emergency command centres, Facility monitoring rooms, nurse stations at hospitals etc. vii. FACP shall be located in a visible and accessible location. viii. FACP shall not be installed in an unattended room, service rooms, mechanical rooms.