Table 14.2.: Fire and Life Safety Requirements for Solar Power Generation Systems

ITEMS	REQUIREMENTS
2. CONSTRUCTION	ii. In domestic installations such as on roofs, facility management should take precautions to isolate and restrict access to such areas to prevent accidental trespassing of children and people, endangering their lives. **3. LOCATION** i. The solar panel installations on roof shall not obstruct the Smoke control system (Pressurization system, smoke extract system etc.) equipment and components such as air intake openings and fans. Obstructions to smoke control system components can severely affect the efficiency and intent of the smoke control strategy of the buildings. ii. Solar panel installations shall not obstruct any building means of egress. iii. Solar panel installations shall not obstruct access to LPG Tanks, if any. iv. Solar panel installations shall not obstruct building HVAC components. **4. MEANS OF EGRESS** i. Other than Private Villas and Commercial Villas, solar installations shall have access to two permanent building exit stairs, designed as per **Chapter 3. Means of Egress.** ii. Solar installations having access with temporary ladders, spiral stairs and open steel stairs are not acceptable.
3. SUBSTATIONS	i. Substations, if any, shall comply with **Section 2.1.** of this chapter.
4. EQUIPMENT	i. Transformers, if any, shall comply with **Section 2.1.** of this chapter. ii. Inverts shall be listed and approved as per Section **2.2.3.7.**
5. SYSTEM IDENTIFICATION	i. Equipment and the system shall have clear identification label near the control system or Command Center or reception, stating if the type of solar system is "Thermal" or "Photovoltaic" and the associated warning and safety precautions to be taken during fire accidents. ii. Solar components release hazardous and toxic elements when they decompose in fire. These warning details shall be identified and made visible with warning signs. iii. Color coding and standard identification of energized parts of solar system shall be in place to identify "ON" parts such as electrical wire conduits, panel segments etc.
6. EMERGENCY SHUTDOWN	i. In large solar power generation installations, adequate module and array level isolation (disconnect facilities) shall be provided segment wise strategically. Remote shutdown features of modules and arrays shall be considered to enable emergency responders and fire fighters, to safely isolate energized segments and successfully execute fire fighting operations. ii. In domestic applications, module and array disconnect switches shall be provided on roof. iii. Disconnect switches for solar system shall be clearly labeled and distinct from any other devices such as "Manual Call Points", "Emergency LPG Shut-off" and activation buttons of "Fire suppression systems". iv. Location of disconnect switches, inverters and arrangement of solar arrays shall be depicted in a "Site Layout" plan and shall be posted at key locations such as control rooms, emergency command centers, building receptions etc.