

(b) The definition of an automatic sprinkler system is unique to the Act. In addition to describing the physical characteristics of an automatic sprinkler system, the definition sets a performance objective for the system. Automatic sprinkler systems installed in compliance with the Act must *protect human lives*. Sprinklers would provide the level of life safety prescribed in the Act by controlling the spread of fire and its effects beyond the room of origin. A functioning sprinkler system should activate prior to the onset of flashover.

(c) This subpart establishes a general measure of building firesafety performance. To achieve the level of life safety specified in the Act, the structure under consideration must be designed, constructed, and maintained to minimize the impact of fire. As one option, building environmental conditions are specified in this subpart to ensure the life safety of building occupants outside the room of fire origin. They should be applicable independent of whether or not the evaluation is being conducted for the entire building or for just the hazardous areas. In the latter case, the room of origin would be the hazardous area while any room, space, or area could be a room of origin in the entire building scenarios.

(d) The *equivalent level of safety* regulation in this subpart does not address property protection, business interruption potential, or firefighter safety during fire fighting operations. In situations where firefighters would be expected to rescue building occupants, the safety of both firefighters and occupants must be considered in the *equivalent level of safety* analysis. Thorough prefire planning will allow firefighters to choose whether or not to enter a burning building solely to fight a fire.

§ 101-6.602 Application.

The requirements of the Act and this subpart apply to all Federal agencies and all federally owned and leased buildings in the United States, except those under the control of the Resolution Trust Corporation.

§ 101-6.603 Definitions.

(a) *Qualified fire protection engineer* is defined as an individual, with a thorough knowledge and understanding of the principles of physics and chemistry governing fire growth, spread, and suppression, meeting one of the following criteria:

(1) An engineer having an undergraduate or graduate degree from a college or university offering a course of study in fire protection or firesafety engineering, plus a minimum of four (4) years work experience in fire protection engineering,

(2) A professional engineer (P.E. or similar designation) registered in Fire Protection Engineering, or

(3) A professional engineer (P.E. or similar designation) registered in a related engineering discipline and holding Member grade status in the International Society of Fire Protection Engineers.

(b) *Flashover* means fire conditions in a confined area where the upper gas layer temperature reaches 600 °C (1100 °F) and the heat flux at floor level exceeds 20 kW/m² (1.8 Btu/ft²/sec).

(c) *Reasonable worst case fire scenario* means a combination of an ignition source, fuel items, and a building location likely to produce a fire which would have a significant adverse impact on the building and its occupants. The development of *reasonable worst case scenarios* must include consideration of types and forms of fuels present (e.g., furniture, trash, paper, chemicals), potential fire ignition locations (e.g., bedroom, office, closet, corridor), occupant capabilities (e.g., awake, intoxicated, mentally or physically impaired), numbers of occupants, detection and suppression system adequacy and reliability, and fire department capabilities. A quantitative analysis of the probability of occurrence of each scenario and combination of events will be necessary.

(d) *Room of origin* means an area of a building where a fire can be expected to start. Typically, the size of the area will be determined by the walls, floor, and ceiling surrounding the space. However, this could lead to unacceptably large areas in the case of open