



# Haunted Houses and Special Amusement Buildings

The Office of the Illinois State Fire Marshal reminds local enforcers and the owners/operators of “Haunted Houses” that these occupancies can present special hazards that make them particularly vulnerable to fire and fire injuries if applicable codes are not followed. By their nature, haunted houses are often temporary structures that may be constructed of plywood or other combustible materials. Also, because of their temporary nature owners often believe that haunted house occupancies are exempt from fire sprinkler system or fire detection system requirements. Furthermore, haunted houses are usually designed to be dark and offer low visibility to visitors and frequently are set up in “maze-like” designs that can be confusing to the occupants. This document reviews the fire safety requirements imposed by Illinois’ rules including the NFPA *Life Safety Code*® which classifies haunted houses as “Special Amusement Buildings”. The rules of the Office of the State Fire Marshal serve as the minimum requirements that must be met, with local fire and/or building departments possibly imposing more stringent requirements.

## **Fire History**

At least two tragic fires have occurred in haunted house occupancies in the United States:

In October 1973, just four days prior to Halloween, a fire occurred at the Washington Reid School PTA haunted house in Prince William County, Virginia. In that haunted house a simulated maze caught fire killing a PTA volunteer and injuring two others that were helping to construct the maze inside a school classroom. The PTA members had created the effect of a haunted house in one of the classrooms by erecting eight-foot high panels of flannel cloth secured to one by three-inch wood strips. The flannel was then sprayed with a black lacquer-based paint. To reduce light, brown paper was taped over the windows and over the flannel panels directly in front of the windows. “Black lights” were installed with temporary wiring at various locations. Power was supplied to test the lights prior to the start of the function, at which time one of the panels burst into flames. The fire occurred just one-half hour prior to when over 200 students were to have entered the haunted house.

In May 1984 a fire in the “Haunted Castle” at Six Flags Great Adventure Park in New Jersey resulted in the death of eight (8) visitors. At the time of the fire there were three employees and an estimated 28-34 visitors in the structure. Eight of the visitors unable to immediately exit from the structure died in the fire. The haunted house was constructed of 17 commercial trailers (each about 8-ft. wide by 40 ft. long). The trailers were connected by use of plywood. The interior of the Haunted Castle was constructed of plywood partitions that created a convoluted path of travel approximately 450 ft. long. Materials used for the interior included synthetic foam, various fabrics and plastics, plywood and tarpaper. The exact cause of the fire was undetermined, but some witnesses indicated that they had seen a visitor lighting a cigarette lighter inside the occupancy and possibly igniting foam insulation. According to NFPA’s investigation of the Six Flags fire, several major factors contributed to the loss of life. Those factors included the failure to detect and extinguish the fire at its incipient stage by means of fixed fire detection and suppression systems; ignition of synthetic foam materials and subsequent fire and smoke spread involving combustible interior finishes; and the difficulty of escape by occupants based on fire conditions in the “haunted-house” type of environment.

## **Illinois Code Requirements**

Haunted Houses are considered a “Special Amusement Building” in accordance with the 2000 edition of the NFPA *Life Safety Code*® (LSC) which has been adopted in Illinois as the State’s minimum fire prevention and safety rules.

The LSC’s definition of “Special Amusement Building” is:

*A building that is temporary, permanent, or mobile that contains a device or system that conveys passengers or provides a walkway along, around, or over a course in any direction as a form of amusement arranged so that the egress path is not readily apparent due to visual or audio distractions or an intentionally confounded egress path, or is not readily available due to the mode of conveyance through the building or structure.*

The LSC Annex makes it clear that a haunted house is intended to be classified as a Special Amusement Building:

*A.3.3.25.8 Building, Special Amusement.*

*Such structures include amusements such as a haunted house, a roller coaster-type ride within a building, a multilevel play structure within a building, a submarine ride, and similar amusements where the occupants are not in the open air.*

Special amusement buildings are addressed by Life Safety Code Section 12.4.7 (for new special amusement buildings) or Section 13.4.7 (for existing special amusement buildings). Both Section 12.4.7 and 13.4.7 prescribe identical requirements so only the Section 12.4.7 requirements are addressed below.

12.4.7.1 Special amusement buildings, regardless of occupant load, shall meet the requirements for assembly occupancies in addition to the requirements of 12.4.7, unless the multilevel play structures are not more than 10 ft (3 m) in height and have aggregate horizontal projections not exceeding 160 ft<sup>2</sup>

12.4.7.2 Every special amusement building, other than buildings or structures not exceeding 10 ft in height and not exceeding 160 ft<sup>2</sup> in horizontal projection, shall be protected throughout by an approved, supervised automatic sprinkler system installed and maintained in accordance with Section 9.7. Where the special amusement building is movable or portable, the sprinkler water supply shall be permitted to be provided by an approved, temporary means.

Note: The LSC Annex note to this section indicates that it is the intent to provide a suppression system that will act quickly to provide for life safety of the occupants.

12.4.7.3 Where the nature of the special amusement building is such that it operates in reduced lighting levels, the building shall be protected throughout by an approved automatic smoke detection system in accordance with Section 9.6. Actuation of any smoke detection system device shall sound an alarm at a constantly attended location on the premises. Actuation of the automatic sprinkler system, or any other suppression system, or actuation of a smoke detection system having an approved verification or cross-zoning operation capability shall provide the following:

- (1) Cause illumination in the means of egress to increase to that required by Section 7.8
- (2) Stop any conflicting or confusing sounds and visuals

12.4.7.4.1 Exit marking shall be in accordance with Section 7.10.

12.4.7.4.2 Floor proximity exit signs shall be provided in accordance with 7.10.1.5.

12.4.7.4.3 In special amusement buildings where mazes, mirrors, or other designs are used to confound the egress path, approved directional exit marking that becomes apparent in an emergency shall be provided. The LSC Annex note to this section indicates that consideration should be given to the provision of directional exit marking on or adjacent to the floor.

12.4.7.5 Interior Finish. Interior finish shall be Class A throughout in accordance with Section 10.2.

Realize that Special Amusement Buildings are also subject to the other requirements of the Life Safety Codes Assembly Occupancy chapter. These include, but are not limited to:

- Provision of an adequate number and width of means of egress to accommodate occupant loads within the building
- Provision of panic hardware on exit doors
- Restrictions on dead end pathways
- Stairway construction (including riser height and tread depth, provision of handrails, and fire rated enclosure in some situations).
- Restrictions on the use of open flame devices or pyrotechnic special effects (also realize that Illinois law requires specific permitting and operator licensing for the use of indoor pyrotechnics and furthermore, prohibits the use of pyrotechnics in buildings that are not protected by an automatic sprinkler system. Use of pyrotechnics before a proximate audience is regulated by NFPA 1126 and flame effects before an audience is regulated by NFPA 160).
- Furnishings and decorations (including all draperies and curtains) are required to be flame resistant as proven in a test in accordance with NFPA 701 *Standard Methods of Fire Tests for Flame Propagation of Textiles and Films*.
- In accordance with both LSC requirements and Illinois' Furniture Fire Safety Act, any upholstered furniture in the occupancy must comply with testing and labeling requirements.

For clarification, the LSC Annex explanation indicates that where a special amusement building is installed inside another building, such as within an exhibit hall, the special amusement building requirements apply only to the special amusement building. For example, the smoke detectors required by 12.4.7.3 are not required to be connected to the building's system. Where installed in an exhibit hall, such smoke detectors are also required to comply with the provisions applicable to an exhibit.

For further information regarding the requirements applicable to haunted houses or any special amusement building, contact the Office of the State Fire Marshal's Division of Fire Prevention or Division of Technical Services.