

NONFIRE EMERGENCIES RELATED WITH STRATEGIES FOR OCCUPANT EVACUATION

Although fire is the most common emergency consideration in buildings, other emergencies may be of greater potential threat and may require a different strategy for evacuation or no evacuation. Such emergencies include weather-related events or natural disasters, as well as man-made incidents. The following is a list of such events that may be a consideration for any given building depending on the geography, potential local building or site hazards, or building service outages:

- Earthquakes
- Tornadoes
- Hurricanes
- Flood events including heavy rain/melting snow, hurricane storm surge, tsunamis, mudslides, dam failure
- Volcanic eruptions
- Wildland or forest fires
- Building power outages
- Hazardous materials incidents

In contrast to a fire incident in a building, an event such as a tornado, earthquake, volcanic eruption, one of the flood scenarios, or a hazardous materials incident can pose an unanticipated and immediate threat to occupants in many if not most areas of a building. To escape the threat of fire in a building generally requires evacuation to the building exterior or specific fire refuge area within the building; however, the strategy for some of these events will require a different approach.

Earthquake

During an earthquake, building evacuation is not the appropriate strategy. Moving into or out of a building during an earthquake is not recommended, and occupants are best protected by relocating away from windows and glass constructions (partitions, skylights) to relative safety under desks or tables. Individuals on elevators should leave the elevator and find similar refuge as soon as possible.

Tornado

Tornado emergencies also would not require a building evacuation to the exterior; however, interior evacuation or relocation of occupants may be necessary. Occupants are best directed to seek shelter away from windows and glass, and relocate if possible to underground areas. In buildings lacking sufficient underground areas occupants should seek refuge in small rooms on the lowest floors of the building or find refuge in the most interior rooms away from doors and windows. Spaces with large-span flat roofs are most susceptible to roof collapse and should not be considered as areas of shelter. Evacuation instructions directing occupants to the designated areas of shelter in the building should be provided.

Other Natural Disasters

The impending threat from hurricanes, forest fires, volcanoes, and floods are often threats that are preceded by warnings through public information sources such as radio, television, and the Internet. Given that these events can be catastrophic to life and property, it is recommended that emergency procedures would allow for immediate building and site evacuation provided the warning time frame allows for major relocation of occupants. Procedures for such evacuations need to be in place well in advance, as the logistics may be time consuming, as in the case of buildings housing the elderly or disabled.

Hazardous Materials Incidents

Hazardous materials incidents are by nature unpredictable events that can impact the interior spaces of a building or expose a facility from an exterior location. The magnitude of a hazardous material event and the nature of the health threat can vary widely and the input of those familiar with the building hazards or expertise in hazmat incidents (e.g., fire department) is needed to develop a reasonable emergency response. Evacuation, relocation, or other protective measures may be needed. Getting the information and communicating protective measures to affected or potentially exposed building occupants are important aspects for handling any hazardous material incident.

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Reference:

O'Connor, Daniel J. and Bert Cohn. Strategies for Occupant Evacuation During Emergencies. Fire Protection Handbook 20th Edition. Massachusetts: NFPA. (2008)

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