High-rise fire safety: Part 3 of 3

In the final part of this series discussing High Rise Fire Safety, we will take a brief look at some of the code requirements that relate to the fire protection systems, means of egress and fire service features that you need to be familiar with if responding to these buildings. This article will only discuss the systems in general, so for more information you will want to research the building or fire code that is adopted in your municipality as well as contact the fire protection contractors and manufacturers for more information.

The IBC:

Section 403 of the International Building Code/2015 has detailed requirements that are specific to high rise buildings. All other sections of the IBC still apply, but this section lists specific requirements that apply based on the unique features of some buildings.

To summarize this section, it is categorized as follows:

Sprinkler systems: to include the number and location of risers, control valve and drain assemblies, secondary water supply and fire pumps. Some requirements are exempted based on the height of the building – for example buildings that exceed 420 feet in height have stricter requirements for a building that is 160 feet tall.

Emergency systems: to include fire alarm, smoke detection, standpipe, emergency voice / alarm communications, emergency responder radio coverage, fire command center, smoke removal, standby and emergency power. Some high-rise buildings once used firefighter telephones for communications. These may now be eliminated if the responder radio system is approved by the fire department.

Means of Egress: to include the remoteness of stairways, locking system features, communication features, smokeproof enclosures, luminous egress path markings and elevators. All are critical systems for occupants that are evacuating during an emergency. Many of these changes, like other code requirements are the result of a tragedy.

In future articles I will break down a few of these systems in more detail, as each are critical to life safety and can be overwhelming if you don't spend a lot of hours reading the code.

Perhaps, one of the most unique features to a high-rise building is the Fire Command Center. The FCC is the fire department's control center during an emergency. During the design and construction phase the fire chief has a role in determining the location of this space and the layout of equipment and control features. There are 18 features in the command center that will allow the FD to more effectively and efficiently control an emergency in these buildings.

You will find all or many of these features in other buildings, but in a high rise the FCC puts the control and supervising features in one secure location.

Lastly, one of the newer features in the code for use in the Fire Command Center is the Building Information Card. The BIC system must be approved for use by the fire chief or fire code official and will contain some of the following formation:

- General building description, including the number floors and the use and occupancy of the floors.

- Emergency contact information (this is only helpful it if is maintained – so keep that in mind)

- Exit stair information, including stairs that provide roof access, reentry controls and elevator information – specifically the Fire Service Access Elevator.

- And, location of key building controls, such as gas, water, generator, etc.

For more information on Building Information Card systems, see http://www.ebicard.com/.

As you can see there are many features in high rise buildings that add to the already challenging and changing tasks for the fire department. If you have high rise buildings in your jurisdiction, or one that you may respond on a neighboring town – get familiar with these buildings now. Do not wait for the emergency to be reported to wonder how or where you'll initiate your action plan.

OFF-CAMPUS

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