FPE Corner

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Just fact

Reminiscent of Paul Harvey, this is a story of a connection. In the book "The Go-Giver," by Bob Bourg and John David Mann, a key character in this guide to becoming a business success through putting other people first is "the Connector." As the name implies the Connector serves others, providing great value, by selflessly connecting the dots and by seeing how others can benefit one another when put together.

According to the First Quarter Hawaii Chapter SFPE Newsletter, on March 11, 1991, the Hawaii Chapter of the Society of Fire Protection Engineers held a mini-seminar. The seminar was titled, "Status of the Upcoming Edition of NFPA 101, The Life Safety Code," and the instructor was James K. Lathrop, a fire protection engineer with Koffel Associates, Inc. For decades, Jim has been a leading expert in life safety. An active firefighter in Niantic, Connecticut, he is a former NFPA Life Safety Engineer and was editor of the 2nd (1981), 3rd (1985), 4th (1988) and 5th (1991) editions of the Life Safety Code Handbook.

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In 1990, Congress passed and President George W. Bush signed into law the Americans with Disabilities Act of 1990. The ADA mandated that rules for new construction and alterations of existing buildings be published within one year. These rules were to be the ADA Accessibility Guidelines for Buildings and Facilities (ADAAG).

As part of its mandate to bring state buildings into compliance, the Hawaii State Commission on Persons with Disabilities was developing state amendments to the Uniform Federal Accessibility Standards (UFAS) which Hawaii was planning on adopting. UFAS was a predecessor of ADAAG intended to apply to federal facilities. Hawaii intended to apply UFAS to existing buildings regardless of whether or not the existing building was undergoing a renovation.

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NFPA had also been taking its first steps into the realm of accessibility. In the 1991 edition of NFPA 101 (published in February 1991, hence the reason for Jim's presentation), three new definitions were introduced into Chapter 5 Means of Egress of the 1991 edition:

5-1.2.1 Accessible Area of Refuge. An accessible area of refuge is an area of refuge that complies with the accessible route requirements of ANSI A117 .1, Buildings and Facilities-Providing Accessibility and Usability for Physically Handicapped People.

5-1.2.2* Accessible Means of Egress. Accessible means of egress is a path of travel that is usable by a person with a severe mobility impairment and that leads to a public way or an area of refuge.

5-1.2.3* Area of Refuge. An area of refuge is a space protected from the effects of fire, either by means of separation from other spaces in the same building or by virtue of location in an adjacent building, thereby permitting a delay in egress travel from any level.

Side note. So how was Professor Know-It-All able to so quickly come up with this tidbit of code research? These definitions were easily identifiable by the solid bar on the left side of the text in the code document (see my column Bar None in the December 2015 issue of Plumbing Engineer). My apologies for all the meandering, I promise to connect it all soon.

Our young architect with the state of Hawaii knew a little about NFPA 101. When she saw that Jim was coming to Honolulu, he asked if a meeting could be arranged with Jim to discuss some of the issues she was having with exiting and ADA. Jim, as is his way, was kind enough to agree to the meeting.

After finishing his presentation with Hawaii SFPE, Jim and I trekked over to this architect's office for the meeting. Understandably her biggest problem was with developing requirements to comply with the provisions for accessible routes in buildings for floors above and below the ground floor, i.e., the level of exit discharge.

Providing adequate accessible means of egress for

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SFPE notes

The 2016 SFPE North America Conference and Expo will be held September 25-30, at the Marriott City Center, Denver, Colorado. The theme of the conference is, "Engineering for Peak Performance."

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occupants above the first floor would not be easily accomplished. From UFAS came the following requirement, "4.3.10* EGRESS. Accessible routes serving any accessible space or element shall also serve as a means of egress for emergencies or connect to an accessible place of refuge. Such accessible routes and places of refuge shall comply with the requirements of the administrative authority having jurisdiction. Where fire code provisions require more than one means of egress from any space or room, then more than one accessible means of egress shall also be provided for handicapped people. Arrange egress so as to be readily accessible from all accessible rooms and spaces."

After chatting about the issue for several minutes Jim suggested that instead of going through the hassle of providing horizontal exits, multiple evacuation elevators or areas of rescue assistance, we provide sprinkler protection throughout the building and "call it a day." I kid you not; this was the moment of genesis of this concept.

So, if two exits were required from a floor above or below the level of exit discharge then two accessible means of egress would be needed. One solution could be to provide two remote elevators. However, at the time, elevators simply meeting the criteria for an accessible elevator could not be counted as accessible means of egress.

Since, elevators could solve the problem, we turned to the Area of Refuge. The NFPA 101 Accessible Area of Refuge was essentially synonymous with the UFAS and ADAAG concept of Area of Rescue Assistance. The problem our young architect, and many others, were having is that creating this area was very difficult to do, especially in existing buildings. As stated unless a horizontal exit was provided for floors above or below the level of exit discharge, two areas of rescue assistance would be needed. They took up valuable floor area, had to be remote, needed a level of protection more or less equivalent to an exit, etc.

Where was I? Oh yes, Jim and I went to the meeting with the young architect and started discussing ways of dealing with the areas of rescue assistance. It turns out that this young architect was collaborating very closely with another young architect who worked in the Department of Justice in Washington, D.C. This other young architect

was responsible for drafting the first ADAAG document to comply with the ADA mandate.

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The first edition of ADAAG, in the requirements for areas of rescue assistance contained the simple and elegant exception, "Areas of rescue assistance are not required in buildings or facilities having a supervised automatic sprinkler system."

Of course, the 1994 edition of NFPA 101, which at the time had strong passive fire protection interests on the Means of Egress Committee had to meddle with the elegant simplicity, to make sure a few more doors and wall were provided. The definition of Area of Refuge was changed to include, "(a) A floor in a building when such building is protected throughout by an approved, supervised automatic sprinkler system in accordance with Section 7-7 and has at least two accessible rooms or spaces separated from each other by smoke resisting partitions, or …"

So now you know the rest of the story, and how someone way out in Hawaii played a small part in the biggest sprinkler promoting concept in history.

In the first episode (1967) of the television western series, "The Guns of Will Sonnett," Will Sonnett, played by famed character actor Walter Brennan (and famed John Wayne sidekick), was describing the gun-fighting prowess of his family. That's what I said. James (his son) is darn good, but he's (his grandson Jeff) better, and I'm better than both of them. Not bragging, it's just fact. ■

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