

Accessibility Nightmare

by Dean K. Wilson, P.E.

***Question:* As I write this question to you, I am in shock. That's right, shock! I just came back from a new two-story office building my company has built at a nearby industrial park. I had arrived at the construction site to meet the building inspector for the final inspection prior to the issuance of the occupancy permit. The inspector works for a contract inspection company that provides building inspection service for the municipality in which the new building resides. As we toured the facility, we came to the fire alarm control panel located in the entrance foyer of the building. We had chosen this location for the simple eight-zone fire alarm system control unit, so that we would not have to supply a separate annunciator for fire department use at the main entrance to the building.**

"It's mounted too high," the inspector intoned.

"What?" I replied.

"It's too high," he said. "It can't be over 48 inches above the finished floor. It has to be accessible. And, this burglar alarm key pad is too high, as well. Both of these have to be accessible."

As I said, I am in shock. Is the inspector correct? Do fire alarm system control units, burglar alarm system control units, and their associated key pads have to be mounted to meet accessibility requirements? Please help me.

I'm in shock, too. I simply cannot believe that an Authority Having Jurisdiction (AHJ) has asked you to lower the fire alarm system control unit and burglar alarm system keypad to a 48 inch mounting height. As someone who has spent the better part of his adult life helping to develop codes and standards, I well remember an old timer who told me, "You can't make codes and standards foolproof. There's just no accounting for fools!" Whether or not this particular inspector is a fool is not for me to judge. But, I can tell you he is wrong!

Let me hasten to add that I am uniquely qualified to answer your question. You see I am a physically disabled individual. I move about short distances with the aid of two canes. I move about longer distances with the aid of a powered wheel chair. This makes me more than qualified to discuss matters that relate to accessibility.

First of all, let me clearly state that manual fire alarm boxes, access control card readers, access control FOB readers, access control biometric readers (such as iris readers, palm print readers, or finger print readers) that the building owner intends for all occupants to use must absolutely be mounted at an accessible height. NFPA 72-2010, *National Fire Alarm and Signaling Code*®, requires the following:

17.14.4 The operable part of each manual fire alarm box shall be not less than 42 in. (1.07 m) and not more than 48 in. (1.22 m) above floor level.

17.14.5 Manual fire alarm boxes shall be installed so that they are conspicuous, unobstructed, and accessible.

17.14.6 Manual fire alarm boxes shall be located within 60 in. (1.52 m) of the exit doorway opening at each exit on each floor.

In addition, the *International Building Code 2009*, states the following:

1109.12 Controls, operating mechanism and hardware. Controls, operating mechanisms and hardware intended for operation by the occupant, including switches that control lighting and ventilation and electrical convenience outlets, in *accessible spaces*, along *accessible routes* or as parts of *accessible* elements shall be *accessible*.

Exceptions:

1. Operable parts that are intended for use only by service or maintenance personnel shall not be required to be *accessible*.
2. Electrical or communication receptacles serving a dedicated use shall not be required to be *accessible*.
3. Where two or more outlets are provided in a kitchen above a length of counter top that is uninterrupted by a sink or an appliance, one outlet shall not be required to be *accessible*.
4. Floor electrical receptacles shall not be required to be *accessible*.
5. HVAC diffusers shall not be required to be *accessible*.
6. Except for light switches, where redundant controls are provided for a single element, one control in each space shall not be required to be *accessible*.
7. Access doors or gates in barrier walls and fences protecting pools, spas and hot tubs shall be permitted to have operable parts of the release of latch on self-latching devices at 54 inches (1370 mm) maximum and 48 inches minimum above the finished floor or ground, provided the self-latching devices are not also self-locking devices, operated by means of a key, electronic opener, or integral combination lock.

If you apply some very careful analysis to the above requirements, you will quickly see that a contractor need not mount fire alarm system control units, burglar alarm system control units, and their associated key pads at an accessible height: 54 inches maximum or 48 inches minimum.

Here's why.

Fire alarm system control units and burglar alarm system control units are not intended for use by ordinary building occupants, whether they have physical disabilities or not. Rather, the fire alarm system control unit and burglar alarm system control unit are intended for use by specifically designated employees, by service personnel, and by maintenance personnel. In addition, the fire alarm system control unit mounted in an accessible space, such as the main entrance for the building, is located in that space to allow use by the members of the responding public fire department. By job requirement, none of those fire department members will be physically disabled. Thus, the fire alarm system control units and burglar alarm system control units do not need to be mounted at an accessible height.

In addition, any key pads associated with the fire alarm system or burglar alarm system are also not intended for use by ordinary building occupants, whether they have physical disabilities or not. Rather, the key pads associated with the fire alarm system or burglar alarm system are intended for use by specifically designated employees, by service personnel, and by maintenance personnel. Thus, the key pads associated with the fire alarm system and burglar alarm system do not need to be mounted at an accessible height.

“But, wait a minute,” you may say. “In the building where I work, we allow *any* employee to come and go as he or she pleases. Thus, *any* employee needs to be able to arm or disarm the burglar alarm system through its associated key pad.”

Well, first of all, as a security consultant, I will tell you that such a policy is usually not wise. Unless you have a very, very small work force, to permit every single employee access to your facility at all times promotes very poor security practices. Every person who can arm or disarm the burglar alarm system should possess his or her own, specific, identifiable access code. It is doubtful in a normal-sized work force that every single employee has legitimate reason to access the premises at all hours of the day or night.

However, if you make a case to permit such a practice and permit every employee to arm or disarm the burglar alarm system, then you would need to provide a key pad mounted at an accessible height. I believe that across all of the facilities in the United States, only a somewhat small number will actually need to permit all employees to arm or disarm the burglar alarm system.

Believe me when I say that I suffer every day when I visit facilities that have not complied with the intent of accessibility requirements. I used to laugh, rather than cry, when I would get off a hotel elevator, in the days before I had a powered wheel chair, only to discover that the handicap

accessible room was at the end of the hall, the farthest room from the elevator. Could building designers be any more clueless?

But, when it comes to the location of fire alarm system control units, burglar alarm system control units, and their associated key pads, lowering them to a height between 48 inches and 54 inches above the finished floor will make them nearly unusable by non-disabled individuals. Any AHJ that enforces such requirements adds unnecessary expense and a great deal of confusion. It does not help the members of the disabled community to nit pick such an issue, especially when the AHJ has completely misinterpreted the intent of the requirements.

Now, if a particular building owner hires a disabled person and intends to assign that individual responsibility to operate such controls, then the building owner needs to make reasonable accommodation for the disabled person to perform those job duties.

Some have argued that even in that case, the space around the control becomes a work space. Work spaces need not be accessible, as stated in 1103.2.3. Nevertheless, a building owner who hires a disabled person to perform tasks, and then fails to make reasonable accommodation to allow the disabled person to perform such tasks, would be an even bigger fool.

The heart of all legislation to promote accessibility is “reasonable accommodation.” And, the greater focus of such legislation has always been spaces intended to be open to the general public. While some will rightly commend the building code writers for including accessibility requirements in codes and standards relating to new construction, even a disabled person like me has to rely on common sense to properly interpret those requirements.

I am embarrassed that you have had to deal with such a rigid AHJ. I am also embarrassed for every non-disabled person who has to bend over at such a depressed angle to try to read the

LCD screen on a key pad or operate the controls on a fire alarm system control unit or burglar alarm system control unit.

One word of advice to design professionals: be certain that you clearly mark on the design drawings that any fire alarm system control units, burglar alarm system control units, or associated key pads are for the use *solely* by personnel designated by the building owner and, thus, are not required to be mounted at an accessible height. By clearly including such a statement on the drawings, you give due notice to the AHJ as to what you intend. This should help prevent a last minute request for a change in mounting height at the time of the final inspection.

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