



Fire Alarm Notebook

Explain Please!

By Dean K. Wilson, P.E.

Question: As an architect assigned the task of designing a consumer point-of-sale warehouse—what some folks now call a “Big Box Store”—I am having trouble understanding the requirements for fire alarm notification appliances. I have read through the provisions listed in Chapter 7 of the *National Fire Alarm Code, NFPA 72-2007*, but I am still not clear how to apply these requirements. Is there anywhere I can turn for a cogent explanation?

Answer: Yes! One of the most positive aspects of the 2007 edition of the *National Fire Alarm Code* exits within the confines of Annex A. I would urge you to take a look at the material contained in this Annex that offers an explanation for the requirements stated in Chapter 7.

For example, section 7.4 contains the requirements for audible notification appliances. If you read through the detailed explanation found in Annex A, you will find some long and detailed paragraphs that explain the origin of the code requirements. This Annex material offers examples of how to apply the requirements and also gives you some additional information on how to calculate alternative solutions that will comply with the intent of the *Code*.

One of the truly beautiful aspects of this Annex material derives from the fact that the Technical Committee on Notification Appliances for Fire Alarm Systems has carefully developed some very practical guidance on how to achieve compliance. They have also taken the time to explain why the *Code* has imposed certain limitations.

When you move on to the more esoteric subject of intelligibility, you will find a wealth of information in the Annex that will help you make the proper decisions regarding the means you may employ to meet the requirements of the *Code*. The Annex offers resource material that a designer can use to find the proper background information. With this

background information in hand, the designer will have no difficulty in choosing the proper location for voice audible notification appliances in complex acoustical spaces.

More and more designs choose to use directional notification appliances to guide occupants to the location of exits. The Annex provides a great deal of information to explain the psycho-acoustic response of the brain to such stimuli. It also gives a very adequate explanation of how a designer might use this newer technology in various specific applications.

The Annex continues to offer a strong support for the requirements of the *Code* when the designer moves on to the placement and selection of visible notification appliances. Annex material to support Section 7.5 of the *Code* offers a very detailed explanation of the evolution of the requirements for visible notification.

Because your particular question related to the so-called, Big Box Stores, you will particularly appreciate the lengthy discussion contained in the Annex material found under section A.7.5.3 and A.7.5.4.1. Figure A.7.5.3(b) illustrates the provision of visible notification appliances in a Big Box Store environment.

When anyone first opens the *National Fire Alarm Code*, the task of reading and understanding all the many requirements seems quite daunting. Taking each Chapter one section at a time and always refer-

ring to the explanatory material in Annex A will go a long ways to remove some of the overwhelming nature of the *Code*.

Another very valuable resource that the National Fire Protection Association has made available is the *National Fire Alarm Code Handbook* for NFPA 72-2007. In addition to placing the Annex material for each section of the *Code* immediately beneath that section, the *Handbook* also offers insight from knowledgeable authors on the provisions of the *Code*.

I would wholeheartedly urge anyone involved in fire alarm system design, installation, testing, or maintenance to purchase a copy of the *Handbook*.

“Explain, please,” you asked. The explanation awaits you in Annex A of NFPA 72-2007, *National Fire Alarm Code*, and in the *National Fire Alarm Code Handbook*. I hope you will find both of these sources as enjoyable to explore as the members who wrote them intended.

IMSA member Dean K. Wilson, P.E., FSFPE, C.F.P.S., now retired on disability, formerly worked as a Senior Engineer in the Erie (PA.) office of the fire protection engineering and code consulting firm, Hughes Associates, Inc. (www.haifire.com). The opinions expressed in this article are strictly his own. You can reach him by e-mail at deanwilson@adelphia.net or by telephone at 814-897-0827.