

The Most Important Thing

by Dean K. Wilson, P.E.

***Question:* I am the Director of Operations of a medium-size University in the northwestern portion of the United States. As we assess our operational costs, I have been trying to create a list of priorities for the development of our physical plant. Can you offer me any insight into what element of a fire alarm system would represent the highest priority? In other words, what is the most important thing when it comes to fire alarm systems?**

Answer: You can measure the operational success of a fire alarm system by answering the rather simple question: “Did the fire alarm system operate as designed during a fire?” Unfortunately, it takes the occurrence of a fire to allow you to answer that question.

As an alternative, you can take a reasonable look at all of the elements that go into the creation and implementation of a proper fire alarm system. By making such an analysis, you can come to some conclusion about which element might offer the greatest overall impact on the success of the system.

The creation and implementation of a cost-effective and mission-effective fire alarm system involves 8 steps:

1. System needs and features analysis
2. System design
3. System design review
4. System installation

5. System installation verification and acceptance testing
6. System user training
7. System maintenance and reacceptance testing
8. System periodic testing

Each of these eight elements offers the individuals involved a number of opportunities to assure either success or failure of the fire alarm system. Complete each of these steps persistently, thoroughly, and intelligently and you will virtually guarantee that the fire alarm system will operate properly when called upon to do so and will perform the system's intended functions. Fail to complete any one or more of these steps with persistence, thoroughness, and intelligence and you will virtually guarantee that the fire alarm system will fail to operate properly when called upon to do so and will not perform the system's intended functions.

Many, many, many individuals involved in the specification, design, installation, testing, and maintenance of fire alarm systems routinely disregard these steps. Far too often, no one does a needs and features analysis to determine what the model building code or local jurisdictional code requires. Nor does anyone analyze the overall fire protection plan for the facility to determine what features the fire alarm system must provide to allow the management of the facility to use that fire alarm system as a tool to help manage the fire protection for the structure and its occupants.

Seldom does anyone develop a comprehensive design, or provide a detailed set of written specifications that gives a contractor specific direction regarding system design. Usually, no one prepares clearly detailed drawings. Seldom does anyone perform a thorough and competent review of the design documents to assure code compliance and agreement with the overall fire protection plan for the facility.

Most often, an owner abdicates (yes, abdicates!) the responsibility for a fire alarm system to a contractor. That contractor may take a quick look at a set of general building plans for a new facility, or make a site survey at an existing building. Then he or she will pick one of their favored product lines. Perhaps he or she chooses the product line for which his or her company must meet the manufacturer's quota in order to retain the status as a dealer for that product line. Or, maybe he or she chooses the product line that has the greatest level of familiarity and comfort. Once he or she chooses a product line, the installation begins: no needs and features analysis; no detailed specifications; no detailed drawings; no proper system design; no design review; no product decision based on those foregoing steps; all in all, a very cavalier and risky approach to the installation of a key element of fire protection for the safety of the occupants and the facility itself.

The tragedy of errors continues once the contractor completes the installation. Very few jurisdictions have competent inspectors to verify the integrity of the installation and witness acceptance tests. So, very likely, the system will not receive proper verification and test. Nor will anyone provide a comprehensive maintenance contract or provide training for the users. Seldom does anyone provide the necessary periodic testing that will assure the long term effective operation of the fire alarm system.

The result: a fire alarm system that may or may not work when called upon; a fire alarm system that affords an unknown level of fire protection surveillance; a fire alarm system that costs a specific amount of money, but for which no one really knows if that money purchased a system with tangible and measureable value.

The answer to your question: "What is the most important thing when it comes to fire alarm systems?" You are. You are the most important thing. Either the owner of the property or, the

person the owner of the property has entrusted with assuring that his or her building has the proper fire alarm system.

You become the one who drives the fire alarm system through the steps that lead to success. You become the one who makes certain that a competent person performs the proper needs and features analysis. You become the one who makes certain that a competent person provides a proper design to respond to the information disclosed by the needs and features analysis. You become the one who assures the proper Authorities Having Jurisdiction complete a thorough system design review.

You become the one who makes certain a competent contractor provides a proper system installation. You become the one who makes certain a competent person verifies the system installation and witnesses a thorough acceptance test. You become the one who makes certain the users receive thorough and effective training. You become the one who makes certain that competent individuals perform maintenance and reacceptance testing when necessary. You become the one who makes certain that competent individuals perform periodic testing to assure the continued operation of the fire alarm system.

You, yes, you! You are the most important thing. No abdication. No shoulder shrugs. No leaving it to someone else. No dropping the ball. You're the one.

So, just do it! Okay?

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