Unlocking the Code
The key to meeting Joint Commission requirements is in properly interpreting and understanding NFPA codes.
Executive Summary

The healthcare industry has experienced an unprecedented amount of attention from The Joint Commission concerning fire and life safety issues. In December of 2011, The American Society for Healthcare Engineering (ASHE) of the American Hospital Association (AHA) outlined the potential costs and operational impacts of inappropriate code interpretation in two documents on its website, citing specific examples and their cost ramifications. In one example, “a state fire marshal surveying for the Centers for Medicare and Medicaid Services (CMS) in 2010 mandated that all wall-mounted operating room supply storage cabinets have automatic sprinkler heads installed inside or have holes drilled in their tops to permit sprinkler water to penetrate the cabinets. If states around the country require similar sprinkler cabinets, the estimated cost to the U.S. health care industry would exceed $425 million.” In another example, facilities managers have reported that CMS surveyors “asked the facilities to remove all ‘non-hospital grade’ microwaves from service and to replace them with appropriately designated ‘hospital grade’ microwaves. However, no ‘hospital grade’ microwaves or toasters are currently available on the market.” While these documents cover a related area of code requirements, they clearly outline the potential cost of inappropriate code interpretation that faces hospitals across all areas including those related to fire and life safety.

From this perspective, it is critical for hospital facility directors to be familiar with the code requirements themselves and knowledgeable about their interpretation to avoid such situations. This white paper takes a closer look at some of the most challenging requirements under EC.02.03.05, with a cross-walk directly to the National Fire Protection Association (NFPA) 72 codes and standards, along with recommended best practices to assist in demonstrating a hospital’s compliance with the code.
Background
Despite increased attention to fire and life safety in recent years, there has not been a noteworthy decrease in the non-compliance rate with the Environment of Care Standard EC.02.03.05, which addresses the requirements for maintenance, testing, and inspection of fire safety equipment and building features. As a matter of fact, Standard EC.02.03.05 repeatedly makes The Joint Commission’s top ten list of most frequently cited standards. According to The Joint Commission’s online newsletter – October 3, 2012 edition – in the first six months of 2012, 50% of critical access hospitals and 40% of hospitals were in non-compliance with Standard EC.02.03.05, which states, “The hospital maintains fire safety equipment and fire safety building features.”

Most of the challenges hospital facility directors face related to staying in compliance with EC.02.03.05 can be mitigated through an increased level of focus on the following areas:

1. Better understanding of standard requirements by having better knowledge of the relevant NFPA code interpretation.
2. Entering into fair and equitable service agreements with industry vendors performing the task.
3. Ability to demonstrate an understanding of the testing and inspection documentation received from their vendor.

The following sections will take a closer look at each of these areas and discuss strategies for successfully addressing these challenges. References to definitions and tables in NFPA 72 1999 code edition are provided. NFPA 72 2010 is also cited; however, it is important to note that The Joint Commission still references the NFPA 72 1999 code edition and has not yet adopted subsequent editions.
Understanding Standard Requirements – A Closer Look at the Elements of Performance for Standard EC.02.03.05

Standard EC.02.03.05 consists of Elements of Performance tasks or EPs, which cover the maintenance, testing, and inspection of fire safety systems, such as fire alarm systems, fire sprinkler systems, and fire extinguishing; and building safety controls, such as fire dampers and fire doors. The current list of EPs required under this standard includes EP1 through EP20 and EP25.

Understanding The Joint Commission requirements outlined in the individual EPs for standard EC.02.03.05 requires a thorough understanding of the NFPA code requirements referenced in the standard. Understanding the testing and maintenance requirements per NFPA code is essential to ensure full compliance with The Joint Commission standard.

The next sections discuss some of the more challenging EPs under this standard, which are often cited as non-compliant due to a lack of understanding and incorrect interpretation of the codes and standards for fire alarm systems.
NFPA 72 defines a “supervisory signal” (See Section 1-4 Definitions, page 72-20) as “A signal indicating the need for action in connection with the supervision of guard tours, the fire suppression systems or equipment, or the maintenance features of related systems.” Therefore, a supervisory signal can include more than just the five listed supervisory signal initiating devices in Table 7-2.2. One example would be the monitoring of a standalone pre-action panel, which has its own field devices reporting to it. The building fire alarm system can monitor that panel for supervisory signals such as “the pre-action panel batteries need for maintenance.”

However, based on The Joint Commission’s interpretation of the NFPA code, the Life Safety inspectors consider the five supervisory signals listed above as points that are “surveyable.” Note of the five listed, four (high- or low-air pressure switch, room temperature switch, and water level switch) are classified under EP1, while control valve switches along with water flow alarm switches are listed under EP2.

This list of supervisory signals is not comprehensive and does not preclude the hospital from testing any other supervisory signals that report to the building fire alarm system. In fact, other Authorities Having Jurisdiction may want to see supporting documentation that testing, inspection, and maintenance occurred on those additional supervisory signal devices. However, during the document review process of a site survey, The Joint Commission will specifically look for documentation on these five types of initiating supervisory signals.

Another challenge regarding supervisory initiating devices relates to duct smoke detectors that are programmed to initiate to the fire alarm panel as a supervisory signal. The intent is to minimize nuisance false activations due to environmental and outside air conditions. When the duct smoke detector is activated, it shuts down air handling equipment to prevent air movement, but will not activate the notification appliances in the building. This will give the in-house responders time to react and investigate. The challenge is how often
It is important for the facilities team to have a good understanding of the tests performed and to feel comfortable walking a Joint Commission surveyor through the documentation during a survey.

This duct detector has to be tested: Is it quarterly as a supervisory initiating device signal (per EP1) or annually as a standard duct smoke detector (as required per EP3)? NFPA 72 1999 edition does not provide the answer. However, there is clarification in NFPA 72 2010 edition in Chapter 14, Table 14.4.5(15) Testing Frequency, which references Appendix A.14.4.5 for further explanation. Here it states, “Item 15, initiating devices, such as smoke detectors used for elevator recall, closing dampers, or releasing doors, held in the open position that are permitted by the Code (See NFPA 101, 9.6.3) to initiate supervisory signals at the Fire Alarm Control Unit (FACU) should be tested at the same frequency (annual) as those devices when they are generating an alarm signal. They are not ‘supervisory devices,’ but they initiate a supervisory signal at the FACU.” In summary, duct detectors that are programmed as supervisory initiating devices should be listed under EP3, not EP1 and tested on an annual basis. It is important to note that The Joint Commission has not adopted NFPA 72 2010 edition yet, but still references the 1999 code edition. However, hospitals can look to the 2010 edition for further clarification on this topic.

EP3
EC.02.03.05, EP3 states: “Every 12 months, the hospital tests duct detectors, electromechanical releasing devices, heat detectors, manual fire alarm boxes, and smoke detectors. The completion date of the tests is documented.”

Often, magnetic door holders are wrongly classified as electromechanical releasing devices and The Joint Commission is looking for documentation on magnetic door holders as part of the EP3 documentation. To clarify this topic, look to the NFPA code definitions. NFPA 72 1999 edition classifies electromechanical releasing devices as being an initiating device similar to smoke detectors, heat detectors, and manual pull stations (See Table 7-3.2(b) Testing Frequencies on pages 72-96) and shall be tested on an annual basis. There are two types of electromechanical releasing devices: non-restorable link type and restorable link type (See Table 7-2.2(a) Test Methods). In addition, Appendix A Explanatory Material of the Code says that for the restorable link type, it is a fusible thermal link detector used to close fire dampers and fire dampers are actuated by the presence of external heat.

So the question is: If, by definition, magnetic door holders are not electromechanical releasing devices, does that mean they don’t have to be tested? The answer is: Magnetic door holders still have to be tested. While all other devices referenced in EP3 are initiating devices, testing of magnetic door holders should fall under the classification of auxiliary functions or building safety features of the fire alarm system similar to elevator recall, HVAC shutdown, combination fire smoke dampers, and steel roll down doors. However, there is no specific EP for magnetic door holders in EC.02.03.05. Since many of The Joint Commission surveyors are being trained to look for magnetic door holders under EP3 as “electromechanical releasing device,” it is recommended to list them in a separate spreadsheet to satisfy potential inquiries.

EP4
Standard EC.02.03.05, EP4 states: “Every 12 months, the hospital tests visual and audible fire alarms, including speakers. The completion date of the tests is documented.”

An important question to be addressed is: How should a hospital document that they have tested all notification appliances in their building(s)? NFPA 72 classifies a visual and audible fire alarm, including a speaker as a notification appliance. By NFPA definition, a notification appliance is a fire alarm system component, such as a bell, horn, speaker, light, or text display that provides audible, tactile, or visible outputs, or any combination thereof. These components need to be tested annually as prescribed in NFPA 72 and The Joint Commission standard. As an industry, most fire alarm testing vendors don’t list test results for every notification appliance individually, but instead document the exceptions to the results as a deficiency item. Documented this way, the report would indicate that “notification appliances (i.e. horns, speakers, strobes, or combination thereof) were tested.” However, this poses a significant challenge for hospitals during a Joint Commission survey: by only documenting the exceptions, there is no baseline to show how many total notification appli-
With a better understanding of the NFPA codes and requirements, hospital facility directors can be more effective in evaluating and working with industry vendors and ensure that the testing and inspection documentation is accurate, complete, and properly maintained to confidently meet these challenges to achieve and maintain compliance.
seconds and trouble signals shall be within 200 seconds.” In addition, section 5-5.3.2.1.4 states: “A DACT shall have the means to satisfactorily obtain a dial tone, dial the number(s) of the Digital Alarm Communication Receiver (DACR), and obtain verification that the DACR is able to receive signals, transmit the signal, and receive acknowledgment that the DACR has accepted that signal. In no event shall the time from going off-hook to on-hook exceed 90 seconds per attempt.” It is important that this additional required data be recorded and documented in each quarterly test report.

In summary, it is a good practice to always refer back to the appropriate NFPA documentation and review the standard when performing testing and inspections of fire alarm systems and documenting results for The Joint Commission. In addition, the documentation should always be kept in an organized and easily accessible format, which will allow the hospital's facility staff to locate and reference the appropriate reports quickly and easily during a survey.

Fire Safety Service Agreements
NFPA 72 section 7-1.1.1 1999 edition states: “Inspection, testing, and maintenance programs shall satisfy the requirements of this code and shall conform to the equipment manufacturer’s recommendations and shall verify correct operations for the fire alarm system.”

For various reasons, some organizations choose not to enter into any contractual service agreements and to have these services and the work performed on a “time and material” basis. This approach may put the hospital at risk for staying in regulatory compliance since the owner is ultimately responsible for meeting the requirement of this code. Section 7-1.2.1 states: “Inspection, testing, or maintenance shall be permitted to be done by a person or organization other than the owner if conducted under a written contract.” Routinely, service agreements are entered into where the hospital outsources the testing and inspection requirements of fire safety equipment to an outside vendor due to state licensing requirements, specialized skill set levels, or lack of in-house manpower. Unfortunately, often the hospital's perception of what it will receive from its vendor does not align with the vendor's interpretation of the scope of work. Due to the lack of clarity in proposals and agreements, the hospital is put in a situation where some of the life safety equipment is out of compliance with the standards and codes. This compromises the safety of all the patients and staff who are in the facility.

During a Joint Commission survey, the hospital gets cited for non-compliance even if it thought it was covered by the work performed by its vendor. In addition, if an incident were to happen in the facility, such as a fire or system failure, not knowing what is covered under an agreement can not only be very costly to the hospital, but can also put the hospital in a litigation situation. Therefore, before any work is done, it is important for hospitals to thoroughly read and
understand their service agreement and address any questions or concerns with their vendor upfront. Additionally, the hospital needs to take ownership of the service agreement and provide oversight for the actual work performed by the vendor. Being involved with the vendor before, during, and after work is performed is crucial to help ensure the vendor delivers what is in the contract and avoid assumptions on the hospital's part about the work being performed.

After Testing is Complete – Understanding Testing and Inspection Documentation

After the testing is complete, hospitals must review the documentation for accuracy and completeness prior to filing it for subsequent surveyor review. Any errors or omissions should be referred back to the tester for verification or for retest. Having the ability to demonstrate an understanding of the testing and inspection documentation received from the vendor is critical for hospital's facility staff. It is important for the facility's staff to have a good understanding of the tests performed and to feel comfortable walking a Joint Commission surveyor through the documentation during a survey. A good practice is to use the vendor's sample test reports and run a mock survey with hospital's facility staff. If the staff is not able to answer typical questions about the test results or documentation during a mock survey, what is the likelihood that they will be able to answer them during an actual documentation review?

Having regular quality review meetings with the vendor will help hospital's facility staff confidently explain the content and details in the documentation. During these meetings, the vendor should walk through the paperwork to provide facility staff with an understanding of how it is organized. Facility staff should be able to quickly locate information in the documentation to be able to answer any questions from surveyors if and when they come up. Additionally, regular meetings will ensure that the documentation is properly maintained, which, along with good organization, is essential.

By completing these steps and keeping well-organized and maintained documentation, hospitals will have the confidence to meet with and answer questions when surveyors from The Joint Commission are present.
Conclusion
When determining how to best manage a hospital's fire protection program, hospital facility directors should take a comprehensive approach that covers multiple facets and levels and go through a gap analysis process to identify where the strengths and potential weaknesses are.

The first step is to create a complete inventory of all fire safety equipment systems in the facility since it is important to understand how these systems interface with each other, as well as the specific maintenance, inspection, and testing requirements for each system.

The next step is to perform a gap analysis to determine which tasks a hospital's maintenance staff might perform in-house, if permitted by codes due to licensing and certifications. Hospital facility directors should determine if the staff has the proper technical knowledge and training of the fire safety equipment systems as prescribed by each relevant NFPA standard. If they don't, what would the on-going training cost be in order to get them up to speed and to keep them abreast of any changes to the systems and codes?

After the analysis determines what can be performed by in-house staff and what should be outsourced, hospital facility directors should find a vendor who will partner with their organization and understands the organization’s goals and objectives related to maintaining compliance with The Joint Commission's accreditation standards. During the interviewing process, hospital facility directors should ask the vendor about their knowledge of fire safety equipment as well as their knowledge of The Joint Commission's standards. This is also an excellent opportunity to evaluate the vendor's final deliverables—the documentation. A good scenario is to use the vendor's sample test reports and run a mock survey with the hospital's staff. In addition, hospital facility directors should ask potential vendors how they plan to help manage the hospital's fire protection program and stay in regulatory compliance with The Joint Commission and any other AHJ.

All of these details should be addressed prior to signing any agreement.

Finally, organizing and maintaining the hospital’s report documentation is essential. How the reports are organized—whether by buildings, systems, or individual Element of Performance—is critical. When asked to see all supervisory signals under EP1 or the test results for each of the notification appliances under EP4, hospital facility directors and their staff should be able to turn to the appropriate section and provide the information with confidence and assurance. They should also be able to confidently explain the content and details found in each report.

Preparing for a Joint Commission survey can be time-consuming. However, with a better understanding of the NFPA codes and requirements, hospital facility directors can be more effective in evaluating and working with industry vendors and ensuring that the testing and inspection documentation is accurate, complete, and properly maintained to confidently meet these challenges to achieve and maintain compliance.

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Sources
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The ASHE Insider, December 13, 2011. The ASHE Insider is an online newsletter published by The American Society for Healthcare Engineering of the American Hospital Association (ASHE). Go to the Code Reform box on the ASHE’s alerts, briefs, and articles page at www.ashe.org/advocacy/ advisories for more information.