Physical Environment Portal: Module 4, EC.02.03.05 Leadership

Features of Fire Safety
This module is titled Features of Fire Safety

1. Leadership Orientation: Features of Fire Safety (EC.02.03.05)

Leadership must have a basic understanding of the Features of Fire Safety. These devices and systems are designed to continuously operate in the background, unnoticed by the building occupants, but always ready for an emergency condition. Similar to the smoke detector in our homes, these devices appear passive until they are activated, when they respond in various ways to protect our patients, staff and visitors. Just as the home smoke detector alarms the occupants in the middle of the night of a fire, our smoke alarms notify the occupants of pending danger. Doors are activated to close, signals are sent to the fire department and, when in the presence of fire, sprinklers may be activated.

The Joint Commission standard states that the organization maintains fire safety equipment and fire safety building features. This standard has 21 Elements of Performance covering four topics:

1. Devices that communicate with the Fire Alarm Panel
2. Automatic Sprinkler and Suppression System components
3. Building compartmentation components
4. Requirement for documentation.

Additional Resource on the Leadership page of this Portal
A PowerPoint was created for the Joint Commission leadership simply showing a picture of items in EC.02.03.05 and a brief description. This same PowerPoint is now posted to this site for organization leadership use. My hope is that a review of this PowerPoint will familiarize leadership with the terms used by Facilities and what is being discussed here. View PowerPoint.

Leadership Role in Features of Fire Safety
The reliability of the systems associated with Features of Fire Safety is so important that if 3 or more of the Elements of Performance are not compliant during survey another finding is written in the Leadership chapter, LD.04.01.05 EP 4, which states that Staff are held accountable for their responsibilities...

What are staff held responsible for at LD.04.01.05 EP 4?
These 21 Elements of Performance (EP) are codes from the late 1990’s. None of these are new requirements. The language in this standard is likely the most prescriptive in the accreditation manual. For example, EP 5 states:

   Every quarter, the organization tests fire alarm equipment for notifying off-site fire responders.
   The completion date of the test is documented. NOTE: For additional guidance on performing tests, see NFPA 72, 1999 edition (Table 7-3.2).

Very clearly, the test is done four times a year, once a quarter. Many organizations use the quarterly fire drill requirement to contact the local off-site fire responders and ask them to let them know if they receive a signal when they do the fire drill. If they receive the signal, the equipment is working, then the
organization documents the result. **And yet, during 10% of the surveys, this information for this EP is not available and results in an observation at EC.02.03.05.**

**What are the common issues found during survey?**

Survey analysis indicate two common deficiencies:

A. Lack of a current inventory
B. Lack of available documentation

**Compliance**

A. **Lack of an inventory:**

Each test in this standard requires an inventory of all items tested. Failure to have the inventory will result in an observation. If there were 312 devices tested last year and 311 tested this year, which one was missed? Also, if your organization hires a contractor to do the tests, wouldn’t you want to know what you are being billed for? How could you answer either of these without an accurate inventory?

The Joint Commission does not require the inventory to be in hard copy, but can accept electronic inventories. For example, newer fire alarm systems might be referred to as “intelligent systems” which means fire alarm inputs may have addresses, but outputs are usually addressed at nodes which cover multiple devices (such as audio/visual devices or door releases). These systems can generate information, which can be provided electronically during survey for the inventory.

B. **Lack of Documentation:**

The Joint Commission and CMS, as authorities having jurisdiction who have adopted the National Fire Protection Association Life Safety Code, include enforcement is part of accreditation. CMS has adopted the NFPA codes by statute, which is why issues like compliance with the Life Safety Code is not an option but a requirement.

NFPA 25-1998 Section 1-8, Records states: 1 – 8 Records. Records of inspections, test and maintenance of the system and its components shall be made available to the authority having jurisdiction upon request...

When the Joint Commission surveyor asks for documentation of required tests, they must be available upon request. In the past the surveyor would request the documentation and be told it “was not available” or “the contractor has not sent it yet.” Neither is acceptable. On some surveys the information becomes “available” the next day, but the Life Safety Code Surveyor may have already left. This may leave the clinical surveyors in the awkward position of either trying to decipher reports that are outside of their skill sets or rejecting the reports and affirming the observation.

a. For those conditions where mismanagement of contracts affects the organization, a possible observation at LD.04.03.09 may be written.

C. **Solution to a Lack of Documentation:**

1. The Joint Commission expects that if documentation is not “available upon request” a finding will result without an opportunity to clarify.
To help organizations, the Joint Commission has posted an audit form to the organizations extranet site that has most of the required EC and LS documentation listed. This checklist is an expectation of survey readiness, with the organization completing it each year. There shall be an attestation that it is current and accurately displays required documentation. In this way the organization can be prepared to positively respond to the documentation request.

2. The organization should create a file of all deficiencies identified during testing, that can be referred to showing the corrective actions completed as deficiencies are identified. Although a final report may be lacking from a contractor, the completed work activities will demonstrate the system has been tested and is fully functional.

Aging Infrastructure issues:

Imagine we were having a cup of coffee and you asked me, “George, what are your greatest concerns in healthcare today?” My response would be something like this, “My first concern is for the Healthcare Acquired Infections (HAI) that are affecting approximately 770,000 patients every year, with approximately 70,000 – 80,000 dying. Those patients that come to the hospital for a surgery and die of pneumonia.” Next I would share that my “concern is for our aging infrastructure. Many of our hospitals were built more than 50 years ago, and are still operating with the original equipment in the power plant and throughout our buildings. Many of these systems have been tasked to support the original building design and then required to support later expansions. The average lifespan of an air handling unit is 25 years, when many are much older than that. Specific to EC.02.03.05, an original fire alarm system has been added to or tried to interface with a newer system related to a building expansion. In some buildings these systems do not communicate to each other, causing the organization to create alternative notification strategies.”

These aging buildings create difficulties in completing inventories, getting the devices tested correctly and operating within the designed ranges for the devices. Staff knowledge may not have kept up with the newer technologies building projects have brought in. One hospital spent additional funds for chiller controls (air conditioning) but the engineer, unfamiliar with the modern technologies, completely overrode all these enhancements, and ran the chillers without the designed energy savings. Just because they were unwilling to admit a lack of knowledge, and lacked confidence in the newer technologies, the result was a negative impact to the project as cost savings anticipated by the newer controls and technologies were over-ridden and not realized.

Survey Scoring:

Survey findings at EC.02.03.05 EPs 1 – 20 are associated with COP §482.41(c)(2), A-0724; and §482.41(b)(1)(i), A-0710 for EP 25. Non-compliance may lead to a condition level deficiency, depending on “manner and degree” (CMS phrase). Manner and degree consider how often non-compliance is occurring (i.e. trending) and the criticality of the non-compliance. Often findings in the Environment of Care chapter have corresponding findings in the Life Safety chapter or Infection Control chapters, which aggregate to the Condition Level Deficiency (CLD). The CLD requires a Medicare Deficiency Follow-up Survey within 45 calendar days of the final survey report being published. This follow up survey will focus on these survey issues, but may also address any other non-compliant conditions identified at this time.

Survey Finding:

Surveyors ask specific questions related to the inventory of devices and of the associated test results. The surveyor will review the required checklist to see the organizations status of documentation and then evaluate the Elements of Performance following that review.
2. Evaluation of Compliance with EC.02.03.05

The Joint Commission requires compliance with the Environment of Care chapter. Using the following as a script to guide engaging with staff may be helpful. Once the bulleted question is asked, listen for responses similar to those listed below.

EC.02.03.05 Inventory: Discuss with facilities staff how they generated and keep an inventory of all required test from this standard.

I. For each EP in EC.02.03.05, how was the inventory created?
   a. By device type and class
   b. The Building Automation System [also referred to as BAS] creates the inventory
   c. The Intelligent Fire Alarm System is addressable and can generate an inventory
   d. The contractor created an inventory when the testing was let out for bid
   e. Comprehensive contractor field notes for inventory and testing affirmation if dated

II. How is the required documentation created and maintained?
   a. Electronic spreadsheet tied into the inventory
   b. A series of log books maintained by staff completing the tests
   c. All tests are documented as part of the Computerized Maintenance Program and can be retrieved by test or device
   d. The contractor provides documentation once testing is complete, including a daily summary. They can also email test results upon request

III. Does this organization have a complete set of the required codes that inform staff how to complete these requirements?

IV. Are the building Features of Fire Safety in good repair?
   a. Because of many building additions, some systems are having problems communicating with each other. This may cause strain on both systems and should be evaluated for replacement
   b. Even though the buildings are old, the controls and other features of fire protection have been upgraded and are reliable

V. Has the required checklist from the extranet been updated annually and reviewed as part of the ICM call?
   a. Yes, annually an audit of all documentation requirements is completed with documentation location confirmed
   b. What checklist? [Immediate corrective action required]

Ending a Myth

Have you ever seen a movie where someone pulls a manual pull station and the sprinkler system starts and everyone is in a glorious shower? Or a movie where a fire occurs in one office, but the entire sprinkler system activates?

The Truth:

1. A sprinkler is a local device designed to activate when heat (i.e. fire) is sensed in the immediate area, and when the heat reaches a pre-determined temperature the individual sprinkler head activates. In larger fires multiple heads may activate, depending on the fire conditions. The entire building sprinkler system does not activate until a fire risk is evident.
2. “Glorious Shower” The truth is that when a water charged sprinkler system is commissioned additives are added to reduce corrosives that can rust or otherwise deteriorate the sprinkler piping system. These additives, after a period of time, become rather strong smelling, and the
initial water discharged is brackish, black and foul smelling, certainly something you would not want to stand under.

3. The manual pull station is designed to activate the fire alarm panel and announce an emergency condition in the area. These are addressed, so the fire alarm panel can identify where assistance is required. It does not activate the sprinkler system.