Solutions Part 1: How to Meet the Most Challenging EC and LSC Standards

February 27, 2014
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**Program Summary**

This page provides an overview of the program content and learning objectives. Please refer to the Table of Contents and Program Outline for a detailed list of the topics covered. The information included in this Resource Guide is intended to support but not duplicate the video presentation content. There may be additional information available online for this topic.

**Program Description**

Each year, The Joint Commission collects data on organizations' compliance with standards, National Patient Safety Goals, the Universal Protocol for Preventing Wrong Site, Wrong Procedure, Wrong Person Surgery™, and Accreditation and Certification Participation Requirements to identify trends and focus education on challenging requirements. These data also help The Joint Commission identify risk areas to highlight in the Focused Standards Assessment (FSA) process.

Many of the standards data collected revealed that some of the more challenging standards identified as non-compliant include Environment of Care (EC) and Life Safety Code (LSC) standards.

Through in-depth expert panel discussion and featured case studies, this 60-minute live event identifies the most common standards compliance issues related to environment of care and life safety code standards.

**Program Objectives**

After completing this activity, the participant should be able to:

1. Identify the most problematic EC standards and strategies for achieving compliance.
2. Identify the most problematic LSC standards and strategies for achieving compliance.

**Target Audience**

This activity is relevant to all hospital staff, medical staff, volunteers, and contracted staff, particularly those responsible for life safety-related activities, including safety officers and committees, engineering staff, facility managers, department managers and supervisors, performance improvement (PI) staff, training and education staff, and risk managers.
Continuing Education (CE) Credit

After viewing the JCR Quality & Safety Network presentation and reading this Resource Guide, please complete the required online CE/CME credit activities (test and feedback form). The test measures knowledge gained and/or provides a means of self-assessment on a specific topic. The feedback form provides us with valuable information regarding your thoughts on the activity’s quality and effectiveness.

NOTE: Effective April 1, 2012, the Learning Management System web site URL changed as noted below.

Prior to the Program Presentation Day

1. Login to the JCRQSN Learning Management System web site at [http://twnlms.com/](http://twnlms.com/)
2. Enroll yourself into the program
   - Note: Your administrator may have already enrolled you in the program
     - Select All Courses from the courses menu.
     - Select the course category for the current year, 2014 Programs.
     - Select the course for this program, Solutions Part 1: How to Meet the Most Challenging EC and LSC Standards
     - When prompted, choose Yes to confirm that you would like to enroll yourself.
3. Display and print the desire documents (Resource Guide, etc.).

Online Process for CE/CME Credit

1. Read the course materials and view the entire presentation.
2. Login to the JCRQSN Learning Management System web site at [http://twnlms.com/](http://twnlms.com/)
   - Note: This assumes you have already been enrolled in the program as described above.
4. If you didn’t view the broadcast video presentation, view it online.
5. Complete the online post test.
   - You have up to three attempts to successfully complete the test with a minimum passing score of 80%.
   - Physicians must take the post test to obtain credit.
6. Complete the program feedback form.
7. On the top right corner of the main course page, you will see your completion status in the Status block.
8. Select Print Certificate from within the Status block to print your completion certificate.
Program Outline

Solutions Part 1: How to Meet the Most Challenging EC and LSC Standards
February 27, 2014

I. Introduction
   A. Program Content
   B. Objectives
   C. Faculty
II. Challenging Life Safety Code Standards
III. Challenging Environment of Care Standards
IV. Conclusion
V. Post-Program Live Question and Answer Session
   A. Audio only telephone seminar with program faculty – for 30 minutes following the program.
      B. Call 1-888-206-0090; enter conference code: 7925428.
         Or e-mail your questions or comments to: Questions@jcrqsn.com

<table>
<thead>
<tr>
<th>Program Broadcast Time</th>
<th>Eastern:</th>
<th>Central:</th>
<th>Mountain:</th>
<th>Pacific:</th>
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<td>2:00 p.m. to 3:00 p.m.</td>
<td>1:00 p.m. to 2:00 p.m.</td>
<td>12:00 p.m. to 1:00 p.m.</td>
<td>11:00 a.m. to 12:00 p.m.</td>
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During the live airing of this program on February 27, 2014, you may be able to talk directly with the faculty when prompted by the program’s host. After this date, your message will be forwarded to the appropriate personnel.

Immediately following the program, we invite you to join in a live discussion with the program presenters. Call 1-888-206-0090 and enter Conference Code: 7925428 to be included in the teleconference.

To submit your question ahead of time or for additional details, please send an e-mail to questions@jcrqsn.com. If you submit your questions after this date, your message will be forwarded to the appropriate personnel.

You can also receive answers to your questions by calling The Joint Commission’s Standards Interpretation Hotline at 630-792-5900, option 6.
# Top Non-Compliant Environment of Care, Life Safety Code Standards

## Hospital Accreditation Program (First half of 2013 Data)

<table>
<thead>
<tr>
<th>Standard</th>
<th>Percent Non-Compliant</th>
<th>Selected Important Issues</th>
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<tbody>
<tr>
<td>LS.02.01.20: The hospital maintains the integrity of the means of egress.</td>
<td>54%</td>
<td>EP 13: Corridor clutter.</td>
</tr>
<tr>
<td>EC.02.05.01: The hospital manages risks associated with its utility systems.</td>
<td>46%</td>
<td>EP 6: Ventilation system provides appropriate pressure relationships, air-exchange rates and filtration efficiencies.</td>
</tr>
<tr>
<td>LS.02.01.10: Building and fire protection features are designed and maintained to minimize the effects of fire, smoke, and heat.</td>
<td>45%</td>
<td>• EPs 5 - 7: Door issues.</td>
</tr>
<tr>
<td>• EP 9: Fire barrier penetrations.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EC.02.03.05: The hospital maintains fire safety equipment and fire safety building features.</td>
<td>44%</td>
<td>• EPs 4, 19: Documentation of testing is required.</td>
</tr>
<tr>
<td>• Inventory required to ensure all devices are tested.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LS.02.01.30: The hospital provides and maintains building features to protect individuals from the hazards of fire and smoke.</td>
<td>43%</td>
<td>• EP2: Hazardous Areas (primarily door issues).</td>
</tr>
<tr>
<td>• EPs 16 - 23: Issues related to Smoke Barriers and Doors.</td>
<td></td>
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<tr>
<td>LS.02.01.35: The hospital provides and maintains systems for extinguishing fires.</td>
<td>38%</td>
<td>EP 6: There are 18&quot; or more of open space maintained below the sprinkler deflector to the top of storage.</td>
</tr>
<tr>
<td>EC.02.06.01: The hospital establishes and maintains a safe, functional environment.</td>
<td>36%</td>
<td>• EP 1: Interior spaces meet the needs of the patient population and are safe and suitable to the care, treatment, and services provided.</td>
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<tr>
<td>• EP 13: The organization maintains ventilation, temperature and humidity levels suitable for the care, treatment, and services provided.</td>
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<tr>
<td>• EP 20: Patient care areas are clean and free of offensive odors.</td>
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<tr>
<td>• Issues with unsecured oxygen cylinders.</td>
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<td></td>
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<tr>
<td>EC.02.02.01: The hospital manages risks related to hazardous materials and waste.</td>
<td>33%</td>
<td>• EPs 3 - 5: Personal Protective Equipment and the process to manage hazardous materials and waste handling and exposures.</td>
</tr>
<tr>
<td>• EPs 6 - 7: Hazardous energy sources.</td>
<td></td>
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<tr>
<td>Standard</td>
<td>Percent Non-Compliant</td>
<td>Selected Important Issues</td>
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</tr>
<tr>
<td>EC.02.05.07: The hospital inspects, tests, and maintains emergency power systems.</td>
<td>23%</td>
<td>Issues with EPs 4 - 7: Missed Generator and Automatic Transfer Switch (ATS) Tests and missed triennial four-hour tests.</td>
</tr>
</tbody>
</table>
| EC.02.05.09: The hospital inspects, tests, and maintains medical gas and vacuum systems. | 22% | Issues with Medical Gas Systems:  
- EP1: Inspection, Testing and Maintaining  
- EP 2: Test when modified, installed or repaired.  
- Labeling: Contents of piping; areas served; accuracy. |
| EC.02.03.01: The hospital manages fire risks. | 19% | • EP 1: Fire Safety:  
- Issues with open junction boxes.  
- Issues with having more than 300 cu ft of nonflammable medical gases per smoke compartment, open to the egress corridor.  
- EPs 9 and 10: Fire Plan – Lack of fire safety training as per fire plan. |
Corridor Clutter Trashed, Part 1

What to Put in a Corridor and When Without Violating the Life Safety Code®

The Joint Commission has identified the need to increase the field’s awareness of the Life Safety Code®. To address this need, Environment of Care® News publishes the column Clarifications and Expectations, authored by George Mills, MBA, FASHE, CEM, CHFM, CHSP, director, Department of Engineering, The Joint Commission. This column clarifies standards expectations and provides strategies for challenging compliance issues, primarily in life safety and the environment of care. You may wish to share the ideas and strategies in this column with your organization’s leadership.

If a corridor looks cluttered, it probably is cluttered. That’s what I’ve been telling people for the past five years as I speak nationally about safety deficiencies—including corridor clutter.

The requirement for keeping corridors clear and unobstructed originates from the National Fire Protection Association (NFPA) Life Safety Code. The Life Safety Code, compliance with which is required by federal law, requires that new health care “aisles, corridors, and ramps required for exit access in a hospital or nursing home shall not be less than 8 feet in clear and unobstructed width.”

This width is essential for building to be able to exit unimpeded in a fire emergency. If an existing hospital has 8-foot-wide corridors, the 8-foot width must be kept clear. Reducing the materials that could contribute to a fire is certainly another reason for keeping corridors clear.

Keeping corridors clear of clutter is for easing patient movement any type of emergency. Consider one organization’s emergency response plan to a tornado: Move patients into the corridor, away from patient room windows. Corridors that are clear of clutter do not cause any problems in this emergency response, but corridors with equipment already taking up space slow down this important process, when minutes and seconds matter.

Storage in the corridor

The Joint Commission allows certain items, such as crash carts and isolation carts, to be stored in egress corridors, as long as they are “in use.” Good medical practice dictates that a crash cart be ready for use at all times, so for purpose of the Life Safety Code, it can be considered to be always “in use.” An isolation cart (or a chemo cart) may be in the corridor outside a room that currently houses a patient associated with the cart. The cart may remain if the patient leaves the room for any reason, such as for diagnostic testing. However, when the patient is discharged, the cart must be removed.

Some organizations have used isolation cabinets instead of isolation carts to meet their needs. These cabinets hang over the top of the door. There are at least two considerations related to width when choosing cabinets over carts. According to the Life Safety Code, when the door is closed, the cabinet cannot project into the corridor more than 6 inches. In addition, with the cabinet hanging on the door, the door opening must still meet the Life Safety Code specifications of 32 inches clear width or 34 inches leaf for existing construction and 41½ inches for new construction. Clear width is defined as the net, unobstructed width of the door opening, without projections.

By the way, the prohibition against items projecting into the corridor more than 6 inches is true for all corridor projections, including alcohol-based hand rub (ABHR) dispensers, bulletin boards, and so on. However, wall-mounted items that project more than 6 inches while in use but can be stored with less than a 6-inch projection are permissible (for example, a

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* Life Safety Code® is a registered trademark of the National Fire Protection Association, Quincy, MA.
† NFPA 101-2000, 18.2.3.3.
‡ Existing corridors that exceed the width requirements for existing corridors cannot be reduced unless they exceed the requirements for new. In that case, they can be reduced to new corridor width, with some restrictions.
§ A means of egress is a continuous and unobstructed way of exit travel from any point in a building or structure to a public way and consists of three separate and distinct parts: (a) the exit access, (b) the exit, and (c) the exit discharge.
keyboard or writing surface that drops down while in use and self-retracts when not in use). The limits for spacing, mounting height, and length of items on the corridor wall can be found in Joint Commission Life Safety (LS) Standard LS.02.01.20.

Any item that has not been used in the past 30 minutes is considered to be stored. The 30-minute limitation was defined by the Centers for Medicare & Medicaid Services (CMS) in a May 2010 “Survey & Certification” memo, which also includes information on the 6-inch projection topic. The intent of the 30-minute rule is not to have nursing nudge the object every 29 minutes, nor will a Joint Commission surveyor mark a wheel and come back 31 minutes later. Rather, if an item is not in use, it should be returned to storage.

“Stored” patients in corridors: An HITF interpretation

A few years ago, a hospital experienced problems with patient throughput in the emergency department, where patients were crowded into the waiting room prior to being seen by a clinician. The hospital solution was to move the patients waiting to be admitted to the medical/surgical units and have them wait on gurneys. According to the 30-minute provision, these patients would be considered to be “stored” in the egress corridor after 30 minutes. But what implications did this have for fire safety, not to mention other types of safety?

This matter was discussed at a Healthcare Interpretation Task Force (HITF) meeting in 2008. After a thorough discussion on this, all of the HITF members (not just the authorities having jurisdiction members) developed the following policy position on this practice:

The plan or concept to have patient treatment and patient staging in exit access corridors is not permitted by the code. The following issues would be considered violations of the Life Safety Code and emergency response and operational concerns of the Life Safety Code.

a. By having patients staged in the corridor, you introduce corridor clutter, which can greatly hamper emergency response to a fire event. Where would patients be moved to during a fire event? Where would patients in a room be relocated to and what would the impact of the delay be if other patients, related medical equipment and beds were in the way?

b. This practice would slow search and rescue efforts of first responders.

c. This practice introduces additional combustible materials into the corridor including use of medical gases.

d. This practice removes the first of defense from a fire event for the patient—that being the ability to simply close a patient room door.

e. This practice exposes a greater patient population to a fire event that would involve a fire originating in the corridor.

f. This practice would have an impact on the mandated space required in adjacent smoke compartments for horizontal evacuations.

This position is not intending to prohibit an organization to plan for declared surge emergency situations that might occur as [a] result of manmade or natural disaster events.

The Life Safety Code is crystal clear: Patient sleeping or treatment in corridors is prohibited.**

Computers on wheels

A common corridor clutter problem is mobile workstations. These workstations have computers mounted on them and are used intermittently during the 24-hour patient day. Are these workstations in use or stored? Consider a typical day in a medical/surgical unit that begins with morning charting and these computers being out and about for patient documentation as the patients begin their day.

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** See NFPA 101-2000, Paragraph 19.3.6.1, Exceptions 1 and 6.

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The Healthcare Interpretation Task Force (HITF) is chaired by the NFPA, with representatives from CMS, The Joint Commission, VHA, Department of Defense, Indian Health Service, State Fire Marshal, International Fire Marshal, the Agency for Health Care Association, American Society for Healthcare Engineering, and American Health Care Association. Go to http://www.nfpa.org and search for HITF.
After morning charting, such a computer on wheels is idle. By late morning or early afternoon, the computer is accessed by nursing for charting and other care information. Then it again sits idle. Late in the afternoon through dinner, the computer on wheels is out and in use. The computer is idle again during evening visiting hours, but patient documentation resumes with medication distribution, charting, evening snacks, and other patient care delivery after 10 P.M. During the late night/early morning hours, the computer may be used again, depending on the level of care delivered.

It’s clear that in a typical patient care day, there are definite periods of mobile workstation use. But it’s equally clear that there are periods when the computer on wheels sits idle. During these idle periods, the workstation must be stored in an acceptable place—which is not the egress corridor.

Improperly managing mobile workstations may result in unintended clutter growth. At some point, someone parks a chair next to the workstation, then a trash can, and suddenly the mobile workstation becomes an unofficial nursing substation. It’s another clear violation of the Life Safety Code.

Possible solutions to corridor clutter

A number of straightforward solutions can help organizations manage corridor clutter.

Employ staff education. Share with staff the importance of keeping corridors clear to keep patients safe. In many emergency events, successful patient care can be associated with clear corridors. Organizations that have corridor clutter have found that they were encumbered and had to overcome the clutter as well as manage patient care. Having staff move equipment to make room for patients may result in delayed patient care.

Reduce unused equipment. You should definitely reduce the amount of unused equipment in the space. Equipment stored as a convenience for staff should be returned to the responsible department (for example, a mobile x-ray machine returned to radiology), equipment associated with patient care could go into patient rooms, and other equipment might be stored off the units.

Maximize dead-end corridors. Some buildings have dead-end corridors, which are parts of corridors that do not support egress. For example, walk to the end of a nursing unit, to the window that overlooks the parking lot. Turn around with your back to the window and look into the nursing unit. If you find that in the first few feet there are no doors, you are in a dead-end space. As you move away from the window a few steps, on your right is a door that leads to the stairs; another few feet, and a door on your left enters the last patient room. That space between the window and the edge of the first door opening is called a dead-end corridor. It does not contribute to the means of egress for the occupants.

You could store equipment in this location if the space is less than 50 square feet. Could that include computers on wheels? Yes. Could a computer on wheels be charging? Yes. Could this space have a gurney, wheel chair, and C-arm? Yes, if they do not exceed 50 square feet.†† Keep in mind, however, that storage in a dead-end corridor requires that you install either quick-response sprinklers or standard sprinklers and smoke detection.‡‡

This month’s column has discussed how to keep corridors clear of clutter. Stay tuned for next month’s column, which will continue to focus on keeping corridors clutter free.

†† See NFPA 101-2000, Paragraph 19.3.2.1.
Managing Corridor Clutter, Part 2

The Joint Commission has identified the need to increase the field’s awareness and understanding of the Life Safety Code®.* To address this need, The Joint Commission Perspectives® publishes the column Clarifications and Expectations, authored by George Mills, MBA, FASHE, CEM, CHFM, CHSP, director, Department of Engineering, The Joint Commission. This column clarifies standards expectations and provides strategies for challenging compliance issues, primarily in life safety and the environment of care. You may wish to share the ideas and strategies in this column with your facilities’ leadership.

Last month we discussed corridor clutter and made the point that items not in use may not be stored in the corridor. This prohibition is based on the Life Safety Code requirement that corridors are to be maintained clear and unobstructed to the original design width (typically 8 feet wide).† If an organization starts storing items in the corridors, this 8-foot width can become obstructed. The Life Safety Code does allow for storage exceptions such as crash carts, which may be in the corridor at all times. It also permits the use of dead-end space for storage, provided the storage does not exceed 50 square feet. Why is it important to know this? The Life Safety Code is federal law, and organizations must comply with it in order to receive Medicare and Medicaid funds.

This month’s column continues the discussion related to corridors, first exploring doors, walls, and air supply before revisiting the issue of corridor clutter first addressed in last month’s column.

Latching Patient Room Doors

While doors to patient rooms are not required to have self-closing devices (sometimes referred to as “automatic” closing devices), these doors are required to have latches. This exemption from self-closing devices for patient rooms is a practical one: caregivers need to open these doors when carrying supplies, moving beds, or performing any of a host of other patient care activities. Rather than having caregivers resort to blocking doors open by means of unapproved methods, the Life Safety Code has specifically exempted the door closure requirement for self-closing devices since 1981. However, The Joint Commission does expect an organization to have in its fire plan a process to ensure that patient room doors close and latch in a fire emergency. (This is why staff must check each patient room and close the door during a fire drill or fire event.)

Although it doesn’t require a self-closing device, each patient room corridor door must latch, as noted above. For the past six years, The Joint Commission and the Centers for Medicare & Medicaid Services (CMS) have prohibited the use of roller latches (latches that involve a roller that engages a socket or catch to fasten a door). As an alternative to roller latches, door latching devices that users can “hook” with an elbow to pull closed or push the door handle to open when carrying items—instead of having to twist a knob with a hand—have been available for many years.

Corridor Walls

In non-sprinkler-protected buildings, the corridor wall resembles a fire barrier. The corridor wall should have a 30-minute fire rating and walls that extend from the floor to the underside of the floor or roof above. There should not be any unsealed penetrations between the corridor and patient care rooms. In a fully sprinkler-protected compartment, however, the rating is removed and, according to the Life Safety Code, the corridor wall “shall be permitted to be separated from all other areas by non–fire-rated partitions and shall be permitted to terminate at the ceiling where the ceiling is constructed to limit the transfer of smoke.”‡

A few years ago, a hospital was presented with an $8 million estimate to repair penetrations in its unsprinklered building—repairs critical for maintaining a safe fire-rating. When the hospital discussed with The Joint Commission how to phase in this multiyear project, Joint Commission engineers suggested that the hospital consider installing an approved automatic sprinkler system (AASS), the

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* Life Safety Code® is a registered trademark of the National Fire Protection Association, Quincy, MA.
† NFPA 101-2000, 18.2.3.3.

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estimates for which came in at $5 million. It’s no surprise that the hospital chose to resolve the corridor barrier problem by adding sprinkler coverage.

**Corridors and Air Supply**

The Joint Commission does not allow the use of the corridor as a part of air supply, air return, or air plenum (the ducting that allows return air to flow through). Years ago a popular design involved pushing conditioned air into one end of a corridor and exhausting the air out at the other end. The intent was to flow the air from one end of the corridor to the other end, conditioning the space between. In a fire situation, however, this air flow could also spread a fire. For this reason, this design is prohibited by Joint Commission Life Safety (LS) Standard LS.02.01.30, Element of Performance (EP) 13. (Note that LS.02.01.30, EP 21, allows the space above the ceiling to be used as unducted common air plenum for either supply or return air, provided that smoke dampers protect the air transfer openings extending through smoke barriers. However, many states no longer allow this design.)

**Revisiting Projections into the Corridor**

Maintaining the Life Safety Code—required 8-foot clear corridor width was discussed in last month’s column. The discussion included information on items projecting into the egress corridor. The article stated the following:

The limits for spacing, mounting height, and length of items on the corridor wall can be found in Life Safety (LS) Standard LS.02.01.20.§ In addition, EP 12 of the above standard states the following:

The corridor width is not obstructed by wall projections. (For full text and any exceptions, refer to NFPA 101-2000: 18/19.2.3.3)

**Note:** When corridors are 6 feet wide or more, The Joint Commission permits certain objects to project into the corridor, such as hand rub dispensers or computer desks that are retractable. They must be no more than 36 inches wide and cannot project more than 6 inches into the corridor. These items must be installed at least 48 inches apart and above the handrail height. (For full text and any exceptions, refer to: NFPA 101-2000: 18/19.2.3.3) The intent is to allow items to be wall-mounted but not restrict movement in the corridor.

Headroom is an additional dimension that should be considered in these situations. For example, if a large screen monitor were mounted as described in the Note to Standard LS.02.01.20, EP 12 (that is, above the handrail height), and leaned forward to reduce lighting glare, the angled monitor must not lean more than 6 inches into the corridor. However, the Life Safety Code allows projections at 6 feet 8 inches or higher (NFPA 101-2000 7.1.5) to accommodate exit signs and other projections near the ceiling. Therefore, an angled monitor could project more than 6 inches if it is mounted at a 6 feet 8 inch height or higher and be considered compliant.

**New Exceptions in the 2012 Life Safety Code**

Imagine if your organization could place patient lifts right outside the patient rooms. And how about fixed seating in the corridor? In fact, both of these scenarios are new exceptions in the 2012 edition of the Life Safety Code.

The Joint Commission has reviewed the 2012 edition of the Life Safety Code (NFPA 101-2012) and will consider granting Traditional Equivalency# hopes from hospitals and long term care organizations to allow patient lifts and transport equipment in the corridor and the installation of fixed seating in the corridor. These actions are consistent with a


# An equivalency is an alternate solution that includes evidence of compliance or an assurance that the organization will address any noncompliance as a high priority. In a Traditional Equivalency request, the organization describes how it will offset Life Safety Code deficiencies without reducing the protection set by the code’s requirements. In addition to the request from the organization, third-party verification must be submitted in writing from at least one of the following: a registered architect, licensed/certified fire protection engineer, or local authority having jurisdiction (AHJ). The third-party verification must identify its assessment of the conditions, its concurrence that all code requirements have been met, and its on-site validation of the implementation. Where appropriate, a drawing should be submitted with this documentation. Submission information for Traditional Equivalencies can be found on the organization’s Joint Commission Connect™ extranet site in the electronic Statement of Conditions™ (e-SOC) under the Plan for Improvement (PFI) menu item Request for Extensions and Equivalencies.

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March 9, 2012, Survey and Certification (S&C 12-21-LSC) letter from CMS to the State Survey Agencies and State Fire Authorities. The S&C updates previous instructions related to CMS policy by offering to consider NFPA 101-2012 for Capacity of the Means of Egress. It advises hospitals and nursing homes that they may apply for waivers from CMS to utilize certain sections of the 2012 Life Safety Code without showing “unreasonable hardship” by doing so. CMS will review each organization and waiver request for approval on a case-by-case basis.

The Joint Commission will consider the following conditions eligible for review for possible Traditional Equivalency approval:

**Patient Lifts and Transports.** Life Safety Code section 18/19.2.3.4, Capacity of the Means of Egress, allows patient lift and transport equipment (gurneys and wheelchairs) to be stored in the means of egress, provided there is a clear corridor width of 5 feet, staff training, and a fire plan that addresses the relocation of wheeled equipment.

**Fixed Seating in Egress Corridor.** Life Safety Code section 18/19.2.3.4 permits fixed seating in the means of egress with certain restrictions. These restrictions include maintaining a clear width of 6 feet and ensuring that each group of seats is less than or equal to 50 square feet, with 10 feet between groups. The fixed seating areas must be on one side of the corridor and must not block access to fire protection equipment.

The evolution of the Life Safety Code to allow lifts, transport, and fixed seating in the means of egress is based on organizations successfully reducing corridor clutter and taking advantage of the fully-sprinklered compartments. Note that when The Joint Commission reviews a Traditional Equivalency request, it will seek a clear answer to one simple question: How successful is this organization in keeping its corridors clear of clutter?

This month’s column completes our discussion on keeping corridors clear of clutter. Next month’s column will continue to focus on the importance of maintaining the various life safety features by discussing suites and fire safety.

** The organization will need to apply to both CMS for the waiver and The Joint Commission for the Traditional Equivalency determination.
Maintaining Fire Equipment and Building Features

A Deep Dive into EC.02.03.05

The Joint Commission has identified the need to increase the field’s awareness and understanding of the Life Safety Code®.* To address this need, The Joint Commission Perspectives® publishes the column Clarifications and Expectations, authored by George Mills, MBA, FASHE, CEM, CHFM, CHSP, director, Department of Engineering, The Joint Commission. This column clarifies standards expectations and provides strategies for challenging compliance issues, primarily in life safety and the environment of care, but also in the vital area of emergency management. You may wish to share the ideas and strategies in this column with your facility’s leadership.

To fully protect patients, staff, and visitors during a fire, a health care organization must have the appropriate equipment and building features—and they have to function correctly and reliably. That means maintaining them. Environment of Care Standard EC.02.03.05 talks about how and with what frequency health care organizations should maintain fire safety equipment and building features. Note that this standard does not require organizations to have all the specific equipment and features discussed in the standard. But if an organization does have such equipment, the standard’s requirements apply.

Recently, compliance with Standard EC.02.03.05 has become an issue for some organizations, making the standard one of the top five environment of care (EC) compliance challenges organizations face.

Over the coming months, this column will provide insight into the 21 elements of performance (EPs) of EC.02.03.05. This month’s column addresses the first four EPs, discussing each and suggesting an approach for assessing compliance.

EP 1—Signal Devices

At least quarterly, the organization tests supervisory signal devices (except valve tamper switches and water flow devices), as required. The completion date of the tests is documented. Note: For additional guidance on performing tests see NFPA 72, 1999 Edition (Table 7-3.2).

EP at a Glance

The intent of EP 1 is to make sure that organizations maintain all required supervisory signal devices (except valve tamper switches) and test them quarterly. You must document evidence of testing.

In the context of this EP, the scope of “supervisory signals” is limited to those referenced in NFPA 72-1999, Table 7-3.2, and 72-1999, Section 2-9. Table 7-3.2 merely states that supervisory signal devices (other than water-flow switches and valve tamper switches) must be tested quarterly. The table does not actually define the specific devices that should be tested. Instead, it refers the reader to NFPA 72-1999, Section 2-9, which requires the following signal devices to be tested:

- Control valve supervisory signal initiating devices
- Pressure supervisory signal initiating devices
- Water level supervisory signal initiating devices (on a sprinkler reserve water tank)
- Fire pump room temperature supervisory signal initiating devices

In addition to these items, NFPA 72-1999 further defines the supervisory signal-initiating device as a need for action in connection with guard tours, fire suppression systems or equipment, or maintenance features of related systems. It is important to note that NFPA 72-1999, Section 3-8.3.3, requires organizations to monitor fire pump power supplies and running conditions, including phase reversal. Section 3-9.4 requires organizations to monitor as supervisory signals the loss of voltage for elevator shut-down control circuits.

Survey Activity

This EP is surveyed during a document review session and confirmed during the building tour. You must have documentation indicating that each unique supervisory signal device (except for valve tamper switches) is functionally tested quarterly.

*Life Safety Code® is a registered trademark of the National Fire Protection Association, Quincy, MA.
EP 1 is a scoring category A EP, meaning that it is related to a requirement that either exists or does not exist or is pass/fail. Organizations will be scored either 2 for satisfactory compliance or 0 for lack of compliance.

*Life Safety Code Background*


**EP 2—Water-Flow Devices and Valve Tamper Switches**

*For organizations that use Joint Commission accreditation for deemed status purposes:* At least quarterly, the organization tests water-flow devices. Every 6 months, the organization tests valve tamper switches. The completion date of the tests is documented. Note: see NFPA 72, 1999 Edition (Table 7-3.2).

*For organizations that do not use Joint Commission accreditation for deemed status purposes:* Every 6 months, the organization tests valve tamper switches and water-flow devices. The completion date of the tests is documented. Note: see NFPA 72, 1999 Edition (Table 7-3.2).

**EP at a Glance**

*Note:* CMS issued an S&C letter (S&C 13-58-LSC), which allows for a categorical waiver to reduce vane type and pressure switch type water flow alarm testing from quarterly to semiannually. To make this modification, the organization should discuss with the Environment of Care Committee (or Safety Committee) the decision to extend testing frequencies, and include the decision in the minutes. This documentation should be shared with any surveyor at the beginning of survey.

The intent of this EP is to make sure that organizations maintain and test all valve tamper switches and water-flow devices. For deemed status organizations, water-flow device testing must occur quarterly and valve tamper switch testing every six months. However, as noted above, the categorical waivers from CMS align with later editions of NFPA 25 and extend the test frequency to semi-annually, but the decision must be documented and declared at the beginning of survey. For non-deemed status organizations, both tests must occur semiannually. In either case, test performance must be documented.

Testing documentation for each tamper switch should indicate a functional test for the physical operation of the valve(s) controlling the water supply to the sprinkler system, where any attempt to close a valve will send a signal back to the main panel. To make sure you are compliant, conduct periodic checks of valves to verify that they have switches and are appropriately wired. If they do not have switches going back to the panel, the valve must be locked.

Water-flow devices should indicate whether there is water flowing in the sprinkler system or whether there is a change in pressure. Either of these signal activations could be a result of a sprinkler head activating for cause or by accident, or, on a dry system being charged with water, caused by an air leak. Any unexpected readings should be addressed and resolved.

**Survey Activity**

EP 2 is surveyed during a document review session and confirmed during the building tour. Organizations should fully document the performance and timing of testing activities. Documentation must indicate that each unique signal device is functionally tested at the required frequency. EP 2 also falls under scoring category A.

*Life Safety Code Background*

NFPA 101–2000, Sections 9.6.1.8 and 9.7.6.1†; NFPA 72-1999; and NFPA 25-2011, Sections 5.3 and 8.3

**EP 3—Notification Devices**

*Every 12 months,* the organization tests duct detectors, electromechanical releasing devices, heat detectors, manual fire alarm boxes, and smoke detectors. The completion date of the tests is documented. Note: For additional guidance on performing tests, see NFPA 72, 1999 Edition (Table 7-3.2).

†The Life Safety Code®, NFPA 101-2000, requires that the municipal fire department (or applicable emergency forces group) be notified and a fire watch be provided whenever an approved fire alarm or automatic sprinkler system is out of service for more than 4 hours in a 24-hour period in an occupied building.
**EP at a Glance**

The intent of EP 3 is to make sure that all duct detectors, electromechanical releasing devices, heat detectors, manual alarm boxes, and smoke detectors are tested annually. You must document these activities.

Initiating devices such as these react to surrounding conditions and communicate to the fire alarm panel. For example, a smoke detector detects smoke and then initiates a signal to the fire alarm panel. If the organization has an “intelligent” fire alarm system, the signal will also be coded to the location of the smoke detector (addressable smoke detectors). The Joint Commission considers electromechanical releasing devices to include electromagnetic door hold-open devices that hold smoke and fire doors open during non-fire situations. Releasing devices may be external magnetic units or built into the closure. Although these are not actually initiating devices, the fire alarm panel does initiate the door-closing process by terminating power to the electromagnetic hold-open, causing the door closure to close the door. In security-sensitive areas, such as the maternity ward, pediatrics, operating suites, behavioral health areas, and emergency rooms, all locked doors may have electromagnetic releases. These must release upon activation of the fire alarm system.

Note that fire and smoke shutters also are considered electromechanical releasing devices and must be tested annually, in accordance with EP 20.

**Survey Activity**

This EP is surveyed during a document review session and confirmed during the building tour. Documentation must be present indicating that each unique signal and releasing device is functionally tested annually. EP 3 is a category C EP, meaning that it’s scored based on the number of times an organization does not meet the expectations of the EP.

**Life Safety Code Background**


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**Check Your EC.02.03.05 Compliance**

Following are several questions that you can use to check your compliance and identify improvement opportunities:

- Do you have a complete inventory of all devices to be tested?
- What mechanism do you have to confirm that all the appropriate devices have been tested and that none have been overlooked?
- Do you generate a deficiency report from any testing?
- How do you document any corrective actions to be taken based on the report? What is the time line for these corrective actions?
- If repairs are made, how do you “close the loop,” documenting the who, what, where, and when of the repairs?
- Do you commission the system after the repairs?
- How do you make sure that interim life safety measures (ILSM) are assessed and implemented, if required, during repairs?
- Is the signal panel appropriately placed? What kind of protection does it have?
- Is the signal panel sufficiently staffed during off hours to make sure there’s coverage at all times?
- How do you make sure that service personnel are qualified and experienced in inspection, testing, and maintenance activities? For example, are service personnel factory trained and certified, with certifications from professional or municipal organizations?
- How do you make sure that you have proper audibility in high noise areas, such as boiler rooms?
- If you have a contract with a testing company, does the contract include language that requires the testing of each audible and visual device?
EP 4—Visual and Audible Fire Alarms

Every 12 months, the organization tests visual and audible fire alarms, including speakers. The completion date of the tests is documented. Note: For additional guidance on performing tests, see NFPA 72, 1999 Edition (Table 7-3.2).

**EP at a Glance**
The intent of this EP is to ensure the testing and proper functioning of visual and audible fire alarm devices, therefore providing proper emergency notification to building occupants.

According to the *Life Safety Code*, for a notification system to be considered audible and visible, occupants must be able to hear it above the average ambient sound level occurring under normal conditions of occupancy. All audible alarm notification appliances should produce distinctive signals that cannot be confused with other audible signals used for different purposes in the same building.

Audible and visual fire alarm notification appliances should only be used in fire alarm systems or for other emergency purposes, unless otherwise permitted by another section of the *Life Safety Code*. Alarm notification takes precedence over all other signals.

**Survey Activity**
This EP is surveyed during a document review session and confirmed during the building tour. Documentation must be present indicating that each unique visual and audible device is functionally tested at the required frequency. This is a category C EP.

**Life Safety Code Background**
NFPA 72-1999, Section 4-3.2.2, and NFPA 72-1999 (Table-7.3.2)

**Gauge your compliance**
Having a clear understanding and appreciation of the various requirements under Standard EC.02.03.05 is important for preserving the safety of all your organization’s occupants. The “Test Your Compliance” checklist on page 17 will help you gauge current compliance and identify improvement opportunities.

This month’s column, which also appears in the December 2013 issue of Environment of Care® News, discusses maintenance of fire equipment and building features. Next month’s column will discuss emergency generators.
Power Up!

Keeping Emergency Power Generators on Call and Ready to Go

Suppose that a hurricane, a tornado, or another severe weather event knocks out normal power to a hospital or another healthcare organization. The emergency power generators automatically kick in and provide power to start critical systems. But then they fail. Parts of the organization are left without any power, including perhaps surgery or isolation rooms, and patients and staff are put at risk.

Location, location, location.

Severe weather is common, but generator failure, as described above, is not. However, recent events have led to the identification of situations in which the location of the emergency power supply system (EPSS) may cause the system to be vulnerable. The EPSS is generally located near where the normal electrical feed enters a building, which is usually in the lower levels, such as the basement. Regarding emergency generator vulnerability, the National Fire Protection Association’s Standard for Emergency and Standby Power Systems, 1999 edition (NFPA 110-1999) simply states the following:

“Consideration shall be given to the location of the Level 1 and Level 2 EPSS equipment to minimize the possibility of damage resulting from interruptions of the emergency power source caused by the following:

(a) Natural conditions such as storms, floods, earthquakes, tornadoes, hurricanes, lightning, ice storms, wind and fire
(b) Conditions such as vandalism, sabotage and other similar occurrences
(c) Material and equipment failures (NFPA 110-1999, Section 5-2.4). However, the 2010 edition of NFPA 110 addresses the location issue head-on, using mandatory language, stating the following:

The rooms, shelters, or separate buildings housing Level 1 or Level 2 EPSS equipment shall be designed and located [emphasis added] to minimize the damage from flooding, including that caused by the following: (1) Flooding resulting from fire fighting (2) Sewer water backup (3) Similar disasters or occurrences. (NFPA 110-2010, Section 7.2.3) In addition, NFPA 110-2010 states: Minimizing the possibility of damage resulting from interruptions of the emergency source shall be a design consideration [emphasis added] for EPSS equipment. (NFPA 110-2010, Section 7.2.4)

At this time, The Joint Commission and the Centers for Medicare & Medicaid Services (CMS) have adopted the 2000 edition of the Life Safety Code®, which means that the 1999 edition of NFPA 110 is the version referenced. However, the 2010 language should provide guidance as to placement and protection of the EPSS. For example, if a generator is in a location that might be prone to flooding, are pumps and other equipment available to protect the equipment? Could the EPSS be relocated to reduce risk? For new installations, has a risk assessment been completed prior to design and installation?

Stress testing the system

To prevent EPSS outages, The Joint Commission also requires organizations to inspect, test, and maintain their emergency power systems (Standard EC.02.05.07). Proactively interfacing with these systems, including periodically stress testing them, can increase the likelihood of detecting potential reliability problems before a normal power outage occurs. Organizations can then resolve any issues, limiting the risk of losing critical emergency power when it is most needed.

The Joint Commission has clarified Standard EC.02.05.07 to better support health care organizations’ efforts to efficiently test and maintain emergency power equipment. Following is a brief discussion of some of the clarifications.

Battery-powered lights

The first clarification is functional testing for in Element of Performance (EP) 1, which addresses

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functional testing for battery-powered egress lights. The EP currently requires that organizations test their battery-powered lights at 30-day intervals. The Joint Commission has clarified the meaning of “30-day intervals” as meaning 12 times per year (one per month). (See “Other Issues for Consideration” in the “Environment of Care” [EC] chapter of the 2014 Comprehensive Accreditation Manual for Hospitals.)

As always, the completion of these tests must be documented.

By the way, here’s a clarification regarding placement of battery-powered lighting: NFPA 110-1999, Section 5-3.1 states that the emergency power supply equipment (emergency generator) must be provided with battery-powered emergency lighting. This does not include exterior enclosures without walk-in access. Automatic transfer switch (ATS) locations currently do not require battery-powered emergency lighting, although later editions of NFPA 110-1999 do require this.

**Emergency generator testing**

The Joint Commission has clarified the time frame in which emergency generator tests must be completed as once each calendar month instead of every 20 to 40 days (EP 4). As long as tests occur each calendar month, an organization is considered to be compliant. This clarification may allow an organization a little extra time between tests. For example, if your organization conducts a test on March 5, you can conduct the next test as late as April 30 and still be considered compliant. This monthly testing clarification applies to both emergency generators (EP 4) and ATSs (EP 6).

### An Emergency Power Preparation Checklist

In addition to the inspection, testing, and maintenance requirements for emergency power systems discussed in this article, The Joint Commission supports the following proactive steps to avoid adverse events caused by an emergency electrical power system failure:

- Perform a gap analysis on the emergency power system that compares the critical equipment and systems needed in an extended emergency against the equipment and systems actually on the emergency power system.
- Use disaster scenario planning to identify critical systems that could potentially be lost (for example, potable water or elevators).
- Maintain a complete, labeled inventory of all emergency power systems and the loads they serve.
- Provide competency training and testing for all operators and others responsible for system maintenance of the emergency power supply system.
- Test generator fuel oil, track expiration dates, and replace stale fuel oil not consumed within its storage life.
- Ensure that engineering staff communicate the capabilities and limitations of the emergency power supply system to the organization’s management and clinical leaders. These communications should cover how long emergency power will be available, how long it will take the generators to provide power if and when the utility company’s power is lost, and what locations within the facility will and will not be powered by the emergency power.
- Establish contingency plans for clinicians to follow during brief or sustained losses of emergency power and include this information as part of the orientation and periodic continuing educational activities for medical and other clinical staff.
- Have plans in place for rapid deployment of battery-powered equipment, such as portable suction units, in case of a power failure.
- Regularly assess critical equipment to ensure that it is plugged into backup power outlets.
- Create a “disaster bin” that contains flashlights, extension cords, and so on.

The Joint Commission has also clarified EP 5 regarding requirements related to wet stacking—a problem associated with diesel engines. Wet stacking occurs when a diesel engine is not operated with a sufficient load to fully burn all of the fuel that is delivered to its cylinders. Unconsumed fuel has the potential to foul fuel injectors in the generator’s engine and negatively affect reliable performance. EP 5 previously required organizations to test all emergency generators for 30 minutes at 30% of nameplate kW rating or at the manufacturer’s exhaust gas temperature. Since wet stacking only occurs in diesel-powered engines, The Joint Commission has clarified this EP to relate only to diesel-powered engines. By testing a diesel engine at this duration using this load, an organization can ensure that fuel is fully burned and wet stacking avoided.

To provide further clarity, The Joint Commission has added a new note to EP 5: “Note: Tests for non-diesel-powered generators need only be conducted with available load.” Non-diesel-powered generators would include, for example, natural gas and propane generators.

If an organization cannot test a diesel-fueled emergency generator for 30 minutes at 30% of the nameplate kW rating or cannot test at the manufacturer’s exhaust gas temperature, the organization must test the generator once a year using supplemental loads, usually called load banking. In other words, an organization may hook up its generator to a supplemental load, which makes the engine work sufficiently hard to fully burn fuel and prevent wet stacking. NFPA 110-1998 requires the load bank test to follow specific steps, with 25% of nameplate in the first 30 minutes, followed by 50% in the second 30 minutes, and then 75% for a full hour, for a total of 2 hours (see the Joint Commission requirement EC.02.05.07, EPs 7 and 8).

However, the NFPA has determined that a supplemental load test that is only 1.5 hours in duration is sufficient to prevent wet stacking and adequately test the reliability of the generator. Therefore, the NFPA has eliminated the requirement for a 25% load for the first 30 minutes. This will not only save organizations time but will limit fuel consumption—thus helping to preserve the environment. The 30 minutes at 50% and 60 minutes at 75% remain as part of the test requirements.

Although EP 5 requires the full 2-hour exercise, CMS issued Survey and Certification, S&C 13-58-LSC, allowing organizations to reduce testing time to the 90-minute exercise discussed above. Therefore, The Joint Commission also will allow this 90-minute testing if the organization documents the decision and notifies the surveyor of the decision at the beginning of the survey.

In addition to the monthly EPSS tests (including the emergency generator and ATS tests) The Joint Commission requires a four-hour run of the emergency generator every three years (EC.02.05.07, EPs 7 and 8) with a load of at least 30% for diesel-fueled generators. For non-diesel-fueled generators, the four-hour test is required using the available load for the full four hours. Actual documented events that meet the test requirements at EPs 7 and 8 may be used in lieu of a scheduled test.

An advantage of this four-hour test is that it can assess the reliability of the entire EPSS and identify system issues. For example, one location had an emergency generator located in a basement, with a fresh air shaft alongside the generator vault. This fresh air shaft terminated about 24 inches above the ground, with a large open grate to allow air movement but prevent accidental access.

The Joint Commission requires a four-hour run of the emergency generator every three years with a load of at least 30% for diesel-fueled generators.

During a construction project, a contractor decided to place 4 8-foot sheets of material on the raised platform (the ventilation shaft). During the 30-minute monthly exercise, the EPSS room was not adversely affected. However, during a sustained generator run, the EPSS room, starved of make-up air with the compromised shaft, got so hot that a sprinkler head activated, causing the EPSS to fail.
Responding to problems

The inspection, testing, and maintenance of an EPSS should identify any potential reliability issues. If a test fails, an organization must take measures to continue to protect patients, staff, and visitors. Contingency plans must be developed to identify corrective actions (EP 9). After an organization has completed corrective repairs, it must perform a retest to ensure that the EPSS is fully functional and reliable (EP 10).

For further information about avoiding adverse events associated with EPSS failures, see Sentinel Event Alert #37, dated September 6, 2006.

NFPA Disclaimer: Although the author is a principal (voting) member of the NFPA Technical Committee on Emergency Power Supplies, which is responsible for NFPA 110 and 111, the views and opinions expressed in this document are purely those of the author and shall not be considered the official position of NFPA or any of its technical committees and shall not be considered to be, nor be relied upon as, a formal interpretation. Readers are encouraged to refer to the entire text of all referenced NFPA documents.

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Environment of Care Management Plans

Making sure your plans get the job done

The Joint Commission has identified the need to increase the field’s awareness and understanding of the Life Safety Code®. To address this need, Environment of Care® News publishes the column Clarifications and Expectations, authored by George Mills, MBA, FASHE, CEM, CHFM, CHSP, director, Department of Engineering, The Joint Commission. This column clarifies standards expectations and provides strategies for challenging compliance issues, primarily in life safety and the environment of care but also in the vital area of emergency management. You may wish to share the ideas and strategies in this column with your organization’s leadership.

Effective management plans are essential for taking charge of the environment of care (EC). These high-level documents, required of accredited organizations for all health care settings (with the exception of office-based surgery and home care programs), should guide your organization’s operations to minimize risk and support strong performance in the six key EC functional areas shown in the box at right.

The intent of the plans

Although management plans should bring the various EC functions into focus, they are not meant to be overly detailed. You could think of them as a series of executive summaries which show that your organization is managing the EC and complying with Joint Commission standards. In fact, management plans shouldn’t necessarily detail how things are done but instead should provide assurance that there are processes in place to get things done and respond to risk. For example, an organization’s utilities management plan might say:

*Although Acme Hospital does not monitor for Legionella bacteria, there is a process in place whereby the organization can implement mitigation strategies when notified by the infection control department of a potential outbreak.*

This statement provides assurance that the organization has a mitigation strategy and knows when to activate it. But it does not detail what the strategy is or how it will be implemented. At this point, the utilities management plan might refer to a separate policy or procedure with greater detail about specific mitigation strategies and their uses.

Taking a thoughtful approach

As your organization creates or revises its management plans, keep the following points in mind:

- *Don’t cite the standards.* Reviewing The Joint Commission standards related to EC is a helpful first step in developing management plans. Each management plan must address the pertinent EC standards and their elements of performance (EPs), so it is crucial that plan developers understand what those EPs require. However, merely restating the EPs or listing standard numbers in the management plans is not appropriate. Surveyors know what the standards and EPs are, so you don’t need to repeat them in your management plans. Plus, the standards may change slightly from year to year, and it can be

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tedious to constantly amend a plan due to shifting standard-related content. With that said, the safety officer may choose to annotate a master copy of the management plans with the standard numbers to ensure that the plans address every relevant EP. This can also help during survey because if needed, the surveyor can quickly see how your organization complies with specific standards.

“You could think of [management plans] as a series of executive summaries.”
— George Mills, MBA, FASHE, CEM, CHFM, CHSP, director, Department of Engineering, The Joint Commission

- **Determine the shape of the plans.** Although The Joint Commission requires organizations to have management plans that address the six EC functional areas, it is not prescriptive about what format the plans take. For example, plans can stand as individual documents or be consolidated into one document. Having individual documents that address each aspect of the EC undoubtedly enhances the specificity of the management plans, making them unique for each aspect of the EC. However, this may prove to be too cumbersome for your organization and may cause unintended confusion instead of providing clarity. To streamline the plans, you might want to write one set of consolidated plans that covers all your organization’s functions.

Yet another approach would be to address in one document the topic areas that apply to all management plans and then provide adjunct plans that highlight the work specific to the various functional areas. The require that all management plans address the topics shown in the box at right.

An overall plan could describe of these functions as they relate to the entire EC management process, and detailed attachments can then dig more deeply into the particulars of each topic area for the six required plans.

- **Keep a consistent structure.** To ensure that your management plans are easy to navigate, understand, and use, you may want to keep the structure of the plans consistent. For example, each plan could start with a mission and vision statement, a description of plan scope, and a list of objectives. A plan could then list compliance details and end with a brief discussion about how performance will be measured and how the plan will be evaluated. By keeping plans consistent, any individual can pick up any plan and know where to find certain information.

<table>
<thead>
<tr>
<th>Management Plans Key Topics</th>
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<tbody>
<tr>
<td>All environment of care management plans must address the following topics:</td>
</tr>
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<td>• Risk assessment</td>
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<td>• Staff development</td>
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<tr>
<td>• Emergency response and procedures</td>
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<tr>
<td>• Inspection, testing, and maintenance</td>
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<td>• Information collection and evaluation</td>
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<tr>
<td>• Performance monitoring</td>
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<td>• Annual evaluation</td>
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- **Cite supporting material.** To provide information and also prevent management plans from becoming unwieldy, you might want to cite supporting policies in the plans and describe how readers can access those policies. This might include cross-referencing the appropriate policies and procedures or providing a list of them in an addendum to the plan.

- **Comply with the strictest authority having jurisdiction (AHJ).** Don’t forget the rule of thumb that you must always comply with the strictest AHJ. For example, EC requirements state that only one fire drill per shift per year is needed in freestanding business occupancies. But if the local fire marshal requires more frequent drills, an organization is obligated to honor that requirement. Conversely, if the local AHJ requires only one drill every two years, an organization is still required to have one per shift per year according to The Joint Commission, which then acts as the strictest AHJ. Your management plans should highlight when the AHJ is not The Joint Commission and indicate that you are meeting the stricter authority’s requirements.

- **Remember related Joint Commission standards.** Standards found in other chapters of the accreditation manuals can have an impact on the EC. Because of this, you might want to
A Rubric for Management Plans

By scoring your performance for each of the following statements, you can see whether your management plan development process is on track or needs improvement.

Score each statement below with a number between 1 and 5, with 1 being “do not agree” and 5 being “completely agree.”

1. We address each EC standard’s element of performance. 1 2 3 4 5
2. We involve subject matter experts in plan development. 1 2 3 4 5
3. We clearly outline the plan’s objectives and scope. 1 2 3 4 5
4. We clearly describe a method for monitoring performance. 1 2 3 4 5
5. We outline a process for determining plan effectiveness. 1 2 3 4 5
6. We detail the annual evaluation process. 1 2 3 4 5
7. We direct the reader to supplemental information. 1 2 3 4 5
8. We have a process for ensuring that policy reflects practice. 1 2 3 4 5
9. We consider other standards chapters. 1 2 3 4 5
10. We respect the strictest authority having jurisdiction (AHJ). 1 2 3 4 5

A scoring scale

After scoring all statements, total the scores to obtain an overall grade. Then compare your score against the following list:

- 40-50—Your management plan development approach is sound and should yield well-considered plans that accurately reflect your organization’s performance and compliance efforts.
- 20-39—Your management plan development approach is acceptable but could benefit from a refreshed look and some minor changes. Spend time reviewing your methodology and thinking about how to make it better.
- 0-19—Your management plan development approach will not yield adequate plans, and you could be jeopardizing the safety and security of patients, staff, and visitors. You should promptly review and retool your processes for developing plans.

Source: Joint Commission Resources

address some of these standards in your management plans. For example, standards from the “Emergency Management” (EM), “Life Safety” (LS), “Infection Prevention and Control” (IC), “Human Resources” (HR), and “Leadership” (LD) chapters might apply to EC efforts and should be considered in an organization’s management plans. A management plan that refers to other standards will yield a more complete picture of the management process for each EC area and will create a safer environment for patients.

- Distribute the plans appropriately. The Joint Commission requires organizations to have management plans in every site accredited by The Joint Commission. Unfortunately, surveyors often find that organizations’ offsite locations don’t have management plans or that the plans are not applicable to the alternative setting. For example, if a hospital has several physician offices and a rehabilitation center, The Joint Commission would expect to see the management plans at each of these facilities reflect the activities that occur in the offsite location. To make creating organizationwide management plans easier, you might consider starting with a primary plan (for example, for the hospital) and adapting it to different settings. This is a fine approach, but it’s important to be careful not to just copy the primary plan. You should instead review the plan and revise it to address the unique aspects of the targeted secondary setting. For example, a hazardous materials management plan for a physician office should look distinctly different than that of a hospital. Although the hospital might mention mitigation strategies for Legionella, the physician office should not address this topic unless it has such mitigation strategies in place. Remember, Joint Commission surveyors expect you to comply with your own requirements and hold you to whatever content you include in your management plans. Although the requirement for management plans has existed since the mid-1990s, and most organizations are compliant with this standard, you should not assume that your approach to management plan development is flawless. To yield the best possible plans, it may be beneficial to revisit your methodology and determine whether changes should be made. The rubric above can help you assess whether your efforts are on track or whether you need to rethink your approach.
Not just a “requirement”

The EC management plans should be more than just a compliance exercise for your organization. To provide true value, staff and leaders must think of them as a way to achieve and constantly maintain a safe environment. If your organization views your management plans as an opportunity for transparent communication and designs them to be a roadmap to EC management, the plans can help lay the foundation for a safe and responsive EC.
New to This? A Few Definitions

Note that these are not official definitions from an authorized source, but easy-to-understand general definitions of terms frequently used in healthcare facilities departments.

<table>
<thead>
<tr>
<th>Topic</th>
<th>Component</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fire Alarm</strong></td>
<td>Smoke detectors</td>
<td>Smoke detectors sense the presence of smoke, and sends a signal to the fire alarm panel.</td>
</tr>
<tr>
<td></td>
<td>Strobe</td>
<td>Strobes provide visual notification that the fire alarm system is activated by flashing a strong light.</td>
</tr>
<tr>
<td></td>
<td>Audible alarms</td>
<td>Horn or chime provide audible notification that the fire alarm system is activated by creating a loud audible signal.</td>
</tr>
<tr>
<td><strong>Roof</strong></td>
<td>Built-up roof</td>
<td>Asphalt or other material layered together resulting in a roof assembly that is built up to a specific thickness.</td>
</tr>
<tr>
<td></td>
<td>Ballasted roof</td>
<td>Synthetic roofing membrane (often a rubber product) stretched over the roof deck with material (usually rock) as a ballast to hold the membrane in place from high winds.</td>
</tr>
<tr>
<td></td>
<td>Membrane roof</td>
<td>Membrane stretched over the roof deck with mechanical fasteners to hold in place. A rubber material without ballast.</td>
</tr>
<tr>
<td><strong>Miscellaneous Issues</strong></td>
<td>Tank farm</td>
<td>Bulk storage tanks are stored outside in locked and fenced areas.</td>
</tr>
<tr>
<td></td>
<td>Gas shut off valve</td>
<td>Gas shut off valves are located in a medical gas panel, with valves labeled to identify what gas is controlled by the valve.</td>
</tr>
<tr>
<td></td>
<td>Gas panel signage</td>
<td>Description of areas served and non-flammable medical gases that pass through the medical gas panel.</td>
</tr>
<tr>
<td></td>
<td>Alcohol based hand rub (ABHR)</td>
<td>Hand sanitizer often in dispensers that project into the egress corridor up to but not exceeding 6 inches and not over an ignition source, such as receptacle or light switch.</td>
</tr>
<tr>
<td></td>
<td>Acoustical ceiling tile</td>
<td>Assembly of metal rails that support ceiling tile material (often cellulose) below the building deck. May be part of the corridor protection system in a fully sprinkler protected compartment replacing the need to maintain corridor walls above the ceiling assembly.</td>
</tr>
<tr>
<td></td>
<td>Asbestos</td>
<td>Mineral that was used in building construction until the mid-1970's as a fire proofing material. Found as a sprayed on material or applied using a trowel. Also is found in other building materials such as 9&quot;x9&quot; floor tile. Known as a carcinogenic, and requires either removal or encapsulation.</td>
</tr>
<tr>
<td>Topic</td>
<td>Component</td>
<td>Definition</td>
</tr>
<tr>
<td>-------------</td>
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</tr>
<tr>
<td>Astragal</td>
<td></td>
<td>When two doors close to create a barrier the meeting edge may exceed the allowed 1/8&quot; so one door may have a flat material applied to span the gap (without filling the gap) as a backing plate.</td>
</tr>
<tr>
<td>Back flow preventer</td>
<td></td>
<td>To prevent water siphoning back into a water supply a disruption in the water stream is required.</td>
</tr>
<tr>
<td>Duct/dampers</td>
<td></td>
<td>A duct is the system to move conditioned air to the occupants.</td>
</tr>
<tr>
<td>Smoke damper</td>
<td></td>
<td>To maintain the integrity of a smoke barrier a smoke damper is required if the compartment is not sprinklered with quick response sprinklers. In a fire situation the smoke activates the smoke damper, which closes.</td>
</tr>
<tr>
<td>Fire damper</td>
<td></td>
<td>To maintain the integrity of a fire barrier a fire damper is required. In a fire situation the fire causes the fire damper to close.</td>
</tr>
<tr>
<td>Dry wall</td>
<td></td>
<td>Material, such as gypsum, pressed between two sheets of paper forming a solid sheet used for constructing walls. Based on thickness and density the dry wall may be used as a component of a fire rated assembly. Seams are sealed with joint compound.</td>
</tr>
<tr>
<td>Firestop</td>
<td></td>
<td>A product designed to protect a barrier from the product of combustion, always installed as part of a tested system as per the manufacturer’s requirements.</td>
</tr>
<tr>
<td>Intumescent</td>
<td></td>
<td>A term used in fire stop technology that describes the physical property of fire stop that expands under fire conditions.</td>
</tr>
<tr>
<td>Junction Box</td>
<td></td>
<td>Access to wires in electrical distribution systems requires junction boxes. These junction boxes have covers and contain wires that may be connected inside the box.</td>
</tr>
<tr>
<td>Gap</td>
<td></td>
<td>A break in a surface may be a gap. For example, two doors that have an edge that meets may have a gap not exceeding 1/8&quot; or a gap at the bottom not exceeding 3/4&quot; (fire and smoke doors) or 1&quot; (corridor doors).</td>
</tr>
</tbody>
</table>
Appendix A: Faculty Biography

**NOTE:** This presenter does not have any financial arrangements or affiliations with corporate organizations that either provide educational grants to this program or may be referenced in this activity. This presenter has also attested that his discussion will not include any unapproved or off-label use of products.

**John D. Maurer, SASHE, CHFM, CHSP**

Engineer  
Department of Engineering  
The Joint Commission

John Maurer currently is an Engineer in the Department of Engineering at The Joint Commission, where he provides support for the Environment of Care, Emergency Management, and Life Safety standards. This includes interpretation of the standards, review of equivalency and extension requests for the Statement of Conditions™, review of survey reports, Intracycle Monitoring conference calls, faculty for educational programs, and survey activity.

Mr. Maurer came to The Joint Commission in 2007 and has over 20 years experience in Facilities Management across three hospitals ranging from 87 beds to 250 beds in the Chicago area, most recently while serving as a Life Safety Code Surveyor. In addition to normal facilities functions, Mr. Maurer has had the responsibility for several construction projects, energy reduction and efficiency initiatives, property management, and safety programs.

Mr. Maurer is a Certified Healthcare Facilities Manager (CHFM), a Certified Healthcare Safety Professional (CHSP), and a member of the National Fire Protection Association (NFPA), serving on two technical committees for NFPA 99. In addition, he is a member of the American Society for Healthcare Engineering (ASHE) with Senior (SASHE) status and the Healthcare Engineers Society of Northern Illinois (HESNI), serving on the HESNI Board of Directors since 2008; President for 2010 and 2011.

Mr. Maurer received his Bachelor's degree in Business Management from Olivet Nazarene University in Bourbonnais, Illinois.
Appendix B: Post-Test

To be eligible for CE credit, you MUST view the video presentation and read the Resource Guide first. Then complete the post-test at [http://twnlms.com/](http://twnlms.com/) by the due date listed online.

1. Maintenance and testing of fire safety features must be documented, as per Joint Commission standard _____.
   a. EC.02.03.05
   b. EC.01.01.01
   c. EC.02.02.01
   d. LS.01.01.01

2. The Life Safety (LS) chapter in the Comprehensive Accreditation Manual for Hospitals primarily focuses on _____.
   a. measures that hospitals must take to protect occupants from the dangers of fire
   b. organizational activities that keep the care environment safe
   c. environmental emergency situations
   d. construction projects

3. Corridor clutter is addressed at Element of Performance 13 of Joint Commission Standard _____.
   a. LS.02.01.10
   b. LS.02.01.20
   c. EC.02.03.05
   d. EC.02.02.01

4. A hospital's ventilation system should provide appropriate pressure relationships, air-exchange rates, and filtration efficiencies throughout the facility.
   a. True
   b. False

5. Interior spaces meet the needs of the patient population and are safe and suitable to the care, treatment, and services provided, is Joint Commission standard _____.
   a. EC.02.01.01, EP 5
   b. EC.03.03.10, EP 3
   c. EC.02.06.01, EP 1
   d. None of the above.

6. Floors or compartments in a building must have _____ exits located remotely from each other.
   a. two
   b. three
   c. four
   d. None of the above.

7. As long as emergency generator tests are conducted every other calendar month, an organization is considered compliant by The Joint Commission.
   a. True
   b. False
8. Joint Commission standard LS.02.01.10 states _____.
   a. the hospital maintains fire safety equipment and fire safety building features
   b. building and fire protection features are designed and maintained to minimize the effects of fire, smoke, and heat
   c. during survey, specific documentation is reviewed
   d. dead end corridors may be used for storage

9. The Joint Commission requires that 18 inches or more of open space must be maintained between sprinkler deflectors and the top of storage.
   a. True
   b. False

10. Important components of medical gas safety include _____.
    a. keeping cylinders secured
    b. segregating full from empty cylinders
    c. repairs being completed by qualified staff
    d. All of the above.
Appendix C: Resources and Related Information

Electronic Resources

The Joint Commission: http://www.jointcommission.org
Joint Commission Resources: http://www.jcrinc.com/

NOTE: The Internet is an ever-evolving environment and links are subject to change without notice.
Appendix D: Continuing Education Credit Information

Accreditation Council for Continuing Medical Education

Joint Commission Resources (JCR) is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians. JCR takes responsibility for the content, quality, and scientific integrity of this CME activity. JCR designates this educational activity for the listed contact hours of AMA PRA Category 1 Credit(s)™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

American Nurses Credentialing Center's Commission on Accreditation

JCR is also accredited as a provider of continuing nursing education by the American Nurses Credentialing Center's Commission on Accreditation. JCR designates this continuing nursing education activity for the listed contact hours.

JCR is a provider approved by the California Board of Registered Nursing, provider number CEP 6381 for the listed contact hours.

American College of Healthcare Executives

Joint Commission Resources is authorized to award the listed contact hours of pre-approved ACHE Qualified Education credit for this program toward advancement, or re-certification in the American College of Healthcare Executives. Participants in this program wishing to have the continuing education hours applied toward ACHE Qualified Education credit should indicate their attendance when submitting application to the American College of Healthcare Executives for advancement or re-certification.

National Association for Healthcare Quality

This activity has been approved by the National Association for Healthcare Quality (NAHQ) for 1.0 Certified Professional Healthcare Quality (CPHQ) CE credit.

Successful completion of this CE activity includes the following:

- View the presentation and read the accompanying Resource Guide.
- Complete the online Evaluation Form and Post Test.
- A CE certificate/statement of credit can be printed online following successful completion of the Post Test and the Evaluation Form.

NOTE: This information applies to The Joint Commission Resources Quality & Safety Network program titled, Solutions Part 1: How to Meet the Most Challenging EC and LSC Standards, originally presented on Thursday, February 27, 2014 from 2:00 - 3:00 p.m. ET.

There is no individual participant fee for this educational activity.
Appendix E: Discipline Codes: Instructions

Some of our programs are accredited for more than one discipline. To ensure that we issue each participant a certificate by the appropriate accrediting body, we ask that you supply us with the following information:

1. The two-digit discipline code
2. Followed by the position code

Example: For a medical doctor, use: 10 MD

<table>
<thead>
<tr>
<th>Discipline (CME)</th>
<th>Disciplne Code</th>
<th>Position Code</th>
<th>Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physician (CME)</td>
<td>10 MD</td>
<td>Medical Doctor</td>
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<tr>
<td></td>
<td>MDFP MD-Family Practice</td>
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<td></td>
<td>MDPs MD-Psychiatrist</td>
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<td></td>
<td>MDPH MD-Public Health Certificate</td>
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<tr>
<td></td>
<td>MDPP MD-Public Psychiatry Certificate</td>
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<td></td>
<td>MDAC MD-Area Clinical Needs</td>
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<tr>
<td></td>
<td>MDMF MD-Medical Faculty Certificate</td>
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<tr>
<td></td>
<td>MSP MD-Medical Staff Physician</td>
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<td></td>
<td>MDLL MD-Limited License</td>
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<tr>
<td></td>
<td>DO Doctor of Osteopathy</td>
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<td></td>
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<tr>
<td>Administration</td>
<td>12 HA</td>
<td>Hospital Administrator</td>
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<tr>
<td></td>
<td>ADM LTC Administrator</td>
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<td></td>
<td>OA Other Administrator</td>
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<tr>
<td>Pharmacy</td>
<td>13 PH</td>
<td>Pharmacist (PharmD)</td>
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<tr>
<td></td>
<td>PHN Pharmacist, Nuclear</td>
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<td></td>
<td>PHC Pharmacist, Consultant</td>
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<td></td>
<td>PA Pharmacy Technician</td>
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<tr>
<td>Dietary</td>
<td>14 RD</td>
<td>Registered Dietitian/Nutritionist</td>
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<tr>
<td></td>
<td>NC Nutrition Counselor</td>
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<td></td>
<td>DTR Dietetic Technician</td>
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<tr>
<td>Dietary Manager</td>
<td>15 DOD</td>
<td>Dietary Manager</td>
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<tr>
<td>Counseling</td>
<td>16 MHC</td>
<td>Mental Health Counselor, Licensed</td>
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<td></td>
<td>SW Social Worker, Licensed</td>
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<td></td>
<td>OCT Other Counselor/Therapist</td>
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<td></td>
<td>MFT Marriage/Family Therapist, Licensed</td>
<td></td>
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<tr>
<td>Laboratory</td>
<td>17 LTG</td>
<td>Laboratory Technologist/Professional</td>
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<tr>
<td></td>
<td>LT Laboratory Technician</td>
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<td></td>
<td>LS Laboratory Supervisor</td>
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<tr>
<td></td>
<td>LD Laboratory Director</td>
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<tr>
<td>Physical Therapy</td>
<td>18 PT</td>
<td>Physical Therapist</td>
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<tr>
<td></td>
<td>PTA Physical Therapy Assistant</td>
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<tr>
<td>Occupational Therapy</td>
<td>19 OT</td>
<td>Occupational Therapist</td>
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<tr>
<td></td>
<td>OTA Occupational Therapy Assistant</td>
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<tr>
<td>Respiratory Therapy</td>
<td>20 RT</td>
<td>Respiratory Therapist, Registered</td>
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<td></td>
<td>RTC Respiratory Therapist, Certified</td>
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<tr>
<td></td>
<td>RPNC Resp. Practitioner, Non-Critical Care</td>
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<td></td>
<td>RPCC Resp. Practitioner, Critical Care</td>
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<tr>
<td>Medical Records</td>
<td>21 RHA</td>
<td>Health Information Administrator</td>
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<tr>
<td></td>
<td>RHT Health Information Technician</td>
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<tr>
<td></td>
<td>CCS Coding Specialist</td>
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<tr>
<td></td>
<td>CCP Coding Specialist, Physician-Based</td>
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<td>Sonography</td>
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<td>Medical Sonographer</td>
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<td>Athletic Trainer</td>
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<tr>
<td>Quality</td>
<td>25 HQP</td>
<td>Healthcare Quality Professional</td>
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<tr>
<td>Activity Professional</td>
<td>26 ADP</td>
<td>Profession Activity Director</td>
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<td></td>
<td>ADC Activity Director</td>
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<td></td>
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<td></td>
<td>ACC Activity Consultant</td>
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<tr>
<td>Nurse (CNE)</td>
<td>30 RN</td>
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<tr>
<td></td>
<td>ARNP Advanced RN Practitioner</td>
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<tr>
<td></td>
<td>NP Nurse Practitioner</td>
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<tr>
<td></td>
<td>LPN Licensed Practical Nurse (or LVN)</td>
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<tr>
<td></td>
<td>ON Other Nursing Professional</td>
<td></td>
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<tr>
<td>Psychology</td>
<td>33 PSY</td>
<td>Psychologist (non-MD)</td>
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</tr>
<tr>
<td></td>
<td>PSYL Psychologist, Limited License</td>
<td></td>
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</tr>
<tr>
<td>Case Mgmt</td>
<td>35 CCM</td>
<td>Certified Case Manager</td>
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<td>Nursing Assistant</td>
<td>45 CNA</td>
<td>Certified Nursing Assistant</td>
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<tr>
<td></td>
<td>RA Restorative Care Aide</td>
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<td>HSA Health Support Aide</td>
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<td>NA Nurse Aide, Non-certified</td>
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<td>NT Nursing Technician</td>
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<td>First Responder</td>
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<td>EMTB EMT, Basic Level/EMT1</td>
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<td>EMTI EMT, Intermediate Level/EMT2/EMT3</td>
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<td></td>
<td>EMTP EMT, Paramedic Level/EMT4</td>
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<tr>
<td></td>
<td>OTH Other</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health Unit Coor</td>
<td>55 CHUC</td>
<td>Health Unit Coordinator, Certified</td>
<td></td>
</tr>
</tbody>
</table>
Appendix F: JCR Quality & Safety Network Contact Information

General information, customer service issues, or program reception problems?
If you have questions or need technical assistance, please contact the JCRQSN Customer Service Team via e-mail at support@jcrqsn.com or call toll-free 1-888-219-4678

To provide feedback or comment on JCRQSN educational programming
Please contact:
George Riccio
Associate Director of Video and Satellite Service
Joint Commission Resources 630-792-5428

Continuing education questions?
Please contact:
JCRQSN Continuing Education Support Team 1-888-219-4678
support@jcrqsn.com

Questions about standards?
Standards Interpretation Group 630-792-5900

Questions about JCR education or other resources?
JCR Customer Service Center 877-223-6866