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EC News

ENVIRONMENT OF CARE® | LIFE SAFETY



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JCR's Ambulatory Care Conference

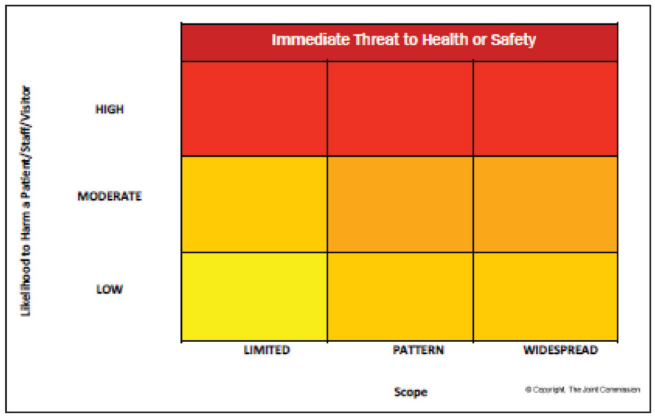
Top 10 EC and LS Findings in Ambulatory Care

A Joint Commission physical environment specialist clarifies the most commonly cited requirements in the environment of care

Drawing on his experiences in The Joint Commission's Standards Interpretation Group (SIG) and previously as an engineering professional for health care facilities, Physical Environment Specialist Thomas J. Todro, MBA, CBET, shared his compliance insights at the Joint Commission Resources (JCR) 2023 Ambulatory Care Conference in Oakbrook Terrace, Illinois, in November. During his presentation, he focused on the top 10 most frequently cited Environment of Care (EC) or Life Safety (LS) elements of performance (EPs), based on surveys conducted from January 2022 to September 2023.

Before delving into the details, Todro reassured his audience that Joint Commission surveyors don't expect organizations to have zero physical environment findings. "The surveyor comes in, and a light burns out or a door doesn't work because somebody busted a lock—we get that," he said. "Things are going to happen. You're in a dynamic environment. You can be perfect one minute, and things just break."

What's more important is the surveyor's assessment of the risk of each citation, as plotted on the *Survey Analysis for Evaluating Risk*® (*SAFER*®) Matrix. Observations classified as high risk occupy the upper (red) row of the *SAFER* Matrix, with Immediate Threat to Health or Safety (ITHS) declarations shown in the darker red band at the top. Low-risk findings that are limited in scope occupy the lower-left (yellow) cell. In between are Requirements for Improvement (RFIs) categorized as moderate risk and/or pattern or widespread in scope (either of two shades of orange).

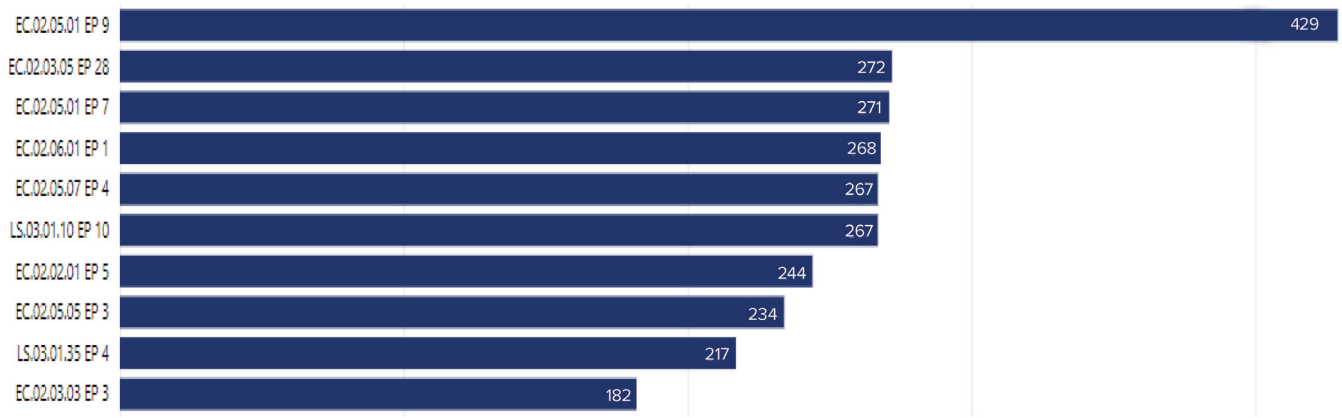


The *SAFER* Matrix helps organizations easily identify RFIs with higher risk. "That's where you're going to want to put your emphasis," Todro noted. As shown in Figures 1 and 2 on page 3, the most frequently cited physical environment requirements for ambulatory care organizations are not necessarily the highest-risk EPs.

What follows is a list of the top 10–cited EC or LS EPs in descending order of frequency, with Todro's comments shaded.

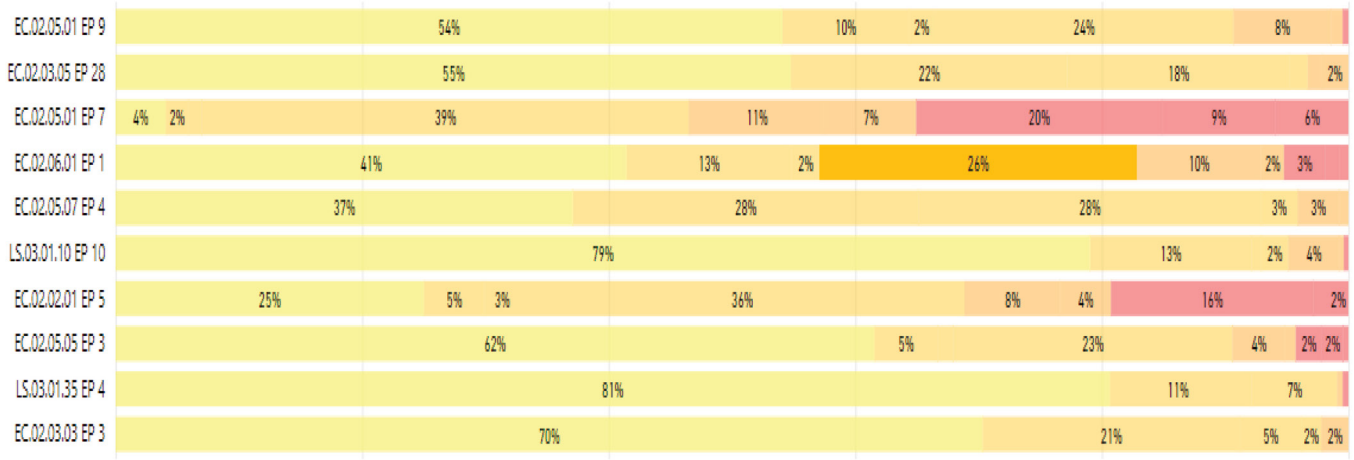
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Figure 1. Top EC or LS Observations for Ambulatory Care, January 2022–September 2023



This bar graph depicts the 10 most frequently cited physical environment elements of performance, based on the aggregate number of Requirements for Improvement (RFIs).

Figure 2. Risk Classification of the Top-Cited EC or LS Findings



For each of the 10 most frequently cited physical environment requirements, this graph shows the proportional classification by risk level of the Requirements for Improvement (RFIs). Yellow represents the lowest risk level and red the highest. Orange represents moderate risk.

1: Utility system labeling

EC.02.05.01, EP 9: The organization labels utility system controls to facilitate partial or complete emergency shutdowns.

Note 1: *Examples of utility system controls that should be labeled are utility source valves, utility system main switches and valves, and individual circuits in an electrical distribution panel.*

Note 2: *For example, the fire alarm system's circuit is clearly labeled as Fire Alarm Circuit; the disconnect method (that is, the circuit breaker) is marked in red; and*

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access is restricted to authorized personnel. Information regarding the dedicated branch circuit for the fire alarm panel is located in the control unit. For additional guidance, see NFPA 101-2012: 20/21.3.4.1; 9.6.1.3; NFPA 72-2010:10.5.5.2.

Organizations must label utility system controls such as water source valves, natural gas shutoff valves, circuit breakers, and so on, Todro emphasized. "Why? Because if something happens—let's say a forklift rams into a wall that has a natural gas line and the pipe breaks—somebody has to shut the gas off," he explained. "You don't want to be running around asking, 'Where is the shutoff valve?'"

Recent RFIs have included electrical panels without a legend and circuit breakers in electrical panels not being properly labeled. If a circuit breaker is labeled as a spare, the breaker should be in the "off" position, Todro said. If the spare breaker is put into use, it needs to be relabeled immediately to avoid confusion that could result in an electrical shock or power to critical equipment being cut off.

It's also important to note that the circuit breaker for a fire alarm panel must be labeled as such and in red. Organizations can buy red circuit breakers or simply use red nail polish to mark fire-alarm-panel breakers, Todro suggested.

Worn-out labels are another common problem. "Sometimes you can barely read them," said Todro. He recommends that organizations check utility system labels during environmental rounds (a best practice that is not required by The Joint Commission). Illegible labels should be replaced, and any missing labels should be noted and the situation corrected right away.

"Give staff some education on this issue so they know not to take [labels or related signs] down or, if they're missing, who they should talk to about getting that [correction] done," Todro added.

2: Fire system ITM documentation

Ⓓ **EC.02.03.05, EP 28:** Documentation of maintenance, testing, and inspection activities for EC.02.03.05, EPs 1–20, 25 (including fire alarm and fire protection features) includes the following:

- Name of the activity
- Date of the activity
- Inventory of devices, equipment, or other items
- Required frequency of the activity
- Name and contact information, including affiliation of the person who performed the activity
- National Fire Protection Association (NFPA) standard(s) referenced for the activity
- Results of the activity

Note: *For additional guidance on documenting activities, see NFPA 25-2011: 4.3; 4.4; NFPA 72-2010: 14.2.1; 14.2.2; 14.2.3; 14.2.4.*

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Considerable documentation is required for all the EPs in Standard EC.02.03.05, which pertains to the inspection, testing, and maintenance (ITM) of fire safety equipment and fire safety building features. "EP 28 is where we would score deficiencies for things being missing," Todro said. For example, if x [number of] devices were tested last year, and x – 1 were tested this year, an organization would need to document which device was removed or missed and provide an explanation.

Keeping an accurate inventory of each device of each type is vital; it's not enough to document just the total number of devices. For example, an organization could give each fire-alarm pull station a numeric code and note where it is located on the inventory. "However you do it, we just need to know that you know where everything is," Todro said.

When inspecting or testing a device, be sure to document whether the device passed or failed, he added. And if a device failed, include when it was repaired or replaced.

According to Todro, the number-one deficiency that is cited for EP 28 is failure to reference the correct NFPA standard for the ITM activity. "Our EPs indicate which NFPA reference is required," he said.

3: Airborne contaminants

Ⓓ **EC.02.05.01, EP 7:** In areas designed to control airborne contaminants (such as biological agents, gases, fumes, dust), the ventilation system provides appropriate pressure relationships, air-exchange rates, filtration efficiencies, relative humidity, and temperature. For new health care facilities or altered, renovated, or modernized portions of existing ventilation systems or individual components (constructed or plans approved on or after July 5, 2016), heating, cooling, and ventilation are in accordance with NFPA 99-2012, which includes 2008 ASHRAE 170, or state design requirements if more stringent. Existing systems are in compliance with the ventilation standards that were in effect at the time the facility was constructed or last modified.

Note: *Areas designed for control of airborne contaminants include spaces such as all classes of operating rooms, special procedure rooms that require a sterile field, caesarean delivery rooms, rooms for patients diagnosed with or suspected of having airborne communicable diseases (for example, airborne infection isolation rooms, rooms for patients with pulmonary or laryngeal tuberculosis, bronchoscopy treatment rooms), patients in "protective environment" rooms (for example, rooms for patients receiving bone marrow transplants), laboratories, pharmacies, sterile supply/processing rooms, and other sterile spaces.*

The RFIs issued under EC.02.05.01, EP 7 are often classified as high risk (as indicated in Figure 2) because this EP concerns infection prevention and control in the environment. Indeed, only 4% of the findings for this EP (the lowest proportion among the top 10 most cited) were deemed low risk. This is because problems with ventilation contribute to health care–associated infections and have a high likelihood of harming patients.

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The Joint Commission expects organizations to meet the requirements of ANSI/ASHRAE/ASHE Standard 170-2008, *Ventilation of Health Care Facilities*, which is referenced by the 2012 edition of NFPA 99, *Health Care Facilities Code*. Table 7-1 of ASHRAE Standard 170 includes requirements for air pressure relationships, air exchange rates, relative humidity ranges, and so on for various health care facility spaces.

Recent findings under EP 7 include the following:

- The operating room (OR) was not under positive pressure relative to the surrounding spaces.
- The correct positive-to-negative pressure differential between clean and dirty areas was not maintained.
- The required number of air exchanges in the OR was not met.
- The relative humidity for the ORs was not within ASHRAE 170-2008 guidelines of 20% to 60%. The organization had measured and recorded humidity levels as high as 75% on multiple occasions without taking corrective action.
- Temperature and humidity were not monitored in a centralized sterile supply storage area where large volumes of sterile supplies are kept.

Note that the Centers for Medicare & Medicaid Services (CMS) has issued two Survey & Certification (S&C) Group memos related to temperature and relative humidity that apply to ambulatory surgical centers: one dated February 20, 2015 and one dated April 19, 2013.

To maintain the proper air-pressure relationships, it's important to keep doors closed, emphasized Todro. "If you keep a door open, the pressure will be neutral, so [air and any contaminants] will flow in and out of that room."

Be sure to keep the relative humidity within the appropriate range for the space, Todro urged his audience. "There should be the right amount of humidity for human comfort but also to keep [microorganisms] from growing," he said. In addition, air that is too dry can cause certain types of equipment and devices (such as electrosurgical units) to malfunction.

Todro emphasized the need for caution when repurposing rooms in a health care facility. For example, he said, "a lot of times you'll see staff make a sterile storage room out of an old office. That won't work because your air pressure isn't right, and you're not getting the right flow." Any significant changes to a facility need to be engineered.

4: Interior spaces

EC.02.06.01, EP 1: Interior spaces meet the needs of the patient population and are safe and suitable to the care, treatment, or services provided.

Short but broad in scope, EC.02.06.01, EP 1 pertains to general safety issues in the health care interior environment. Two of the RFIs most commonly issued under this EP involve stained ceiling tiles and pull cords for the nurse call station wrapped around grab bars (or other fixtures) to keep them off the floor.

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The photo on the left shows a stained ceiling tile, the root cause of which must be investigated. The photo on the right shows a pull cord for the nurse call station inappropriately wrapped around a grab bar, which would make it difficult for a patient who has fallen in the bathroom to summon help.

A stained ceiling tile means that something is leaking from above that could cause biological organisms to grow, Todro observed. It's not sufficient to simply replace the tile. The problem above the ceiling needs to be investigated and corrected.

In health care facilities, it is not uncommon for housekeeping or janitorial staff to wrap emergency pull cords around grab bars or other rails when mopping floors. The problem is that a patient could fall and not be able to reach the cord to summon assistance. A good rule of thumb, said Todro, is for pull cords to be no less than 4 inches and no more than 12 inches off the floor.

Cracks in tiles and laminate finishes are also problematic, making it impossible to effectively clean and disinfect those surfaces. Make sure to check wall, floor, ceiling, and workstation finishes for nicks, gouges, and other defects.

"Environmental rounding is a great way to look for these things," Todro emphasized. "And make sure you have a good process for staff to report such issues." He pointed out that some organizations have "See it, say it" campaigns to encourage staff to report anything that is amiss in the physical environment.

5: Weekly generator inspection

Ⓓ **EC.02.05.07, EP 4:** Every week, the organization inspects the emergency power supply system (EPSS), including all associated components and batteries. The results and completion dates are documented. (For full text, refer to NFPA 110-2010: 8.3.1; 8.3.3; 8.3.4; 8.3.7; 8.4.1)

"The weekly inspection for whatever reason causes people to trip up," Todro said. Every generator (and all associated components) must be visually inspected. As he explained, a generator with a large diesel engine has many parts that make this piece of equipment function as a system. The components include (but are not limited to) radiators, louvers in front of the radiators to protect them, automatic transfer switches (ATSs), the storage battery, the fuel tank, and the remote shutoff switch.

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Consider making a checklist of the generator components to inspect, with separate columns to indicate whether each item passed or failed the inspection, Todro suggested.

Failure to inspect the generator battery is a frequent finding. For old-fashioned lead-acid batteries with caps (as opposed to modern maintenance-free batteries), "you've got to check the water," Todro said. "You take this [tool] that looks like a turkey baster with a float in it, suck up some of the battery acid, and look at the specific gravity [a density-comparison measure] on the hydrometer."

If a *Life Safety Code*®* surveyor opens the battery compartment and sees a fluffy white or greenish substance, that's due to a chemical reaction and is a sign that the battery isn't properly maintained, explained Todro. Batteries need to be brushed and cleaned, he said, and their contacts [connection points] need to be visually inspected.

Organizations should consult Chapter 8 of NFPA 110-2010, *Standard for Emergency and Standby Power Systems*, for detailed information on what must be included as part of the weekly, monthly, quarterly, semiannual, and annual ITM activities.

6: Building and fire protection features

LS.03.01.10, EP 10: The space around pipes, conduits, bus ducts, cables, wires, air ducts, or pneumatic tubes penetrating the walls or floors are protected with an approved fire-rated material.

Note: *Non-approved polyurethane expanding foam is not an accepted fire-rated material for this purpose. (For full text, refer to NFPA 101-2012: 8.3.5.)*

LS.03.01.10, EP 10 is cited for the common deficiency of wall penetrations (openings for the passage of pipes, conduits, and cables) not being properly sealed with an approved fire-rated material. Todro emphasized that it is not appropriate to use polyurethane expanding foam (the type of sealant a homeowner might apply around residential windows) in fire-rated walls. The defend-in-place concept depends on the integrity of rated walls, he explained.



SPECIFIED TECHNOLOGIES INC

These images depict incorrect applications of caulking or drywall compound around wall penetrations.

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One effective type of rated sealant, according to Todro, is a firestop pillow that can be packed into cable trays and large openings. “The hotter it gets, the more the pillow expands and fills that gap so that smoke and fire cannot get through,” he said.

Another issue is that health care organizations (HCOs) should not use more than one type of sealant around a penetration. A tell-tale sign that they have done so is multiple sealant colors around a single opening.

In attempting to seal large openings, HCOs frequently use “scab patches,” which are not compliant with EP 10. “You’ve got a hole, and you take a piece of drywall that’s bigger than the hole and screw it in place, and you put the fire sealant around it,” Todro said, describing this deficient technique. “That’s not what the NFPA considers a rated assembly.” For optimal, detailed guidance, he advised his audience to visit the website of the Gypsum Association and enter “repair” in the search field.

7: Handling hazardous chemicals

EC.02.02.01, EP 5: The organization minimizes risks associated with selecting, handling, storing, transporting, using, and disposing of hazardous chemicals.

EC.02.02.01, EP 5 is another succinct EP that “carries a lot of weight and covers a lot of topics,” Todro noted. One of the key reasons it is cited involves lack of an eyewash station where needed or inadequate ITM of eyewash stations.

In 29 CFR 1910.151(c) and 1910.1048 (formaldehyde), the Occupational Safety and Health Administration (OSHA) requires workers to have access to an eyewash station wherever corrosive chemicals (those with a pH of less than 2.0 or greater than 11.5) are handled. OSHA leaves the details regarding eyewash station installation, use, and maintenance to the American National Standards Institute (ANSI) and International Safety Equipment Association (ISEA) document ANSI/ISEA Z358.1-2014: *American National Standard For Emergency Eyewash And Shower Equipment*.

Eyewash stations have been a focus of Joint Commission surveyors for several years. As Figure 2 shows, in the period studied, 75% of the RFIs under EC.02.02.01, EP 5 (most of which pertain to eyewash stations) were classified as moderate or high risk.

“I take these requirements very seriously because you only get one set of eyes, and that’s it,” Todro observed. “You don’t want to lose your vision.”

In short, staff who handle or come in contact with corrosive chemicals (such as workers who pour such chemicals from larger into smaller containers or workers who inspect lead-acid generator batteries) must have unobstructed access to a plumbed eyewash station within 10 seconds of the chemical touching the eye. Per ANSI Z358.1, a worker must be able to activate the eyewash station with a single action in no more than one second. In addition, the water that issues from the eyewash station must be *tepid*, defined as having a temperature in the range 60°F to 100°F. The Joint Commission’s expectations are outlined in an FAQ on JointCommission.org. Organizations should refer to ANSI Z358.1 and the

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eyewash station manufacturer's instructions for use (IFUs) for detailed installation and ITM guidance.

In addition, organizations should make sure staff are familiar with and can easily access the safety data sheet (SDS) for each chemical handled. SDSs should also be reviewed to determine whether an eyewash station is needed near a work area.

Todro emphasized that having sufficient, properly maintained eyewash stations does not lessen the need for appropriate personal protective equipment (PPE). These safeguards work synergistically to prevent serious injury to workers.

8: Utility system ITM

Ⓓ **EC.02.05.05, EP 3:** The organization inspects, tests, and maintains the following:

- Utility systems. The completion dates and test results are documented.

In addition to electricity, water, natural gas, and piped medical gas, utility systems addressed under EC.02.05.05, EP 3 include (but are not limited to) the following:

- Fire alarm systems
- Sprinkler systems
- Nurse call systems
- Heating, ventilation, and air-conditioning (HVAC) systems
- Smoke and fire dampers
- Emergency egress lights
- Emergency task lighting
- Emergency generators
- Surgical waste disposal systems
- Ice makers

Why would ice makers be considered a utility? Todro explained that diligent maintenance of ice makers is necessary for effective infection prevention and control. Ice machines in health care facilities have been implicated in *Legionella* infections, for example.

Surveyors have recently cited organizations under EC.02.05.05, EP 3 for these deficiencies, among others:

- The washing machine temperature did not comply with the equipment manufacturer's IFUs, state or local laws and regulations, or the organization's policy requirements.
- The ice machine was not maintained according to manufacturer instructions, as evidenced by the accumulation of white limescale that easily flaked off from the ice discharge chute.

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- There was no evidence that routine maintenance of the surgical waste disposal system had been performed as required.
- The electrical junction box (J box) had no cover plate.
- Electrical panels were blocked by utility carts.
- Components of the fire alarm system were compromised, with no evidence of corrective actions having been taken.
- During the building tour, a battery-operated exit sign did not operate when tested.

This is just a sampling of the many RFIs that fall under the broad utility system umbrella. Todro focused on a few common problems, including noncompliant electrical panels and J boxes. For instance, he suggested that during EC rounds, staff should make sure that utility carts and other wheeled equipment are not blocking electrical panels, which require a minimum 3 feet of clearance, per NFPA 70: *National Electrical Code*.

"The reason for this is that electricity travels near the speed of light; it's extremely fast," Todro explained. "So, in case of an issue, you don't want someone having to wade through carts. Yes, they're on wheels, but we're looking at seconds, not minutes, to be able to shut things off and de-energize. If an electrical fire starts, the best thing to do is shut off that breaker. And if the breaker trips [on critical equipment], you need to reset that breaker [immediately]. Time is of the essence."

EC rounds also provide an opportunity to check J boxes. A busy or distracted worker may inadvertently leave the cover plate off without realizing that doing so creates an electrical and a fire safety risk and leaves the exposed wires vulnerable to damage. Staff training and "See it, say it" campaigns can also help address this common problem.

9: Sprinkler system piping

LS.03.01.35, EP 4: Approved automatic sprinkler systems piping is not used to support any other item. (For full text, refer to NFPA 101-2012: 20/21.3.4.4; NFPA 25-2011: 5.2.2; NFPA 13-2010: 8.5.5.2; 8.5.5.3)

For years, Joint Commission field directors and *Life Safety Code* surveyors have been zeroing in on findings under LS.03.01.35, EP 4. If the above-ceiling space gets filled with cables or ductwork, it is likely that something may end up resting on or attached to sprinkler piping. Nothing should be draped over, fastened to, or even touching sprinkler pipes, stressed Todro, who noted that low-voltage cables are the biggest culprit.

This is a problem because sprinkler piping is engineered to support a certain load when filled with water. Additional weight on the pipes—even just a couple of cables—can compromise the integrity of the sprinkler system over time.

Because cables are often run by external information technology (IT) technicians who aren't familiar with NFPA standards, one solution is to implement an above-ceiling permit process that verifies the installer's understanding of and compliance with the requirements.

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10: Fire drills

EC.02.03.03, EP 3: When quarterly fire drills are required, they are unannounced and held at unexpected times and under varying conditions. Fire drills include transmission of fire alarm signal and simulation of emergency fire conditions.

Note 1: *When drills are conducted between 9:00 P.M. and 6:00 A.M., the organization may use a coded announcement to notify staff instead of activating audible alarms.*

Note 2: *Fire drills vary by at least one hour for each shift from quarter to quarter, through four consecutive quarters.*

Note 3: *For full text, refer to NFPA 101-2012: 20/21: 7.1; 7.1.7; 7.2; 7.3.*

The main compliance challenge with quarterly fire drills is failure to vary the time of day they are conducted. "The variability is important because you don't want your staff to think, 'It's the first Tuesday of the month, so the fire drill is at 2 o'clock.' Because actual fires are unexpected, the drills should not be predictable."

In addition, scheduling fire drills at different times within a shift ensures that more staff are trained in what to do during a fire. Even though ambulatory care facilities typically don't have multiple shifts, there may be staff with part-time or flexible schedules who would be left out of the fire response training if drills were always held at the same time.

Organizations can use the Fire Drill Matrix tool developed by The Joint Commission to document their fire drills, Todro suggested. This tool can be downloaded from the Physical Environment portal of JointCommission.org.

"This is the tool that the surveyors use," Todro said. "You don't have to use it, but it serves as a common communication piece. And it gives you everything you need to take into consideration."

Survey success

Todro noted that the key to a successful survey is having all the required documents organized and accessible. The documentation can be in a hard-copy or an electronic format. However, if the documents are on a computer system, it is important to make sure they can be located easily during an unannounced survey if key staff happen to be out of the office.

A list of required documentation is available in the *Survey Activity Guide* for ambulatory care organizations. "That's a good way to make sure you've got everything," Todro said.

Was this article helpful? Would you like *EC News* to focus on particular topics in more detail? Please email your feedback to the editor at cschierhorn@jcrinc.com.

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Perspective

PASS Method Could Be Dangerous for Class K Kitchen Fire Extinguishers

Instead, arch and mist the extinguishing agent over the top of a grease fire



by Ron Henley, CHFM, CHSP, RIAQM, CHE, LSO, SASHE, CHEPP, CHEC

For many years, health care organizations have been teaching staff the PASS method for using fire extinguishers:

- **P**ull the pin.
- **A**im the nozzle.
- **S**queeze the handle.
- **S**weep side to side.

This is absolutely the correct method for using most types of fire extinguishers and for putting out most types of fire. You are expected to aim the nozzle at the base of the fire and discharge the extinguisher in a sweeping motion. But for grease fires in a kitchen, this method could prove to be dangerous to the end user. As I explain below, key information is scattered among sections of National Fire Protection Association (NFPA) codes, concealing the urgent need for specific training on the use of Class K fire extinguishers, which contain wet chemical agents.

Guidance for portable fire extinguishers is published in NFPA 10: *Standard for Portable Fire Extinguishers*, with specific guidance for K-type kitchen fire extinguishers in Section 5.5.5:

> "5.5.5. Class K Cooking Media Fires. Fire extinguishers provided for the protection of cooking appliances that use combustible cooking media (vegetable or animal oils and fats) shall be listed and labeled for Class K fires."

However, if you read only the standard and not the annex, you miss a vital piece of information. The "A–Annex" is for explanatory information and is not mandatory, but in this case, it contains crucial precautions. As the annex states:

> "The evolution of high-efficiency cooking appliances and the change to hotter burning vegetable shortening has created a more severe fire hazard. Testing has shown that wet chemical extinguishers have several times the cooking fire–extinguishing capability of a minimum 40-B rated sodium bicarbonate or potassium bicarbonate dry chemical extinguisher, which has prompted the creation of a new classification and a new listing test protocol."

After referring readers to NFPA 96: *Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations* for further information, the annex to NFPA 10 continues (highlighted in red here for emphasis):

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> "Persons in cooking areas need specific training on the use of fire extinguishers as an essential step for personal safety. Class K fire extinguishers equipped with extended wand-type discharge devices should not be used in a manner that results in subsurface injection of wet chemical extinguishing agents into hot media. Subsurface injection causes a thermodynamic reaction comparable to an explosion."

As you can readily see, using the PASS method and aiming the nozzle at the base of the fire could be very dangerous. So, I have coined the PAPA method for using the K-type fire extinguisher:

- **P**ull the pin.
- **A**pproach from a distance.
- **P**oint the nozzle above the fire.
- **A**rch and mist the extinguishing agent over the top of the fire, squeezing the handle and slowly walking forward, to smother the fire.

Also, remember that a Class K fire extinguisher should be visibly located within 30 feet of the source, with a sign warning that the extinguisher should be used only after the fixed fire suppression system has been activated. Remember that Class K extinguishers are the backup method for extinguishing grease fires; the range hood extinguishing system is the primary defense.

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Toolbox

JCR's Updated Health Care Kitchen Physical Environment Checklist

You can use this tool to assess your organization's compliance with common environment of care issues in health care occupancy and residential kitchens



SHUTTERSTOCK

Cooking is the leading cause of fires in health care facilities. Accordingly, for several years, Joint Commission surveyors have focused on fire safety and other issues in health care occupancy and residential board and care kitchens. Kitchen compliance will continue to be a surveyor priority throughout 2024. A revised "Kitchen Tracer Survey Guide" is available in The Joint Commission's 2024 *Survey Activity Guide*.

The physical environment also plays a vital role in infection prevention and control problems that originate in the kitchen. Refrigerators, freezers, ice makers, dish-washing equipment, and other appliances require diligent maintenance, as well as monitoring of temperature parameters. Areas need to be kept clean and free of vermin, and surfaces (floor tiles and countertops, for example) must be in good repair.

Other potential hazards range from carbon dioxide tanks for soda machines to natural gas for cooking equipment. Because of the energy demands of the equipment, electrical panels are also present in kitchens. What's more, corrosive chemicals are often used for cleaning, which necessitates an eyewash station.

To help health care organizations comply with the wide-ranging requirements, Joint Commission Resources (JCR) has updated its "Health Care Kitchen Physical Environment Checklist," a tool available with *EC Made Easy*, Fourth Edition. This revised checklist, provided on the next four pages, reflects changes to the "Kitchen Tracer Survey Guide" mentioned above, as well as concerns about staff misusing Class K fire extinguishers (expressed in the article on page 13). The JCR checklist is available as a customizable tool here.

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File Name: Health Care Kitchen Physical Environment Checklist

Health Care Kitchen Physical Environment Checklist

Health care occupancy and residential board and care kitchens that serve a large number of patients or residents are considered commercial kitchens and must comply with the applicable requirements of the 2011 edition of the National Fire Protection Association (NFPA) Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations® *(NFPA 96-2011). Joint Commission Environment of Care (EC) and Emergency Management (EM) standards and elements of performance (EPs) come into play as well when surveyors evaluate health care kitchens.*

This checklist, the use of which is not required by The Joint Commission, will help you assess your facility's compliance with physical environment requirements commonly cited by Joint Commission surveyors. A kitchen tracer that checks for a variety of potential problems may be conducted as well.

Answers to all questions ideally should be **Y** *for* **Yes** *(unless marked* **NA** *for* **Not Applicable***). Use the* **Comments** *section to indicate any required follow-up action(s) identified for an* **N** *for* **No** *response.*

ORGANIZATION: _____ **DEPARTMENT/UNIT:** _____

DATE OF REVIEW: _____ **REVIEWER(S):** _____

QUESTIONS	Y	N	NA	COMMENTS
FIRE AND LIFE SAFETY				
Are the cooking appliances in your facility's kitchen properly covered by a fire suppression system?				
Are kitchen staff trained to make sure that the fire suppression nozzles are always properly positioned?				
When it's necessary to move cooking equipment to clean it, does your kitchen have a way of ensuring that the equipment will be returned to its designated spot? (Using markings on the floor or caster chocks are recommended practices.)				
Is your kitchen equipped with a fire suppression system that is triggered when there is a fire under a hood large enough to reach the fusible links (heat-detecting devices)?				
Are the fusible links replaced on a schedule, per the appliance manufacturer's instructions?				
Can the kitchen fire suppression system also be operated manually using a pull-station device? If so, does the pull station meet the following criteria? ☐ Is it readily accessible at all times? ☐ Is it located along the path of egress 10 to 20 feet from the hood? ☐ Does it clearly identify the hazard (hood) protected?				
Is your kitchen equipped with Class K fire extinguishers as a backup to the automatic fire suppression system?				
Is there a Class K fire extinguisher within 30 feet of any individual grease-producing kitchen appliance?				

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QUESTIONS	Y	N	NA	COMMENTS
Is a sign posted by each Class K fire extinguisher, warning that in case of an appliance fire, the fire extinguisher should be used *after* the fixed suppression system is actuated?				
Are kitchen staff and the kitchen director trained to use the Class K fire extinguishers as a backup to the automatic fire suppression system (for example, if a grease fire reignites after the activation of the automatic fire suppression system)?				
Specifically, are staff aware that special precautions must be taken when using a Class K fire extinguisher, as opposed to other types of fire extinguishers? (Per the annex to NFPA 10: *Standard for Portable Fire Extinguishers*, "Class K fire extinguishers equipped with extended wand-type discharge devices should not be used in a manner that results in subsurface injection of wet chemical extinguishing agents into hot media. Subsurface injection causes a thermodynamic reaction comparable to an explosion."				
Does the organization understand that the PASS method (**P**ull, **A**im, **S**queeze, **S**weep) is not appropriate when using Class K fire extinguishers to put out grease fires? *Instead of aiming the nozzle at the base of the fire and using a sweeping motion, a better and safer process is to arch and mist the extinguishing agent over the top of the fire to smother it.*				
Are all fire extinguishers unobstructed?				
Are staff knowledgeable about the fire evacuation and relocation plan?				
Does a service contractor specializing in fixed fire suppression systems test the kitchen's system *every six months*? ☐ Is this person a properly trained, qualified, and certified individual who is acceptable to the authority having jurisdiction? ☐ Did you document the testing and maintenance activities?				
Is there a separation of at least 16 inches horizontally between each deep-fat fryer and any open flames from adjacent cooking equipment?				
If it's not possible to have a 16-inch separation between a deep-fat fryer and adjacent cooking appliances, is there an 8-inch vertical baffle between the deep-fat fryer and adjacent cooking equipment?				
Are kitchen hood exhaust systems regularly inspected to ensure that they are free of grease buildup? This includes inspecting the following: ☐ Hood ☐ Plenum ☐ Ductwork				

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QUESTIONS	Y	N	NA	COMMENTS
Are kitchen exhaust systems cleaned in accordance with NFPA 96-2011 or the code that was in place at the time of design?				
As a best practice, are your kitchen hood filters cleaned monthly?				
Do you make sure that kitchen hood exhaust systems are cleaned through the ductwork, all the way up to the roof?				
As recommended, are kitchen hood exhaust ducts over heavily used cooking equipment cleaned at least quarterly?				
If an outside service contractor is used to clean the kitchen exhaust systems, does your organization inspect the contractor's work to ensure that the cleaning is thorough?				
Prior to hiring an outside service contractor to clean kitchen exhaust systems, does your organization ensure that the contractor is knowledgeable about code requirements? ☐ Does your organization ask for references?				
For the room's sprinklers (at the ceiling), is there at least 18 inches of clearance below the sprinkler deflectors? *Ensure that racks perpendicular to walls do not encroach into the open space.*				
EC AND EM CONSIDERATIONS				
Does the kitchen have emergency food supplies and plans for disaster preparedness?				
Are kitchen areas kept clean?				
Is all kitchen equipment in safe operating condition? ☐ If there is an issue, do staff have a plan to address it?				
Is garbage/refuse properly disposed of?				
Is the area free of any signs of pests? ☐ If there are pests, has the organization taken steps to address the issue?				
Is the latching mechanism on the refrigerator door in proper working condition?				
Is the latching mechanism on the freezer door in proper working condition?				
Is the freezer free of any ice buildup?				
Are the ice maker and its components (the ice chute and water tubing, for example) thoroughly cleaned and maintained in accordance with manufacturer instructions for use? (Improperly maintained ice machines have been implicated in *Legionella* infections.)				

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QUESTIONS	Y	N	NA	COMMENTS
Are hand-washing facilities separate from sinks used for food preparation?				
Does the organization have a process to follow if dishwasher temperatures are out of range? ☐ Wash temperature should be 150°F. ☐ Rinse temperature should be 180°F. ☐ If a chemical process is used, the wash temperature should be 120°F with 50 ppm hypochlorite [chlorine].				
Is the kitchen in good repair (lack of broken floor tiles, delamination, flaking walls, and so on)?				
For the soda fountain machine, is the CO_2 tank secure?				
Are pipelines free of signs of water damage?				
Are compressed gas cylinders properly secured?				
Are the gaskets for kitchen entry/delivery doors intact, to prevent pests from entering?				
If an eyewash station is required, is it in good working order and located away from hazards? ☐ Can staff access the eyewash station within 10 seconds of the hazardous material storage/usage area? ☐ Has the eyewash station inspection log been kept up to date?				
If natural gas is used in the kitchen, is a gas valve accessible for emergency shutoff, as recommended? ☐ Do staff know its location and operation?				
Is the emergency shutoff valve properly labeled?				
For any kitchen appliance with a gas line, is there a tethering device attached?				
Are electrical panels clear of obstruction?				

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Environment of Care Q&A

Medical gas cylinders of different types can be stored together, but don't comingle flammable and nonflammable gases



Q. Can various types of medical gas cylinders be comingled in the same storage room?

A. Yes—with qualifications. As long as flammable and nonflammable gases are not comingled in the same storage room, this is not prohibited by the National Fire Protection Association (NFPA) *Health Care Facilities Code* (NFPA 99-2012), which The Joint Commission references. Further guidance is provided in an FAQ on cylinder storage posted on JointCommission.org.

Medical gas cylinders that can be stored together include carbon dioxide, medical air, nitrogen, nitrous oxide, helium, argon, and xenon. However, full and empty cylinders must be segregated from each other, and empty cylinders must be identified as such with signage or labels to prevent staff from grabbing an empty cylinder by mistake.

In addition, all the other pertinent criteria specified in Environment of Care (EC) Standard EC.02.05.09 must be met. Many of the requirements are in Element of Performance (EP) 12 of this standard and concern temperature parameters, protection from damage and contamination, valve protection caps, and so on.

Nonflammable medical gas cylinders cannot be comingled with flammable materials, cylinders containing flammable gases, or containers containing flammable liquids. Typical flammable gases include but are not limited to acetylene, ammonia, butane, ethane, and propane, according to Section 5.1.3.2.4 of NFPA 99-2012. EC

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These resources will enhance your knowledge of the environment of care, life safety, and emergency management.

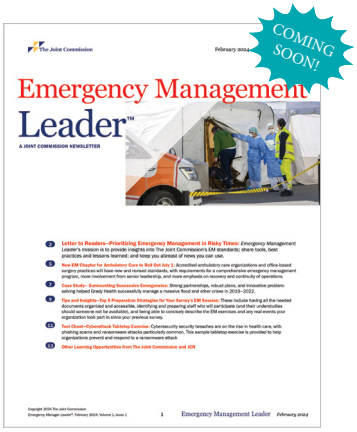
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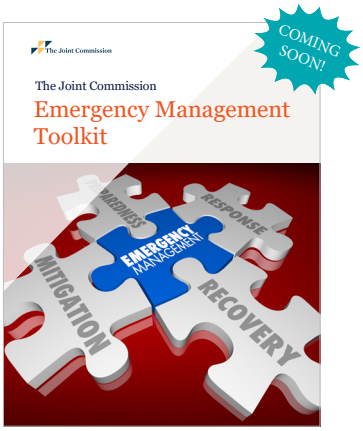
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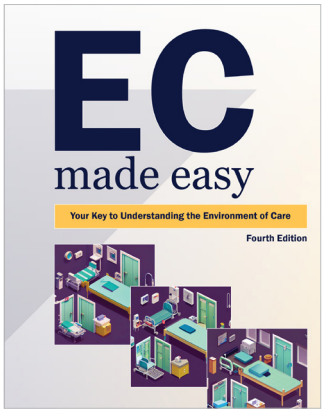
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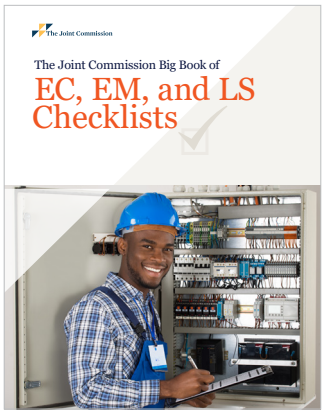


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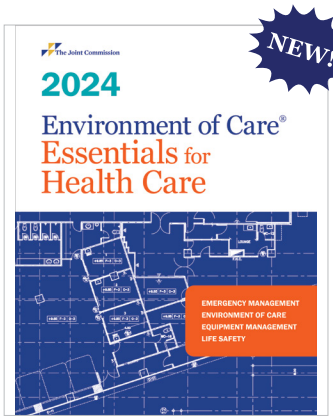
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