

CLINICAL ENGINEERING

Facilities Management

JCAHO Changes EC Standards

The Joint Commission on Accreditation of Healthcare Organizations (JCAHO) has revised its Environment of Care (EC) standards for fire drills, emergency management, and utility systems management.

Fire Drills

Changes in JCAHO's fire drill standard (EC.2.10) went into effect 1 Jul 00. Health care facilities are no longer required to sample 20% of smoke compartments in all fire drills. In addition to removing the 20% rule, the EC.2.10 standard now calls for 50% of a facility's fire drills to be unannounced. Unannounced fire drills don't necessarily have to be completely by surprise. The JCAHO allows staff members to issue a warning a couple of minutes before the drill starts in sensitive areas such as surgical suites or intensive care units.

The JCAHO surveyor will focus on two issues relative to fire drills:

1. Are you performing fire drills according to the facility fire plan?
2. Are you performing an annual evaluation of the effectiveness of staff training on the fire plan?

The requirement for frequency of fire drills (one per shift per quarter) remains unchanged. Staff in free-standing buildings classified as business occupancy as defined by the Life Safety Code need only participate in one fire drill per shift annually.

Emergency Management

Revisions to the emergency management standard (EC.1.6) go into effect 1 Jan 01. Facilities will be required to set up an incident command system (ICS). The ICS will ensure police, fire, and other emergency service providers understand the hospital's emergency response structured so they can deal with the appropriate people. The ICS should include:

- A policy for activation of the hospital's disaster plan
- A policy for termination of the hospital's disaster plan
- Pre-disaster departmental readiness checklists
- Personnel recall procedures
- A security/lockdown policy
- The decision to evaluate policy
- An evacuation procedure
- A volunteer credentialing policy
- A policy regarding standing orders for patient care during a disaster
- A policy allowing for rapid patient discharge during a disaster

In addition to setting up an ICS, facilities will be required to conduct a hazard vulnerability analysis to determine the hazards your facility is susceptible to and identify specific response procedures.

Utility Systems Management

Another change effective 1 Jan 01 involves EC.1.9. Under this standard, facilities will be required to establish and maintain a utility management systems plan that will reduce potential for organization-acquired illnesses. A new requirement is the management of pathogenic biological agents in cooling towers, domestic hot water, and other aerosolizing water systems. According to JCAHO panelists at the annual ASHE Conference, this does not mean you have to culture all of your spigots and end of line devices for legionella in order to meet this standard. Rather, work with your infection control committee to make sure you have a plan in place to effectively handle an outbreak.

The revised standard also requires that you address control of airborne contaminants in your utilities systems management plan. Describe how you ensure positive pressure rooms are indeed positive, that in isolation rooms you are managing the negative pressure environment. You also need to properly air balance your systems within patient sensitive areas (areas your Infection Control Committee has identified as treating immunocompromised patients). It does not mean you need to perform an annual air balance of your facility, but rather implement an effective plan for taking care of your HVAC systems. You need to look at filtration efficiencies, air exchange rates, and pressure relationships as appropriate.

The surveyor will want to know that your utility systems management plan details the steps taking place at your facility to reduce the potential for organization-acquired illnesses. You should work closely with your infection control officer to identify potential risks and document steps you are taking to comply with the revised standard.

Changes are detailed in the *Environment of Care News* and the periodical *Perspectives* (both published by JCAHO), as well as on the JCAHO web site www.jcaho.org, under "What's New" and "Top Spots." (AFMLO/FOM-F, Maj Gil Weston, DSN 343-4972, commercial 301-619-4972, gil.weston@ft-detrick.af.mil)

The Buzz Over Fuel Cell Technology

It's important as Medical Facility Managers to stay abreast of new technologies and examine how they may apply within your facilities. One of the more talked about technologies is fuel cells for onsite generation of electricity.

Actually, fuel cells have been around for some time. The basic operating principle is that electricity and heat is produced by combining hydrogen and oxygen in an electrochemical process. Fuel cells remove hydrogen from a

hydrocarbon source such as natural gas and reacts with oxygen. The fuel cell operates without burning fuel and with few moving parts, minimizing exhaust and noise emissions. It also produces energy more efficiently than conventional sources.

In 1993, the U.S. Army Construction Engineering Research Laboratory was assigned as manager for the Fuel Cell Demonstration Program for DoD, and in 1994, Vandenberg AFB became the first site to place a fuel cell online. Since then, the DoD fuel cell demonstration sites number approximately 30 and represent a broad spectrum of facilities and locations throughout the Services. Among these sites are four Air Force medical treatment facilities located at Edwards, Barksdale, Laughlin, and Little Rock AFB. Information on activities of the DoD Fuel Cell Demonstration Program can be found at www.dodfuelcell.com.

While fuel cells are not new, most of the current research is focused on making them commercially viable. For example, work is being done to fine-tune reformers, the devices that turn natural gas into hydrogen. Due to the high purchase price and excessive maintenance costs, combined with inconsistent run time, industry is not ready to widely adopt fuel cell technology.

Nonetheless, experts are bullish about the future of fuel cells and expect it to be commercially viable in the next 2-5 years. I encourage you to learn more on this topic and other new technologies as they relate to your job. We thank Mr. Lloyd Farrell, Medical Facility Manager at Scott AFB, whose extensive investigation into fuel cell technology inspired bringing this to your attention. (AFMLO/FOM-F, Maj Gil Weston, DSN 343-4972, commercial 301-619-4972, gil.weston@ft-detrick.af.mil)

Quality Assurance

Food and Drug Administration (FDA) Recalls/Alert Notices

Attachment 2, paragraph 1, provides information on FDA medical equipment recalls and alerts. Personnel from clinical engineering, biomedical equipment maintenance, quality assurance, and safety should follow the guidance provided to ensure the effective maintenance and management of medical equipment. (AFMLO/FOM-E, Capt P.J. Toth, DSN 343-7445, commercial 301-619-7445, paul.toth@ft-detrick.af.mil)

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