



# Clarifications <sup>and</sup> Expectations

WITH THE JOINT COMMISSION'S DIRECTOR OF ENGINEERING: **GEORGE MILLS**

## More on Managing Hazardous Materials and Waste

*A further examination into EC.02.02.01*

Guest Columnist: Kathy Tolomeo, CHEM, CHSP, engineer, The Joint Commission

*An introduction from 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 hazardous materials. You may wish to share the ideas and strategies in this column with your organization's leadership. This month, I enlisted Kathy Tolomeo, CHEM, CHSP, engineer in The Joint Commission's Department of Engineering, to further explore aspects and issues related to this topic.*

Managing risks associated with hazardous materials (hazmat) and waste in health care organizations is the focus of EC.02.02.01, a vital standard with several key elements of performance (EPs) that are commonly misconstrued by staff and cited during surveys. These dangers include hazardous gases and vapors, radiation, and biohazardous waste, which need to be carefully documented and monitored to prevent injury and illness and abide by important laws and regulations.

Last month, we examined EPs 1 through 8, concerned with maintaining a written hazmat inventory; creating and implementing written procedures in response to hazmat spills or exposures; and minimizing risks associated with selecting, handling, storing, transporting, using, and disposing of hazardous

chemicals and radioactive materials, selecting and using hazardous energy sources, and disposing of hazardous medications. This month, we will round out the topic by exploring EPs 9 through 19.

**EPs 9–10** *The hospital minimizes risks associated with selecting, handling, storing, transporting, using, and disposing of hazardous gases and vapors; and monitors levels of hazardous gases and vapors to determine that they are in safe range.*

Medical gases and vapors, many of which are invisible and flammable, are among the most harmful hazmat threats within your facility. Consequently, it's important to take precautions, including the following:

- Properly designing areas in which hazardous gases and vapors are stored and utilized
- Using smoke evacuators to aid in removing surgical smoke, created when a laser unit is used, that may contain toxic vapors and gases
- Carefully managing and monitoring medical gases stored and used in the organization.

Your organization must have a process in place to protect individuals from hazardous gases and vapors that includes monitoring for permissible levels and permissible exposure limits. The frequency for this monitoring is determined using evidence-based guidance, such as

that provided by the National Institute for Occupational Safety and Health (NIOSH), your state controlling authority, or an industrial hygienist consulted by your organization.

Be aware that hazardous gases and vapors are not necessarily going to have a related safety data sheet (SDS) to guide you. For example, ethylene oxide may have an SDS, but waste vapors created by it will not. Therefore, use of proper engineering controls and personal protective equipment is required in these instances. Some engineering controls involve, for instance, complying with US Occupational Safety and Health Administration (OSHA) requirements for adequate ventilation and air exchange/room pressure in order to minimize vapor exposure to occupants in the immediate and surrounding areas. Data on room pressure and air exchanges per hour need to be thoroughly documented and provided to surveyors upon request.

**EP 11** *The hospital has the permits, licenses, manifests, and material safety data sheets required by law and regulation to manage hazardous materials and waste.*

The important takeaway on this EP, which is among the most observed noncompliant by surveyors, is that your organization needs to thoroughly assess all rules and regulations, have

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its paperwork and credentials in order, and educate staff properly on what is required by such agencies as OSHA, the US Environmental Protection Agency (EPA), the US Drug Enforcement Administration (DEA), the US Nuclear Regulatory Commission (NRC), and the US Department of Transportation (DOT). The language used in such standards as EC.02.02.01 and in EP 11 can make compliance sound simple, but understanding all the various entities and regulations your facility needs to comply with can be a lot more complicated.

For instance, your facility may be required to obtain a number of licenses and permits and refer to relevant SDSs for managing and disposing of hazardous materials and waste. Also, consider that hospitals are regarded as hazardous waste generators, as defined by the DOT; any generators that ship hazardous waste off-site needs to comply with both the EPA's training requirements for generators and the DOT's requirements for training hazardous materials employees (defined in the DOT Hazardous Materials Regulations at 49 CFR Part 172, Subpart H). In addition, generators that ship hazardous substances on public roads need to conform with the EPA's hazardous waste manifest system—which involves completing, filing, and furnishing upon request a set of reports, forms, and procedures for tracking hazardous waste from the spot it's generated to the off-site waste management facility where it is stored, disposed of, or treated. Generators may also be obligated to complete other types of hazmat manifest forms issued by other governmental agencies.

**EP 12 The hospital labels hazardous materials and waste, and those labels identify the contents and hazard warnings.**

Appropriate labeling of hazardous



OSHA's revised HCS includes requirements for hazard pictograms shown here. Each pictogram represents particular types of hazards. Which pictogram you use on a label is determined by OSHA's chemical hazard classification. These classifications are listed for each pictogram. Directions for creating the labels are available on the OSHA website.

materials can improve staff efficiency, save lives, and reduce injuries. However, labels need to be clear, and the process of labeling needs to be consistent. Appropriate labeling of hazardous materials, including those of secondary containers that the hazardous materials may be transferred to, is required, per OSHA regulations. Note that OSHA's new Hazard Communication Standard is the primary driver of your hazmat label requirements. As of June 2015, OSHA mandates the following elements on all hazardous chemical labels: product identifier, supplier identification, hazard pictograms, signal word, hazard statement(s), and precautionary statement(s). OSHA further requires that biohazard pictogram labels be affixed on any containers storing biohazardous waste.

The National Fire Protection Association also has a specific labeling system that identifies the dangers of chemicals, particularly within tanks and canisters, present in your facility. Its system employs blue, yellow, white, and red colors as well as numbers on a diamond-shaped label that indicates hazard ratings for health, instability, flammability, and special hazards related to hazmats.

**EP 18 Radiation workers are checked periodically, by the use of exposure meters or badge tests, for the amount of radiation exposure.**

This new EP, effective January 1, 2015 for hospitals using Joint Commission accreditation for deemed status purposes, bolsters safety for radiation workers

beyond EPs 6 and 7—which require hospitals to minimize risks associated with selecting, handling, storing, transporting, using, and disposing of radioactive materials and with selecting and using hazardous energy sources. The NRC pushed for this additional safety requirement, which involves using dosimetry badges and meters to determine that staff have not been exposed to an excessive amount of dangerous radiation during their normal tasks. The bottom line is that your organization needs to have a process in place for closely monitoring workers who are exposed to radiation from diagnostic imaging equipment and radioactive resources.

**EP 19** *The hospital has procedures for the proper routine storage and prompt disposal of trash.*

Hazardous waste isn't the only type of refuse that can pose a threat to your facility. Everyday garbage and trash also needs to be managed and disposed of properly to prevent it from becoming harmful via airborne and cross-contamination. This newest EP, made effective January 1, 2015 for hospitals using Joint Commission accreditation for deemed status purposes, also obliges your organization to have procedures in place that ensure appropriate storage and disposal of trash material (such as general trash, recycling materials, and so forth).

**Staying ahead of the hazards**

Safeguarding patients, staff, and visitors from hazardous materials and waste entails staff education, diligence, and attention to detail. It also involves thinking ahead and assessing the potential risks so you can be prepared for the multiple risks that can pose serious dangers at any time within your facility. Take the time to brush up on this standard and its EPs, review your Emergency Operations Plan to ensure that these hazards are properly addressed, and incorporate related scenarios in your disaster drills and tabletop exercises. Few environment of care matters are more important. **EC**

## Hazardous Waste Storage Inspection Checklist

Organization: \_\_\_\_\_ Storage Area: \_\_\_\_\_

Review Date:					
Reviewer Initials:					
Containers	Y/N	Y/N	Y/N	Y/N	Comments
Is there sufficient aisle space for inspection of all containers?					
Are all waste containers closed?					
Are all containers compatible with the material stored inside?					
Are all waste containers free from damage or corrosion?					
Are containers of liquids stored in a containment system?					
Are incompatible waste containers segregated appropriately?					
Container Labels	Y/N	Y/N	Y/N	Y/N	Comments
Are all containers labeled with the appropriate waste labels?					
Are all labels filled out completely and legibly?					
Per the labels, are there any containers stored > 90 days?					
Storage Area Condition	Y/N	Y/N	Y/N	Y/N	Comments
Is the area free of leaks or spills?					
Is the floor area free from cracks?					
Spill Kits	Y/N	Y/N	Y/N	Y/N	Comments
Are spill kit materials fully stocked?					

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