



TSIG NEWS

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One Hospital's Mission to Reduce Deficiencies During Construction

By Barbara Pankoski, CHFM, CHSP-FSM

Hospital Organizations throughout the years have adopted different processes for managing and reporting on Quality Improvement. All Hospitals have adopted some form of Continuous Quality Improvement or Performance Improvement methodology for a strategic approach to improving safety elements in the facility and many have actually adopted the most common and simple plan of the Plan/Do/Check/Act (PDCA) model for measuring their own organization-wide processes and for continuing to improve those processes. There are various other models hospitals may have adopted and use but no matter which model the organization has chosen, the most important element is to identify the problem / deficiency, and measure it, determine patterns and trends, develop a plan for improvement, and make necessary changes in the process that is not working, while monitoring the effectiveness of those changes. Your own hospital's Quality Department should best be the ones to identify which model the organization has adopted and is to be utilized throughout for performance improvement.

The Quality Improvement model, when appropriately applied, can not only help an organization improve and document on deficiencies but can also assist you in meeting the Joint Commissions Requirements for EC 02.06.05 EP 3; which requires each accredited organization to "take action based on its assessment to minimize risks during demolition, construction or renovation". In other words, the organization isn't just monitoring problems related to non-compliant practices and deficiencies, but you are actually doing something about them (i.e., "closing the loop" on them.) When an organization assesses the potential risk (as required under standard EC 02.06.05 EP 2) by conducting a preconstruction risk assessment to forecast potential obstacles such as noise, vibration, air quality/infection control, utilities and ILSM, these Quality Improvement models actually serve to aid an organization document and demonstrate being truly pro-active in their approach by identifying in advance mitigating practices while also reducing problems and deficient practices that are identified in advance of the project breaking ground during this risk assessment.

One hospital is conquering their deficiencies found on active construction sites utilizing the FOCUS-PDCA model for performance improvement. During construction rounds and daily inspections, the hospital found many potential big hitting items such as contractors without badges, penetrations left unsealed and fire extinguishers on the floor that could lead to big problems during an actual survey.

The hospital took immediate action by investigating why they were finding so many deficiencies and taking proactive measures to correct the problems.

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The following is their process towards improvement:

F- Find an opportunity to improve

O- Organize a team who understands the process

C- Clarify the current knowledge of the process

U- Understand the cause of the process variation

S- Select the process for improvement

P- Plan the Improvement

D- Do the improvement

C- Check the results

A- Act-hold the improvement



F- During construction rounds and inspections by hospital staff and an outside source, the facility discovered there were many environmental and life safety deficiencies on construction sites.

O- Using the aid of experienced facilities staff and outside experts, the facility has discussed different options for improving construction site deficiencies.

C- The team gathered information on the current educational process for employees and contractors as well as interviewed contractors to discover why there were deficiencies.

U- In reviewing the information that is given to the employees and contractors during orientation, educational classes, risk assessments and during interviews, the team has discovered a need for a more in depth educational class to include Safety, Security, Hazardous Materials, Medical Equipment, Fire Safety-Life Safety, Utilities, Infection control standards as well as hospital policies and procedures.

S- The team selected to include facility staff in educational classes and increase the amount of time, frequency and content of the current contractor training program. The team discussed a need for tracking improvement on construction sites.

P- The team worked together to develop a more in depth educational program. The program will include not only contractors but facility staff as well. The facility staff will be trained/educated before the new program is rolled out to the contractors. After the educational material is compiled, a class will be given. A test will be given at the end of the class to ensure participants understand the information that was presented, A Quality Construction Review process (Report Card System) will ensure policies and procedures are being implemented.

D- Classes were given in June of 2011 to the Facility Engineering, Infection Control and Safety Departments. After the staff was educated, classes were scheduled for contractors to attend. All contractors will be required to attend the "new and improved" educational classes by the end of 2012.

C- The results of test scores are monitored to ensure attendees are retaining the information that is taught. The facility has developed a Risk Assessment Team (R.A.T.) to provide on- going quality review utilizing the "Report Card" to track the compliance of contractors and project managers. The facility has also elected to use an outside source to verify the improvements on construction sites.

A- The facility will continue to monitor test scores and report cards to improve as needed in the content of the educational program as well as report progress through the Safety Committee. The facility will work with appropriate parties to develop changes to policies and procedures, to hold staff and contractors to a higher level of responsibility in providing a safe environment. Current discussions and revisions are in place with the Purchasing Department to develop a selection process for contractors/vendors. The facility will continue to monitor improvement on this effort throughout 2012.

By implementing the proactive measures, this hospital has ensured that construction sites will not be the cause of needless citations from outside agencies and has moved toward making a safer environment for patients, staff and visitors.

The G.O. Team's NFPA Q & A

by Gabriel Villegas and Olga Pankova



Question: Do any of the NFPA codes require my emergency power generator to be tied into our fire alarm system?

Answer: No, there is no specified requirement to have generators tied into the fire alarm system. However NFPA 99 3-4.1.1.15 does require a remote annunciator located outside of the generating room; “readily observed by operating personnel at a regular work station” and if the work station is not attended 24/7, you are required to have an A/V derangement signal located at a continuously monitored location. Therefore you may use your fire alarm system as a means to achieve this requirement but other less sophisticated (and less costly) methods can prove acceptable.

Question: Is positive latching required for corridor doors in hazardous areas that are sprinkler protected in existing health care occupancies?

Answer: Unless otherwise requested by AHJ, positive latching for such doors in existing health care occupancies is not required per *NFPA 101 LSC, 2000 Ed. 19.3.6.3.2*, as long as the door is provided with means suitable for keeping it closed, such as a self-closing or automatic closing device installed on the door and that such device can meet the 5 pounds force to open criteria.

Question: I have a section of the hospital built in 1974 that has 6ft corridor. Can the corridor width be reduced to 4ft which complies with the requirements of existing health care occupancy?

Answer: No, NFPA 101 2000 4.6.7, clearly states the following: *Existing life safety features that do not meet the requirements for new buildings, but that exceed the requirements for existing buildings, shall not be further diminished. In no case shall the resulting life safety features be less than those required for existing buildings.*

Question: Is it permissible to use a curved stair as a part of means of egress?

Answer: Curved stairs are permitted as a component in a means of egress per *NFPA 101 2000 Ed. 7.2.2.2.2*, provided that the depth of tread is not less than 11 in. at a point 12 in. - measured at the inner walking line where feet land when walking on the inner part of the stair - and the smallest radius is not less than twice the stair width. The relationship of smallest radius to stair width should be based on the actual width of the stair, rather than on the required width only. Otherwise, unsafe conditions can be created. Slightly different requirements apply to existing curved stairs. They are permitted, provided that the depth of tread is not less than 10 in. and the smallest radius is not less than twice the stair width.

Question: In our hospital we have electrical closets that open into exit passageway. Are there any restrictions that pertain to that?

Answer: Yes, NFPA 101 7.1.3.2 (d) states that openings into the egress passageway shall be limited to “those necessary for access to the enclosure from normally occupied spaces and corridors and for egress from the enclosure”.

Question: I understand that there is a set of construction requirements for smoke barriers in existing ambulatory health care occupancies. What is it?

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Answer: Per NFPA 101 200 Ed. 21.3.7; Ambulatory occupancy smoke barriers are required to have a 1 hr FRR, be continuous from outside wall to an outside wall, from a floor to a floor, or from a smoke barrier to a smoke barrier or a combination thereof. Doors in the barrier would be required to be 1 ¾" solid core wood doors or equivalent, be self closing and have vision panels. Smoke barriers are not required where the occupancy measures <5000 ft² and protected by an approved automatic smoke detection system or if <10,000 ft², and fully sprinklered.

Question: I have storage room under several of my stairways. What are the requirements that will make it permissible, if at all?

Answer: NFPA 101 2000 Ed. 7.2.2.5.3 prohibits storage (enclosed or open) in a stairway because it has the potential to interfere with egress. The only time storage under stairs is allowed is when the storage area is separated from the stair enclosure by the same fire resistance as the exit enclosure and access to it is not from within the stair enclosure.



Occupancy Classifications CMS Issues New Ruling

Ode Keil

One of the most important physical environment characteristics for all health care service locations is determining the appropriate occupancy classification. The occupancy classification whether defined by the *Life Safety Code*[®] or one of the major building codes adopted by states or cities across the United States is the foundation for many construction and fire safety features required to protect occupants from the danger of fire and products of combustion. For the healthcare industry, the *Life Safety Code*[®] has served as the foundation for determining the level of protection from fire and products of combustion for over forty years. Occupancy classification takes into account the capability of building occupants to take action for self preservation. The less able occupants are to take action for self preservation the more fire safety features are required by any of the applicable codes. The result is that construction costs for higher risk occupancies including HealthCare and Ambulatory Health Care are significantly greater than construction costs for risk occupancies such as Business.

The Joint Commission, CMS and most state healthcare licensing authorities have deferred to the definitions of occupancy classification in the *Life Safety Code*. The Joint Commission and CMS currently recognize three of the occupancy types defined by the 2000 Edition of the *Life Safety Code* for use by acute care and outpatient care services. They are Health Care, Ambulatory Healthcare and Business.

The 2000 edition of the *Life Safety Code* defines new and existing healthcare occupancies as buildings that “An occupancy used for purposes of medical or other treatment or care of four or more persons where such occupants are mostly incapable of self-preservation due to age, physical or mental disability, or because of security measures not under the occupants’ control.”

The same edition defines ambulatory healthcare occupancies as “A *building or portion thereof used to provide services or treatment simultaneously to four or more patients that (1) provides, on an outpatient basis, treatment for patients that renders the patients incapable of taking action for self-preservation under emergency conditions without the assistance of others; or (2) provides, on an outpatient basis, anesthesia that renders the patients incapable of taking action for self-preservation under emergency conditions without the assistance of others.*”

The third type of occupancy common to healthcare services is business. This classification applies to buildings “*used for account and record keeping or the transaction of business other than mercantile.*” CMS defines business occupancies using the following criteria as guidance for its field inspectors in a memorandum originally issued December 17, 2010 and revised February 18, 2011. CMS defines a business occupancy as a building that houses medical care services in a facility that:

- Does not provide sleeping accommodations;
- Does not provide medical treatment or services on a 24-hour basis;
- Does not provide anesthesia; and
- Serves patients that are *mostly* capable of self-preservation.

This same memorandum also establishes new guidelines for classification of healthcare and ambulatory healthcare occupancies. The key difference between the CMS position and the *Life Safety Code* occupancy classification system is the elimination of consideration of whether four or more patients are served and whether or not patients are rendered incapable of self preservation. CMS has adopted the following positions with respect to Health Care and Ambulatory Health Care occupancies:

1. Healthcare Occupancies

Section 1861(e) of the Social Security Act (the Act) defines “hospital” as being primarily engaged in providing care to inpatients and is not based upon a minimum number patients receiving treatment, care or services. CMS does not consider the number of patients in determining if a provider is a hospital or a CAH (Critical Access Hospital); therefore, a CMS-certified hospital or CAH does not need to have four or more inpatients at all times in order to be classified as a Health Care Occupancy. Occupancy classification must be determined regardless of the number of patients served at a hospital’s or CAH’s component facility. In summary a building must be classified as Health Care Occupancy if the:

- *Facility provides sleeping accommodations;*
- *Facility provides medical treatment or services on a 24-hour basis; and*
- *Patients are **mostly** incapable of self-preservation.*

2. Ambulatory Healthcare

CMS does not consider the number of patients treated when determining an AHC occupancy classification. Furthermore, CMS does not consider whether or not a patient has

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been “rendered” incapable of taking action for self-preservation by the facility; rather, the only consideration is whether the patient is capable or incapable of self-preservation. Therefore, occupancy classification must be determined regardless of the number of patients being served or whether or not a patient has been rendered incapable of self-preservation by a hospital or CAH component facility. In summary a building must be classified as Ambulatory Healthcare if the:

- *Facility does not provide sleeping accommodations;*
- *Facility does not provide medical treatment or services on a 24-hour basis;*
- *Facility provides anesthesia services; and*
- *Patients are **mostly** incapable of self-preservation.*

The memorandum further clarifies how to determine if a patient is not capable of self preservation stating:” *A patient may be incapable of self-preservation due to many factors, including, but not limited to, age, physical or mental disability, medical or therapeutic interventions, medication reactions, etc. In addition, when determining the ability for self-preservation, consideration should be given to both the characteristics of current patients and the characteristics of patients the facility is likely to provide medical treatment or services to in the future, as evidenced by the provider’s own advertisement and clientele to which the provider holds itself out to serve.”* A particularly disturbing component of this guidance is that it requires a provider to predict the future based on advertising or a client base that may at some time meet this definition.

CMS provides an unusual amount of specific guidance for applying these occupancy classification rules. The memorandum contains a detailed list of criteria state surveyors are expected to use to enforce them. The list follows:

The following criteria summarize the LSC requirements for determining the occupancy classification for the various separate component facilities that may comprise the hospital:

- *If patients receiving medical treatment or services are mostly incapable of self-preservation during an emergency, and are provided with sleeping accommodations or treatment and services on a 24-hour basis, the facility must be classified as a Health Care Occupancy.*
- *If patients receiving medical treatment or services are mostly incapable of self-preservation during an emergency or receive anesthesia services, but are not provided with sleeping accommodations or treatment and services on a 24-hour basis, the component facility must be classified as a Ambulatory Health Care Occupancy.*
- *If patients receiving medical treatment or services are mostly capable of self-preservation during an emergency, are not provided with sleeping accommodations or treatment and services on a 24-hour basis, and do not receive anesthesia, the facility must be classified as a Business Occupancy.*
- *Hospital facilities to which patients are not expected to have access (i.e., “customary access”) and are non-contiguous or adequately separated from other occupancies, as required by the LSC, may be surveyed as other occupancy classifications, as determined by the LSC.*

- *If more than one occupancy classification exists within a hospital building and there is not adequate separation between them, as determined by the LSC, the most stringent occupancy classification must apply to the entire building.*
- *When determining whether or not a facility provides treatment or services to patients incapable of self-preservation, surveyors should consider:*

Patients may be incapable of self-preservation due to many factors, including, but not limited to, age, physical or mental disability, medical or therapeutic interventions, medication reactions, etc.

- *The characteristics of patients the facility is likely to provide medical treatment or services to in the future, as evidenced by the provider's own advertisement and clientele to which the provider holds itself out to serve.*

The aforementioned requirements for determining hospital facility occupancy classifications apply regardless of:

- *The location of the component facility (e.g., in a separate or adjoining building on the main campus, or in an off-campus location).*
- *The number of patients receiving medical treatment or service.*
- *CMS does not consider the number of patients receiving treatment or services in the determination of occupancy classification.*
- *Whether or not a facility has "rendered" a patient incapable of self-preservation without the assistance of others under emergency conditions.*
- *CMS does not consider whether a patient has been "rendered" incapable of taking action for self-preservation by the facility, only whether the patient is capable or incapable of self-preservation."*

As written the definitions of Health Care and Ambulatory Health Care differ from the *Life Safety Code* and from previous CMS rules relate to the *Code*. In the past CMS made decisions based on the *Life Safety Code* definitions, including the minimum of four patients and "rendered incapable" as the baseline criteria for classification in either category. The change may be a particular hardship for many outpatient centers. Most if not all physician office practices, outpatient physical therapy, outpatient cancer care centers, and similar services routinely see one or more patients who are not *mostly* capable of taking action for self preservation. If the statements in the CMS memorandum are enforced as written a large number of care sites currently considered Business occupancies will be reclassified as Ambulatory Health Care. Depending on the size of the site, reclassification could result in a need to spend considerable capital funds to upgrade interior partitions, equip spaces with emergency power, create smoke compartmentalization within the space, install fire alarms, and other life safety features to meet Ambulatory Health Care requirements.

The value of these upgrades is questionable as there is no documented history of significant loss of life fires in any health care sites currently classified as Business occupancies. CMS is well aware of the concerns of the health care industry related to this document and has proposed some changes that have not been acted on at the present time. Every reader of this article is encouraged to consult with the appropriate state licensing authorities to determine if the agency is enforcing the requirements of the memorandum.

Organizing your Safety / Environment of Care Committee

By Barbara Pankoski, CHFM, CHSP

The **first step** in organizing your Safety or Environment of Care Committee is the appointment of a chairperson for the EC/Safety Committee. Facilities that are accredited by The Joint Commission are required by the very first Environment of Care Standard, (EC 01.01.01 EP 1) to “identify an individual(s) who will manage risk, coordinate risk reduction activities the physical environment, collect deficiency information, and disseminate summaries of actions and results”, this typically is the Safety Officer and also the chairperson of the Safety/Environment of Care Committee. The Safety Officer does not necessarily have to be the chairperson for the Safety committee however, there are pros and cons to this scenario, most importantly being that the Safety Officer has a lot of responsibilities on his/her plate already with the day to day activities of keeping the hospital safe. The Chairperson of the Safety committee has a tremendous amount of responsibility as well by being the “funnel” in which documentation is reported back to the committee. The bottom line is there has to be communication that funnels to the committee from all of those who are champions for each of the Environment of Care standards that require the facility to collect information in order to track conditions in the hospital's environment.

The hospital should choose someone with experience in Safety management to be the Safety Officer and Chair of the Safety Committee. Some of the required duties of this individual/committee are:

- Perform a safety risk assessment
- Employee Safety Education (Ensuring Staff and the Licensed independent practitioner(s) are familiar with their roles and responsibilities in relation to the Environment of care as required in The Joint Commission standard EC 03.01.01)
- Collecting information in order to monitor, internally report and investigate Safety related issues in the environment (TJC EC 04.01.01 EP 1) including:
 - Injuries to patients or others
 - Occupational illnesses and staff injuries
 - Incidents of damage to property or property of others
 - Security incidents involving patients Staff or others
 - Hazardous materials and waste spills and exposures
 - Fire Safety management problems, deficiencies and failures
 - Medical or Laboratory equipment management problems, failures and user errors
 - Utility Systems management problems, failures, and user errors
- Prioritize Safety Committee actions
- Have strong communication and leadership skills with representatives of the committee
- Ensure timely collection of reporting from representatives on the committee
- Ensure the facility conducts environmental tours every six months in all patient care areas to identify environmental deficiencies, hazards and unsafe practices as well as to evaluate the effectiveness of corrections which were previously made
- Ensure the facility conducts environmental tours once per year in non patient care areas to identify environmental deficiencies, hazards and unsafe practices as well as to evaluate the effectiveness of corrections which were previously made
- The Safety/Environment of Care Chair person or Safety Officer must ensure an annual evaluation of each of the Environment of Care Management Plans to include the plans objectives, scope, performance and effectiveness.

The **second step** in the organization of the safety committee should be deciding who the representatives on the committee should be. The Safety committee should be a multi-disciplinary team. Considerations for the Safety Committee may be champions of the Environment of Care Standards; Safety, Security, Hazardous Materials, Fire/Life Safety, Medical Equipment, Utilities.

Infection Control, Employee Health, Quality Assurance, Risk Management, Patient Safety. Duties of the committee may vary at different facilities but some areas of responsibility would include:

- Reviewing and evaluating reports of those responsible to report to the committee
- Monitoring issues brought to the committee
- Assignment of corrective measures
- Evaluation of Safety education
- Compliance with standards such as NFPA, OSHA, FDA, EPA
- Promotion of Safety initiatives throughout the Facility

- Producing Meeting Minutes
- Recommending at least one Performance Improvement goal related to improvement in the environment annually

The **third step** in organizing the Safety committee is to define the mission of the Safety/EC committee. What do you want to accomplish? Some of the defined mission should be:



- Develop and recommend the facilities safety policies and procedures regarding general safety and fire safety which are consistent with the hospital's mission.
- Develop and implement, monitor and evaluate the hospital's Safety programs that promote safety within the department and divisions of the organization
- Review and approve Environmental Management plans annually
- Review departmental safety policies at least every 3 years
- Assure that safety information is provided in the initial orientation for all new employees and in continuing annual education
- Collect and analyze data regarding hazard surveillance, medical device recall, and accident and injury reports
- Monitor the hazard surveillance program (including but not limited to device recalls, accident and injury reports)
- Develop a time frame for reporting (see attached sample-) There is not a defined standard for reporting frequencies, time frames should be decided by the committee
- Document ongoing interaction/reporting with departments reporting on:
 - *Injuries to patients or others within the hospital
 - *Occupational illnesses and staff injuries
 - *Incidents of damage to its property or the property of others
 - *Security incidents involving patients, staff, or others within its facilities
 - *Hazardous materials and waste spills and exposures
 - *Fire Safety management problems, deficiencies, and failures
 - *Medical or laboratory equipment management problems, failures and use errors
 - *Utility system management problems, failures, and use errors
 - *Other Committees may include Risk and Insurance Management, Environmental Health, Radiation Safety Committee, Infection control committee, Disaster Committee, Laser Safety, Ergonomics
- Report to Administration, Hospital Board, Patient care service board and/or other appropriate staff regarding safety committee functions and findings on committee defined time frames. The committee may want to have a summary on the front page of the report to Administration or other Boards they may answer to and show success stories or important issues.
- Annually evaluate the effectiveness of the EC management plans and make adjustments as necessary

The **fourth step** in the development of a successful safety committee is to analyze the information being reported and to use the result of the data to identify opportunities to resolve environmental safety issues. Although a large part of the Safety Committee is identifying issues which may be deficient, it is imperative the committee take the necessary steps to improve those safety deficiencies. The Safety committee itself should be in a position of authority, which could involve recommendations to monitor actions of other departments or staff, recommendations to leadership on relative safety issues, recommendations to purchase equipment or make repairs in relations to safety issues. It is critical that the safety /EC committee have the support of Administration by providing funding, support for change and crucial information as needed.

Although the organization of the Safety/Environment of Care Committee may differ at hospital organizations, it is the heart of keeping the facility on track for a Safe environment and requires that all hospital employees are trained in the Safety Culture in order to promote the hospitals mission of protecting visitors, staff and patients.

see illustration A on next page

SAFETY COMMITTEE ANNUAL AGENDA ITEMS

TOPIC	FREQUENCY	MONTH DUE											
		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
INFECTION CONTROL	QUARTERLY			X			X			X			X
INTERIM LIFE SAFETY	MONTHLY	X	X	X	X	X	X	X	X	X	X	X	X
EMPLOYEE ACCIDENT REVIEW	MONTHLY	X	X	X	X	X	X	X	X	X	X	X	X
PATIENT OCCURRENCES	BI-MONTHLY		X		X		X		X		X		X
SECURITY MANAGEMENT	QUARTERLY			X			X			X			X
HAZARD SURVEILLANCE FINDINGS	QUARTERLY			X			X			X			X
EQUIPMENT MANAGEMENT	QUARTERLY		X			X			X			X	
UTILITIES MANAGEMENT	QUARTERLY	X			X			X			X		
SAFETY MANAGEMENT	QUARTERLY		X			X			X			X	
REGULATORY UPDATES	QUARTERLY	X			X			X			X		
RADIATION SAFETY	QUARTERLY			X		X			X			X	
EMERGENCY MANAGEMENT	SEMI-ANNUAL						X						X
SAFETY TRAINING and EDUCATION	ANNUALLY										X		
EC PROGRAM REVIEW	ANNUALLY		X										
LIFE SAFETY MANAGEMENT	QUARTERLY	X			X			X			X		
HAZ. MAT. MANAGEMENT	QUARTERLY	X			X			X			X		
PRECONSTRUCTION RISK ASSESSMENT	MONTHLY	X	X	X	X	X	X	X	X	X	X	X	X
PATIENT SAFETY UPDATE	QUARTERLY			X			X			X			X

NEWS FROM TSIG'S CEO

Ralph Heiman, AIA



In our ongoing effort to afford our clients the finest consultation services, we have recently hired John Taylor. John brings thirty-one years of experience within the healthcare engineering, Life Safety and Environment of Care field. He managed Engineering Departments of hospitals, providing strong technical expertise based upon experience, knowledge, codes and standards and staff development. He draws upon this Environment of Care and Life Safety experience to provide consultation via partnering with clients to help them successfully meet regulatory compliance goals in a responsible manner. John has effectively overseen assisting hospitals seeking TJC, CMS, DNV, AOA, HAFC and CARF accreditation.

I would also like to thank those who attended this years EC Summit in Las Vegas. Based on the incredible demand for so many of our useful tools and templates, I am sure that the sessions presented by our very own George Rivas were not only well received, but again earned him the highest rated speaker at this event for three years consecutively. For those of you who would be interested in having George or one of our other expert consultants present an educational seminar for your organization or association, please feel free to contact us by emailing your request to:

info@tsigconsulting.com



We perform more than SOC's
(TSIG's Jerry Stewart & Jon Hanson)

EVS CORNER

Regulatory Agency's 2012 Emphasis on Infection Prevention

It is our understanding that TJC will put a lot of emphasis on infection control in 2012, for very good reasons. Patients have the expectation of being admitted to a hospital room that is clean and sanitary and expect not to acquire an infection. In due response The Joint Commission and other regulatory agencies will continue to pursue an intense emphasis on infection prevention control during the upcoming year. This is due to the estimated 35 million admissions to acute care facilities every year, with the Centers for Disease Control and Prevention reporting there are 1.7 million infections occurring annually that are health care related, resulting in 99,000 deaths. Health Care Associated Infections (HAIs) result in a tremendous personal, medical, and economic toll for both the patient and the hospital. Therefore healthcare organizations must maintain a vigilant response toward addressing this critical patient safety issue with robust policies and procedures to prevent infection occurrence. Contributing to the rise of infections are the increasingly resilient and opportunistic pathogens such as Methicillin Resistant Staphylococcus Aureus (MRSA), Clostridium difficile (C. diff.) and influenza viruses. These organisms are shed/transmitted daily from patients and staff, and staff to patient, resulting in a contaminated hospital environment. Additionally, the pathogens are more adept at surviving and reproducing on the various environmental surfaces.

EVS staff play a critical role and contribute greatly with their ongoing infection prevention efforts. Their efforts will continue to be scrutinized to ensure all cleaning/disinfection is performed properly. While your staff is 'under the microscope', many questions and concerns may arise that may not always be answered despite your extensive educational efforts.

TOLCAM is dedicated to providing you with practical and valuable information concerning infection prevention best practices. If you are unable to find the answer after searching our site, contact our "Ask the Expert" section. This section is supported by Mark Shamash, MS, HEM, CHSP, President of Safety and Disaster Solutions, Inc. (SDSi) and Steven J. Schweon RN, MPH, MSN, CIC, HEM, a seasoned Infection Preventionist. They both will respond with timely guidance to your clinical conundrum and assist with addressing your needs.

Requirements vs. Recommendations for HVAC Testing in the Operating Rooms

By Thomas Lyons, CHSP-FSM

The 2010 Guidelines for Design and Construction of Health Care Facilities does not always clearly provide facility managers sufficient guidance and information necessary when it comes to required testing and prescribed methodology of maintenance for HVAC systems serving one of the hospitals most sensitive areas- the Operating Rooms. The Guidelines and its companion document; ASHRAE 170, don't actually 'define' the operational requirements but focuses rather, on the requirements for design at time of new construction. Having said this, it may prove interesting to note that within ASHRAE 170 there is a useful and informative Annex "A" which offers valuable recommendations for testing operating rooms, and it reads as follows:

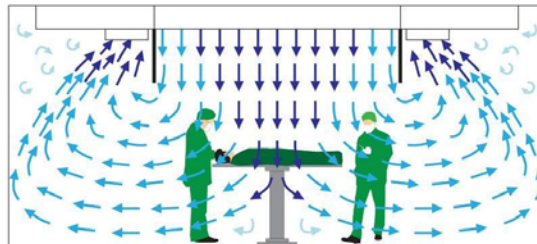
INFORMATIVE ANNEX A

A1. O & M in health care facilities

The following operations and maintenance procedures are recommended for health care facilities.

A1.1 Operating Rooms. Each operating room should be tested for positive pressure semi-annually or on an effective preventative maintenance schedule. When HEPA filters are present within the diffuser of operating rooms, the filter should be replaced based on pressure drop.

This is probably the closest one will get to attaining a 'consensus' recommendation in writing, other than what your state or local AHJ might stipulate as required. And although The Joint Commission's (TJC) standard [EC.02.05.01 EP 6] requires each accredited organization to have a process in place to assure their Heating, Ventilation and Air Conditioning (HVAC) systems are performing as designed, it is upon each organization to determine which practical methods best fits to meet said means such as: measuring for pressure differential, validate air exchange rates, monitor filter efficiency and monitor temperature critical areas such as rooms, operating rooms, they don't do is establish frequency, and rightfully so system is unique as to hospital's process. By consider variables such sophistication of the controls, staff complaints, seasonal changes, or anything else that could effect the proper operation of the HVAC system- in other words, the complexities of each unique system needs to be factored in to the frequency equation. Once you have reviewed your own site-specific maintenance records on systems serving these areas, it is totally up to you to establish a frequency that best fits your own needs and usually after a couple of tests, you can reevaluate that frequency and make whatever changes are deemed necessary based on your findings.



(particulate testing) and relative humidity in laboratories, procedure etc. The one thing a required testing fre- as each air handling meet the individual that I mean one must as the age of the unit,

I hope this information clears up some confusion within the industry as to what is actually required and what is actually recommended. Far too often we see organizations react immediately to benchmarking practices or develop processes based on rogue voices from the field of other hospital's survey results but it is fair to say that best demonstrated practices (if not prescribed by codes or standards) may best be developed in-house to assure one meets their own site-specific needs.

Take care and keep those heads up!

Establishing a Hospital Hazardous Materials and Waste Management Program for your Hospital

By Jon A. Hanson, BA, CHSP

An ever-growing area of concern in health care settings is the management of hazardous materials and waste.

The purpose of the Hazardous Materials and Waste Management Program and Plan is to describe the process of how your facility will provide and maintain a safe and supportive environment for patients and those providing services at your hospital. The Hazardous Materials and Waste Management Program and Plan should be consistent with the hospital's mission to provide quality and excellence in patient care, research and community service.

The Hazardous Materials and Waste Management Plan needs to be designed to comply with all applicable federal, state, and local laws, regulations, and standards relevant to the health-care environment.

The Hazardous Materials and Wastes Management Plan (EC.02.02.01) define the mechanisms for interaction and oversight for controlling biological, chemical, pharmaceutical and radiological materials and wastes. The Management Plan should address methods both to identify materials that need special handling and to prescribe processes to minimize the risk of their unsafe use and improper disposal. The related policies and procedures of your management plan govern activities from receipt to disposal of these hazardous agents. The policies shall be based on regulatory requirements and are designed to assure compliance with all Federal, State, and local regulations. OSHA's 29 CFR 1910.1200 establishes the framework for compliance and regulation.

So where do you start?

The first step is to establish a "HAZMAT" organizational structure. The hospital's executive management should appoint an individual(s) that will be responsible for implementing and monitoring the HAZMAT program at your facility.

Example of responsible department duties includes:

1. The Department Level – Compiling departmental inventory, making MSDS available to staff, implementing MSDS requirements, arranging departmental HAZMAT training for staff and monitoring and tracking administrative control measures and use of PPE.
2. The Safety Committee – Ensures that all action(s) identified to implement the HAZMAT program is documented and is followed as a standing matter at meetings. Tracking outstanding control measures to be implemented.
3. Safety Officer – Coordinating the program and periodically reviewing it. Identifying all hazardous locations, listing them and prioritizing action based on risk. Assist with providing/obtaining MSDSs. Researching and advising any associated control measures. Coordinating and giving training, recording attendance rates and reporting to the Safety Committee.
4. Engineering – Overseeing the design and construction of engineering controls to ensure they are meeting applicable standards. This includes, but is not limited to, checking the air pressure relationships, determining air changes per hour, and filtration systems in critical areas such as airborne infection isolation rooms, operating rooms and decontamination rooms. Monitoring HVAC, alarm systems and HAZMAT related control equipment. Tracking engineering control measures and reporting progress and activities to the Safety Committee.
5. Occupational Health – Arranging medical surveillance and exposure monitoring where necessary.
6. Materials Management – Serves as the gatekeeper for the selecting, handling, storing, transporting, using and disposing hazardous chemicals. Maintaining the Master HAZMAT inventory and MSDS distribution to affected departments.

Once you have established who is doing what, you will need to gather information and identify the Hazards in your facility and individual departments. Generally, most hazardous materials / waste present a physical or health hazard when they contain more than 1.0% of a hazardous material, or more than 0.01% of a carcinogen.

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1. Tour your department and write down the name(s), and revision date of all chemicals that you find whether you feel they should have an MSDS or not.
2. This list should then be bumped up against the Master Inventory.
3. If the chemical is on the list, does the MSDS reflect the most current revision from the manufacturer and does the department have the most current version?
4. During your tour, examine the labels on all containers. Is the label clearly marked and eligible?

Ensure that all chemical containers are correctly labeled. Look at using a standard labeling system, such as the NFPA triangle. Ensure that the label includes legible and appropriate color-coded hazard ratings, such as advised by the NFPA and infectious or other hazardous waste substances are included.

1. For the associated departments – examine the MSDS to determine.
2. Routes of entry/methods of exposure to the substance.
3. First aid measure.
4. Spill control methods.
5. Labeling requirements.
6. Storage requirements.

From there what training, spill kits and response and PPE do you need?

From here you will need to assess how hazards are currently controlled and are they suitable. Assess and determine what control measures are in place or are required. Refer to the MSDS for control measures required. Determine which activities are not effectively controlled with regard to HAZMAT exposure.

Monitoring comes in many different venues. Worker exposure should be coordinated through Safety and Occupational Health. Based on an assessment of the MSDS and other technical information, determine what monitoring for occupational exposure is required and also determine the type of equipment required, e.g. passive dosimetry.

Engineering controls should be coordinated by the Facility Engineer in co-operation with the Safety Officer. Specialist monitoring may have to be contracted in to conduct specific monitoring, e.g., Biological Safety Cabinets.

1. Identify critical areas for HVAC control measures, e.g., Labs, ORs, Airborne Isolation, Endoscopy, CSSD, and any other area identified by the facility.
2. Identify which engineering control requires initial or routine monitoring.
3. Determine the number of air changes per hour and air pressure relationships in Airborne Infection Isolation (AII) and other high risk areas such as the labs and CSSD. Implement corrective action regarding engineering controls where necessary. Don't forget to carry out periodic smoke testing of all (AII) rooms, etc.

Testing and certification of engineering controls shall be done by competent, well trained personnel or contractors. Implementation of corrective action regarding engineering controls when necessary.

What is Health Surveillance and what is required with it? First you will need to assess and determine what health surveillance if any is required with regard to OSHA guidance then implement an effective occupational health surveillance program. Record and document employee exposures and make sure your program includes passive dosimetry monitoring and when necessary, health surveillance.

When implementing effect control measures there are some questions that you need to ask prior to purchase or use of hazardous chemicals.

1. Do you need to use the hazardous substances? Eliminate the use of HAZMAT if possible.
2. Can you use a less harmful substance? Substitute the HAZMAT with a less hazardous substance.
3. Can you implement alternative engineering controls?
4. PPE – the last line of defense because it does nothing to eliminate the hazard. Always a last resort as prone to misuse or non-use and can be uncomfortable.

Examples of how to identify and implement an effective control measure are:

1. Administrative controls – are those control like policies and procedures or limiting and employees time of expose for certain periods that are within the occupational exposure standard.
2. Engineering Controls - include dilution ventilation or local ventilation fume hoods, biological safety cabinets and negative and positive air pressure in airborne infectious and protective isolation rooms respectively.
3. PPE – Personal Protective Equipment. This again is a last resort. Examine what PPE should be provided and ensure if it meets the MSDS criteria or OSHA compliance. Does it provide adequate protection? Is it the correct PPE for the task and chemical involved? Does it fit correctly? And do you have availability of replacement parts?

Controls should be designed and maintained in line with information from the MSDS, regulations and information from the manufacturer.

Fire safety and storage issues are another means of engineering controls that should be addressed. Large quantities of flammable materials must be stored in locations that meet NFPA requirements. An examination of the storage and fire-fighting capabilities within the facility is required and should be addressed in your fire response plan. Never store incompatible substances together such as flammable and certain oxidizing agents. When storing hazardous materials within your facility ensure that all substances and hazardous wastes are stored in appropriate, secure facilities and that there is appropriate signage as to the contents.



What to do and how to document it?

The Joint Commissions Hospital Accreditation Standards outline the very essentials for compliance with their standards and applicable elements of performance. EC.01.01.01 EP – The hospital has a written plan for managing hazardous materials and waste? EC.02.02.01 EPs 1-12 address how the hospital manages risk related to hazardous materials and waste.

Policies and procedures need to be based on you facilities generation, use and HAZMAT assessment. This is to include spills and waste storage. The following chart is an example for general spill response:

Category	Size	Response	Treatment Materials
Small	Up to 300 cc	Chemical Treatment or Absorption	Neutralization or Absorption Spill Kit
Medium	300 cc – 5 liters	Absorption	Absorption Spill Kit
Large	More than 5 liters	Call Public Safety	Outside Help

Training – Identify what staff need hazmat training and train them accordingly in all relevant matters. Ensure that they are made aware of their specific responsibilities regarding hazardous materials and the facilities hazmat program. Determine how you will communicate information on hazmat, who is trained, priority depts., methods and frequency of training, record keeping, use of posters labels and web based programs if applicable.

Finally, ensure that the program is reviewed annually and that policies and procedures are updated as appropriate to your facilities policy and procedures. This overview is an example and not all inclusive to the massive volume of requirements needed but should be considered more of a guide to your compliance with Hazardous Materials and Waste.

For more information please feel free to email your questions to: info@tsigconsulting.com



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George,

As always you were, in my opinion, the best speaker at the EC Summit conference as you put forth presentations in a way that is easily understood and the tools you were kind enough to share were most helpful and appreciated. Although I only get to see you roughly once a year, your ongoing commitment for helping us and others is truly an admirable and generous effort on your part and that of TSIG. Thank You!

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