Contractor Review
The Joint Commission
Environment of Care
Life Safety 2010
Changes and Challenges

PRESENTER:  Ed Lydon, CHFM
Not speaking on behalf of The Joint Commission
AGENDA

- Who is The Joint Commission
- Why and What are the changes
- TJC language Architects, Engineers, Contractors should be aware of
- Infection Control
- Construction Safety
- Life Safety Code
- Conclusion
The Joint Commission

- The Joint Commission evaluates and accredits more than 15,000 health care organizations and programs in the United States.
- An independent, not-for-profit organization,
- The Joint Commission is the nation’s predominant standards-setting and accrediting body in health care.
- Since 1951, The Joint Commission has maintained state-of-the-art standards that focus on improving the quality and safety of care provided by health care organizations.
The Joint Commission

- **Mission:** To continuously improve the safety and quality of care provided to the public through the provision of health care accreditation and related services that support performance improvement in health care organizations.
Environment of Care
language to be aware of
EC Chapter - The breakdown

- **Plan (EC.01)**
- **Implement (EC.02)**
  - Safety and Security (EC.02.01)
  - Hazardous Materials and Wastes (EC.02.02)
  - Fire Safety (EC.02.03)
  - Medical Equipment (EC.02.04)
  - Utilities (EC.02.05)
  - Other Physical Environment Requirements (EC.02.06)
- **Staff Demonstrate Competence (EC.03)**
- **Monitor and Improve (EC.04)**
1. Interior spaces meet the needs of the patient population and are safe and suitable to the care, treatment, and services provided.

- **JC’s “General Duty” Safety EP**
  - Interior Space, AIA Guidelines
  - General Safety, OSHA Compliance
  - Fire Safety, NFPA Compliance
  - Etc.
Standard EC.02.05.01

Hospital manages risks associated Utility Systems

- The hospital designs and installs utility systems that meet patient care and operational needs. (See also EC.02.06.05, EP 1)
The hospital identifies in writing inspection and maintenance activities for all operating components of utility systems on the inventory. (See also EC.02.05.05, EPs 3 - 5 and EC.02.05.09, EP 1)
The hospital identifies in writing the intervals for inspecting, testing, and maintaining all operating components of the utility systems on the inventory, based on criteria such as manufacturers' recommendations, risk levels, or hospital experience. (See also EC.02.05.05, EPs 3-5)

The hospital minimizes pathogenic biological agents in cooling towers, domestic hot and cold water systems, and other aerosolizing water systems.
In areas designed to control airborne contaminants (such as biological agents, gases, fumes, dust), the ventilation system provides appropriate pressure relationships, air-exchange rates, and filtration efficiencies.

Note: Areas designed for control of airborne contaminants include spaces such as operating rooms, special procedure rooms, delivery rooms for patients diagnosed or suspected of having airborne communicable diseases (for example, pulmonary or laryngeal tuberculosis), patients in "protective environment" rooms (for example, those receiving bone marrow transplants), laboratories, pharmacies, and sterile supply rooms.

Standard EC.02.05.01 cont.

- The hospital maps the distribution of its utility systems.
- The hospital labels utility system controls to facilitate partial or complete emergency shutdowns.
- The hospital has written procedures for responding to utility system disruptions.
- The hospital's procedures address shutting off the malfunctioning system and notifying staff in affected areas.
Standard EC.02.05.09
The hospital inspects, tests, maintains medical gas and vacuum systems

- In time frames defined by the hospital, the hospital inspects, tests, and maintains critical components of piped medical gas systems, including master signal panels, area alarms, automatic pressure switches, shutoff valves, flexible connectors, and outlets. These activities are documented.

- The hospital tests piped medical gas and vacuum systems for purity, correct gas, and proper pressure when these systems are installed, modified, or repaired. The completion date of the tests is documented.

- The hospital makes main supply valves and area shut-off valves for piped medical gas and vacuum systems accessible and clearly identifies what the valves control.
Standard EC.02.06.01 The hospital establishes and maintains a safe, functional environment.

- Interior spaces meet the needs of the patient population and are safe and suitable to the care, treatment, and services provided.
- The hospital provides space for recreation and social interaction for patients who remain in the care of the hospital for more than 30 days.
- The hospital provides storage space to meet patient needs.
- When the hospital provides care for more than 30 days, it provides outside areas for patient use, suitable to the patient's age, physical or mental condition, or other factors.
Standard EC.02.06.01 cont.

- Lighting is suitable for care, treatment, and services.
- The hospital maintains ventilation, temperature, and humidity levels suitable for the care, treatment, and services provided.
- Interior spaces accommodate the use of equipment, such as wheelchairs, necessary to the activities of daily living.
Standard EC.02.06.05
The hospital manages its environment during demolition, renovation, or new construction to reduce risk to those in the organization.

- When planning for new, altered, or renovated space the hospital uses one of the following design criteria:
  - State rules and regulations, or
  - Guidelines for Design and Construction of Hospitals and Health Care Facilities, 2001 ed, published by the American Institute of Architects, or
  - When the above rules, regulations, and guidelines do not meet specific design needs, other reputable standards and guidelines that provide equivalent design criteria. (See also EC.02.05.01, EP 1) (3A)
Pre Construction Risk Assessment

- Noise
- Vibrations
- Dust
- Utility Disruptions
- Infections
When planning for demolition, construction, or renovation, the hospital conducts a preconstruction risk assessment for air quality requirements, infection control, utility requirements, noise, vibration, and other hazards that affect care, treatment, and services. (3A)

Note: See LS.01.02.01 for information on fire safety procedures to implement during construction or renovation.

The hospital takes action based on its assessment to minimize risks during demolition, construction, or renovation. (3A)
The ICRA requirements are detailed within Chapter 1.5, “Planning and Design and Construction.” states:

- “Planning for health care facilities shall include, in addition to space and operational needs, provisions for infection control and protection of patients during any renovation or new construction...During the programming phase of a construction project the owner shall provide an Infection Control Risk Assessment (ICRA).”
## Infection Control Construction Permit

<table>
<thead>
<tr>
<th>Location of Construction:</th>
<th>Project Start Date:</th>
</tr>
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<tbody>
<tr>
<td>Project Coordinator:</td>
<td>Estimated Duration:</td>
</tr>
<tr>
<td>Contractor Performing Work</td>
<td>Permit Expiration Date:</td>
</tr>
</tbody>
</table>

### Supervisor:
- Telephone:

<table>
<thead>
<tr>
<th>YES</th>
<th>NO</th>
<th>CONSTRUCTION ACTIVITY</th>
<th>YES</th>
<th>NO</th>
<th>INFECTION CONTROL RISK GROUP</th>
</tr>
</thead>
<tbody>
<tr>
<td>TYPE A: Inspection, non-invasive activity</td>
<td>GROUP 1: Low Risk</td>
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<tr>
<td>TYPE B: Small scale, short duration, moderate to high levels</td>
<td>GROUP 2: Medium Risk</td>
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<tr>
<td>TYPE C: Activity generates moderate to high levels of dust, requires greater 1 work shift for completion</td>
<td>GROUP 3: Medium/High Risk</td>
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<td></td>
</tr>
<tr>
<td>TYPE D: Major duration and construction activities Requiring consecutive work shifts</td>
<td>GROUP 4: Highest Risk</td>
<td></td>
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</tr>
</tbody>
</table>

### CLASS I
1. Execute work by methods to minimize raising dust from construction operations.
2. Immediately replace any ceiling tile displaced for visual inspection.
3. Minor Demolition for Remodeling

### CLASS II
1. Provides active means to prevent air-borne dust from dispersing into atmosphere
2. Water mist work surfaces to control dust while cutting.
3. Seal unused doors with dust tape.
4. Block off and seal air vents.
5. Wipe surfaces with disinfectant.
6. Contain construction waste before transport in tightly covered containers.
7. Wet mop and/or vacuum with HEPA filtered vacuum before leaving work area.
8. Place dust mat at entrance and exit of work area.
9. Remove or isolate HVAC system in areas where work is being performed.

### CLASS III
1. Obtain infection control permit before construction begins.
2. Isolate HVAC system in area where work is being done to prevent contamination of the duct system.
3. Complete all critical barriers or implement control cube method before construction begins.
4. Maintain negative air pressure within work site utilizing HEPA equipped air filtration units.
5. Do not remove barriers from work area until complete project is thoroughly cleaned by Env. Services Dept.
6. Vacuum work with HEPA filtered vacuums.
7. Wet mop with disinfectant
8. Remove barrier materials carefully to minimize spreading of dirt and debris associated with construction.
10. Cover transport receptacles or carts. Tape covering.
11. Remove or isolate HVAC system in areas where work is being performed.

### CLASS IV
1. Obtain infection control permit before construction begins.
2. Isolate HVAC system in area where work is being done to prevent contamination of duct system.
3. Complete all critical barriers or implement control cube method before construction begins.
4. Maintain negative air pressure within work site utilizing HEPA equipped air filtration units.
5. Seal holes, pipes, conduits, and penetrations appropriately.
6. Construct anteroom and require all personnel to pass through this room so they can be vaccinated using a HEPA vacuum cleaner before leaving work site or they can wear cloth or paper coveralls that are removed each time they leave the work site.
7. All personnel entering work site are required to wear shoe covers.
8. Do not remove barriers from work area until completed project is thoroughly cleaned by the Environmental Service Dept.
9. Vacuum work area with HEPA filtered vacuums.
10. Wet mop with disinfectant.
11. Remove barrier materials carefully to minimize spreading of dirt and debris associated with construction.
12. Contain construction waste before transport in tightly covered containers.
13. Cover transport receptacles or carts. Tape covering.
14. Remove or isolate HVAC system in areas where work is being performed.

### Additional Requirements:
- Exceptions/Additions to this permit are noted by attached memorandums
- Permit Request By: Permit Authorized By:

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Adapted with permission V Kennedy, B Barnard, St Luke Episcopal Hospital, Houston TX, Forms modified and provided courtesy of Judene Bartley, ECSI Inc Beverly Hills MI 2002 Review 2005
Construction Safety

What surveyors are looking for in the construction area
Worker Safety

- All workers wearing ID Badges
- All workers have received hospital orientation (Spot check results)
- Construction workers dressed appropriately
- Workers have proper training for applying fire stop
- Workers have proper training for fall protection
Barriers

- Walls have been constructed to control environment
- Temporary petitions are made of materials that will not contribute to a fire
- Signs posting restricting access
- Doors properly closed and sealed
- Walk-off Mats before and after door
- Lockable doors in place
Q. Do plastic sheets constitute acceptable temporary barriers in and around construction areas?

A. Unrated flammable plastic sheets, do not! Even though flammable plastic sheets taped across an opening may form a dust seal, they are incapable of controlling fire. The only thing they can do is keep air from moving around. They are good for controlling dust and its associated infection control implications and, on a limited basis for stopping smoke caused by a fire in the construction zone, but these sheets do absolutely nothing to stop the fire itself.

The Joint Commission standards require that temporary construction partitions [should be] smoke tight and built of noncombustible or limited combustible materials (sheet rock, gypsum board) that will not contribute to the development or spread of fire." Be sure that evidence of "limited combustibility" can be furnished if questioned during survey.

The Joint Commission position is that plastic sheet barriers of a limited combustible type (rated material) are "tolerated" for short term use. In addition, if the project includes any high risk construction activities (i.e., torch cutting, welding, burning, open flame, etc.), non-combustible barriers should be erected.
Air Handling

- Negative pressure at barrier entrance checked and verified
- Exhaust fan is filtered
- AC ducts (supply & return) sealed
Area Management

- Debris removed in covered containers daily
- Trash in appropriate containers
- Routine cleaning performed on job site
- Routine cleaning performed in adjacent areas to the job site patient care areas so no evidence is apparent
- Lighting is adequate for the work area
Traffic / Signage Control

- There are means to secure the area when unoccupied
- Hard Hat signs are posted (if required)
- Hearing protection signs are posted (if required)
- Eye protection signs are posted (if required)
- Job site restricted to construction workers and necessary staff only
- Patient traffic is separated by time or space from construction traffic flow activity
- Construction workers are traveling to & from work site via designated route (No Patient Waiting)
Electrical Safety

- All electrical panels have protective covers installed
- Warning signs are installed on all live equipment
- The Lockout /Tagout procedures have been properly implemented
Fire Safety

- Fire extinguishers are in the immediate area of flames, sparks or heat producing tasks
- Fire extinguishers are properly distributed and labeled in the project area
- Egress maps are posted
- Exit signs are in appropriate labeled and illuminated
- Exits are free and clear of obstacles
- Detectors taken out of service are enabled at end of day
LSC “Effective Date”

- TJC adopted 2000 LSC March 1, 2003
- Buildings for which plans were approved (by local AHJ) after March 1, 2003, will be evaluated as “new construction” under applicable chapters of the LSC by TJC.
- Buildings w/plans approved before March 1, 2003 will be evaluated as existing construction” by TJC.

CMS K tags – the enforcement citations

Waivers from CMS must be renewed every year with the exception of chart boxes / wall – a – roos that do not exceed 4” from the walls
The creation of the chapter is intended to make the standards related to life safety, clear, more consistent, and easier to evaluate by both accredited organizations and Joint Commission surveyors.
Standards are arranged by types of “occupancies”

Each LS standard has a three-part numbering system.

The first part indicates the occupancy type addressed by the standard, the second part indicates any specific building types, and the third part indicates the specific subset within the occupancy chapter of the Life Safety Code.
Health care occupancies are assigned the number .02, ambulatory occupancies are assigned .03, and residential occupancies are assigned .04.

The .01 refers to applies to all health care building types. Third set of numbers, .34 relates to the subsection of the NFPA’s Life Safety Code chapter.

LS chapter will take the same format as the scoring for all of the other standards chapters.
The anatomy of a life safety standard

The Joint Commission’s new life safety standards, which take effect January 1, 2009, are numbered using an approach that ties into the Life Safety Code® (LSC). The first number in a typical life safety standard generally refers to the LSC’s occupancy chapter, the second number qualifies the building type within an occupancy (this doesn’t apply to healthcare occupancies, only residential occupancies), and the third number reflects the LSC’s subcategories.

Take the following example, LS.02.01.34, which requires facilities to provide fire alarm systems:

“LS” refers to the life safety chapter

“02” refers to a healthcare occupancy

“01” refers to a building type (this number changes only for residential occupancies)

“34” refers to sections 18/19.3.4 in the LSC, which set provisions for detection and alarm systems in healthcare occupancies

Source: Based on material from George Mills, FASHE, CHFM, CEM, senior engineer at The Joint Commission.
Overview of The Joint Commission’s 2009 life safety standards

The following are the main standards under The Joint Commission’s new life safety chapter, which takes effect January 1, 2009. There are 100-plus elements of performance listed under these standard numbers.

For healthcare occupancies (e.g., hospitals and nursing homes)
- LS.01.01.01—Complying with the Life Safety Code® and electronic Statement of Conditions
- LS.01.02.01—Instituting interim life safety measures
- LS.02.01.10—Meeting building construction requirements
- LS.02.01.20—Maintaining means of egress
- LS.02.01.30—Maintaining fire protection features
- LS.02.01.34—Maintaining fire alarm systems
- LS.02.01.35—Maintaining fire extinguishing systems
- LS.02.01.40—Providing special building provisions

For ambulatory healthcare occupancies (e.g., ambulatory surgical centers)
- LS.03.01.10—Meeting building construction requirements
- LS.03.01.20—Maintaining means of egress
- LS.03.01.30—Maintaining fire protection features
- LS.03.01.34—Maintaining fire alarm systems
- LS.03.01.35—Maintaining fire extinguishing systems
- LS.03.01.40—Providing special building provisions
- LS.03.01.50—Maintaining building services
- LS.02.01.70—Maintaining operating features

Source: The Joint Commission.
Interim Life Safety Measure (ILSM)

- Don’t Forget !! Not only construction, it is also existing deficiencies that need assessment
- Big Ouch !! For many hospitals and can also be cited LD 2.20, LD 3.8, LD 4.50
ILSM is

LS.01.02.01: The organization protects occupants during periods when the Life Safety Code is not met or during periods of construction. (14 EPs)

- Fire alarm watch when system is out of service for 4 or more hours in a 24 hour period (D)
- Signage is posted identifying alternate exits for everyone affected
- Written ILSM policy (D)
- Inspection of exits based on need established by ILSM criteria
- Temporary but equivalent fire alarm and detection systems based on need established by ILSM criteria
- Additional fire fighting equipment based on need established by ILSM criteria
- Smoke tight temporary smoke or made of non-combustible or limited combustible material based on need established by the ILSM criteria
- Increased surveillance based on need established by the ILSM criteria
- Enforces storage, housekeeping, and debris removal based on need established by ILSM criteria
ILSM
LS.01.02.01- continued

- Additional staff training based on need established by the ILSM criteria
- Conducts one additional fire drill per shift per quarter based on need established by the ILSM criteria
- Inspects and tests temporary systems monthly. (D) Based on need established by ILSM criteria
- Conducts education to promote awareness of building deficiencies, construction hazards, and temporary measures implemented based on need established by ILSM criteria.
- The hospital trains those who work in the hospital to compensate for impaired structural or compartmental fire safety features, based on need established by ILSM criteria.
What Can Go Wrong?

- Nosocomal fungal infection, negative patient outcome
- Staff injury and illness
- Staff complaints and dissatisfaction
- OSHA Inspections
- TJC receives a complaint
How Things Can Go Wrong!

- Interdepartmental Responsibilities = ambiguity, lack of “ownership”
- Construction contractors may be focused on job completion
- Limited hospital resources / resource allocation
Common Survey Issues

- No ILSM
- Penetrations not filled at the end of the day
- Obstructed egress
- Storing combustible and flammable construction materials under exit stairways
Facility Manager

- To assure that a successful design is translated into a successful building, the facility manager must fully understand the legal requirements of a contract as well as the responsibility of contract administration. In general, the FM must be a storehouse of information about the total project.
ASHE Construction Certificate Program

- States (example: West Virginia) are now recommending all Construction Managers and Construction Supervisory Staff acquire “ASHE Healthcare Construction Certification”

- Many Hospitals are now writing the requirement into construction contracts.
Questions ???????