Compliance and Barrier Management

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Presentation Goals

Can you cover things like key healthcare issues the hospitals contractors have to deal with –

- Fire barriers, smoke barriers,
- Doors, Dampers, Firestop Systems in the barriers?
- Managing the barriers for the building life cycle and best cases you’ve seen at JLL?
- Infection control and construction.
- What does JLL look for in a firestop and barrier management services contractor? Why?
- What’s up at TJC, CMS??
Environment of Care
## Most Cited EC Standards

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# Most Cited Elements of Performance (EP)

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In critical care 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, temperature and humidity.

**Note:** For more information about areas designed for control of airborne contaminants, the basis for design compliance is the Guidelines for Design and Construction of Health Care Facilities, based on the edition used at the time of design (if available).
Critical Care Areas Include:

- Operating Rooms (All Classes)
- Caesarean Delivery Rooms
- Rooms for patients diagnosed with or suspected of having airborne communicable diseases
  - i.e. Airborne Infection Isolation Rooms
  - Pulmonary or Laryngeal Tuberculosis
  - Bronchoscopy
- Patients in “protective environment” rooms
  - i.e. Those receiving bone transplant rooms
- Special procedure rooms that require a sterile field
- Sterile supply/processing rooms and other sterile spaces
- Laboratories (based on risk assessment)
- Pharmacies (based on risk assessment)
EC.02.05.01 EP 16

- In non-critical areas, the ventilation system provides required pressure relationships, temperature, and humidity.

NOTE: Examples of non-critical care areas are general care nursing units; clean and soiled utility rooms in acute café areas; laboratories, pharmacies, diagnostic and treatment areas, food preparation areas, and other support departments.
NON–Critical Care Areas Include:

- General Care Nursing Units
- Clean and Soiled Utility Rooms in Acute Care Areas
- Laboratories (Based on Risk Assessment)
- Pharmacies (Based on Risk Assessment)
- Diagnostic and Treatment Areas
- Food Preparation Areas
- Other Support Departments Based on Risk Assessment
Ventilation, Temperature and Humidity Issues

- Expect in 7/2020 enhanced focus on ventilation, temperature and humidity
- Monitoring
  - Does your policy support adjusting temperature to respond to clinical request?
  - Can the organization use the Building Automation System?
- Humidity
  - >60% RH: Have a policy and plan and implement it
  - Show evidence of complying with your plan
Minimizes pathogenic biological agents in cooling towers, domestic hot- and cold-water systems, and other aerosolizing water systems.

- Risk Assessment
- Cooling towers
- Air handling units
- Potable hot/cold water systems
- Other aerosolizing water systems
  - ASHRAE 188-2015 considered a best practice

Causes within Utility Systems

- Lengthy pipe runs
- Dead legs
- Cooling towers
- Fountains
- Showers
- Faucets
- Ice machines
- Water-based humidifiers
Minimizes pathogenic biological agents

- CMS S&C 17-30: Requirement to Reduce Legionella Risk in Healthcare Facility Water Systems to Prevent Cases and Outbreaks of Legionnaires’ Disease (LD)
- Requires a policy/procedure for a water management program, including control measures
- Testing protocol and acceptable ranges are specified
- Corrective action and retesting when limits are exceeded
  - Applicable to all Hospitals (HAP), Critical Access Hospitals (CAH), and Nursing Care Centers (NCC)
  - More information:
Minimizes pathogenic biological agents

- 90% of all Hospital Acquired Infections are from bacteria in the environment
- Legionella
  - Over 30 different species; legionella pneumophila most common
  - Aerosolization transmission
  - Tolerates temperatures up to 140° F; growth up to 115°F
  - Symptoms within 2 – 10 days
- Mycobacterium
  - Non-tuberculous mycobacteria (NTM)
  - Highly resistant to chemical disinfectants
Minimizes pathogenic biological agents

- Legionella treatment techniques
  - Chlorine
  - Good for Legionella;
    - Fair to poor for biofilm control
  - Corrosive and hazardous vapors
  - Excessive use corrosive to some piping
- Copper/Silver
  - Not as effective in hard water applications
  - Limited effectiveness for biofilm
- High temperature (> 140° F)
  - Scalding
  - Not effective for cold water systems
  - Impact to corrosion, seals, and gaskets
*Legionella* can live and grow in biofilm

- **Water**
- **Pipe wall**
- **Biofilm-associated bacteria**
- **Free-floating bacteria**
- **Secreted slime**

Cross section of pipe
EC.02.05.01 EP 9

- Labeling utility system controls to facilitate shutdown, such as
  - Utility source valves
  - Utility system main switches and valves
  - Individual circuits in electrical distribution panel
  - Fire Alarm Circuit is clearly labeled as such and is marked in red
    - Disconnect method (i.e. circuit breaker)
    - Restricted access
    - Information where the dedicated branch is located in the control unit
EC.02.06.01: Patient Care Environment

The organization establishes and maintains a safe and appropriate environment

- EP 1  Interior spaces are safe and suitable for patient care, treatment and services
- EP 26  Furnishings and equipment safe and in good repair
EC.02.05.05 STANDARD

- The hospital inspects, tests, and maintains utility systems.

  • Note: At times, maintenance is performed by an external service. In these cases, hospitals are not required to possess maintenance documentation but must have access to such documentation during survey and as needed.
EC.02.05.05

- EP 6: Non-high risk completion rate:
  - 100% of the scheduled activities
  - Defined by organization for frequency

- Many issues related to poor maintenance habits
  - Open J Boxes
  - Storage in front of electrical distribution panels
When the hospital uses cylinders with an integral pressure gauge, a threshold pressure considered empty is established when the volume of stored gases is as follows:

- When more than 300 but less than 3,000 cubic feet, the storage locations are outdoors in an enclosure or within an enclosed interior space of non- or limited-combustible construction, with door (or gates outdoors) that can be secured. Oxidizing gases are not stored with flammables and are separated from combustibles by 20 feet (5 feet if sprinklered) or enclosed in a cabinet of noncombustible construction having a minimum 1/2-hour fire protection rating.
EC.02.05.09 EP6  Medical Gases: Cylinder Mgmt.

- When less than 301 cubic feet in a single smoke compartment, individual cylinders available for immediate use in patient care areas with an aggregate volume of less than or equal to 300 cubic feet are not required to be stored in an enclosure. Cylinders must be handled with precautions as specified in NFPA 99-2012: 11.6.2.

- (For full text, refer to NFPA 99-2012: 5.1.3.1; 5.1.3.2.3; 5.2.3.1; 5.3.10; 11.3; 11.6.5.2.1)
Life Safety Chapter
## Most Cited LS Standards

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**LS.02.01.35**

- EP 4: Piping supports are not used to support anything
- EP 5: Escutcheon plates must be installed and heads clean and in good condition
  - Grease pot not properly aligned under Suppression system
  - Sprinkler discharge pattern questioned regarding obstructions, etc.
LS.02.01.10

- EP 7: Building Separation
- EP 11: Added that blocking or wedging fire rated doors is prohibited
  - Fire door hardware
**LS.02.01.30**

- EP 2 - 3: New & Existing hazardous areas EP’s re-designed
  - **Door requirements**, barrier discussion and areas identified as hazardous areas
- EP 12: New building corridor door requirements
- EP 19: Smoke Barrier with no unprotected openings
LS.02.01.20

- EP 14: Means of Egress clear and unobstructed
  - See two notes about
    - Wheeled Equipment
    - Fixed furnishings
Barrier Management Program

- Barriers include
  - Walls
  - Joints
  - Doors
  - Other openings
    - Windows
    - Ductwork
    - Pipes, conduits, etc.
    - Chutes, shafts, vertical openings
Barrier Management Program: Policy, Permit, Educate and Inspect

- Policy:
  - Define
    - Scope
    - Authority
    - Management process
  - Interim Life Safety Measures
  - Pre-construction Risk Assessment
Deficiency Resolution

- Deficiency Resolution Options:
  - Correct it immediately
  - Correct it within 60 days from end of survey
    - Management process that documents the deficiency and actions to resolve
    - ILSM must be implemented
  - Time Limited Waiver (TLW) located in the Statement of Conditions™
    - For additional time beyond the initial 60 days
    - Must be requested within 30 days from survey end
    - ILSM must be implemented
Interim Life Safety Measures

- Order of Standards (LS.01.02.01)
  - EP 1 must clearly define the ILSM policy including
    - Criteria to consider ILSM implementation
    - What to do to protect occupants
    - Both construction related and non-compliance with the LSC
  - EP 2 & 3 now ILSM actions
  - EPs 4 – 14 align with policy and implementation strategies
  - EP 15: Other, used for other ILSM
Preconstruction Risk Assessment (PRA)

Construction or renovation in occupied healthcare facilities can result in environmental problems such as:

- Noise
- Vibration
- Creation or spread of contaminants
- Disruption of essential services
- Emergency Procedures
- Air quality
Barrier Management Program: Policy, Permit, Educate and Inspect

- Permit
  - Follows policy
  - Define when permits are issued
  - Define criteria for awarding permits
  - Define permit display requirements
  - Define scope of permit: where the work is being done
  - Define time frame for the permit will expire
Barrier Management Program: Policy, Permit, Educate and Inspect

- Educate
  - Facilities staff
    - Components of the Barrier System
    - Maintenance of the Components
  - All other staff
    - Barrier System awareness
    - Permit awareness
  - Contractors
    - Barrier Management expectations
Barrier Management Program: Policy, Permit, Educate and Inspect

- Inspect
  - Establish inspection frequencies
    - Hospital experience
    - Reliability Centered Maintenance
  - Document inspection activities
  - Management inspections
    - Verify quality
    - Modify program as needed
Questions
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