

# What about Day 2? Transitioning from Construction to Operations and Regulatory Compliance at Occupancy

A PRESENTATION FOR  
**HFMS NJ 2011 Seminar**

Transitioning from Construction to Operations & Regulatory Compliance 



David Stymiest, PE CHFM FASHE  
Copyright 2011 © Smith Seckman Reid, Inc., Nashville, TN  
DStymiest@ssr-inc.com, cell 504.232.1113

---

---

---

---

---

---

---

---

## Session Outline

- Challenges
- Best practices from recent studies and reports by industry activation thought leaders
- Regulatory compliance at occupancy

---

---

---

---


---


---



---


---

## Early activation and turnover approaches

 Scheduling building turnover sequence

 Logistics: new equipment and furniture

 Department moves 

 Patient moves **Opening**

---

---

---

---

---

---

---

---

What about Day 2? Transitioning from Construction to Operations and Regulatory Compliance at Occupancy

**Current thinking about new facilities**

- Resolve existing service delivery concerns
- Incorporate best practice operational models
- Clear vision
  - Guiding principles
  - Performance objectives
- A much taller order!



---

---

---

---

---

---

---

---

**Facility activation challenges**

- Manage risks
- Minimize duration
- Meet regulatory compliance reqmts for an early unannounced survey
- Manage impact on existing operations
- Plan & coordinate patient care
- Budget for start-up and ongoing operations

---

---

---

---

---


---

---

---

**Facility activation limitations**

- No more visioning
- No changes during activation (too late)
- Avoid new operational procedures & standards
- Prioritize goals



---

---

---

---

---

---


---

---

What about Day 2? Transitioning from  
Construction to Operations and Regulatory  
Compliance at Occupancy

Activation planning issues - **Logistical**

- Facility-related
- Building turnover
- Equipment, furniture
- Telecom, data, etc.
- Moves, sequences
- Schedules, tasks
- Budgets, resources



---

---

---

---

---


---

---

---

Activation planning issues - **Operational**

- Plan for modified processes, practices
- All functions, all areas, all departments
- Intended changes
- Unintended consequences
- Implementation of details



---

---

---

---

---

---

---

---

Activation success factors

- Project champion and team “captains”
- Multidiscipline teams: clear roles and responsibilities
- Cross-functional processes
- Meeting management techniques
- Real-time communication with hotline
- Activation issues dB with FAQs
- Timely decisions; communicate decisions

---

---

---

---

---


---

---

---

What about Day 2? Transitioning from  
Construction to Operations and Regulatory  
Compliance at Occupancy

More activation best practices



- Dedicated leadership and staff
- Schedule and milestone management
- Communication ability and approach
- Conflict management
- Moratorium on new technologies
- Detailed testing

---

---

---

---

---

---

---

---

Building Readiness

- Contractor building turnover schedules
- Commissioning agent coordination
- Building cleaning & security
- Inspections, licenses, compliance, surveys
- Equipment & furniture
- Supplies, medications, spare parts

---

---

---

---

---


---

---

---

Department moves

- Department operating interdependencies
- Department move sequences
- Interim operations
- Continuity of operations
- Labor and cost control
- Repair damaged items
- Moving company/contractor support
- Trash disposal, cleanup, environ. svcs.



---

---

---

---

---

---


---

---

What about Day 2? Transitioning from Construction to Operations and Regulatory Compliance at Occupancy

**Patient Moves**

- Establish sequence & routing
- Organize support equipment & personnel
- Plan for patient safety & dignity
- Define support department responsibilities
- Maintain communications, FAQs



---

---

---

---

---

---

---

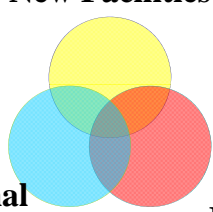
---

**Staff & LIP orientation**

**New Facilities**

**New Operational Plans**

**New Practices**



---

---

---

---

---

---


---

---

**Staff training: initial & ongoing**

- Staff training on new building systems
- Staff training on new equipment

**Video it**



---

---

---

---

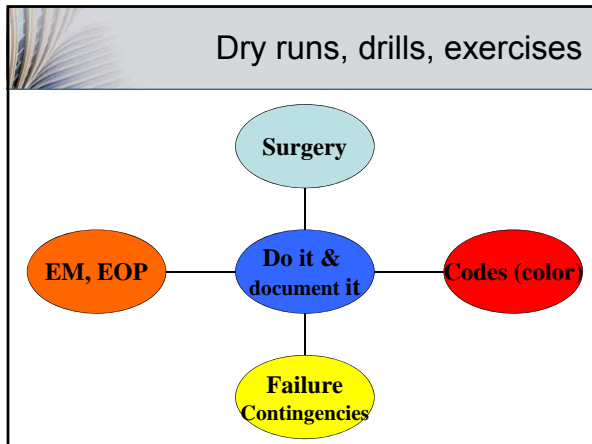
---

---

---

---

What about Day 2? Transitioning from Construction to Operations and Regulatory Compliance at Occupancy



---

---

---

---

---

---

---

---

- New equipment & technologies
- Redesigned processes – new P&P's
  - Existing CMMS WO's may be outdated
  - Revisit failure contingency plans
  - Perform negative testing (break the system)
  - Are training materials available, accurate, sufficient?
  - Educate users & maintainers

---

---

---


---

---

---

---

---

- Proactive approach
- “Proactive avoidance” Acceptance Testing
    - Confirm what was ready
    - Identify what was not ready in time to fix it
    - Manage this process
  - Proactive compliance
    - Determine what is needed
    - Identify what is missing in time to get it
    - Manage this process
- 

---

---

---

---

---

---


---

---

# What about Day 2? Transitioning from Construction to Operations and Regulatory Compliance at Occupancy

### Facility startup

- Commissioning!
- Start-up/testing of MEPF equipment/systems
- Start-up/testing of low voltage systems
- Test equipment: rent, GC, or purchase
- Assistance in testing, adjusting, balancing
- Providing O&M info, as-built drawings
- Finalize and prove out system operating descriptions
- Owner training



---

---

---

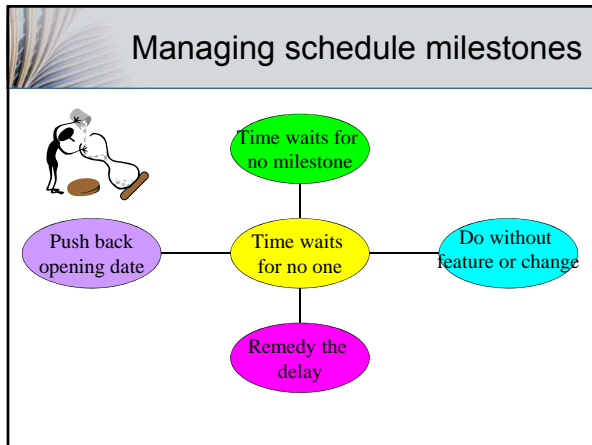
---

---

---

---

---



---

---

---

---

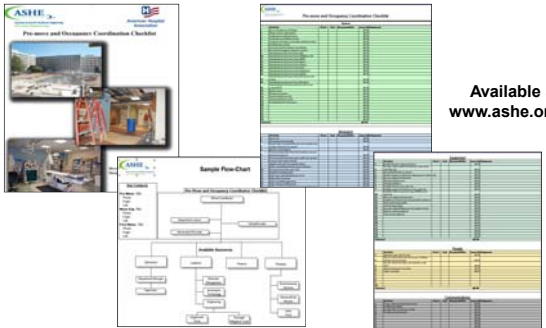
---

---

---

---

### Pre-move and Occupancy Coordination Checklist by ASHE PDC Committee



Available at [www.ashe.org](http://www.ashe.org)

---

---

---

---

---

---


---

---

# What about Day 2? Transitioning from Construction to Operations and Regulatory Compliance at Occupancy

### Regulatory compliance

- Bridge the gap between construction and operating compliance
- Be proactive
- Not just project record documentation
- Define future states & impact of C/R project changes in all P&P's
- Be ready for **early** unannounced survey
- Be prepared for continuous compliance



---

---

---

---

---


---

---

---

### Regulatory compliance

- Identify AHJ surveys, timeframes
  - CMS, TJC, DNV, state, local
- What is all of the required documentation?
- Who in the C/R project “owns” each piece?
- Are resources dedicated to get it all done on time?
- Manage supporting contracts & licenses
- Identify licensing tasks; award & follow
- Do it only once: save time & resources
- Leverage with GC documentation already survey-ready



---

---

---

---

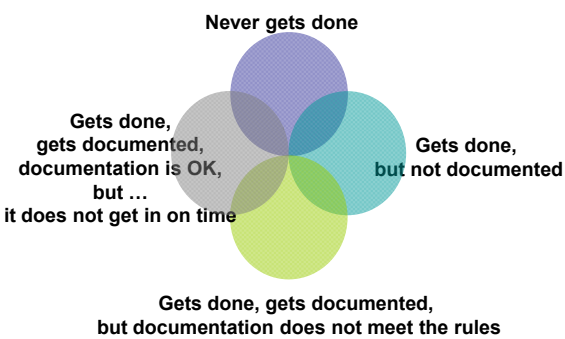
---

---

---

---

### TJC compliance challenges with construction projects



Never gets done

Gets done, gets documented, documentation is OK, but ... it does not get in on time

Gets done, but not documented

Gets done, gets documented, but documentation does not meet the rules

---

---

---

---

---

---

---

---

# What about Day 2? Transitioning from Construction to Operations and Regulatory Compliance at Occupancy

**Compliance needs for an unannounced survey soon after occupancy**

- Project documentation
- Management plans
- Policies and procedures
- Risk assessments
- Training records
- Life Safety Assessment
- LS Plans, SOC™, PFI's
- LSC Performance-based options [equivalencies]
- Input from O&M manuals
- Inventories, evaluations
- PPE, spill kits, supplies
- Lists, spreadsheets, dB's
- Monitoring equipment
- Permits, licenses, manifests
- Schedules: drills, inspections, tests, PM
- Test & inspection reports (GC)
- Test & inspection forms (next)
- Certifications & AHJ approvals
- EM & EOP input & activities

---

---

---

---

---

---

---

---

**TJC survey soon after occupancy**

A cartoon illustration showing two yellow dinosaurs on a beach. In the background, a small boat with several people is on the water. One dinosaur is speaking to the other, saying, "Oh, crap! Was that TODAY?" The signature "REGAN" is visible in the bottom right corner of the cartoon.

---

---

---

---


---

---


---

---


**Changes to Management Plans**




**Locations & Relocations**



**Infrastructure Equipment & Systems**



**Facility & Area Use**



**Processes**

---

---

---

---

---

---


---

---

What about Day 2? Transitioning from Construction to Operations and Regulatory Compliance at Occupancy

**Managing Risk (i.e. Assessments)**

- Fire
- Safety
- Security
- Patient smoking
- Medical equipment
- Operating components of utility systems
- Emergency power
- Input to EM, EOP, HVA
- Hazardous chemicals
- Hazardous energy sources: radiation, lasers, batteries
- Hazardous medications
- Hazardous gases & vapors
- Radioactive materials
- LSC deficiencies: ILSM
- Demolition and C/R
  - PRA, ICRA




---

---

---

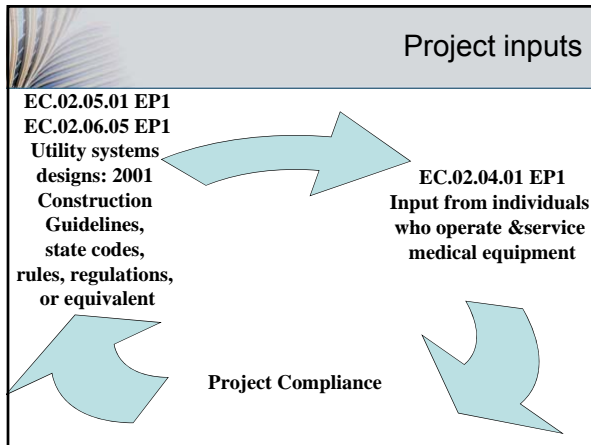
---

---

---

---

---




---

---

---

---


---

---


---

---

**Evaluated before initial use:  
Whether to include in Inventory?**



EC.02.04.01 EP2  
Medical equipment



EC.02.05.01 EP2  
New types of utility components

---

---

---

---

---

---

---

---

What about Day 2? Transitioning from Construction to Operations and Regulatory Compliance at Occupancy

**Written Inventories**

- Either ALL or selected based upon risk
- EC.02.02.01 EP1: Hazmat and Waste
- EC.02.04.01 EP2: Medical equipment
- EC.02.05.01 EP2: Operating components of utility systems
- EC.02.03.05 EP15: Fire extinguishers (If used as a means to document inspections)

---

---

---

---

---

---

---

---

**Commissioning/testing before initial use:  
Just a few examples ...**

- EC.02.04.03 EP1: Medical equip. on Inventory
- EC.02.05.05 EP1: Utility components on Inventory
  - Also NFPA 99, 3-3.3.4.2, 3-3.4.3, 3-3.2.1.2, etc.: IPS, LIM, GFCI, grounding, receptacles, instruments
- EC.02.05.07; NFPA 99 3-4.4.1: essential electrical (EP) system insulation & circuit breakers, etc.
- EC.02.05.09 EP2, NFPA 99 Chap 4: MedGas outlets, alarm panels, compressors, pumps, manifolds, valves, etc.
- EC.02.06.01 EP6: Isolation rooms, OR's, etc. [T&B, other]
- EM.01.01.01 EP8: Resources & assets that may be needed during an emergency

---

---

---

---

---

---

---

---

**Testing: initial ↔ ongoing**

- Fire safety equipment & Fire safety building features
- Fire alarm, fire protection, sprinkler, fire extinguishers, extinguishing systems, dampers, AHU shutdown, etc.
- Door operation, exit door & corridor door resistance
- Pathogenic biological agents in CT's, DHW, CWS
- Temporary systems for ILSM
- Medical equipment
- Utility system components
- Emergency power
- MedGas and Vacuum

Challenge	TEST TYPE OR PERFORMANCE CRITERIA REQUIRED	Test Frequency	UAC BC or other	CODE REF	HS GAP	STATUS BAR 12
Fire Alarm	All Supervisory Signal Devices	Yes	02.03.05 EP1, EP2	NFPA 72 - 1999 7.5.1.2, 7.5.1.3, 7.5.1.4, 7.5.1.5, 7.5.1.6, 7.5.1.7, 7.5.1.8, 7.5.1.9, 7.5.1.10, 7.5.1.11, 7.5.1.12, 7.5.1.13, 7.5.1.14, 7.5.1.15, 7.5.1.16, 7.5.1.17, 7.5.1.18, 7.5.1.19, 7.5.1.20, 7.5.1.21, 7.5.1.22, 7.5.1.23, 7.5.1.24, 7.5.1.25, 7.5.1.26, 7.5.1.27, 7.5.1.28, 7.5.1.29, 7.5.1.30, 7.5.1.31, 7.5.1.32, 7.5.1.33, 7.5.1.34, 7.5.1.35, 7.5.1.36, 7.5.1.37, 7.5.1.38, 7.5.1.39, 7.5.1.40, 7.5.1.41, 7.5.1.42, 7.5.1.43, 7.5.1.44, 7.5.1.45, 7.5.1.46, 7.5.1.47, 7.5.1.48, 7.5.1.49, 7.5.1.50, 7.5.1.51, 7.5.1.52, 7.5.1.53, 7.5.1.54, 7.5.1.55, 7.5.1.56, 7.5.1.57, 7.5.1.58, 7.5.1.59, 7.5.1.60, 7.5.1.61, 7.5.1.62, 7.5.1.63, 7.5.1.64, 7.5.1.65, 7.5.1.66, 7.5.1.67, 7.5.1.68, 7.5.1.69, 7.5.1.70, 7.5.1.71, 7.5.1.72, 7.5.1.73, 7.5.1.74, 7.5.1.75, 7.5.1.76, 7.5.1.77, 7.5.1.78, 7.5.1.79, 7.5.1.80, 7.5.1.81, 7.5.1.82, 7.5.1.83, 7.5.1.84, 7.5.1.85, 7.5.1.86, 7.5.1.87, 7.5.1.88, 7.5.1.89, 7.5.1.90, 7.5.1.91, 7.5.1.92, 7.5.1.93, 7.5.1.94, 7.5.1.95, 7.5.1.96, 7.5.1.97, 7.5.1.98, 7.5.1.99, 7.5.1.100	GC for JUDGE, AUTOMATIC for ongoing	
Fire Alarm	Fire Alarm System (audible and visible alarm, horn and siren, strobe, etc. when the alarm is sounded)	Yes	02.03.05 EP1, EP2	NFPA 72 - 1999 7.5.1.1, 7.5.1.2, 7.5.1.3, 7.5.1.4, 7.5.1.5, 7.5.1.6, 7.5.1.7, 7.5.1.8, 7.5.1.9, 7.5.1.10, 7.5.1.11, 7.5.1.12, 7.5.1.13, 7.5.1.14, 7.5.1.15, 7.5.1.16, 7.5.1.17, 7.5.1.18, 7.5.1.19, 7.5.1.20, 7.5.1.21, 7.5.1.22, 7.5.1.23, 7.5.1.24, 7.5.1.25, 7.5.1.26, 7.5.1.27, 7.5.1.28, 7.5.1.29, 7.5.1.30, 7.5.1.31, 7.5.1.32, 7.5.1.33, 7.5.1.34, 7.5.1.35, 7.5.1.36, 7.5.1.37, 7.5.1.38, 7.5.1.39, 7.5.1.40, 7.5.1.41, 7.5.1.42, 7.5.1.43, 7.5.1.44, 7.5.1.45, 7.5.1.46, 7.5.1.47, 7.5.1.48, 7.5.1.49, 7.5.1.50, 7.5.1.51, 7.5.1.52, 7.5.1.53, 7.5.1.54, 7.5.1.55, 7.5.1.56, 7.5.1.57, 7.5.1.58, 7.5.1.59, 7.5.1.60, 7.5.1.61, 7.5.1.62, 7.5.1.63, 7.5.1.64, 7.5.1.65, 7.5.1.66, 7.5.1.67, 7.5.1.68, 7.5.1.69, 7.5.1.70, 7.5.1.71, 7.5.1.72, 7.5.1.73, 7.5.1.74, 7.5.1.75, 7.5.1.76, 7.5.1.77, 7.5.1.78, 7.5.1.79, 7.5.1.80, 7.5.1.81, 7.5.1.82, 7.5.1.83, 7.5.1.84, 7.5.1.85, 7.5.1.86, 7.5.1.87, 7.5.1.88, 7.5.1.89, 7.5.1.90, 7.5.1.91, 7.5.1.92, 7.5.1.93, 7.5.1.94, 7.5.1.95, 7.5.1.96, 7.5.1.97, 7.5.1.98, 7.5.1.99, 7.5.1.100	GC for JUDGE, AUTOMATIC for ongoing	

---

---

---

---

---

---

---

---

# What about Day 2? Transitioning from Construction to Operations and Regulatory Compliance at Occupancy

### Testing & certifications

- Reports on file
- Easily accessible during unannounced surveys
- Contractor, commissioning agent documents
- AHJ documentation: Local, State, NRC, DOT, FAA...
- Policies and procedures for ongoing testing
- Lists, spreadsheets, schedules for all components
- CMMS: include new equipment and processes
- Helipads, separator tank
- BAS/BMS, Elevators, fuel tanks, pressure vessels, lightning protection, LV systems, FP water systems, etc.

---

---

---

---

---


---

---

---

### Testing building systems

- Test under full load
- Be sure they all work together
- Integrated system testing
- Verify patient safety, comfort, convenience
- Emergency management: test people & systems
- Negative testing (stress / break the system)
- Confirm all tested areas ready to go live



---

---

---

---

---

---

---

---

### Detailed test scripts

- Planning works, have adequate support
- Equipment interfaces correctly defined, carried out and understood
- Prove out wireless coverage
- Verify failure contingency planning
- Verify security, IT, Telecom, MEPF
- Prove system readiness
- Confirm operational accountability

---

---

---

---

---

---

---

---

What about Day 2? Transitioning from Construction to Operations and Regulatory Compliance at Occupancy

User acceptance testing best practices

- Again ... test people and systems
- Use command center for activation & move control; record problems & resolutions
- Structured debriefing and problem solving
- Retest resolved processes & operations



---

---

---

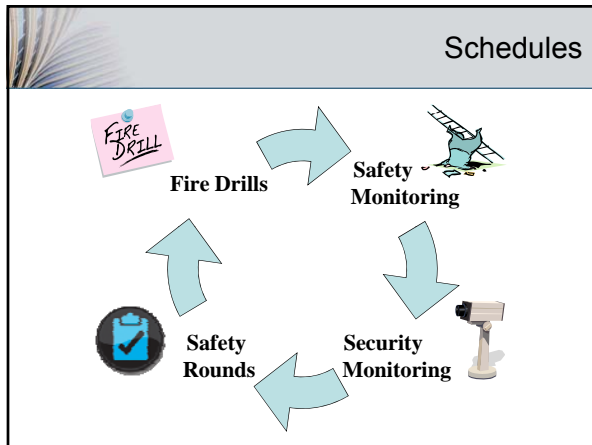
---

---

---

---

---



---

---

---

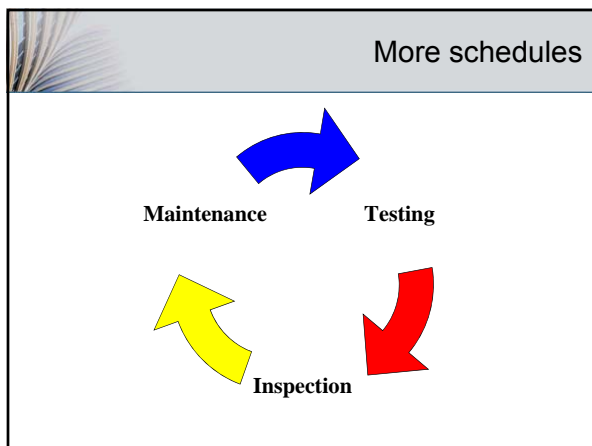
---

---

---

---

---



---

---

---

---

---

---


---

---

# What about Day 2? Transitioning from Construction to Operations and Regulatory Compliance at Occupancy

### Inspections

- Initial + schedules / P&P's for ongoing
- Old BMP components (smoke & corridor walls; fire, smoke & corridor doors, exit signs, egress lights, T/L chutes, grease producing, ice/snow [egress obstructions])
- Fire walls
- Dampers
- Fire protection systems, devices, equipment
- Fire alarm systems, devices, equipment
- Emergency power; MedGas; other systems



---

---

---

---

---

---

---

---

### Training: existing & new staff

- Security incidents
- Facility systems, Clinical systems
- Other equipment and systems
- All hazmat/waste requirements
- Use of PPE
- Fire response
- Staff & LIP's: EC risks, incidents, reporting
- Emergency management: EOP

---

---

---

---

---



---

---

---

### Labels

- HazMat & Waste
- Utility system controls to facilitate partial or complete emergency shutdowns
- MedGas valves
- Maps if required by AHJ
- Signage: permanent & temp.
- Arc Flash Hazard Marking
  - HFM article available



---

---

---

---

---

---

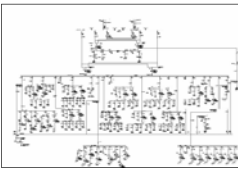
---

---

What about Day 2? Transitioning from  
Construction to Operations and Regulatory  
Compliance at Occupancy

**Mapping of utility systems**

- Normal Power
- Emergency Power
- Water, Plumbing, Piping, Fire Protection
- Fire Alarm & Emergency Communication
- MedGas and Vacuum
- Steam and CHW
- Telecom, Data
- Other systems



---

---

---

---

---



---

---



---

**Failure contingency plans**

Written procedures for responding to all utility system disruptions



Medical equipment



---

---

---

---

---

---

---

---

**Utility maintenance documentation**

- Provisions to obtain, store & access
  - Internally generated & outside services
  - Equipment failures & unannounced surveys
  - Internal P&P's & contract provisions
- All operating components on Inventory
  - Life & Non-life support; Infection control
- Document considering PM, PdM, RCM, corrective or metered maintenance

---

---

---

---

---

---

---

---

What about Day 2? Transitioning from Construction to Operations and Regulatory Compliance at Occupancy

**Other equipment maintenance**

- Biomed / clinical engineering
- Department service contracts
- Equipment service contracts
- Owner-furnished equipment
- Provisions to obtain, store & access
- Inventories
- PM, PdM, RCM, CM, metered maintenance

---

---

---

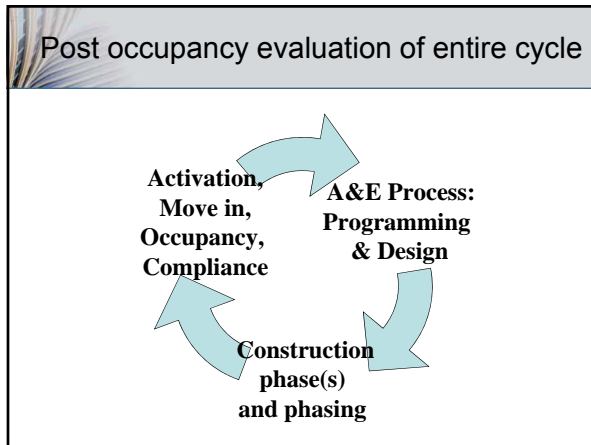
---

---

---

---

---



---

---

---

---

---

---

---

---

**Some lessons learned**

- Factor TJC-specific documentation requirements into your planning process and document it.
  - *Example* - EC.02.04.01 EP1: medical equip user input
- Factor compliance documentation requirements into your contract documents.
  - Examples – Dates, details from 99, 101, 110, etc.
  - These are not within design team's scope of services
- Get all submittals as electronic documents for easy searchable storage and retrieval
  - PDFs if you just want electronic equivalent of paper records
  - Spreadsheets of equipment lists and locations to assist you in uploading into your inventories & CMMS

---

---

---

---

---

---

---

---

# What about Day 2? Transitioning from Construction to Operations and Regulatory Compliance at Occupancy

**Other lessons learned – Things commonly missed**

- Allow time for creation of compliance documentation after receipt of input from project
- All test & inspection sheets need to be dated
- Make sure “failed” notations are clearly superseded in later documentation
- Typical MEP labels rarely meet TJC EC.02.05.01 EP8
- Supervisories: inventories, documentation, testing, etc.
- Missing signatures on certifications & inspections
- O&M recommendations on all equipment – put in CMMS and service contracts or risk-assess it
- Blanks in project checklists, tests & certifications

---

---

---

---

---

---

---

---

---

---

**Other lessons learned – Things commonly missed**

- Many specific requirements (99) (101) etc.
- Door test report data (101)
- Electrical safety test instrument certif. (99)
- Generator and ATS testing details (99)
- Documentation of EES circuit bkr testing (99)
- All test & inspection contracts in place

---

---

---

---

---

---

---

---

---

---



Compliance News

Transitioning from Construction to Survey-Ready Compliance - Part 1

What About Day 2? Transitioning from Construction to Operations

© 2009 ASISE Annual Conference & Technical Exhibition, August 2009. This article is reprinted with permission from the American Society for Healthcare Engineering (ASHE) of the American Hospital Association (AHA). For additional information, please contact ASISE by e-mail at ash@asise.org or call 312-422-3800.

Transitioning from Construction to Survey-Ready Compliance - Part 3

**References**



Opening Day

Transitioning from construction to survey-ready operations

BY DAVID L. STYMIEST, P.E., CHFM, FASHE

---

---

---

---

---

---

---

---

---

---

# What about Day 2? Transitioning from Construction to Operations and Regulatory Compliance at Occupancy

**Thank you. Questions?**

David Stymiest, P.E. CHFM FASHE  
Cell 504.232.1113  
DStymiest@ssr-inc.com

*(References follow this slide.)*

---

---

---

---

---

---

---

---

**References**

- "What About Day Two? Transitioning from Construction to Operations" White Paper by David Stymiest, ASHE 46<sup>th</sup> Annual Conference, August 5, 2009, [www.ashe.org](http://www.ashe.org), Chicago
- "Opening Day – Transitioning from construction to survey-ready operation" Health Facilities Management (HFM) Magazine, May 2010
- "Five critical strategies for achieving operational efficiency" by William J. Hejna and James E. Hosking, Journal of Healthcare Management, Sept-Oct 2004, Replacement Facilities.
- "Activation and Operational Planning: Ensuring a Successful Transition" by Mark N. Wilson, William J. Hejna, and James E. Hosking, Journal of Healthcare Management 49:6, Nov/Dec 2004, Replacement Facilities.
- "Hospital Facility Activation" by Kerry Shannon, Computer Sciences Corporation (CSC), Waltham, MA, [www.csc.com](http://www.csc.com). 2009
- "Healthcare Facility Activation Planning" by Kerry Shannon, Carmin Hunter-Siegert, and Walt Zywiak, Healthcare Facility Activation Planning and Testing, Computer Sciences Corporation (CSC), [www.csc.com](http://www.csc.com), Falls Church, VA 2008

---

---

---

---

---

---

---

---