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

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

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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

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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.
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**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

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**Dry runs, drills, exercises**

- Surgery
- EM, EOP
- Do it & document it
- Codes (color)
- Failure Contingencies

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**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

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**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
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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

Managing schedule milestones

- Time waits for no milestone
- Push back opening date
- Time waits for no one
- Do without feature or change
- Remedy the delay

Pre-move and Occupancy Coordination Checklist by ASHE PDC Committee

Available at www.ashe.org

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

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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

Changes to Management Plans

- Locations & Relocations
- Infrastructure
- Equipment & Systems
- Facility & Area Use
- Processes

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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

Project inputs
EC.02.05.01 EP1
EC.02.06.05 EP1
Utility systems designs: 2001
Construction Guidelines, state codes, rules, regulations, or equivalent

EC.02.04.01 EP1
Input from individuals who operate & service medical equipment

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

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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
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**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
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User acceptance testing best practices

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

Schedules

- Fire Drills → Safety Monitoring
- Safety Rounds → Security Monitoring

More schedules

- Maintenance → Testing
- Inspection → Maintenance

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### 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
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**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

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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

Post occupancy evaluation of entire cycle

A&E Process:

- Programming
- & Design

Activation, Move in, Occupancy, Compliance

Construction phase(s) and phasing

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
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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
- Supervisors: 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

References

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Thank you. Questions?

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(References follow this slide.)

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