Healthcare Focus
General Session

Bringing Value to Healthcare Facilities
American Hospital Association

• Mission: To advance the health of individuals and communities.

• National Organization Serves:
  – All types of hospitals
  – Health care networks, and
  – Their patients and communities

• Nearly 5,000 hospitals

• Over 43,000 individuals
American Society for Healthcare Engineering

**ASHE Mission**

**Dedicated to optimizing the health care physical environment**

- Largest association dedicated to health care physical environment
- Over 11,000 Members
- Trusted Industry Resource
Health Care Engineering

• Application of Engineering Principles
  – Physical
  – Technological
  – Systems/Processes

• Optimize
  – Safety
  – Quality
  – Efficiency
  – Accessibility
ICC – AHC Draft Proposals

• Proposal 1 1013.6.3 – Establish an exemption for Group I-2 that exceeds the base paragraph requirements as part of the main paragraph to make it a requirement.

• Proposal 2 - Reason: Coordination of Table 1020.2 - MINIMUM CORRIDOR WIDTH with the defined term for ambulatory care facilities.

• Proposal 3 – Restoration of proper application of terminology of exit access travel distance in lieu of “distance of travel” in 407, 408, 412, 415, 420 & 422

• Proposal 4 – Clarification of terminology of Waiting areas and similar spaces to public-use areas, or group meeting spaces in 407.2.1
ICC – AHC Draft Proposals

- Proposal 5 – 1025.1 - Propose deletion of glow in the dark stripes because of the defend in place protocol
- Proposal 6 – 1009.8 Two-way communication - Propose deletion of two-way communication at elevator lobbies due to assisted evacuation for everyone
- Proposal 7 – Coordination of Smoke compartment sizes
- Proposal 8 – 1010.1.9.7 Clarification on delayed egress locking
- Proposal 9 – 716.5.9.3 smoke-activated doors – clarification on hold open requirements
ICC – AHC Draft Proposals

• Proposal 10 - TABLE 1604.5 Clarification of Amb Care Facilities for the RISK CATEGORY OF BUILDINGS AND OTHER STRUCTURES
• Proposal 11 – IMC 607.5.2 – Definition/clarification of fully ducted system
• Proposal 12 – Dropped
• Proposal 13 – 407.5.2 – Independent egress clarification of required exits
• Proposal 14 – IFC 808.1 Wastebaskets and linen containers
• Proposal 15 & 16 – IFGC 303.3.1 Fireplaces and decorative appliances restrictions within I2
ICC – AHC Draft Proposals

- Proposal 17 – IFC 1105.3 – Increased requirements for separation between compliant I-2 occupancies and those that do not comply with I-2 occupancies
- Proposal 18 – IFC 5003.9 – Emergency showers and eyewash station requirements
- Proposal 19 – IFC 709.5 Openings allowing installation of a non-labeled protective plate on doors to protect them from excessive wear and damage.
ICC – AHC Draft Proposals

• Proposal 20 IBC 1008.2.2 & 1008.3.5 - Better define what constitutes a failure of a lighting unit.
• Proposal 21 – IBC 508.3.1 – Require separation of mixed occupancies within I2
• Proposal 22 – IFC 1104.7 – Coordination of minimum clear opening language for door openings with ADA
The Greatest Challenge to US Healthcare

COST
Slipping Financial Performance

More systems had negative margins in 2013, and average margin was down.

Percentage of systems with negative operating margins:
- 2011: 12.6%
- 2012: 9.5%
- 2013: 14.5%

Average operating margin:
- 2011: 3.4%
- 2012: 3.6%
- 2013: 3.1%

Source: Modern Healthcare Financial Database
Chart 4.2: Aggregate Total Hospital Margins,\(^{(1)}\) Operating Margins\(^{(2)}\) and Patient Margins,\(^{(3)}\) 1992 – 2012

Source: Avalere Health analysis of American Hospital Association Annual Survey data, 2012, for community hospitals.

\(^{(1)}\) Total Hospital Margin is calculated as the difference between total net revenue and total expenses divided by total net revenue.

\(^{(2)}\) Operating Margin is calculated as the difference between operating revenue and total expenses divided by operating revenue.

\(^{(3)}\) Patient Margin is calculated as the difference between net patient revenue and total expenses divided by net patient revenue.
What is a 5% Operating Margin?

- Citation made to require all penetrations of tack holes to be filled in any fire or smoke barrier throughout the hospital.

- Hospital maintenance staff goes through facility at a cost of $7,338.00

- Hospital needs to recover that money, so needs to generate $146,760.00 in revenues

What about a 3% Operating Margin?

$244,660 or 66.67% more revenue
Driving Forces In Healthcare

• Reduced Revenues
  – Projected Reductions of 3% - 12%

• Increasing Regulation/Compliance
  – 7 of Top 10 Citations

• Technology Advancements

• Aging Facilities
  – Average Age of Plant 15.75 years

• Patient Safety
  – No Matter What Happens Patient Care Must Go On
Hospital Closures
2013 - 18
2014 – 20 to date
AL, AR, AZ, CA, GA, IL, IN, KY, LA, MA, MO, MS, NC, NH, NY, OH, TN, TX, VA

Many Rural due to Shrinking Populations and Reimbursements
Bringing Value to Healthcare Facilities

How can I make a difference?
Patient needs and expectations

- Safe environment
- Restful environment
- Clinical areas of specialty
- Infection control
- Patient satisfaction impact on reimbursement (HCAP)
The Health Care PDC Process

- Planning
- Design
- Construction
History of Various Healthcare Codes

- **PHS Guidelines**: 1947
- **AIA Guidelines**: 1984
- **FGI Guidelines**: 2001
- **ASHRAE Std 62**: 1973
- **Std 170**: 2008
- **Included in FGI**: 2010
- **National Building Code (BOCA)**: 1915
- **Uniform Building Code (ICBO)**: 1997
- **Standard Building Code (SBCCI)**: 1913
- **101 Life Safety Code (NFPA)**: 2000 Ed
- **Proposed CMS**: 2014?
- **NFPA 99**: 1980
- **Ref LSC**: 2000
- **Proposed CMS**: 2014?
- **CMS SOP’s**: 1966
- **Adoption of 2000 LSC**: 2015?
Owner’s Expectations

• Stay on Schedule
• Stay on Budget
• Stay on Scope
• Be Ready for Changes
• Do No Harm
Owner’s Needs

• Pre Construction Services
• Constructability Analysis
• Design Coordination Services
• Accurate Estimating Leading to Implementable Budgets
• Truthful Project Scheduling
  – The Truth and Only the Truth
• Advocate
Which Is More Important – Needs or Expectations?

• Must we choose?
• How do we avoid having to choose?
• How do we pull it all together?
The 5 P’s of Success

• Plan
• People
• Procedures
• Participation
• Performance
Where should I focus?

The arena for a healthcare construction project is arguably one of the most complex and difficult places that a Facility Manager will find themselves. Competing needs, divergent teams and very tight budgets can make the process seem overwhelming. The successful Healthcare Facility Manager needs a team that will help them weather the storm, control risks and move the project to a successful outcome.
Develop and Follow A Plan

- Schematic Design
- Final MEP Equipment Selections
- Construction Document Package
- Bidding and Pricing
- Establish the GMP
- Construction
IT Happens!
The People

First Class Architects and Engineers

First Class Contractors

Competent Facility Managers/Healthcare Executives

ASHE
Know the Procedures

• There can be only one owner
  – The owner establishes the rules
  – Know what these rules are

• Know the Chain of Command

• Communicate Issues A.S.A.P.

• No changes without proper approval
Participation

• All members of the team must own the same objective

• See It, Own It, Solve It, Do It (The Oz Principle)

• Must have written procedures to deviate
Influence vs. Expenditures

INFLUENCE VS. EXPENDITURES

Major Influence    | Rapidly Decreasing Influence    | Low Influence

High Influence     | Low Influence

Planning / Programming    | Schematic Design    | Design Development    | Construction Documents    | Construction    | Occupancy & Close-Out

INFLUENCE     EXPENDITURES

Major Influence    | Rapidly Decreasing Influence    | Low Influence

High Influence     | Low Influence

Planning / Programming    | Schematic Design    | Design Development    | Construction Documents    | Construction    | Occupancy & Close-Out

INFLUENCE     EXPENDITURES
Participation Documentation

- Written Goals and Objectives
- Issue Log
- Action Item Tracking
- Meeting Notes
- Regular Budget Updates
- Regular Schedule Updates
- Document the Results
Participation

Managing the User Group... Please

• Discuss schedule and cost at every meeting

• Aggressively manage expectations regarding scope and cost

• Help user groups to make the hard choices
  – When they add something, ask “What are we going to remove?”
Participation

Managing the User Group… Please

• Know when to say:
  – “That is an interesting idea. Let’s evaluate it and get back to you.”

• Start off with options that are affordable
  – It is much easier to add than to take away
  – Be careful showing them something they cannot afford!
Common User Group Problems

• They think they are the boss!

• Many users do not understand plans and drawings

• User group review and approval of a drawing does not always constitute understanding

• Many users don’t know what they want.
Common User Group Problems

• User groups wait too long before making up their mind

• User groups frequently change their minds

• User groups almost always want more than they can afford

• User groups may attempt to wish or transfer their cost problems away
Performance

• Be the EXPERT!

• Do the right things for the right reasons

• Plan ahead and be ready

• Do it right – the first time
Performance

Stay On Track – Please….

- Things can and will get off-track
- Be prepared for the unexpected
- Mid-course corrections may be necessary
  - Schedule slippage
  - Scope creep
  - Cost escalation
  - Team member rails to deliver
  - End runs
Performance

Stay On Track – Please….

• Focus on solving the problem
  – Develop Options
  – Determine the cause not the blame

• Know the procedures

• Communicate the issues

• The OZ Principle
  – Be prepared to assume the lead if needed
Performance

Close-Out

• Punch list
• Record drawings (updated Each month)
• Testing and inspection
• Commissioning
• Post-construction housekeeping
Performance

Close-Out

• Certificate of Occupancy
• Maintenance Manuals
• Training
• Final Accounting
• Document the Results
What to Avoid

• Schedule Goes On & On
• Costs Out of Control
• Untimely Decision Making
• Systems don’t work
• Legal Battles
• Unrealized Expectations
Project Challenges

• Defining the project’s scope of work
• Coordination of design and construction elements
• Responsible
  – Estimating
  – Value analysis
  – Budgeting
Project Challenges

- Scheduling/sequencing/phasing of activities
- Efficient and effective communication
- Mixed expertise/experience of project team members
PDC Process

Planning / Programming
Schematic Design
Design Development
Construction Documents
Construction
Occupancy
Roles and Responsibilities

Owner Team
- Administration
- Operations
- Support Services
- Consultants/Vendors

Design Team
- Architectural
- MEP Engineers
- Interior Design
- Civil and Structural Engineering
- Specialty Consultants

Construction Team
- General/Managing Contractor
- Multiple Sub-Contractors
- Numerous Material Suppliers

ASHE
A personal membership group of the American Hospital Association
Key Success Factors

• Use clearly defined project objectives
  – Use owner defined needs/expectations
  – Use comprehensive consultant agreements

• Use appropriate project process
  – Select the process that best accomplishes project objectives
  – Document timeline with checkpoints
Key Success Factors

• Ensure efficient and effective decision making
  – Establish Clear lines Of authority
  – Remember strategy of concept to detail

• Use right project team members
  – Carefully select the right people for role/responsibility
  – Build teams. Communicate often. Ensure ownership with all stakeholders
The Patient's Expectations

How do I fit in the picture?
Patient needs and expectations

• Safe environment
• Restful environment
• Clinical areas of specialty
• Infection control
• Patient satisfaction impact on reimbursement (HCAP)
Defend-in-place an example

• Design – Compartments

• Maintenance – Proper fire stopping of rated barrier penetrations

• Operation – Train staff to close doors
Physical features of life safety

- Building construction type
- Compartments
- Alarms
- Suppression
- Compensating for known deficiencies
Compartments

- The room and corridor
- Smoke compartments
- The floor/ceiling assembly
- Building structure
- Exits
Rooms and Corridors

Goals

• Contain the fire in a room
• Limit combustible material exposed to the corridor
• Provide opportunity to move away from the location of the fire
• Provide access to exits
Defend-in-place an example
Questions?

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