



Greater Orlando IFMA Chapter - *Chapter of the
Year 2009*



CFM Roundtable Webinar

February 9, 2010

Operations and Maintenance

presented by

The Greater Orlando IFMA Chapter
and

Our major sponsors Cubix, O,R&L Facility Services and
Workplace Resource of Central Florida





Today's Presenter(s)

Larry Simmons, CFM

Division Manager

City of Orlando, Facilities Management Division

Achieved CFM in 2003

Over twenty years in the public sector facility management, includes budget planning and administration, accounting, operational/ maintenance and capital funded project management.

AAS degree in Electrical Engineering, BS degree in Industrial Technology and a Master of Public Administration.

A 15 year member of the International Facility Management Association (IFMA) and a Certified Facility Manager.



Today's Presenter(s)

Tarzan A. Frazier, CFM
Manager, Energy Management
Orange County Government, Florida
Achieved CFM 2009

Over thirty years in the public and private sectors of construction and facility management, including federal contract administration and operational/maintenance of major high-rise facilities in federal and local governments.

A Licensed Real Estate Professional (Inactive), AS & BS degree in Business Administration

A 5 year member of the International Facility Management Association (IFMA) and a Certified Facility Manager.



Progress toward the CFM goal

- Self – assessment
- Study - Know terms and definitions
 - Check out Fmpedia - <http://gsishare.com/ifma/FMpedia/index.html>
- Comprehensive exam review
- PMA (Positive Mental Attitude)
- Exam





Today's Competency

Operations and Maintenance



Key Concepts: A competent fm should have a general understanding and a working knowledge of the following:

- **Understanding of Bldg Systems and the Facility Lifecycles**
- **Key Activities**
 - **Fac Operations – Performance measurements, management, & customers alignment**
 - **Fac Maintenance – Performance measurements & work management**
- **Sustainable practices in O & M**
- **O & M Management: Strategies and Tools**



Operations and Maintenance

Operations – Work to keep the facility functioning for intended purpose.

Examples:

Utilities

Grounds and Housekeeping

Repairs

Maintenance – Work necessary to *maintain* the original, anticipated useful life of the fixed asset.

Examples:

Upkeep of the Property

PM's

Replacement of bldg components



Operations and Maintenance



- Facility Operations
 - 50 to 75 percent of the FM budget
 - Principle Components
 - ✓ Landscaping & Grounds
 - ✓ Bldg Cleaning/Housekeeping
 - ✓ Waste Mgt – Recycling and Haz
 - ✓ Moves (Churn rates)
 - ✓ Physical plant Ops
 - ✓ Energy mgt.
 - ✓ Life safety
 - ✓ Security
- Facility Maintenance & Repair (M &R)
 - Two Major Components
 - ✓ **The Planned (Preventive) and**
 - ✓ **Unplanned (Corrective)**



Operations and Maintenance

- **Key words**
 - **Repair** – Work to restore damaged or worn-out property to normal operations. Minor or Major
 - **Replacement** – Act of replacing an item of permanent investment or plant equipment. May arise from obsolescence, wear & tear, or destruction.
 - **Deferred Maintenance (DM)** – Accumulated backlog of maintenance projects too large in scope to be included in the annual budget.
 - **Facility Condition Index (FCI)** - Ratio of DM to the Current Replacement Value (CRV).
 - **$FCI = DM/CRV$**
 - **Cost of Ownership** – Initial and ongoing costs to the ownership of facilities.
 - **Life Cycle Costs (Service Life)**- Analyses to determine all costs associated with ownership of a structure over time.



Operations and Maintenance

- **Planned**
 - PM's
 - Predictive
 - Planned events
 - Inspections
 - Routes/Tours/Watches
 - Proactive
- **Unplanned**
 - Corrective
 - Reactive
 - Failures
 - Service Requests
 - Deferred

- **Ratio between PM's and CM's are most often a concern for FM's.**



Operations and Maintenance



• O&M Planning

- Policies - General guidelines that apply to every O & M function
- Practices & Procedures - Support the implementation & provide guidance to staff in the actual operation of the bldg.
- FM should have working knowledge of management capabilities to recommend and establish P & P's for the O & M programs
 - Desired results are articulated and understood
 - O&M decisions support core business needs
 - Decisions made under emergency conditions reflect Bus. Policy requirements
 - Ops Procedures are documented and standardized
 - Systems ops are efficient and effective
 - Systems consistently deliver quality
 - Ops comply with health, safety and environmental regs
 - Staff trained efficiently & effectively
 - Roles and responsibilities during emergency are defined



Operations and Maintenance



O&M Planning con't

A. Maintenance Productivity

- Fall w/in avg. range of 25% to 35%, less than three hours per eight-hour shift
 - ✓ Waiting, waiting, waiting, waiting
 - ✓ for parts
 - ✓ for information
 - ✓ for space to be clear
 - ✓ for equipment
 - ✓ for other trades
 - ✓ chasing emergency calls
- How to improve productivity
 - Planning
 - Scheduling
 - Parts ready
 - Coordinating tools, equip..
 - Reducing emergency work below 50%, more active PM's



Operations and Maintenance

- **O&M Planning con't**
- **Other means and method**
 - CMMS
 - Realign staff
 - Outsource portions or some of repetitive tasks
- **FM determines the O&M process by**
 - Establish P/P's standards
 - Promote company/org image
 - Codes and Regs requirements are met
 - Establish a "Standard-of-Care" philosophy
 - Establish the org's FM goals and objectives



Operations and Maintenance



Establishing Goals & Objectives

- Properly organized and structured
- Determine the correct type of maintenance organization
- Set Goals & Objectives, to include:
 - Max production of facilities at lowest costs
 - Id & implement cost reductions
 - Accurate maintenance records
 - Collect maintenance cost information (data)
 - labor & materials
 - vendors/contractors
 - production
 - Misc.
- Optimize maintenance resources
- Optimize capital equipment/component/systems life
 - Expected Useful Life (EUL)
 - Remaining Useful Life (RUL)
- Energy management
- Determine Equip Service Level



Operations and Maintenance



Managing the Process

- Successful ops & maintenance programs is heavily dependent upon properly organized and structured activities
- Determine the correct type maintenance org
- Clear understanding of maintenance goals and objectives
- How does FM fit into the parent organizations and bus plans/goals
- Age of facilities
- Planned life expectancy of assets

Over the life of a facility, O&M costs is typically second only to the salaries of the occupants and average about three times the design and construction costs. (Cotts, D.G., The Facility Management Handbook, Second Edition, 1999).

Makes senses to spend O&M dollars wisely.



Sample question 1

Of the following types of flooring, what type would you recommend for installation in a commercial kitchen?

- A. Commercial grade carpet that is easy to walk on.
- B. Linoleum which has a luster and never needs to be waxed.
- C. Non-slip quarry tile.
- D. Concrete which is easy to sweep and damp mop.



Answer to sample question 1

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Sample question 2

What are the things that you would look for to indicate whether the drop ceiling system is part of a fire rated system? (choose two)

- A. Heavy gauge steel grid.
- B. 2 x 2 ceiling tiles.
- C. Linear ceiling units.
- D. Lack of fire proofing above drop ceiling.



Answer to sample question 2

What are the things that you would look for to indicate whether the drop ceiling system is part of a fire rated system? (choose two)

- A. **Heavy gauge steel grid.**
- B. 2 x 2 ceiling tiles.
- C. Linear ceiling units.
- D. **Lack of fire proofing above drop ceiling.**



Sample question 3

In commercial construction, an interior wall constructed with metal studs is:

- A. Always load bearing.
- B. Usually load bearing.
- C. Always non-load bearing.
- D. Usually non-load bearing.



Answer to sample question 3

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Sample question 4



You are currently evaluating three different roofing systems for your facility.

- Roof system A costs \$100K and has a service life of 12 yrs.
- Roof system B costs \$125K and has a service life of 15 yrs.
- Roof system C costs \$90K and has a service life of 10 yrs.

Using Life Cycle Cost techniques, which of the following would apply? (choose three)

- A. Roof System C has a lower life cycle cost.
- B. Roof System C has a higher life cycle cost.
- C. Roof System A and B will have the same life cycle cost.
- D. Roof System A and B have residual value.



Answer to sample question 4



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- D. **Roof System A and B have residual value.**



Sample question 5

Proposed renovation work in an existing building must meet code provisions applicable to:

- A. Additions.
- B. New construction.
- C. The original construction.
- D. Similar buildings.



Answer to sample question 5

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- B. **New construction.**
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Sample question 6

The steps of identifying, ordering, receiving, storing and expending are part of:

- A. Cost estimating.
- B. Scheduling.
- C. Work Control.
- D. Inventory control.



Answer to sample question 6

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- A. Cost estimating.
- B. Scheduling.
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Sample question 7

Which of the following are considered best practices in delivery of HVAC services: (choose three)

- A. Performing preventive maintenance on all equipment.
- B. Providing a trained staff to operate the HVAC system.
- C. Establishing a complaint tracking program.
- D. Continuous monitoring of air quality.



Answer to sample question 7

Which of the following are considered best practices in delivery of HVAC services: (choose three)

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- C. Establishing a complaint tracking program.**
- D. Continuous monitoring of air quality.**



Sample question 8

Building codes promote general occupant safety by:

- A. Establishing the uses allowed within each defined area of the municipality.**
- B. Providing nationally consistent compliance standards.**
- C. Regulating the design and construction of the building's components.**
- D. Controlling the use, height and mass of a building.**



Answer to sample question 8

Building codes promote general occupant safety by:

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Competency summary

Operations and Maintenance

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An evaluation form will be e-mailed to you, please fill it out and return it.



Remember March 9, 2010 is the next CFM Roundtable.

The competency covered will be Real Estate.

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