Optimizing Preventative Maintenance

HOW to Deploy a CMS compliant AEM Program for Utility and/or Clinical Assets

Panel Discussion
Facility Health Inc.
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Our Panel

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It’s All About the Data...

Facility Management Issues

• Aging Facilities, Cost Pressures, Staff Reductions and Succession Planning Difficulties
• Historical Lack of Capital Investment in Facility Infrastructure.
• Increased Compliance, Regulation and Oversight
• Run to Fail / Reactive Maintenance Strategies

Facility Management Opportunities

• Process Improvement, Command and Control
• AEM Program Deployment and Preventative Maintenance Optimization
• Full Automation of Compliance and Use of Technology to Monitor Facility Performance
• Proactive Capital Investment and Re-Investment

Do You Know Where You Are Going?
Transforming Facility Management
AEM Program Deployment
What Is AEM?

• Compliance
  • **CMS:** Requires Identification of all Equipment that is part of an AEM Program.
  • **TJC:** EC 02.05.01 – “The [organization] manages risks associated with its utility systems.”
    • EC 02.05.05 – “The [organization] inspects, tests, and maintains utility systems.”
  • **TJC:** EC 02.04.01 – “The [organization] manages medical [laboratory] equipment risks.”
    • EC 02.04.03 – “The [organization] inspects, tests, and maintains medical [laboratory] equipment.”
  • **HFAP:** Physical Environment 11.06.09 ME, 11.05.01 U, DNV NIAHO Rev. 11.1

• But it is more than ”just” a compliance issue.
  • The easy answer is....”we are doing manufacturer’s recommended maintenance.” But is that reality?
  • AEM represents an opportunity to take control of your facility. And to do so in a transparent, and “compliant” manner. **Do what you say, say what you do.**
  • Leverage the AEM Processes, and Data, for continuous improvement.
Where are you today with your Work Order System?

 Portfolio Of Buildings And Assets

CMMS as the Foundation

- Inventory
- PM Plan
- PM Performance
- Optimize?
- Replace?

Clinical and/or Utility Asset Inventory
How do you want to manage your facility?

Portfolio Of Buildings And Assets

• Inventory
• Centralized
• Decentralized
• Naming, Tagging
• Capital Threshold
• What is an Asset?

CMMS Data and Process Standards
Do you know what assets you have and how they are performing?

Portfolio Of Buildings And Assets

- Inventory
- Facility Condition Assessment (FCA)
- Location
- Make/Model/SN
- Installation Date
- Industry Standards

Asset Information and Engineering Performance Baseline
Have you applied standardized risk rankings for your assets?

- Inventory
- Utility
- Risk
- Maintenance
- Redundancy
- Enterprise Standards
- AEM Team (Including Infection Control)

Portfolio Of Buildings And Assets

CMMS Inventory Risk Assessment

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Utility Risk Classification Examples

- **Utility Classification (UC)**
  1. NonClinical Other
  2. Clinical Other
  3. Transport
  4. Diagnostic
  5. Equipment Support
  6. Environmental Support
  7. Infection Control
  8. Life Safety

- **Risk Application (RA)**
  1. No Risk (NFPA 99 4.1.4)
  2. Loss of Redundancy
  3. Disruption of Comfort (NFPA 99 4.1.3)
  4. Disruption of Service
  5. Loss of Revenue
  6. Misdiagnosis
  7. Injury (NFPA 99 4.1.2)
  8. Death (NFPA 99 4.1.1)

- **Maintenance Requirement (MR)**
  1. None
  2. Minimal
  3. Average
  4. Extensive

- **Asset Redundancy**
  1. Redundancy Available < 1 Hour
  2. Redundancy Available < 24 Hours
  3. Redundancy Available < 1 Week
  4. Redundancy Unavailable Without Significant Effort/Capital > 1 Week

**Total Risk Value**

\[ \text{Total Risk Value} = \text{UC} + \text{RA} + \text{MR} + \text{EI} \]

Consistency in Risk Classifications Across Multiple Facilities is Key!
A change in NFPA 99 (2012) is the requirement to risk rank assets based upon impact of failure. The requirements are as follows:

**NFPA 99 4.1 Building System Categories.** Building systems in health care facilities shall be designed to meet system Categories 1 through 4 requirements as detailed in this code.

**4.1.1 Category 1** Facility systems in which failure of such equipment or system is likely to cause major injury or death of patients or caregivers…

**4.1.2 Category 2** Facility systems in which failure of such equipment is likely to cause minor injury to patients or caregivers…

**4.1.3 Category 3** Facility systems in which failure of such equipment is not likely to cause injury to patients or caregivers, but can cause patient discomfort…

**4.1.4 Category 4** Facility systems in which failure of such equipment would have no impact on patient care…

**NFPA 99 4.2 Risk Assessment.** Categories shall be determined by following and documenting a defined risk assessment procedure.
Risk Ranking Mapping of NFPA Requirements – Part 2

While we agree that these are viable categories, FHI feels that there is room for expansion to add other categories in the same Risk Application, as part of our standard risk ranking application (Required by NFPA 99 4.2):

**Score 1:** No Risk (NFPA 99 4.1.4)
**Score 2:** Loss of Redundancy
**Score 3:** Disruption of Comfort (NFPA 99 4.1.3)
**Score 4:** Disruption of Service
**Score 5:** Loss of Revenue
**Score 6:** Liability
**Score 7:** Injury (NFPA 99 4.1.2)
**Score 8:** Death (NFPA 99 4.1.1)

We also include in our asset risk ranking impact based upon other classifications, including Utility Classification (score 1-8), Maintenance Requirement (score 1-4), and Asset Redundancy (score 1-4). This provides a comprehensive review of each asset.
Have you applied standardized risk rankings for your assets?

Portfolio Of Buildings And Assets

- Inventory
- Utility
- Risk
- Maintenance
- Redundancy
- Enterprise Standards
- AEM Team (Including Infection Control)
Clinical and/or Utility Asset Inventory

- Life Safety, Radiology, Lasers & Most Critical Assets
- High Risk Assets
- Moderate Risk Assets
- Low/No Risk Assets

Standardized Risk Ranking Scores

Mfr. Req. PM Per Code

Mfr. Req. PM By Choice/Risk

Modified PM By Choice/Risk

Modified or Deferred PM By Choice/Risk

Application of Risk Rankings – Prioritizing Management Decisions

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Clinical and/or Utility Asset Inventory

Life Safety, Radiology, Lasers & Most Critical Assets

High Risk Assets

Moderate Risk Assets

Low/No Risk Assets

Predicted Useful Life

Transforming Facility Management

Prioritized Capital Investment

AEM Eligible Assets

Mfr. Req. PM Per Code

Mfr. Req. PM By Choice/Risk

Modified PM By Choice/Risk

Modified or Deferred PM By Choice/Risk

Standardized Risk Ranking Scores

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Continuous Improvement – Transforming Facility Management Utility Asset Performance Data, Prioritized Based on Risk

- Make the Commitment to a Proactive Maintenance Strategy
- Validate Asset Inventory
- Understand Age Of Assets
- Assess Risk
- Enforce CMMS Discipline
- Monitor PM Performance
- Implement AEM Program
- Monitor WO Performance
- Follow The Data
- Prioritize Investments
- Secure The Operations and Capital Budgets You Need
- Modify PM’s
- Re-Invest $$

Supports PDC Projects, Master Planning, Energy Programs, and Succession Planning
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Thank You!
Analog vs. Digital Facility Management

Q: Where Do You Start?

A: How Do You Want to Manage Your Facility?
Analog vs. Digital Facility Management

Example: AEM Program Deployment

People And Culture

Processes And Standards

Technology And Data

Preventative Maintenance Optimization

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