The Complexity of Compliance with Standards & Regulations

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President/CEO
Facility Engineering Associates

April 12-14
Indianapolis, Indiana, USA
/// JW Marriott Indianapolis
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You are eligible to receive Continuing Education Units and Certified Facility Manager® maintenance points for attending sessions at IFMA’s Facility Fusion.
To receive CEU points, you must add the US$15 processing fee to your registration.

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• Click “Start” next to the session you attended.
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• Click “Start Test” next to the session.
  After passing the test, your certificate will be available for download.

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Please take the time to Evaluate Sessions

Log into the Attendee Service Center
http://tinyurl.com/FF16INDY
Meet Our Presenter:

- President/CEO: Facility Engineering Assoc.
- Past Chair, IFMA Board of Directors
- Chair, National Academies of Sciences, Engineering & Medicine – BICE
- Chair, US TAG to ISO/TC 267 FM Standards
- Convenor, WG 3 of ISO/TC 267 FM MSS
- DOS OBO Industry Advisory Group (IAG)
- BYU FM Program Industry Advisory Council
- APPA CFaR & TCO Committee Member
- Instructor, GMU FM Program
- IFMA Certified Instructor
Review Session Learning Objectives

1. Explore the importance of the role standards play in achieving compliance and reporting goals.

2. Discuss elements driving the increasing breadth of compliance.

3. Create a new simplified and prioritized path and elevate your strategic FM performance.
Why is this important?

“People in your facilities are looking to you to protect them - and provide a safe, secure, healthy, attractive and productive work environment.”
Why is this important?

- Health & Safety
- Financial
- Asset Management
- Environment

FM
4,679 workers were killed on the job in 2014.
Every day in America, 13 people go to work and never come home.
Every year in America, nearly 4 million people suffer a workplace injury from which some may never recover.
The Challenge

Is there a standard for Operations and Maintenance (O&M)?
The Challenge

Design & Construction
- ICC – IBC – IMC
- LEED - EnergyStar
- ASHRAE 90.1 / 62.1
- ASTM / UL / FM
- ACCA/ANSI Std. 5
- NFPA 3-4 C xA
- ASHRAE 202
- ANSI/ASHRAE 189.1
- RCM II (FMEA)
- ASHRAE 180
- NFPA 70E / OSHA
- IPMC
- ANSI TCO 1000
- EO 13327 FRPA
- GASB 34/35
- FASAB No. 6
- CSI MasterFormat
- OSCRE
- NCAD v6
- NBIMS v3.0 (Omniclass/IFCs)
- NEBB Std. Bld. Commissioning
- AGC Commissioning Guide
- UFGS – O&M Manual
- COBie
- ASHRAE 62.1
- SMRP BP Guide
- MSA / SLA / FBPTA
- CMMS/BAS/EMS Data Stds.
- FASB
- CSI Uniformat
- NIBS/FFC FCI (FCA Stds.)
Compliance – It’s About the Data

“Reliable and appropriate data and information are essential for measuring and predicting beneficial outcomes of investments in maintenance and repair and for predicting the adverse outcomes of lack of investment.”

THE NATIONAL ACADEMIES
Advisers to the Nation on Science, Engineering, and Medicine
# Compliance - It’s About the Data

**TABLE S.1 Beneficial Outcomes Related to Investments in Maintenance and Repair**

<table>
<thead>
<tr>
<th>Mission-Related Outcomes</th>
<th>Compliance-Related Outcomes</th>
<th>Condition-Related Outcomes</th>
<th>Efficient Operations</th>
<th>Stakeholder-Driven Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improved reliability</td>
<td>Fewer accidents and injuries</td>
<td>Improved condition</td>
<td>Less reactive, unplanned maintenance and repair</td>
<td>Customer satisfaction</td>
</tr>
<tr>
<td>Improved productivity</td>
<td>Fewer building-related illnesses</td>
<td>Reduced backlog of deferred maintenance and repairs</td>
<td>Lower operating costs</td>
<td>Improved public image</td>
</tr>
<tr>
<td>Functionality</td>
<td>Fewer insurance claims, lawsuits, and regulatory violations</td>
<td></td>
<td>Lower life-cycle costs</td>
<td></td>
</tr>
<tr>
<td>Efficient space utilization</td>
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<td></td>
<td>Cost avoidance</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Reduced energy use</td>
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<td></td>
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<td>Reduced water use</td>
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<td></td>
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<td></td>
<td>Reduced greenhouse gas emissions</td>
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</tbody>
</table>

The Challenge

“The journey to achieve compliance is neither simple nor straightforward, with interwoven layers of complexity that are confusing, yet critical to attaining compliance success.”
Proliferation of Standards

International Standards (ISO)
European Standards (CEN)
Regulations (Laws, Acts, Mandates, Executive Orders)
National Codes and Standards
Technical Standards
Property Measurement Standards
Data Standards
Benchmarking Standards
Financial Standards
Sustainability and Energy Management Standards
Proliferation of Standards

One Hundred Eleventh Congress of the United States of America

AT THE SECOND SESSION

Began and held at the City of Washington on Tuesday, the fifth day of January, two thousand and ten

An Act

To provide for the training of Federal building personnel, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the “Federal Buildings Personnel Training Act of 2010”.

...
National Building Codes

Who has heard of the IPMC?
National Building Codes

ELEVATOR MACHINE ROOM
National Building Codes
National Building Codes
“Fortunately, the growing complexity of compliance has been met with an equally impressive expansion of standards to help you achieve success and enhance your performance.”
Key Questions

1. Is the scope of your compliance requirements well understood and reviewed periodically?

2. Are knowledgeable personnel in place, at both the corporate and operations level, that maintain expertise collectively across the four key compliance areas?

3. How are compliance training requirements being met? Additionally, how should they be designed to meet customer needs?

4. Has the FM team established a functional compliance planning and reporting system?
Key Questions

5. Does the FM compliance organization offer performance measurement and reporting to drive continual improvement?

6. Does the FM team have a process for monitoring and auditing compliance, and follow-up support to ensure compliance and corrective actions are followed?

7. How does the FM team consistently enforce its policies and other requirements across the organization and how does it respond to acts of non-compliance?
Develop a plan to support your organization’s strategic goals, achieve your mission; and utilize standards to help meet objectives.
Action Plan (Take Away)

1. Develop a compliance plan aligned with organization’s strategy
2. Understand mandatory requirements
3. Create awareness of requirements
4. Assess capabilities of FM organization
5. Clearly define roles & responsibilities
6. Consider voluntary consensus standards
7. Understand/train where to go for help
Solutions - References

Solutions - References

## Standards Summary - Guide

<table>
<thead>
<tr>
<th>Standard</th>
<th>Description</th>
<th>Why It Matters</th>
<th>Application and When to Use</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>OSCRE</strong></td>
<td>Open Standards Consortium for Real Estate (OSCRE)</td>
<td>OSCRE promotes consistent data standards for real estate and its standards enable information exchanges and benchmarking. The standards consist of real estate terms, definitions and rules that utilize a common data set and enable users to facilitate the transfer of data between end users, software developers, service providers, consultants and benchmarking and indexing services.</td>
<td>Global—OSCRE standards are voluntary guidance standards for use by FM professionals and CRE executives. While they are voluntary, there is an OSCRE Compliance Certification by which OSCRE tests individual XML files provided by implementing companies to validate compliance with a specific OSCRE Standard schema.</td>
</tr>
<tr>
<td><strong>OmniClass</strong></td>
<td>OmniClass Construction Classification System (OCCS)</td>
<td>OCCS is a classification system for the construction industry. It is valuable in creating a standard format for managing facilities data.</td>
<td>Global—OCCS has many facilities information data standards applications, from organizing library materials, product literature, and project information, to providing a classification structure for electronic databases. It incorporates other aspect systems currently in use as the basis of its tables—MasterFormat™ for work results, UNIFORMAT for elements, and Electronic Product Information Cooperation (EPIC) for structuring products.</td>
</tr>
<tr>
<td><strong>UniClass 2</strong></td>
<td>Unified Classification for the Construction Industry</td>
<td>UniClass 2 is a new classification scheme for the construction industry. It is intended for organizing library materials and for structuring product literature and project information.</td>
<td>UK—UniClass 2 has been developed to produce a classification system for structuring information that is freely available for all participants throughout the life cycle of a project and beyond, which is endorsed by all construction and property bodies and professional institutions.</td>
</tr>
<tr>
<td><strong>CSI MasterFormat</strong></td>
<td>Construction Specification Institute (CSI) MasterFormat</td>
<td>MasterFormat is a standard for organizing specifications and other written information for commercial and institutional building projects in the US and Canada. It provides a master list of Divisions, and Section numbers with associated titles within each Division, to organize information about a facility's construction requirements and associated activities.</td>
<td>US—MasterFormat is a product of the CSI and Construction Specifications Canada (CSC). MasterFormat is used throughout the construction industry to format specifications for construction contract documents. The purpose of this format is to assist the user to organize information into distinct groups when creating contract documents, and to assist the user searching for specific information in consistent locations.</td>
</tr>
<tr>
<td><strong>CSI UNIFORMAT</strong></td>
<td>A Uniform Classification of Construction Systems and Assemblies</td>
<td>UNIFORMAT organizes building systems to provide consistency in the economic evaluation of building projects. The elements are major components common to most buildings.</td>
<td>US—UNIFORMAT is a standard for classifying building specifications, cost estimating, and cost analysis in the US and Canada.</td>
</tr>
<tr>
<td><strong>ASTM UNIFORMAT II</strong></td>
<td>Classification for Building</td>
<td>UNIFORMAT II ensures consistency in the economic evaluation of building systems.</td>
<td>US—ASTM UNIFORMAT II is a standard for classifying building specifications, cost estimating, and cost analysis in the US and Canada.</td>
</tr>
</tbody>
</table>

Citation: Whittaker, J. International Standards Summary Table. FEA and Jones Lang LaSalle (JLL) White Paper Supplement. 2015.
Relevant FM Standards (O&M)

- NFPA 1
- NFPA 4
- NFPA 16
- NFPA 25
- NFPA 70
- NFPA 70E
- NFPA 85
- NFPA 86
- NFPA 99
- NFPA 101
- ASHRAE 90.1
- ASME A17.1
Property Measurement Standards (IPMS)

Introduction:

The International Property Measurement Standards Coalition (IPMS) was founded on 30 May 1998 after meeting at the World Bank in Washington DC. The Coalition, comprising of the various national and international professional organisations interested in the common measurement of property for the purposes of investment, development and financing, aims to bring together the harmonisation of national property measurement standards through the creation and adoption of agreed international standards for the measurement of property.

This document for the measurement of office buildings has been prepared by the Coalition's Standards Steering Committee (SSC). The Coalition members at the date of publication include:

- American Society of Appraisers (ASA)
- Appraisal Institute (AI)
- Asia Pacific Real Estate Association (APREA)
- Valuation Society of the United Kingdom (VSUK)
- Korean Institute of Property and Facilities Management (KIPFM)
- Korean Institute of Property Management (KIPM)
- International Federation of Surveyors (FIG)
- International Monetary Fund (IMF)
- International Real Estate Industries Foundation (IRIF)
- International Union of Property Owners (UI)
- International Union of Tenancy and Residential Tenancy (UIT)
- Japan Institute of Property (JIP)
- Japan Association of Real Estate Appraisers (JREA)
- Japan Association of Real Estate Appraisers (JREA)
- Japan Building Owners and Manager Association (JOMA)
- National Association of Professional Surveyors (NAPS)
- NIPS "Neuhaus Engineers"
- Open Standards Consortium for Real Estate (OSCRE)
- Property Council of Australia (PCAA)
- Property Council of New Zealand (PCNZ)
- Real Estate Syndicate of Lebanon (RSL)
- Royal Institution of Chartered Surveyors (RICS)
- Singapore Association of Real Estate and Facilities Management (SAREF)
- Society of Chartered Surveyors Ireland (SCSI)
- South Australian Property Owners Association (SAPOA)
- Technical Chamber of Cyprus (ETK)
- Thai Real Estate Foundation (TREF)

IPMS (International Property Measurement Standards)
Property Measurement Standards (IPMS)

- **RICS Code of Measuring Practice (International)**
  - Office Area

- **PCA Measurement Standard (Australia)**
  - Office Area, Columns

- **Singapore Measuring Practice (Singapore)**
  - Office Area, Columns, Ext Walls

- **BOMA (International)**
  - Office Area, Common Parts, Ext Walls (50%), Toilets, Main IT Rooms, Columns

- **HKIS Code of Measuring Practice (Hong Kong)**
  - Office Area, Lifts, Stairs, Columns, Ext Walls, Toilets, Common Parts
References - University of Michigan (Standards) Codes Advocacy

NFPA 4 | INTEGRATED FIRE PROTECTION & LIFE SAFETY SYSTEMS
Mike Anthony | We are seeing proposals for the 2018 revision of the International Fire Code (developed by the International Code Council) that reference NFPA 4 Standard for Integrated Fire Protection and Life Safety Systems. These proposals propose concepts for fire safety in high-rise student dormitories. We have collaborated with Harvard University and the

April 11, 2016

ASHRAE 188 | LEGIONELLOSIS RISK MANAGEMENT
We are putting together a working group of facility officers in school districts, colleges and universities and academic medical centers that will help develop economic incentives for cooling tower manufacturers to innovate their products so that the cost of Legionella mitigation maintenance is less expensive. Almost all of the time and intellectual energy involved in

April 11, 2016

ASTM F08 | SPORTS EQUIPMENT, PLAYING SURFACES, AND FACILITIES
The ASTM International Technical Committee F08 that develops standards for sports equipment, playing surfaces and athletic facilities meets May 3 through May 5th in San Antonio, Texas. We follow the development of this standard — and others in the ASTM F08 family — because the education industry has significant recreation and athletic assets to manage.

April 09, 2016

http://standards-michigan.plantops.umich.edu
NIBS - Whole Building Design Guide

- Codes/Standards
- Sustainability
- Energy Management
- Resilience
- BIM / COBie
- O&M
- Project Management

www.wbdg.org
References - IFMA Standards Community

Read IFMA's FMJ Article: FM Perspectives on IT Security
There is an 800-pound gorilla in the room that most do not want to recognize exists — Read more about IT security risks through FM IT portals, information security standards and guidelines and more in the March/April 2016 issue of FMJ, the official...

Join this community to learn about and contribute to Standards activities that impact the FM profession.
Building Codes, Regulations & Standards Workshop

Creating and maintaining safe, secure, healthy, and productive work environments is a vital function of any facilities organization. Whether you are a facility manager, property manager, or building engineer/professional, understanding and breaking through the complexity of relevant laws, codes, regulations, and standards to provide safe working environments is critical.

This dynamic and energetic one-day workshop will focus on discussing the operational and technical aspects of delivering safe, secure, healthy and productive facilities. The workshop is designed to provide an effective overview and fundamentals to break through the complexity of international standards, national regulations, and building codes. It will focus on FM-relevant compliance and workplace safety issues that impact facilities. The workshop will address important adoption and enforcement issues as well as how to avoid compliance related violations.

Participants will:

- Understand why awareness of regulations, codes and standards is a vital part of any facility manager’s job.
- Understand important aspects and how to get details of relevant regulations, codes, and standards that impact the safe operation of facilities.
- Understand best practices to providing a safe workplace and maintaining compliance.
International (ISO) Standards - FM

- ISO 9001 Quality Management
- ISO 14001 Environmental Management
- ISO 22301 Business Continuity
- ISO 27001 Information Security
- ISO 41001/WD Facility Management
- ISO/CD 45001 Occupational Health & Safety
- ISO 50001 Energy Management
- ISO 55001 Asset Management
Within the ISO Framework create a series of standards that:

1. Introduce the general requirements for an FM organisational strategy.
2. Articulate the requirements for an effective and efficient management regime.
3. Provide guidance to achieving benefit from an FM MSS.

International (ISO) Standards - ISO 41001 FM MSS
ISO/TC 267 - Facilities management
International (ISO) Standards - FM
The Complexity of Compliance
Contact Info

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THANK YOU!

Be sure to evaluate the session online at the Attendee Service Center

http://tinyurl.com/FF16INDY