

A U.S. Perspective on Renewable Energy and Energy Assessment Standards for Buildings

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COPANT Green Buildings Workshop

Gros Islet, Saint Lucia

April 23, 2013



ENERGY STANDARDS

- Energy Management
- Energy Assessment
- Improved Energy Performance and Assessment

ENERGY MANAGEMENT

- The American National Standards Institute (ANSI) and the Associação Brasileira de Normas Técnicas (ABNT) partnered and proposed to the International Organization for Standards (ISO) the development of a new international energy management system standard (MSS)

- Source: Comparison, National Energy Management Standards

ENERGY MANAGEMENT

- Some management system standards around the world
 - Chinese Standard GB/T xxx-2000x ICS 03.120.10
 - European Union Standard CEN/CLC/TF 189 N. 030 2007-05-016
 - Swedish Standard SS 62 77 50: 2003
 - Irish Standard IS 393:2005
 - Danish Standard DS 2403 E:2001
 - Netherlands Standard SenterNovem 2004
 - Korean Standard KSA 400:2007
 - United Kingdom Standard PAS 99:2006
- Formed the basis for a comparison of national management standards by UNIDO and US DOE in 2008

ENERGY MANAGEMENT

- Energy management standards ISO 50001 and ANSI/MSE 2000 “A Management System for Energy”
- Standardized approach to managing energy supply, demand, reliability, purchase, storage, use, and disposal
- Used to control and reduce an organization’s energy costs and energy-related environmental impact

ENERGY ASSESSMENT

Why is Energy Assessment Needed?

- To improve efficiency of industrial systems and manufacturing facilities
- To improve reliability and better utilize assets
- Industrial facilities continue to have unrealized system optimization potential
- Contributing factor:
 - Lack of market definition for system energy efficiency assessment services create issues on the supply and demand sides

ENERGY ASSESSMENT

Provides:

- Common language and definitions
- Conceptual framework
- Methodology
- Guidance for implementation
- Best practices

ENERGY ASSESSMENT

Energy Assessment standards address system assessments that collect and analyze information on industrial systems including:

- Design
- Operation
- Energy use
- Performance data
- Organizing and conducting assessments
- Analyzing the data collected
- Reporting and documentation

ENERGY ASSESSMENT: SEP

Background:

- The U.S. Council for Energy-Efficient Manufacturing (U.S. CEEM)
 - A voluntary industry-led partnership engaging industry, government, and other stakeholders
- U.S. CEEM and DOE developed Superior Energy Performance (SEP)
 - A plant-level energy efficiency certification program for industrial facilities

ENERGY ASSESSMENT: SOME SEP CURRENT ACTIVITIES

- Support the development and adoption by U.S. industry of the ISO 50001 as a step towards SEP certification.
- Promote the adoption of ASME system assessment standards and guidance documents on four industrial systems: Process Heating (EA-1-2009), Pumping System (EA-2-2009), Steam Systems (EA-3-2009), and Compressed Air Systems (EA-4-2009)

IMPROVED ENERGY PERFORMANCE AND ASSESSMENTS

Activities and standards in the energy performance and assessment area include:

- Compressed Air Challenge - CAC
- Pump Systems Matter - PSM
- State and Regional level efforts:
 - Wisconsin State Energy Office
 - Alliance to Save Energy
 - Industrial Energy Efficiency Alliance in the Pacific Northwest
- ASTM E2797-11 Standard Practice for Building Energy Performance Assessment

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SETTING THE STANDARD
