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

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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
  • Chínese 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


• 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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