U.S. Heat Metering Standard: Assessment of Need and Path Forward

U.S. Environmental Protection Agency
January 10, 2013
Agenda

12:30 – 12:35 pm  Welcome and webinar logistics

12:35 – 12:50 pm  Mr. James Critchfield, U.S. EPA
*Background: ASTM E44.25 Subcommittee on Heat Metering*

12:50 – 1:05 pm  Mr. Bowen Ierna, ONICON
*Overview: State of the Art of Steam Metering Instrumentation*

1:05 – 1:20 pm  Mr. John Ballam, State of Massachusetts
*Massachusetts State APS Metering Requirements for CHP*

1:20 – 1:35 pm  Mr. George Simons, ITRON
*California Experience: Evaluation of Metering Accuracy for Hydronic CHP applications*

1:35 – 2:00 pm  Stakeholder Discussion – Q&A Session
Why Heat Metering Standardization?

• To support the comparable and accurate attribution of the energy, financial and environmental benefits generated from thermal energy sources and renewable heating and cooling technologies

• To promote a quality market for heat meter instrumentation and products
  – Heat meter manufacturers can meet a single standard’s stated accuracy level and compete on cost and features
  – Customers can choose the meter that best meets their needs

• To assist government officials with the development and implementation of policies and regulations related to thermal energy sources

• To ensure fairness and confidence in the exchange of payments for energy delivery between customers, project developers, utilities and investors
Market Drivers

• State recognition of thermal energy sources in state RPS and EERS
  – Manufacturers view the independent development of state definitions for heat meter instrumentation as a risk

• A trend toward supporting renewable energy projects through performance based incentives (output-based) as opposed to upfront rebate programs (capacity-based)

• Thermal energy financial models including third-party ownership and Energy Purchase Contracts / Energy Purchase Agreements

• Increasing focus on the thermal energy component of buildings (e.g., national green building standards)
Background on ASTM E44.25

- ASTM & IAPMO signed an MOU – Dec 2011
  - To establish a framework of cooperation for the development of ASTM standards for heat metering
  - Both ASTM & IAPMO are ANSI accredited standards development organizations

- ASTM’s E44.25 Heat Metering subcommittee formed in early 2012
  - Currently developing a U.S. heat meter standard for hydronic applications
  - Based on existing standards: OIML R75 and EN1434

- Timing issues for standard development
  - How long to develop? Depends. It is a function of stakeholder effort. Typical timelines run from several months to a few years.
  - ASTM E44.25 has in-person meetings twice a year; has virtual meetings every 6 weeks
ANSI Consensus Development Process

- American National Standards Institute’s (ANSI) development process entails:
  - **Openness**
    - Broad-based public review and comment on draft standards
  - **Balance**
    - Consideration of and response to comments submitted by voting members of the relevant consensus body and by public review commenters
  - **Consensus**
    - On a proposed standard by a group or "consensus body" that includes representatives from materially affected and interested parties
  - **Due process safeguards**
    - Right to appeal by any participant that believes that due process principles were not sufficiently respected during the standards development in accordance with the ANSI-accredited procedures
How to get involved?

• Committee Participation:
  – ASTM Membership = Voting Privilege
    • [http://www.astm.org/MEMBERSHIP/MemTypes.htm](http://www.astm.org/MEMBERSHIP/MemTypes.htm)
  – Anyone may participate in the standards development process regardless of their membership status
    • Online collaboration area
    • Contact James Critchfield to be added to the collaboration area

• The next subcommittee meeting is scheduled for Thursday, January 17, 2013 (virtual conference)
  – Contact Christine DeJong for details

• Additional Information:

  Christine DeJong
  ASTM International
  Staff Manager
  610-832-9736
  cdejong@astm.org
  or,
  James Critchfield
  Chair, ASTM E44.25 Subcommittee
  critchfield.james@epa.gov
  202-343-9442
Questions to Ponder

• What is your relationship to metering thermal energy?

• What type of heat metering do you find most relevant or needed? For hydronic or non-hydronic applications?

• Are there any additional thoughts you would like to share regarding this topic?

• Would you like to be kept in the loop regarding any current or future heat meter standard activities on this topic?

• Would you be interested in actively participating in the development of a heat metering standard?

• Feedback can be submitted to James Critchfield (Critchfield.James@epa.gov or 202-343-9442)