



# **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>
  - 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

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or,

**James Critchfield**

Chair, ASTM E44.25 Subcommittee

[critchfield.james@epa.gov](mailto: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](mailto:Critchfield.James@epa.gov) or 202-343-9442)