**NIST U.S. National Work Group on Electric Vehicle Fueling and Submetering**

**Electric Watthour Meters Subgroup**

**August 20 - 22, 2019 - Sacramento, California**

**Meeting Summary**

## 1. Welcome Members and Introductions

The Chair called the meeting to order and welcomed members. A roll call of on-line attendees was performed. In-person attendees signed a log-in sheet. There was a total of 21 attendees. A complete list of attendees can be requested by contacting the Watthour Chair.

**2. Update on the Method of Sale Language** (NIST HB130): Members were informed that the proposed method of sale language was adopted at the 2019 NCWM Annual Meeting and the language will appear in the 2020 edition of NIST Handbook 130.

**3. Subgroup Updates:** There have been some changes to subcommittee membership due to retirements and individual member requests to be added to subgroups. Henry Alton (and others) provided an update to the work of Subgroup A. The code was changed to reflect the recommendations of the subgroup.

S.4.5. Abbreviations and Symbols.

***Subgroup A***: Henry Alton (Chair), Dave Bovankovich, Andrei Brezoica, Tina Butcher, Evelyn Butler, Nat Crutcher, Craig Denson, Ryan Fetgatter, Andrew Kimura, and John Roach.

***Task Assigned*** - S.4. External Sensor Identification., T.2. Meter No Load Test., T.4. thru T.7. (Load Test Tolerances, Repeatability, Current Senor Accuracy Class, Tolerance Application in Type Evaluation Examinations for Meters.

**4. Draft NIST Handbook 44 Code for Submetering**

**Background:** The California Code of Regulations for utility watthour meters was the basis for the first draft of an electric measuring devices code considered by the USNWG. The USNWG intended to address two separate systems where the transfer of electrical energy was the basis for a commercial transaction; one application was in the area of electrical vehicle fueling and the other was in the area of utility-type submeters used in residential and commercial facilities. Draft codes developed (or under development) by the USNWG are intended to apply to utility-type watthour meters not owned by the utility company, where the end user is not subject to regulation by the public utility commission or public services administration.

After completing a draft code for electric vehicle fueling and submitting this for inclusion in NIST Handbook 44, the USWNG turned its attention to the application of utility-type watthour meters and created the Electric Watthour Meters Subgroup (EWH SG) to address these systems. The EWH has been working on a draft EWH Code for inclusion in NIST Handbook 44.

**Recommendation/Discussion:** The purpose of this item on the SG agenda was to allow the EWH to continue its review and discussion of the draft code.

The following sections and paragraphs in the draft code were discussed. The Subgroup also reviewed proposed marking requirements in some detail:

* *S.4.4. External Sensor Identification*
* *S.1.1.~~3~~.2. Maximum Quantity Value Division (deleted)*
* *S.1.2. Nominal Capacity (added a new paragraph per discussion on S.2.6. Data Retrieval)*
* *S.4.4. External Sensor Identification – accuracy requirement to be addressed later*
* *S.4.5. TA – Test Amperes will leave the abbreviation as a marking requirement.*
* *Definition – deleted for percent registration and added percent error (added formula)*
* *Definition – submeter - modified definition with Subgroup C’s recommended language*

***Conclusion and Action Items:***

1. ***A marked up version of the draft code incorporating changes and comments made by the EWH SG during its meeting is included as an attachment to this summary. This version of the draft code is titled “Hb44 SG Working Document-8-22-19-Meeting Updates” and includes the header “HB 44 Non-Utility Electricity-Meas. Systems – Tentative Code (Rev-8-22-19)” in the document.***
2. ***A summary of proposed marking requirements and comments identified by the EWH SG are included as an attachment to this summary. This document is titled “Markings Summary-8-22-19-Header.”***
3. ***Andrew Kimura agreed to review S.1.4. [MM] NUEMS Indications and will provide a recommendation back to the group***
4. ***Henry Alton will chair a small group (Andrei B., Don, John, Matt) to review and provide a recommendation back to the WG on marking for “Model Identification Requirements”***

**5. NTEP Checklist Development**. A checklist for use in National Type Evaluation Program (NTEP) evaluations is under development by an NCWM Task Group. The SG acknowledged the need to make a note in the checklist that the evaluator must determine whether the device is intended for indoor or outdoor use and specify the intended application on the NTEP CC. This is one example of compliance with S.2.1. Consider referencing other standards such as NEMA and UL for environmental testing/criteria.

**6. Future Items and Carryover Task:**

* **Definitions.** A review of all definitions in the draft EWH HB 44 Code should be done once the rest of the draft is completed. Definitions not related to the content need to be deleted. Definitions related to content but not covered should be added.
* **NTEP Checklist Issues:**
* **4/24/19:**  For NTEP Checklist Criteria Development: Need to make a note in the checklist that the evaluator must determine whether the device is intended for indoor or outdoor use and specify the intended application on the NTEP CC. This is one example of compliance with S.2.1. Consider referencing other standards such as NEMA and UL for environmental testing/criteria.
* **11/16/17** For future review in developing NTEP criteria: “Sensor arrays” that are critical to the metrology of the system needs to be protected. Need more specificity about under what conditions this needs to be done.
* **Sensor Accuracy Class:** During discussion on 8/20/19, the EWH SG agreed to table paragraph T.6. Sensor Accuracy Class (see prior versions of draft code.). The SG agreed to delete this paragraph from the tentative code for the present. The SG agreed intends to revisit this issue in the future and add criteria as needed when CT stand-alone components are addressed by the SG.
* **Distributed Energy Resources:** The SG acknowledged the need to address meters used in applications such as solar panels, wind, turbine, geothermal, and other methodologies (also referred to as “distributed energy resource” or “DER”) in a future discussion/project. Members of the SG reported that jurisdictions are also getting inquiries about other models of building owners charging for energy usage; this may overlap with work done in 1989 on “energy allocation.”]

**Future Plans:**

* Once the two action items are received, NIST/OWM will review the document and incorporate all the edits into a single document; conduct a final review of the language and definitions.
* The revised draft document will be sent out to the WG for review and comment.
* If necessary, a web connect meeting will be held to address any technical issues.
* A final draft will be sent to the group for ballot

**Next Meeting:** TBD, based on completion of the assigned SG tasks.