**U.S. National Work Group**

**Measuring Systems for Electric Vehicle Fueling and Submetering**

**Watthour Type Electric Meter Subgroup**

**November 16, 2017**

**F2F (NEMA Rosslyn, VA) and Tele/Web Conference**

**Draft Meeting Agenda**

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| **Meeting Details** |
| **Meeting Date: November 16, 2017**  **Time:  12:30 p.m. to 5:30 p.m. Eastern Time**  **Location: National Electrical Manufacturers Association (NEMA)**  **1300 North 17th St**  **NEMA Conference Center, Hubbell 1&2 Rooms, 1st floor**  **Rosslyn, VA 22209**  **About 2 blocks from Rosslyn Metro Station**  **Andrei Moldoveanu’s cell number is 703-628-3421** |
| **Web and Audio Conference Details** |
| **The Web Conference will be conducted using the “join.me” web conferencing system.**  **To join the meeting, go to the following link:** [**join.me/andreimoldoveanu**](https://na01.safelinks.protection.outlook.com/?url=https%3A%2F%2Fjoin.me%2Fandreimoldoveanu&data=02%7C01%7Ctina.butcher%40nist.gov%7C36ee6c13f6694397fcbd08d517d3ce90%7C2ab5d82fd8fa4797a93e054655c61dec%7C1%7C0%7C636441121028428124&sdata=tRgo4wYrbE%2Fx1QF8KTJVW7KFAvJRwIOcrgcgPz9kAng%3D&reserved=0)  **To dial in by phone:** [**1-888-432-8002**](tel:1-888-432-8002)  **Access code: 703-841-3290**  **Need to share screen? Download the app at:** <https://www.join.me/apps> |

The U.S. National Work Group (USNWG) on Measuring Systems for Electric Vehicle Fueling and Submetering Subgroup (SG) on Watthour Type Electric Meters (hereinafter referred to as “Electric Watthour Meters” or “EWH”) will meet face to face on November 16, 2017 and by tele/web conference to continue a review begun at its September 2017 meeting of a watthour meter draft code, intended to address legal metrology requirements for the device its minimum inspection and test procedures and test equipment, the appropriate method of sale of electricity through the device and an efficient process for achieving these goals. Additional discussion may include topics such as wireless technology, test procedures, traceability of test standards, and the subgroup’s next steps; as well as the U.S. standards development process and timelines for other related projects.

*This meeting is sponsored by the U.S. Department of Commerce’s National Institute of Standards and Technology.*

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|  | **List of Attachments** | **Related Agenda Item** |
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| **Glossary of Acronyms** | | | |
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| ANSI | American National Standards Institute | NCWM | National Conference on Weights and Measures, Inc. (<http://www.ncwm.net/>) |
| CFR | Code of Federal Regulations | NEC | National Electrical Code |
| EPO | Examination Procedure Outline | NEMA | National Electrical Manufacturers Association |
| EUMD | End Use Measurement Device | NIST | National Institute of Standards and Technology |
| EVF&S | Electric Vehicle Fueling and Submetering | NTEP | National Type Evaluation Program a program administered by NCWM to ensure device conform to type and NIST Handbook requirements. (<http://www.ncwm.net/ntep>) |
| EVSE | Electric Vehicle Supply Equipment | OWM | NIST Office of Weights and Measures |
| EWH | Electric Watt Hour | PEV | Plug-in Electric Vehicle |
| HB 44 | NIST Handbook 44 *Specifications, Tolerances, and Other Technical Requirements for Weighing and Measuring Devices* | S&T | NCWM Specifications and Tolerances Committee (device issues) |
| HB 130 | NIST Handbook 130 *Uniform Laws and Regulations in the Area of Legal Metrology and Engine Fuel Quality* | SI | International System of Units |
| IEEE | Institute of Electrical and Electronics Engineers | SGIP-PAP 22 | Smart Grid Interoperability Panel - Priority Action Plan 22: “EV Fueling Submetering Requirements” |
| kW | Kilowatt | SG | USNWG Subgroup |
| kW•h | Kilowatt hour | USNWG | U.S. National Work Group |
| L&R | NCWM Laws and Regulations Committee  (MOS and fuel quality issues) | WHE | Watthour Type Electric Meter |
| MOS | Method of Sale |  |  |
| This table is meant to assist the reader in the identification of acronyms used in this document and does not imply that these terms are used solely to identify these organizations or technical topics. | | | |

**Purpose:** The U.S. National Work Group on Measuring Systems for Electric Vehicle Fueling and Submetering was formed to develop proposed requirements for commercial electricity-measuring devices (including those used to measure and sell electricity commercially delivered as vehicle fuel and those used in submetering electricity at residential and business locations) and to ensure that the prescribed methodologies and standards facilitate measurements that are traceable to the International System of Units (SI). This work is ***not*** intended to address utility metering in the home or business where the electricity meter is used by a public utility in connection with measuring electricity subject to the jurisdiction of a Public Utilities Commission or other municipality.

# Welcome and Roll Call

**Background/Recommendation:** The meeting will be called to order and a roll call conducted to establish a quorum.

# Agenda Review and Approval

**Background/Recommendation:** The WHE SG will be asked to review and approve the agenda for its November 16, 2017 meeting.

# Review and Approval of September 2017 Meeting Summary

**Background/Recommendation:** The WHE SG will be asked to review and approve the draft summary from its September 2017 meeting.

# Handbook (HB) 130 – Uniform Regulation for the Method of Sale (MOS) of Commodities Section 2. Non-food Products, Electric Watthour Meters and NIST Handbook (HB) 44 – 3.XX Code for Electric Watthour Meters and– Review of Drafts

**Background:**

***NIST HB 130 – Method-of-Sale Requirements:*** At its September 2017 meeting in Sacramento, CA, the EWH SG completed an initial review of proposed revisions to NIST Handbook 130 MOS Section 2 to include method-of-sale requirements for “Non-Utility Sales of Electricity as Energy (Other Than Vehicle Fueling Applications).” A copy of the draft proposal for HB 130, including a mark-up of changes (using MS Word’s “track changes” feature) made at the September 2017 SG meeting is attached to this agenda along with a “clean” copy with editing marks removed. A few highlighted areas requiring additional work remain and will be addressed either concurrently with or following completion of the SG’s review of the draft HB 44 Code as described below.

***NIST HB 44 – Device Requirements:*** At the September 2017 meeting, the SG also began a review of a draft devices code to be proposed for inclusion in NIST Handbook 44 to address utility type electric watthour submeters which are not owned by a utility company (note that the SG is continuing its work on developing a proposed definition for “submeters”). The focus of this (November 16, 2017) meeting will be for the SG to continue its review and discussion of the draft HB 44 Code. A copy of the draft code, including marked changes from the September 2017 meeting (using MS Word’s “track changes” feature) is attached to this agenda.

To put these tasks into perspective and as a reminder of discussions at the September 2017 meeting, the following is a listing of tasks that are to be addressed by the WHE SG. Since there may be instances in which the WHE SG can borrow from work already completed by the USNWG EVSE Subgroup to make the WHE work go more quickly, tasks before the EVSE Subgroup are also included as reference.

| **USNWG on Electric Vehicle Refueling & Submetering**  **Overview of Tasks** | |
| --- | --- |
| 1. **EVSE Standards** 2. **NIST Handbook 44 Codes** 3. EVSE Code (Tentative Code)    * + Proposed phase-in dates for any requirements?      + Changes to address wireless?      + Other refinements to recommend? 4. Timing Devices Code (Proposed Revisions)    * + Refinements or changes to recommend? 5. **Test Equipment** 6. Standards 7. Traceability 8. **Test Procedures** 9. Draft Examination Procedure Outline 30 10. NTEP 11. Trials and Vetting 12. Finalization 13. **Education** 14. Administrators - Overview 15. Field Officials – Inspection and testing | 1. **Utility-Type Electric “Submeters” (Terminology TBD)** 2. **NIST Handbook 44 Codes** 3. Develop Tentative Code 4. **Test Equipment** 5. Identify/develop standards for test equipment 6. **Test Procedures** 7. Identify/develop test procedures 8. NTEP 9. **Education** 10. Provide education for administrators and officials |

**Recommendation:** The EWH SG is asked to continue its review of the draft NIST HB 44 Code.

# Notice to the 2017-2018 NCWM Regarding the Proposed Draft NIST Handbook 44 Electric Watthour Meter Code’s Status

**Background:** Because the SG’s recommendations on a draft NIST Handbook 44 Code will ultimately be forwarded to the NCWM for consideration, it is important that the weights and measures community receive an update on what to expect in a final draft code proposal, the similarities and differences from existing HB 44 Codes, as well as the status of requirements for test procedures/equipment for these systems as this work progresses.

The meetings listed below represent the upcoming meetings of the NCWM.

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| **National Conference on Weights and Measures (NCWM) – 2018 Meetings** | |
| **Interim Meeting**  **January 21-24, 2018**  St. Pete Beach, FL  https://www.ncwm.net/sems/event\_detail/2018-interim-fl | **Annual Meeting**  **July 15-19, 2018**  Tulsa, OK |
| 2018 NCWM S&T Committee Chairman Ivan D. Hankins, III  Iowa Weights and Measures  2230 S. Ankeny Blvd.  Ankeny, Iowa 50023  515-725-1492 Office  515-371-7212 Cell  Ivan.hankins@iowaagriculture.gov | 2018 NCWM L&R Committee Chairman Ethan Bogren  Westchester County, NY  Dept. of Weights & Measures  (914)995-2179 phone  (914)995-5259 fax  Email: neb2@westchestergov.com |

**The NCWM Specifications and Tolerances Committee and the Laws and Regulations Committee each include a “Developing” item on their respective agendas for the 2018 NCWM cycle. As the submitter of these items, NIST OWM will provide a brief written status report on the work of the USNWG, including that of the EWH SG. OWM may also be given the opportunity to provide a brief verbal update, although the opportunity to provide comments on “Developing” items is at the discretion of the Committee Chairmen.**

**Recommendation: The SG is asked to discuss and agree upon the key points to be included in its status report to ensure that the NCWM community is kept apprised of its work.**

# Action Items, Next Steps, and Communications

**Background and Recommendation:** To assist in managing the WHE SG’s work, an “Action Items, Next Steps, and Communications” section will be included with each meeting summary. This item is included on the agenda to allow the SG to review action items and next steps identified during its meeting and to ensure that those assigned with follow-on tasks confirm agreement with the task and timeline.

# Next Meeting

The USNWG will discuss the format, date, location and topics for its next meeting(s). A “doodle poll” was distributed to the SG on October 31, 2017, with the following proposed dates for the next face-to-face meeting of the SG.

February 6-8, 2018

February 13-15, 2018

February 21 – March 1, 2018

The location of the meeting will be Sacramento, CA.

The poll is set to close on November 15. The results of the poll will be shared with the SG during the November 16 meeting and a final time and date will be confirmed.