

Amendment to 232-5 – Section 2.XX. Retail Sale of Electricity/Vehicle

On behalf of a coalition of industry stakeholders¹, I offer an amendment to the text contained in Publication 16 (beginning on page L&R 32).

This same coalition submitted a letter to the L&R Committee on 12 July 2013 (**see Appendix A**). **Committee members should not interpret Friday's letter as an endorsement of 232-5 as printed in Publication 16.**

In fact, the coalition letter was written with the understanding that the 11 June 2013 version of the draft uniform regulation would be considered today. That version reflects the most recent work of the NIST U.S. National Work Group on Measuring Systems for Electric Vehicle Fueling and Submetering (NIST National Work Group).

Specifically, the NIST Status Report dated 19 June 2013 states:

Based on the results of this vote, the USNWG recommends that the NCWM L&R Committee replace the proposal in the 2013 Publication 16 L&R Interim Meeting Report Item 232-5 with the following prior to voting on the item at the NCWM. (**Appendix B**)

Many of the industry stakeholders cited below are a part of the NIST National Work Group and have been active participants throughout the language development process.

In its most recent meeting on June 11, the NIST National Work Group amended the language contained in Publication 16. Our group of industry stakeholders was and is supportive of the amended version (**Appendix B**).

The amendment I offer today is to replace what is contained in Publication 16 with the language approved by the NIST National Work Group at its June 11 meeting.

This language can be found on page 3 of **Appendix B**.

¹ American Public Power Association, Auto Alliance, ChargePoint, Delta Products Corporation, ECotality, Edison Electric Institute, Electric Drive Transportation Association, eVgo, Fuji Electric, Global Automakers, National Association of Convenience Stores, NATSO (representing America's Travel Plazas and Truck Stops), National Electrical Manufacturers Association, and NRG Energy.

APPENDIX A

July 12, 2013

Ms. Judy Cardin, Chair
Laws and Regulations Committee
National Conference on Weights and Measures
1135 M Street, Suite 110
Lincoln, Nebraska 68508

Dear Chair Cardin:

The undersigned write to express our support for the revisions to NIST Handbook 130 recommended by the U.S. National Work Group on Measuring Systems for Electric Vehicle Fueling and Submetering (USNWG) pertaining to method of sale.

We appreciate the opportunity to share with the Laws and Regulations (L&R) Committee the viewpoint of industry stakeholders. We believe that the sustainable adoption of electric vehicles (EV) requires the deployment of commercially viable electric vehicle supply equipment (EVSE).

Many of our companies and organizations actively participated in the USNWG's deliberations. The dialogue allowed many different voices to be heard and complex questions to be discussed and clarified. The staff at NIST and all participants should be commended for their efforts in developing this recommendation for the L&R Committee.

Both industry and the consumer segment represented in the USNWG supported the language as submitted by the USNWG to the L&R Committee. The recommended language enables multiple business models for providing electric vehicle charging services, which, consistent with national energy policies, will increase the availability of convenient charging facilities by promoting more widespread adoption of EVSE.² This also puts the EV driver in control of his or her recharging needs.

By allowing for other appropriate business models in the case of charging services offered to consumers through retail sales methods based on non-energy units (2.XX.2.2), Electric Vehicle Service Providers (EVSP) are not precluded from offering recharging services based on mileage, membership, time, place or other factors. Importantly, approximately 80% of the states do not permit the resale of electricity and these other business models enable the adoption of electric vehicle charging stations in those markets.

At the same time, the proposed regulation also allows for a method of sale for those EVSP who wish to price their services based on the quantity of electricity delivered to the customer.

The services that have formed around recharging an EV are still in their early stages, with market participants offering many different types of recharging services. Innovative companies are providing great value to the EV driver in ways that bear little resemblance to the gasoline

² See U.S. Department of Energy, One Million Electric Vehicles by 2015, February 2011 Status Report (noting "Uncertainties about EVs— including their resale value, range and availability of convenient charging facilities -- may impose sales barriers."). Available at:

http://www1.eere.energy.gov/vehiclesandfuels/pdfs/1_million_electric_vehicles_rpt.pdf

station model. Recharging an EV is an entirely different experience in areas such as where, how long, and how often recharging takes place and the many new communication features available between the vehicle, the EVSE, the EVSP, and the driver.

This is why we had been concerned with earlier versions of the draft regulation that appeared to be largely based on the existing uniform regulation for petroleum-based fuels. Requiring that “all electrical energy kept, offered, or exposed for sale and sold at retail as a vehicle fuel shall be in units in terms of the megajoule (MJ) or kilowatt-hour (kWh)” would stifle innovation in this market sector, require a submeter on each and every EVSE, and drive up the cost of these products in an industry that is still seeding the market.

Moreover, there is no additional consumer protection benefit to adopting an overly restrictive method of sale, because today’s technology enables customers to know vast amounts of information about the charging of their vehicles.

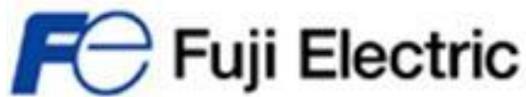
On June 11, when the USNWG voted favorably to report this draft regulation to the NCWM, nearly all votes against the draft regulation came from members of the NCWM. At the same time, virtually all other participants cast a vote for the draft regulation. We hope this letter gives the L&R Committee a clear view of the reasons behind our support.

We, the undersigned, share the goal of creating a market that offers maximum choice and minimum cost to the EV driver. We believe a draft uniform regulation which preserves competition and innovation will help to achieve this goal.

We urge the L&R Committee to approve this draft regulation.

Sincerely,





The power to change life.™

APPENDIX B

NIST Status Report [6/19/13]

Group: NIST U.S. National Work Group on Measuring Systems for Electric Vehicle Fueling and Submetering
(USNWG EVF&S)

Scope and Purpose: In August 2012, NIST formed the USNWG EVF&S to develop proposed requirements for commercial electrical energy-measuring devices (including those used in submetering electrical energy at residential and business locations and those used to measure and sell electrical energy dispensed as a vehicle fuel) 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 metered electricity is consumed by the end purchaser and that falls under the authority of entities such as the local utility commission.

Membership: USNWG members include representatives from:

- vehicle charging equipment and electric meter manufacturers,
- State and local weights and measures jurisdictions,
- energy distribution companies and service providers,
- national laboratories,
- technical committees (e.g., the ANSI C12 Chair),
- standards organizations (i.e., UL and NEMA),
- NIST OWM and NIST Smart Grid Interoperability Panel.

Meetings:

The USNWG has met a total of five times.

In November 2012, NIST OWM prepared and distributed to the USNWG draft proposals for a method of sale (MOS) regulation (for inclusion in NIST HB 130) for electric vehicle refueling and a device code (for inclusion in NIST HB 44) that addresses both electric vehicle refueling and submeter applications.

At its January 15-17, 2013 meeting, the USNWG voted 12 to 1 to recommend to the NCWM L&R Committee that the proposed new HB 130 MOS regulation be presented for a vote during the July 2013 NCWM. The MOS proposal addresses: (1) method of sale; (2) unit price display; (3) identification of the service levels; (4) additional fees connected to charging; (5) device labeling; (6) street signs and other advertising; and (7) related definitions.

Following the January meeting, USNWG members provided comments and suggested changes after vetting the HB 130 MOS proposal within their organizations.

At its June 11, 2013 meeting, the USNWG discussed modifications to its original HB 130 MOS proposal:

1. A modified proposal based on those comments which had been received between January 28, 2013 and May 30, 2013 that might be considered “minor” changes was prepared for the USNWG to consider during its June 2013 meeting. These suggested “minor” modifications were intended to:
 - Clarify that the MOS does not apply where no fees are associated with the delivery or distribution of electrical energy.
 - Reword the definition of the term **Electrical Energy Sold as Vehicle Fuel** to enhance clarity.

- Remove the option to display the unit price in tenths of one cent and require that the unit price be display only in units of whole cents.
- Include wording to clarify that the labeling and signage requirements for communicating the terms of “variable service” are intended to apply only to those conditions affecting service which are “under the direct control of the seller.”
- Include the requirement that the display of any additional fees shall also include the basis for those fees.
- Clarify that EVSE products shall be listed with a nationally recognized test laboratory (NRTL) and shall be “installed” (instead of merely being “labeled”) in accordance with the National Electric Code (NEC).
- Recognize that street signs and advertising may appear either directly on or “in close proximity to” an EVSE.

The USNWG did not vote on this version, but proceeded to discuss and vote on the amendment to the scope described in Item 2 because members disagreed on the scope of the MOS.

2. During the meeting, an alternate proposal was made to modify the scope of the MOS to allow more than one method of sale. The proposed alternative would not require disclosure of the quantity of the electrical energy delivered to a consumer, as is currently provided when purchasing electrical energy from a utility or through submetering applications. Specifically, the proposal was to add the following language to paragraph **2.XX. Retail Sales of Electrical Energy Sold as a Vehicle Fuel:**

This section does not apply to sales of electric vehicle charging services where the electric vehicle user is provided unlimited access to electric vehicle charging services or where the electrical energy is free, as in the case where the fee assessed is wholly independent of the quantity of electrical energy delivered.

The amendment to modify the scope of the application of the MOS was adopted based on the results of the voting on the amendment shown below.

Voting Results on the Amendment to the June 11, 2013 Modified Proposal			
Sector	In Favor	Opposed	Total
Industry	9	1	10
National Laboratories	2	0	2
Consumer Advocacy	1	0	1
Weights and Measures Officials	0	6	6
Total	12	7	19

3. The USNWG voted on a modified version of the MOS proposal, including the revised scope as outlined in Item 2 above. This modified proposal was supported by a majority vote of the USNWG during the June 11, 2013 meeting with the following results.

Voting Results on the June 11, 2013 Modified Proposal as Amended			
Sector	In Favor	Opposed	Total
Industry	9	2	11
National Laboratories	2	0	2
Consumer Advocacy	1	0	1
Weights and Measures Officials	0	6	6

Total	12	8	20
--------------	-----------	----------	-----------

Based on the results of this vote, the USNWG recommends that the NCWM L&R Committee replace the proposal in the 2013 Publication 16 L&R Interim Meeting Report Item 232-5 with the following prior to voting on the item at the NCWM.

B. Uniform Regulation for the Method of Sale of Commodities

Section 2. Non-food Products ^[NOTE 1, page 107]

2.XX. Retail Sales of Electrical Energy Sold as a Vehicle Fuel. This section does not apply to sales of electric vehicle charging services where the electric vehicle user is provided unlimited access to electric vehicle charging services or where the electrical energy is free, as in the case where the fee assessed is wholly independent of the quantity of electrical energy delivered.

2.XX.1. Definitions.

2.XX.1.1. Electrical Energy sold as vehicle fuel. – Electrical energy kept, offered or exposed for sale and sold at retail as a vehicle fuel and transferred to an electric vehicle primarily for the purpose of propulsion and/or energizing the vehicle.

2.XX.1.2. Electric vehicle supply equipment (EVSE). – The conductors, including the ungrounded, grounded, and equipment grounding conductors; the electric vehicle connectors; attachment plugs; and all other fittings, devices, power outlets, or apparatuses installed specifically for the purpose of measuring, delivering, and computing the price of electrical energy delivered to the electric vehicle.

2.XX.1.3. Fixed service. – Service that continuously provides the nominal power that is possible with the equipment as it is installed.

2.XX.1.4 Variable service. – Service that may be controlled resulting in periods of reduced, and/or interrupted transfer of electrical energy.

2.XX.1.5 Nominal power. – Refers to the “intended” or “named” or “stated” as opposed to “actual” rate of transfer of electrical energy (i.e., power).

2.XX.2. Method of Retail Sale. – All electrical energy kept, offered, or exposed for sale and sold at retail as a vehicle fuel shall be in units in terms of the megajoule (MJ) or kilowatt-hour (kW·h). In addition to the fee assessed for the quantity of electrical energy sold, fees may be assessed for other services; such additional fees may be based on time measurement and/or a fixed fee.

2.XX.3. Retail Electric Vehicle Supply Equipment (EVSE) Labeling.

- (a) A computing EVSE shall display the unit price in whole cents (e.g., \$0.12) on the basis of price per megajoule (MJ) or kilowatt-hour (kW·h).
- (b) For fixed service applications, the following information shall be conspicuously displayed or posted on the face of the device:
 - (1) the level of EV Service expressed as the nominal power transfer (i.e., nominal rate of electrical energy transfer), and
 - (2) the type of electrical energy transfer (e.g., AC, DC, wireless, etc.).
- (c) For variable service applications, the following information shall be conspicuously displayed or posted on the face of the device:
 - (1) the type of service (i.e., “Variable”);

- (2) the minimum and maximum power transfer that can occur during a transaction as a result of direct control by the seller, including whether service can be reduced to zero;
 - (3) the conditions under which variations in electrical energy transfer will occur as a result of direct control by the seller; and
 - (4) the type of electrical energy transfer (e.g., AC, DC, wireless, etc.).
- (d) Where fees will be assessed for other services in direct connection with the fueling of the vehicle, such as fees based on time measurement and/or a fixed fee, the additional fees shall be displayed along with the basis for the fee.
 - (e) The EVSE shall be labeled in accordance with 16 CFR, PART 309 – FTC Labeling Requirements for Alternative Fuels and Alternative Fueled Vehicles.
 - (f) The EVSE shall be listed by a nationally recognized test laboratory (NRTL) and installed in accordance with the National Electric Code[®] (NEC) NFPA 70, Article 625 Electric Vehicle Charging Systems (www.nfpa.org).

2.XX.4. Street Sign Prices and Other Advertisements.

Where electrical energy unit price information is presented on street signs or in advertising other than on or in close proximity to the EVSE:

- (a) The electrical energy unit price shall be in terms of price per megajoule (MJ) or kilowatt-hour (kW·h) in whole cents (e.g., \$0.12).
- (b) In cases where more than one electrical energy unit price may apply over the duration of a single transaction to sales to the general public, the terms and conditions that will determine each unit price and when each unit price will apply shall be clearly displayed.
- (c) For fixed service applications, the following information shall be conspicuously displayed or posted:
 - (1) the level of EV Service expressed as the nominal power transfer (i.e., nominal rate of electrical energy transfer), and
 - (2) the type of electrical energy transfer (e.g., AC, DC, wireless, etc.).
- (d) For variable service applications, the following information shall be conspicuously displayed or posted:
 - (1) the type of delivery (i.e., “Variable”);
 - (2) the minimum and maximum power transfer that can occur during a transaction as a result of direct control by the seller, including whether service can be reduced to zero;
 - (3) the conditions under which variations in electrical energy transfer will occur as a result of direct control by the seller; and
 - (4) the type of electrical energy transfer (e.g., AC, DC, wireless, etc.).

Where fees will be assessed for other services in direct connection with the fueling of the vehicle, such as fees based on time measurement and/or a fixed fee, the additional fees shall be included on all street signs or other advertising.

(Added 20XX)

Input Needed: The USNWG requests input from the L&R Committee and NCWM members on whether a MOS proposal that would allow more than one method of sale for electrical energy would be acceptable.

Contacts:Technical Advisor: Marc Buttler, NIST OWM; Tel: 301-975-4615; Email:marc.buttler@nist.gov

Chair: Juana Williams, NIST OWM; Tel: 301-975-3989; Email: juana.williams@nist.gov