

## Specifications and Tolerances (S&T) Committee 2021 Interim Meeting – New Carryover Items

Mr. Josh Nelson, Committee Chair  
Oregon

### INTRODUCTION

The S&T Committee (hereinafter referred to as the “Committee”) submits this Committee Interim Report for consideration by National Conference on Weights and Measures (NCWM). This report contains the items discussed and actions proposed by the Committee during its Interim Meeting in Riverside, California, January 26-29, 2020. The report will address the items in Table A during the Interim Meeting. Table A identifies the agenda items by reference key, title of item, page number and the appendices by appendix designations. The acronyms for organizations and technical terms used throughout the agenda are identified in Table B. The headings and subjects apply to NIST Handbook 44 *Specifications, Tolerances, and Other Technical Requirements for Weighing and Measuring Devices, 2020 Edition*. The first three letters of an item’s reference key are assigned from the Subject Series List. The first three letters of an item’s reference key are assigned from the Subject Series List. The status of each item contained in the report is designated as one of the following: **(V) Voting Item:** the committee is making recommendations requiring a vote by the active members of NCWM; **(I) Informational Item:** the item is under consideration by the Committee but not proposed for Voting; **(A) Assigned Item:** the committee has assigned development of the item to a recognized subcommittee or task group within NCWM; **(D) Developing Item:** the Committee determined the item has merit; however, the item was returned to the submitter or other designated party for further development before any action can be taken at the national level; **(W) Withdrawn Item:** the item has been removed from consideration by the Committee.

Some Voting Items are considered individually; others may be grouped in a consent calendar. Consent calendar items are Voting Items that the Committee has assembled as a single Voting Item during their deliberation after the Open Hearings on the assumption that the items are without opposition and will not require discussion. The Voting Items that have been grouped into consent calendar items will be listed on the addendum sheets. Prior to adoption of the consent calendar, the Committee will remove specific items from the consent calendar upon request to be discussed and voted upon individually.

Committees may change the status designation of agenda items (Developing, Informational, Assigned, Voting and Withdrawn) up until the report is adopted, except that items which are marked Developing, Informational, Assigned or Withdrawn cannot be changed to Voting Status. Any change from the Committee Interim Report (as contained in this publication) or from what appears on the addendum sheets will be explained to the attendees prior to a motion and will be acted upon by the active members of NCWM prior to calling for the vote.

An “Item under Consideration” is a statement of proposal and not necessarily a recommendation of the Committee. Suggested revisions are shown in **bold face print** by ~~striking out~~ information to be deleted and **underlining** information to be added. Requirements that are proposed to be nonretroactive are printed in **bold faced italics**. Please refer to <http://www.ncwm.com/publication-16> to review these documents.

All sessions are open to registered attendees of the conference. If the Committee must discuss any issue that involves proprietary information or other confidential material; that portion of the session dealing with the special issue may be closed if (1) the Chairman or, in his absence, the Chairman-Elect approves; (2) the Executive Director is notified; and (3) an announcement of the closed meeting is posted on or near the door to the meeting session and at the registration desk. If possible, the posting will be done at least a day prior to the planned closed session.

**Note:** It is policy to use metric units of measurement in publications; however, recommendations received by NCWM technical committees and regional weights and measures associations have been printed in this publication as submitted. Therefore, the report may contain references to inch-pound units.

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**Subject Series List**

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NIST Handbook 44 – General Code .....	GEN Series
Scales .....	SCL Series
Belt-Conveyor Scale Systems .....	BCS Series
Automatic Bulk Weighing Systems .....	ABW Series
Weights .....	WTS Series
Automatic Weighing Systems .....	AWS Series
Weigh-In-Motion Systems used for Vehicle Enforcement Screening .....	WIM Series
Liquid-Measuring Devices .....	LMD Series
Vehicle-Tank Meters .....	VTM Series
Liquefied Petroleum Gas and Anhydrous Ammonia Liquid-Measuring Devices .....	LPG Series
Hydrocarbon Gas Vapor-Measuring Devices .....	HGV Series
Cryogenic Liquid-Measuring Devices .....	CLM Series
Milk Meters .....	MLK Series
Water Meters .....	WTR Series
Mass Flow Meters .....	MFM Series
Carbon Dioxide Liquid-Measuring Devices .....	CDL Series
Hydrogen Gas-Metering Devices .....	HGM Series
Electric Vehicle Refueling Systems .....	EVF Series
Vehicle Tanks Used as Measures .....	VTU Series
Liquid Measures .....	LQM Series
Farm Milk Tanks .....	FMT Series
Measure-Containers .....	MRC Series
Graduates .....	GDT Series
Dry Measures .....	DRY Series
Berry Baskets and Boxes .....	BBB Series
Fabric-Measuring Devices .....	FAB Series
Wire-and Cordage-Measuring Devices .....	WAC Series
Linear Measures .....	LIN Series
Odometers .....	ODO Series
Taximeters .....	TXI Series
Timing Devices .....	TIM Series
Grain Moisture Meters (a) .....	GMA Series
Grain Moisture Meters (b) .....	GMB Series
Near-Infrared Grain Analyzers .....	NIR Series
Multiple Dimension Measuring Devices .....	MDM Series
Electronic Livestock, Meat, and Poultry Evaluation Systems and/or Devices .....	LVS Series
Transportation Network Measuring Systems .....	TNS Series
Other Items .....	OTH Series

**Table A  
Table of Contents**

<b>Reference Key</b>	<b>Title of Item</b>	<b>S&amp;T Page</b>
<b>SCL – SCALES</b>	.....	<b>78</b>
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EVF-20.2	I Definitions: submeter .....	82

**Table B  
Glossary of Acronyms and Terms**

<b>Acronym</b>	<b>Term</b>	<b>Acronym</b>	<b>Term</b>
ABWS	Automatic Bulk Weighing System	NEWMA	Northeastern Weights and Measures Association
AAR	Association of American Railroads	NIST	National Institute of Standards and Technology
API	American Petroleum Institute	NTEP	National Type Evaluation Program
CNG	Compressed Natural Gas	OIML	International Organization of Legal Metrology
CWMA	Central Weights and Measures Association	OWM	Office of Weights and Measures
EPO	Examination Procedure Outline	RMFD	Retail Motor Fuel Dispenser
FHWA	Federal Highway Administration	S&T	Specifications and Tolerances
GMM	Grain Moisture Meter	SD	Secure Digital
GPS	Global Positioning System	SI	International System of Units
HB	Handbook	SMA	Scale Manufacturers Association
LMD	Liquid Measuring Devices	SWMA	Southern Weights and Measures Association
LNG	Liquefied Natural Gas	TC	Technical Committee
LPG	Liquefied Petroleum Gas	USNWG	U.S. National Work Group
MMA	Meter Manufacturers Association	VTM	Vehicle Tank Meter
MDMD	Multiple Dimension Measuring Device	WIM	Weigh-in-Motion
NCWM	National Conference on Weights and Measures	WWMA	Western Weights and Measures Association

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**Details of All Items**  
*(In order by Reference Key)*

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1 **SCL – SCALES**

2 **SCL-17.1            S.1.8.5. Recorded Representations, Point of Sale Systems**

3 **Source:**

4 Kansas and Minnesota

5 **Purpose:**

6 Provide consumers the same opportunity, to be able to easily verify whether or not tare is taken on items weighed at  
7 a checkout stand using a POS system, as has currently afforded them when witnessing items being weighed and priced  
8 in their presence using other scales in the store.

9 **Item Under Consideration:**

10 *NOTE: At the 2020 NCWM Interim Meeting the Committee supported the Non-retroactive version for changes to this*  
11 *item.*

12 Amend NIST Handbook 44, Scales Code as follows:

13 **S.1.8.5. Recorded Representations, Point-of-Sale Systems.** – The sales information recorded by cash registers when  
14 interfaced with a weighing element shall contain the following information for items weighed at the checkout stand<sup>1</sup>:

15 (a) the net weight;<sup>1</sup>

16 (b) the unit price;<sup>1,2</sup>

17 (c) the total price; **and**

18 (d) the product class or, in a system equipped with price look-up capability, the product name or code number; **and**

19 (e) the tare weight.

20 [Non-retroactive as of January 1, 20XX]

21 **(Amended 20XX)**

22 <sup>1</sup>Weight values shall be **adequately defined as gross, tare, and/or net upon any two or more of these**  
23 **values appearing on the receipt. Acceptable abbreviations include, but are not limited to, G & GR**  
24 **(gross), TA (tare), and N & NT (net). The unit of weight shall be identified by as kilograms, kg, grams,**  
25 **g, ounces, oz, pounds, or lb. ~~The “#” symbol is not acceptable.~~**  
26 **[Nonretroactive as of January 1, 2006]**

27  
28 <sup>2</sup>For devices interfaced with scales indicating in metric units, the unit price may be expressed in price per  
29 100 grams.

30 (Amended 1995, **and** 2005, **and 20XX**)

31 **Background/Discussion:**

32 This item has been assigned to the Point-of-Sale Tare Task Group (POST) for further development. For more  
33 information or to provide comment, please contact:

1 Mr. Loren Minnich, Chair of the Point-of-Sale Tare Task Group  
2 Kansas Department of Agriculture  
3 785-564-6695, [Loren.Minnich@ks.gov](mailto:Loren.Minnich@ks.gov)

4 The submitters of this proposal state that it will benefit consumers by enabling them to see at a glance that tare is being  
5 taken on the commodities they purchase. It would also educate the public about tare and make them better and more  
6 aware consumers.

7 Additionally, it is purported that retailers would benefit because this proposal would aid their quality control efforts  
8 behind the counter and at the cash register. Retailers would be able to see that their employees are taking tare on  
9 packages, and that the tare employees take is the appropriate tare.

10 Finally, this proposal would aid weights and measures officials investigating complaints about net contents of item by  
11 creating written proof of how much tare was taken on a given package or transaction.

12 Scale manufacturers will need to modify software and label and receipt designs before the non-retroactive date.  
13 Retailers with point of sale systems and packaging scales may feel pressured to update software or purchase new  
14 devices in response to consumer demand for tare information on labels and receipts. The amount of paper needed to  
15 print customer receipts may increase depending on the formatting of the information and the size of the paper being  
16 used. Some retailers may not want consumers to have this information as it will allow consumers and weights and  
17 measures officials to hold them accountable and would be written proof tare was not taken when, and if, that happens.

18 During the 2018 NCWM Interim Meeting, the Committee heard from Mr. Loren Minnich (KS) who commented that  
19 the item will benefit consumers and asked the Committee to move the item forward as a voting item. Many comments  
20 both in support of and in opposition to the proposal were heard. The Committee also received a written  
21 recommendation asking the Committee to consider modifying the proposal to: (1) require the tare weight and/or the  
22 gross weight be printed on the receipt; (2) clarify printed weight values must be clearly and definitely identified as  
23 gross, tare, and/or net weights (as required by the General Code); and (3) move text currently in a footnote to the  
24 paragraph into the body of the paragraph for ease of reference.

25 During the Committee’s work session, the committee members reviewed all information received and agreed to move  
26 the item forward as a “Voting” item without change.

27 During the 2018 NCWM Annual Meeting, the Committee agreed to assign the further development of this item to an  
28 NCWM task group (TG) and established that the goal of this task group should be to determine how to provide  
29 consumers (and operators) with the information necessary, whether on a receipt or displayed on the POS system itself,  
30 to verify that charges for items weighed at checkout are based on net weight, similar to the opportunity provided them  
31 by retail-computing scales used in direct sale applications.

32 The Committee also received several comments in opposition including a comment from Mr. Russ Vires (Mettler-  
33 Toledo, LLC), speaking on behalf of the SMA, stating that the SMA opposes the agenda item and feels it would be  
34 too costly to implement with little benefit. Additionally, the Committee received written comments including those  
35 from Ms. Elizabeth K. Tansing, on behalf of the Food Marketing Institute, opposing the item and requesting that the  
36 Committee withdraw the proposal. During the committee’s work session, the proposal was amended to only include  
37 changes to paragraph S.1.8.5. and to include a nonretroactive enforcement date of January 1, 2020.

38 The Committee received numerous comments on this item suggesting additional work is needed to further develop  
39 the proposal and recommending a new task group made up of regulatory officials, food marketing representatives,  
40 POS software programmers, NIST, and others. Two of the original submitters of the item, Ms. Julie Quinn (MN) and  
41 Mr. Loren Minnich (KS) spoke in favor of assigning the item to a work group; one noting that the complexities of  
42 packaging are more involved today than first realized indicating the need for this proposal to be looked at more in  
43 depth.

44 The Committee also received numerous written letters from the grocery store industry opposing the item and  
45 requesting that the Committee withdraw it to include: the NC Retail Merchants Association, FL Retail Federation, SC

1 Retail Association, Food Marketing Institute (FMI), and others. In consideration of the number of comments received  
2 on this item in support of its further development by a work group, the Committee agreed to recommend this item be  
3 assigned to an NCWM Task Group (TG).

4 At the 2019 NCWM Interim Meeting, the Chairman of the NCWM POS Tare Task Group, Mr. Loren Minnich (KS),  
5 provided an update of the Task Group’s activities since it first formed following the 2018 NCWM Annual Meeting.  
6 He reported the main topics of discussion thus far have been:

- 7 • whether the addition of proposed part (e) to paragraph S.1.8.5., which adds “tare weight” to the list of required  
8 information printed on a receipt should remain non-retroactive, as submitted, or be changed, per NIST  
9 OWM’s suggestion, to retroactive with an effective date ten years from the date of adoption; and
- 10 • which value should be added to the receipt, “tare” or “gross” weight?

11 Mr. Minnich recommended this item remain in an Assigned status given members of TG have been unable to reach a  
12 consensus on these issues. Cost of compliance is a concern. The Committee, in consideration of the comments  
13 received on this item, agreed with the recommendation of the POS Tare TG Chairman to maintain the Assigned status  
14 of the item to allow the TG more time for further discussion and development.

15 During the 2019 NCWM Annual Meeting, the POS Tare TG Chairman provided the Committee with an update on the  
16 TG’s progress and presented two amended versions of S.1.8.5. and associated footnotes for the Committee to consider.  
17 Those two versions are shown under the Item Under Consideration.

18 The Chair of the assigned TG reported that members of the TG believe both versions of the amended S.1.8.5. are fully  
19 developed, but they were unable to agree on which version should be presented for final consideration. Both versions  
20 are being offered so that feedback can be solicited from the fall regional weights and measures associations. It is  
21 hoped this feedback will help the Committee to decide the most favorable version.

22 During the 2020 NCWM Interim Meeting, most comments received supported the non-retroactive version included  
23 in Pub 15 since it will allow the business affected to choose when to comply and would provide the consumer  
24 confirmation that tare was deducted. The Committee heard comments in opposition to the proposal from Mr. Russ  
25 Vires (SMA) believing the changes recommended will do little if anything to assist the consumer and that field  
26 officials are already performing inspections to verify that correct tare is taken in transactions where the item is sold  
27 by weight. Comments were also heard regarding the new abbreviations being proposed in this item. The concern was  
28 that they could be misinterpreted as something else (e.g., TA for taxable item). Mr. Tim Chesser (AR) added that he  
29 did not believe there was any significant benefit to the proposed changes but added that identifying “gross,” “net,” or  
30 “tare” on a receipt using (respectively) “g,” “n,” or “t” is not an acceptable means to identify these terms. Mr. Jim  
31 Willis (NY) stated his opposition to the proposal believing that adding tare to the customer’s receipt wouldn’t ensure  
32 that the tare deducted is correct if not verified.

33 During the 2020 Interim Meeting open hearings however, most comments received supported the non-retroactive  
34 version included in Pub 15 because it would allow the business affected to choose when to comply and would provide  
35 the consumer confirmation that tare was deducted.

36 NIST OWM did not state any preference as to whether the “nonretroactive” or “retroactive” version of the proposal  
37 should be favored but noted it is important that the consumer be given the opportunity to verify that items sold by  
38 weight are priced according to “net” weight. This would be easily done by including information on the receipt  
39 showing that tare has been deducted from the gross weight prior to calculating the total sale. We acknowledge that  
40 not all consumers will have this concern when purchasing items sold by weight however, those consumers that are  
41 interested in verifying the terms of sale must be afforded the information that will help them do that. OWM also notes  
42 that opposition to this proposal has cited costs involved with compliance to this proposal as one reason not to adopt it  
43 however, we are not aware of any cost analysis that has been done to verify this claim.

44 Mr. Chesser noted that receipts provided from sales in some retail locations are exceedingly long and include  
45 extraneous information not relevant to the sale. If placing all of this information on the receipt is being done, how  
46 much effort and cost could it be to simply add a value for the tare weight used during the sale? Mr. Charles Stutesman

1 (KS) stated his support for the nonretroactive version of the proposal and also questioned the claims of these changes  
2 being too costly to implement.

3 Ms. Fran Elson-Houston (OH) commented that devices that already have been given a NTEP Certificate of  
4 Conformance may need to undergo a subsequent evaluation since the changes in this proposal would be accomplished  
5 through software changes in those devices. Mr. Darrell Flocken (NTEP) stated that if the device/system is already  
6 calculating total sale prices, there would be no need to reevaluate the devices following the adoption of this proposal.  
7 Mr. Steve Harrington (OR) stated his concern for small retail operations that do not have the resources of the big chain  
8 stores to enable a quick change in their software. He would be more willing to support the proposal if there was  
9 consideration given to allow a more gradual phase-in period for compliance by smaller businesses.

10 Other regulatory officials voiced their support for the nonretroactive version of the proposal noting that small  
11 businesses would not immediately be affected. Mr. Loren Minnich (KS) stated that was the rationale behind the  
12 development of a nonretroactive version. He also stated that if the Committee agrees to move the nonretroactive  
13 version forward as a voting item, there will need to be an effective date assigned to the requirement.

14 During the Committee’s work session, the Committee assigned a voting status to the non-retroactive version below:

15 **S.1.8.5. Recorded Representations, Point-of-Sale Systems.** – The sales information recorded by cash  
16 registers when interfaced with a weighing element shall contain the following information for items  
17 weighed at the checkout stand<sup>1</sup>:  
18 (a) the net weight;<sup>1</sup>  
19 (b) the unit price;<sup>1,2</sup>  
20 (c) the total price; ~~and~~  
21 (d) the product class or, in a system equipped with price look-up capability, the product name or code  
22 number; ~~and~~  
23 (e) the tare weight.  
24 [Non-retroactive as of January 1, 20XX]  
25 (Amended 20XX)

26 **FOOTNOTES 1 AND 2 FOR EITHER VERSION (RETROACTIVE OR NONRETROACTIVE)**

27  
28 <sup>1</sup>Weight values shall be adequately defined as gross, tare, and/or net upon any two or more of these  
29 values appearing on the receipt. Acceptable abbreviations include, but are not limited to, G & GR  
30 (gross), & TA (tare), and N & NT (net). The unit of weight shall be identified by as kilograms, kg,  
31 grams, g, ounces, oz, pounds, or lb. ~~The “#” symbol is not acceptable.~~  
32 [Nonretroactive as of January 1, 2006]  
33

34 <sup>2</sup>For devices interfaced with scales indicating in metric units, the unit price may be expressed in price per  
35 100 grams.  
36 (Amended 1995, ~~and~~ 2005, and 20XX)

37 **Regional Association Comments:**  
38 WWMA 2019 Annual Meeting: Mr. Russ Vires (SMA) reported the SMA had provided a position from their 2019  
39 April meeting stating that this proposal would provide little if any benefit to the consumer. Mr. John Barton (NIST  
40 OWM) stated that to not provide some indication to the consumer that tare has been taken violates the principle behind  
41 the General Code requirement G-S.5.1. That requirement states that weight indications for commercial transactions  
42 be clear, definite, and easily read. The consumer deserves to be assured that the commodity is being sold by net weight  
43 and that appropriate tare has been deducted. He also noted that the TG assigned to this item has offered two versions  
44 of the proposal. One is non-retroactive version and the other is a retroactive version. The Committee is encouraged  
45 to consider the implications of the status for the proposed requirement. The retroactive version will require that all  
46 POS systems comply with the requirement, and the non-retroactive version would allow those systems that are  
47 currently in service to be grandfathered. Mr. Kurt Floren (L.A. County, CA) stated he supports the retroactive version  
48 of this proposal if it is not cost-prohibitive however, he does oppose the item even if the proposal was adopted as non-

1 retroactive. He also recommended that the term “defined” as it appears in both versions of this proposal should be  
2 replaced with “indicated” or “designated.” Mr. Steve Harrington (OR) stated he was concerned with the potential that  
3 smaller businesses will need to absorb the cost to comply with the requirement if the retroactive version was adopted.

4 The Committee agreed to support the non-retroactive version of this item as proposed in the item under consideration.  
5 The Committee also deliberated on the establishment of an effective date for the non-retroactive requirement. The  
6 Committee agreed to recommend that the effective date be January 1, 2024.

7 The Committee agrees that this item be given a voting status and recommends that additional input be solicited from  
8 the other regional associations and that input then be forwarded to the NCWM S&T Committee.

9 SWMA 2019 Annual Meeting: Mr. Russ Vires (SMA) opposed this item on the grounds that it provides no benefit to  
10 the consumer. The Committee recommends the non-retroactive version of this item be made a Voting Item.

11 NEWMA 2019 Interim Meeting: The Committee agrees with the body that the changes proposed are unnecessary  
12 and that the item should be withdrawn. During open hearings, the Committee heard from Mr. Jim Willis (NY) who  
13 believes the proposal will cause consumer confusion because while the tare is printed, there is no guarantee that it will  
14 be correct. Mr. John McGuire (NJ) agrees with the comments from New York.

15 CWMA 2020 Interim Meeting: The S&T committee heard comments in opposition from the SMA. Many regulatory  
16 officials made comments in support of the item. The committee recommends the item moving forward as a voting  
17 item with the proposed amendments by the NCWM S&T Committee.

18 Additional letters, presentation and data may have been submitted for consideration with this item. Please refer to  
19 <https://www.ncwm.com/publication-16> to review these documents.

## 20 **EVF – ELECTRIC VEHICLE FUELING SYSTEMS**

### 21 **EVF-20.2 I Definitions: submeter**

22 **Source:**  
23 USNWG EVF&S

24 **Purpose:**  
25 To provide a clear technical definition of what a submeter is.

26 **Item Under Consideration:**  
27 Amend NIST Handbook 44, Appendix D. Definitions as follows:

28 **submeter - a meter or meter system downstream of the master meter. [3.40]**  
29 **(Added 20XX)**

### 30 **Background/Discussion:**

31 Changes being made to this definition up-dates the terminology being used in the Watthour Metering sections by the  
32 Working Groups Submeter watt-hour Subgroup. There has been confusion in some state jurisdictions causing the  
33 enforcement agency to believe that only a Utility could operate a sub metering system. A technical definition that does  
34 not use references to “Utility” which appears to be interpreted as allowed only if provided by the “Serving Utility”.  
35 This definition also provides some technical consideration on how to categorize meters. UL/IEC/CSA61010-01 ED3  
36 provides technical detail on where a meter can be in building wire infrastructure. This definition approach would make  
37 a clear distinction a specific meter’s ability to be in various places in the wiring infrastructure, in technical terms and  
38 clear up whether it must be specifically provisioned by the “Serving Utility”. The following excerpts are referenced  
39 from 61010-1© IEC:2010 Annex K identifying, technically, where meters of specific protection design can be. If there



1 is another requirement to identify sales and service ownership and allowances, it is recommended that this be done  
2 elsewhere in the code.

- 3 • **OVERVOLTAGE CATEGORY IV** is for equipment installed at or near the origin of the electrical supply  
4 to a building, between the building entrance and the main distribution board. Such equipment may include  
5 electricity tariff meters and primary overcurrent protection devices. Manufacturers may also design  
6 equipment for OVERVOLTAGE CATEGORY IV when an even higher degree of reliability and  
7 availability is desired.
- 8 • **OVERVOLTAGE CATEGORY III** is for equipment intended to form part of a building wiring  
9 installation. Such equipment includes socket outlets, fuse panels, and some MAINS installation control  
10 equipment. Manufacturers may also design equipment for OVERVOLTAGE CATEGORY III when a  
11 higher degree of reliability and availability is desired.
- 12 • **OVERVOLTAGE CATEGORY II** is for equipment intended to be supplied from the building wiring. It  
13 applies both to plug-connected equipment and to PERMANENTLY CONNECTED EQUIPMENT. Sub-  
14 clause 6.7 covers only the requirements for OVERVOLTAGE CATEGORY II with a nominal supply  
15 voltage up to 300 V. The requirements for higher OVERVOLTAGE CATEGORIES and for  
16 OVERVOLTAGE CATEGORY II with a nominal supply voltage above 300 V are covered by this annex.
- 17 • **OVERVOLTAGE CATEGORY I** is used, within the context of IEC 60364-4-44, for equipment intended  
18 to be connected to a MAINS supply in which means have been taken to substantially and reliably reduce  
19 TRANSIENT OVERVOLTAGES to a level where they cannot cause a HAZARD.
- 20 • OVERVOLTAGE CATEGORY I is not relevant to this standard.

21 Generalizing the definition allows water, gas and other revenue billing categories of meter to be included. It does  
22 not express to ownership and operation of submeter. That should also be done elsewhere in the code.

23 The submitter commented that at this time the only opposing argument might be that a “Serving Utility” may react to  
24 not being in control of these devices. The code should also be clear in other areas besides the definition for  
25 understanding abilities to use a sub-metering for tariff billing down-stream of the mains meter.

26 During the 2020 NCWM Interim Meeting open hearings the Committee heard from Mr. Kurt Floren (L.A. County,  
27 CA) who asked if there is a definition for “master meter” that is included in the proposal. Mr. Floren noted that a  
28 definition is needed. Ms. Tina Butcher (NIST OWM) agreed with Mr. Floren’s comment and noted that the work  
29 group should provide a definition. Mr. Richard Suiter (Richard Suiter Consulting) suggested not using “master meter”  
30 but rather “primary” meter instead.

31 During the Committee work session, the committee agreed that this item should be given a Voting status and that it  
32 should be amended to reflect the HB 44 Code it is applicable to [3.40]

33 **Regional Association Comments:**

34 WWMA 2019 Annual Meeting: Ms. Lisa Warfield (NIST OWM) stated that this item is fully developed and ready  
35 for a Voting status. Mr. Kevin Merritt (ID) asked if this language would apply to an LPG meter? Ms. Warfield  
36 responded that this does not apply to an LPG meter and that the definition for “submeter” referred to in this proposal  
37 should not be confused with the use of “master meter” as used when referring to calibrations. Mr. Kurt Floren (L.A.  
38 County, CA) asked the question “is the term master meter defined?” Ms. Warfield responded that the term “master  
39 meter” is defined and that the definition was derived from that definition from Measurement Canada.

40 The Committee agrees this proposal has merit and that it is fully developed and should be given a Voting status. The  
41 Committee also recognizes that the stated Purpose should be amended to state the change would affect to EVSE Code  
42 paragraph 3.40., Appendix D, Definitions as shown below.

43 ~~submeter. A system furnished, owned, installed, and maintained by the customer who is served through a utility~~  
44 ~~owned master meter. [3.40]~~

45 **submeter - a meter or meter system downstream of the master meter. [3.40]**  
46 **(Added 20XX)**

S&T 2021 Interim Meeting – New Carryover Items

- 1 SWMA 2019 Annual Meeting: The item was not submitted to this region.
- 2 NEWMA 2019 Interim Meeting: The item was not submitted to this region.
- 3 CWMA 2020 Interim Meeting: The only comments the S&T committee heard, from both NIST OWM and state  
4 regulatory officials, expressed a concern with the use of the word “master meter.” Tina Butcher (NIST OWM)  
5 explained that the term “master meter” has a widely accepted definition in the electric vehicle and watt hour industry.  
6 We feel this item is fully developed and recommend this item move forward as a voting item.
- 7 Additional letters, presentation and data may have been submitted for consideration with this item. Please refer to  
8 <https://www.ncwm.com/publication-16> to review these documents.

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Mr. Josh Nelson, Oregon | Committee Chair  
Mr. Brad Bachelder, Maine | Member  
Mr. Jason Glass, Kentucky | Member  
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